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News!

April 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



Spring has arrived and EAA 80 is ready!

There are a lot of great events set for April. Here is a run down of what we have lined up:

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

Young Eagles: 17 April; 15 May; 19 June.
Millard Airport, Oracle (AM start)

Be on the lookout for flyout events on a weekend-to-weekend basis.

EAA 80 was awarded the opportunity to give out a \$10,000 Ray Scholarship. See the article and the application contained this newsletter.

See you at our meeting on March 12. I will send out a ZOOM link as the date gets a bit closer!

Bruce



EAA Chapter 80 has been selected to grant a Ray Aviation Scholarship for up to \$10,000 to a highly motivated young aviation enthusiast who is eager to earn his/her Private Pilot License. This vigorous program requires progress checks along the way, EAA Chapter 80 participation and a commitment to future Chapter participation. This program requires the selected scholar to be dedicated to finishing this endeavor in less than one year. Chapter 80's ability to grant another scholarship next year will directly hinge on the success of this year's scholar.

The scholar and parents will choose the flight school or CFI. Families should be prepared for the cost of training for the Private Pilot License to exceed \$10,000. The terms of the scholarship agreement require our Chapter contact to conduct monthly progress checks with the CFI and scholar. Required milestones of progress are:

- Begin flight training within 60 days of scholarship award,
- Solo within 3 months of scholarship award,
- Pass the FAA Private Pilot Knowledge exam within 6 months of scholarship award,
- Pass the Private Pilot checkride within 12 months of scholarship award.

Funding will be from EAA Headquarters to our Chapter account. The initial installment will be \$4,000. After the first solo flight, another \$4,000 will be made available from EAA Headquarters. After the FAA knowledge exam is passed, the final \$2,000 will be available. We will distribute funds directly to the flight school. Direct flight training costs are covered, including aircraft rental, instructor fees, fuel, flying club dues, flight

school required insurance and examiner fees. Supplies and study materials are not covered. If the scholar obtains the license

using less than \$10,000, there are provisions for using some of the unused money toward additional flying by the scholar.

The scholarship applicant will be between the ages of 16 to 19, possess an aviation medical certificate, commit to two hours per month of Chapter 80 volunteer service, submit required progress reports, begin training within 60 days of award and complete training in 12 months. The EAA application for the Chapter-selected scholar will include a 150–200-word essay as well as questions regarding how they will fund costs in excess of the award, why they want this experience, etc.

Chapter 80 would like to hear from anyone that would like to be considered for this opportunity. Better flying weather is coming! Do you want to spend your summer at the pool and beach and playing video games? Or would you rather study aviation weather, navigation and airplane systems and take flying lessons? We are looking for candidates that will commit to spending their free time to learning to fly. The EAA recommends 3 to 4 flight lessons per week. One flying lesson per week makes progressing through the lessons difficult. Note that if you have already soloed or passed the written, this scholarship does not pay for those milestones already reached.

We are looking to have EAA 80 members identify and contact potential candidates and invite them to fill out the attached application.

Bruce Mundie, EAA 80 President
Mike Howard, EAA 80 Scholarship Chairman

EAA Chapter 80 Meeting Minutes

March 2021

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

Meeting Minutes: The February 2021 minutes were approved.

Treasurer's Report: Bob Cartwright's treasurer report was presented for March. The opening balance was \$11,901.52. Chapter receipts totaled \$1150.00 (Winter Gathering, dues). Expenses were \$1,347.50 (Winter Gathering, Refreshments). The ending balance is \$11,704.02. The report was approved.

Membership: Bob Condrey reported membership at 103. Dues are owed by 47 members; 38 need pictures for the directory; 19 are missing their EAA numbers; and two have no/bad email addresses.

Tech Counselors: Mike Howard had nothing to report.

Young Eagles: Scott Pridie provided information that YE flights will begin April 17th (KMLE). May 15th may be questionable at Fremont. Other YE events are: June 19, July 17, Aug 14, and September 12 (STEM at Plattsmouth). Tekamah is still a possibility. Scott is looking for pilot/ground crew signups for the first YE event in April.

Tools: Mike Howard put a list of the chapter tools in the last chapter newsletter and encouraged members to use them.

Builder Reports:

- Bill Haas has the Berkut ready to go to Eppeley at the end of the month.
- It's reported that Nathan Anrick is going to build the KitFox.
- Bob Gilbert has the engine and avionics for their RV10.
- The Aviation Nation RV-12 flew, and was featured on local TV.

Builder Meeting: none scheduled

Chapter Build: Bruce reported that he and Bob Condrey are in line for a Millard hangar and will do a cost sharing with the chapter for the Zenith 750 project when/if offered a hangar.

Fly-outs: Cole Dostal flew out to York for the Saturday Breakfast fly-in with the Skyhawk flying club (good attendance). The chapter is still looking to support the Nebraska 99's to paint the compass rose at Hastings airport (date TBD).

Social Coordinator: Ed Kirker reported that the next social event is the Plattsmouth Harvest Day picnic and YE flights on September 12th.

VP: Bob Dyer has Mark Gaffney, FSDO, lined up. Dave Greer, Omega Aerial Refueling, has volunteered to speak again later this year.

PRESIDENT:

- Bruce Mundy discussed the Ray Scholarship which we were awarded, and that he will need mentors to help select a scholar.
- He encouraged all to consider donating to our tax exempt organization.
- He hopes to start the chapter build of the Zenith 750 soon.

Calendar:

- Apr 12, Chapter meeting, Oracle
- Apr 17, Resumption of Young Eagle flights
- May 10, Chapter meeting, Oracle
- May 15, YE at KFET (tentative)
- Jun 14, Chapter meeting, Oracle
- Jun 19, YE flights
- Jul 12, Chapter meeting, Oracle
- Jul 17, YE flights
- Aug 14, YE flights
- Sept 4, STEM Day
- Sept 12, YE flights, chapter picnic (Plattsmouth)

Old Business:

- The chapter Zenith 750 is awaiting a hangar at KMLE.

- Bruce is working on a 10 year plan and is working with an architect to design a proposed hangar layout on the Millard airport property next to Oracle. When ready he would like to brief the Millard airport manager and Omaha airport authority on the idea.

Scholarship: Our chapter was selected along with 142 other chapters to be awarded the Ray Scholarship from National. This \$10,000 scholarship is available for any student pilot (ages 16-19) working towards a (powered) private pilot's license (age 15 for a glider). Up to \$7,500 is available for a sport pilot license, and \$5,000 for a glider license. The student must have a strong desire to complete this goal and must volunteer to assist the chapter 2hrs/month. Scholar selection requires that the student have passed a medical and possess a student pilot's license to start with. The scholarship includes all flight expenses with milestones at soloing, taking the written exam, and other significant events. The entire program must be completed within one year. Students can already be in a flight program, in which case the award will be prorated accordingly. To receive the full \$10,000 scholarship the student must pass their checkride and be awarded their private pilot's license. Our chapter must select a scholar winner and present that person to National by the October 31, 2021 deadline. The scholarship money is paid directly to the flight school.

New Business: None

Announcements: TW spoke of the passing of Jim Rush and that there will be a celebration of life later this summer – this may include his extensive muscle car collection.

Raffle Drawing: No raffle drawing

Presentation: Dave Greer, Oracle Aerial Refueling Services, presented information on his experiences flying the B707 tanker with the military (Navy). The company also flies a KDC10 (both aircraft utilizing hoses and baskets). They recently obtained a DC10 tanker from a European country

that has a flying boom (similar to our military USAF tankers). They have in-flight fueled most Navy aircraft to include the Osprey M22, F35, and even the XB47 UAV. Dave is a retired USAF B52 and AWACS pilot, and just retired from Oracle. He was presented with an EAA80 T-shirt by Bruce Mundy for his presentation.

Next Meeting: The next meeting is April 12th at Oracle Aviation, 7pm.

EAA 80 Calendar of Events

April 12, 7 PM

Chapter meeting, Oracle
Mark Gaffney, FAAS Team presentation

April 17

Resumption of Young Eagle flights

May 10, 7 PM

Chapter meeting, Oracle
David Leslie, Omaha Soaring Club

May 15,

YE with CAP

June 14,

Chapter meeting, Oracle
Dave Greer, Desert Storm B-52 missions

June 19,

YE flights at KMLE

July 12,

Chapter meeting, Oracle

July 17

YE flights at KMLE

July 26-August 1

Air Venture Oshkosh

August 14

YE flights at KMLE

September 4

STEM Day

September 12

YE flights, chapter picnic at Plattsmouth

Technical Advisor

Koehler's Korner



Okay, last month I promised more information on engine analyzers, but I'd like to share some recent information on ELTs instead. Recently, I read an article on current

Emergency Locator Transmitters (ELTs) on AvWeb, I believe, which was a reprint of a recent article in "Aviation Consumer." I want to mix some of that information with the presentation I do on ELTs in the EAA SportAir Workshop, so please recognize the sources and get additional information there.

First off, the regulation that dictates the need for ELTs is 14 CFR § 91.207. I most strongly recommend you read it. It's only about a page long, but the first half is all the exceptions to the need to install. For instance, airlines, singleseaters, and aircraft in flight test are all exempt. Also, if you do not go more than 50 miles from your airport and you only fly for training, you are exempt. So, you do not need an ELT on your homebuilt for Phase 1 flight test, and you may not need one at all!



Narco ELT-10

14 CFR § 91.207 was written and passed into law in 1973 following the disappearance of a chartered Cessna 310 carrying two congressmen in Alaska. Despite a 39-day search, no trace of the plane has ever been found. The original ELTs were produced under Technical Standard Order (TSO) C-91 and they were pretty crude, both in design and performance. They transmitted on 121.5 Mhz radiating a "...woop-woop-woop..." type signal that a directional antenna tuned to 121.5 Mhz could direction find (DF) on. The batteries only lasted about 8 hours at best

and the units failed to activate much of the time. The Narco ELT-10 and the EBC beacon are examples of this generation of units. They quickly developed a very bad reputation for reliability and activation. Part of the problem was that they were remotely mounted in most cases in the back of the plane and got no maintenance. The FAA added an amendment to 91.207, subparagraph (d), which requires several maintenance steps be done yearly. These tests found damaged installations, leaking batteries and stuck activation systems. The little EBC unit fits in the cockpit, and is at least easily accessible to the pilot, but in a crash will end up in the same rolled up section as the pilot and may not be able to transmit through the aluminum skin.

In the meantime, in a period of early détente with the Russians, the SARSAT satellite program was developed to track the 121.5 Mhz ELTs from space. No one wanted to admit it, but the system worked very poorly, with the satellite requiring several hours of passes to get a fix and the ELT's batteries lasting less than 8 hours. We have all heard stories of the plane that crashed in the woods a mile short of the runway and was not found until deer hunting season. Also, there were hundreds of accidental activations, of which the pilot was unaware.

Meanwhile, the original TSO was updated to TSOC91a. This was a significant improvement over the old TSO. It added the requirement for a remote indicator in the cockpit so that the pilot could manually activate in flight and it flashed a light to tell the pilot when the unit had been activated, either intentionally or by accident. Examples of this generation of ELTs are the excellent AK-450 and EBC E-01. These were vast improvements over the early ELTs, with metal cases that minimized GPS interference, off-the-shelf flashlight battery usage, and much more efficient circuitry that transmitted a stronger signal for over 24 hours. Most also added 243 Mhz to their transmitted signal, which is the military Search and Rescue standard frequency. Most retailed in the \$100 to \$300 range.

Meanwhile, the Russians developed a completely new ELT system, with a frequency of 406 Mhz. Unlike the 121.5/243 "woop-woop" signal, this ELT transmits a one

second data link signal every minute. Hence, the battery lasts much longer. In the data stream there is a unique code for each unit, and the owner must register the unit to tie it to their personal use. Because of the higher frequency, the DF function is more accurate than with the 121.5 units, and the option exists to include GPS position information in the data stream, making position location very precise. Many of the 406 Mhz units include 121.5 and 243, but unfortunately, the new 406 units have the same old unreliable crash activation system, a very high false alarm rate, and they cost in the \$800 to \$4000 range with unique lithium batteries that cost \$200 to \$500 each (every 5 years)!



Artex 345 ELT (406/121.5Mhz)

14 CFR § 91.207 allows new installation of either a TSO-C91a unit or a 406 unit, but the 406 marketers got the TSO-91a canceled back in 2012, and they have successfully shut down all makers of TSO-91a units, so there are no new 121.5 ELTs available for sale.

Several studies have been done to see what improvement was achieved with the 406 units and the answer is "Not much." False alarms are still very high, on the order of 98.6% or over 50 a day! Also, many of the registrations have not been kept up and verifying an alarm is more difficult. Another study showed that an ELT was effective in aiding in finding the downed aircraft only 31% of the time, and had no use at all 58% of the time. Another study showed that the 121.5 ELTs aided in finding the crash 41% of the time and the 406 ELTs aided 43% of the time, not much of an improvement. Other studies show that the ELTs only activate about half the time in crashes, again with 406 being slightly better. One more study showed that the average search time for a 121.5 ELT was 14.2 hours and for 406 ELTs it was 11.8 hours unless the

406 ELT had the GPS position option which dropped the search time to 2.0 hours!

The Civil Air Patrol's number of ELT search missions is now down to about a third (330) of what they were 20 years ago! Since 1987, the number of Search and Rescue missions is down 90%! So, how are crashes being found now? Between radar, ADS-B and cell phones, the need for ELTs has diminished significantly. Cell phone triangulation in particular is the most common way of finding a crash today, I am told!

All this said, should you put an ELT in your homebuilt. The answer is that you must do so if you do not meet any of the exemptions in 14 CFR § 91.207. However, if you fly into remote areas you may want to consider also having ADS-B and a dedicated Personal Locator Beacon, such as SPOT. Also, keep your cell phone charged.

I hope this helps you fly safer. Next month I'll try again to get into engine analyzer systems, so stay tuned.

Keep building, flying and maintaining.

Dick 03/2021

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Monthly Funny

Two-seat Cessna Turbine STC?



[With this STC, might not be able to brag about your high speed, but you can brag about your high fuel burn. Ed]

Photos



Chapter President Bruce Mundie (left) presenting March presenter Dave Greer (right) from Omega Aerial Refueling a chapter t-shirt.

Upcoming Webinars

[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

[Aerobatic Aircraft Modifications](#)

4/20/21, 7 p.m. CDT

Tony Horvath

[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

[Jabiru Aircraft Kits](#)

HOMEBUILDERS WEBINAR SERIES

5/4/21, 7 p.m. CDT

Scott Severen

[Annual Deadlock](#)

Qualifies for FAA WINGS and AMT credit.

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

Mike Busch

[The History of Air Racing](#)

MUSEUM WEBINAR SERIES

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

Connor Madison

[IFR in an LSA: Is it Safe? Is it Legal?](#)

Qualifies for FAA WINGS credit.

5/12/21, 7 p.m. CDT

Prof. H. Paul Shuch

[Ultimate Aircraft Buying Guide 2021](#)

5/18/21, 7 p.m. CDT

Scott Sky Smith

[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

[Flying to Meet the Challenge: Completing 5](#)

[Midwest State Flying Programs](#)

Qualifies for FAA WINGS credit.

5/26/21, 7 p.m. CDT

Michael Haubrich

[Spirit of St. Louis](#)

MUSEUM WEBINAR SERIES

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

Chris Henry and Ben Page

[Aviation and Aircraft Taxes](#)

6/16/21, 7 p.m. CDT

Greg Reigel and Paul Herbers

[Tips for Flying Into EAA AirVenture 2021](#)

Qualifies for FAA WINGS credit.

6/23/21, 7 p.m. CDT

Fred Stadler

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.

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EAA 80 MONTHLY TREASURER REPORT

Apr-21

Checking

Acct. 310

Opening Balance \$11,704.02

Receipts

3/8/2021 Dues Cash \$150.00
3/8/2021 Dues Chks \$275.00

Expenses

Y.E.Expense

3/8/2021 Refresh Kirker \$ 27.04

Ending Balance

\$12,101.98

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 APR 2020 \$13,448.17

CENTRAL CYLINDER SERVICE AIRCRAFT ENGINE REBUILDERS

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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.

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

EAA CHAPTER 80

2021 APPLICATION FORM

www.eaa80.org
 www.facebook.com/ea80
 Twitter: @EAA_80

CONTACT INFORMATION			
NAME		EAA NUMBER	
ADDRESS			
CITY, ST, ZIP			
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

EAA 80 Ray Scholarship Questionnaire

Name:

E-Mail Address:

Address:

Phone Number:

Date of Birth:

Parent / Guardian Name(s):

Parent / Guardian Phone Number(s):

E-Mail Address(s):

1. High School that you attend(ed); College / University that you attend (if applicable):
2. Progress to date on Private Pilot Certificate:
3. Do you have a medical certificate? Y/N If so what's the date on it?
4. How many flight hours do you have?
5. Have you soloed? Y/N If so when?
6. Have you passed the FAA Private Pilot written exam? Y/N If so when?
7. Who is your Certified Flight Instructor?
8. Which Fixed Base Operator or airport do they work out of?
9. Describe what flight training that you have received.
10. Which part of the flight training do you enjoy the most or find most memorable?
11. Have you attended the EAA Air Academy? Y/N If so when?
12. What conflicts would you have with an intensive year of Private Pilot flight training and EAA involvement?

EAA 80 Ray Scholarship Questionnaire

13. How much time per week can you commit to flight during the school year and during summer break?
14. How would you overcome these conflicts?
15. Do you have access to transportation to and from the airport that you plan to train at? Explain.
16. Do you think that you could complete Private Pilot training and the FAA check ride in one year?
17. What are your interests and hobbies?
18. How many Young Eagle flights have you taken?
19. Have you completed the Sporty's Learn to Fly ground school course or any other ground school course?
20. What are your goals for the future and career aspirations?
21. Would you be interested and able to volunteer at least 2 hours per month to assist with EAA 80's monthly events like Young Eagle orientation flights and the chapter aircraft build project?
22. After completing your Private Pilot Certificate would you be interested and able to act as a mentor to Young Eagles and High School students who have an interest in aviation?
23. Would you allow for your progress with the Ray Scholarship and your Private Pilot training to be released on social media and traditional media?
24. Would you provide brief written updates on your Ray Scholarship and your Private Pilot training?
25. Please provide an essay, 150-200 words, on why you should be chosen for EAA 80's Ray Scholarship. Please feel free to revisit any of the answers that you provided above in your essay.