



EAA Chapter 478  
***COCKPIT CHATTER***  
Lexington Park, MD August 2021  
**A Bronze EAA Chapter**



**EAA Chapter 478 Monthly Gathering**  
**August 17, 6:30 PM**  
**Social Time: 6:00-6:30 PM**  
**Location: Pax T&E Museum Bldg B**  
**Topic: Making a WWI Lafayette Escadrille Film**  
**with Mark Wilkins**

**Mark Wilkins Introduction:** Mark Wilkins is an aviation and maritime historian, writer, and museum professional. He is the current curator of maritime history at the Calvert Marine Museum. He has authored 5 books on WWI aviation history and is a contributing author for both Smithsonian's *Air & Space Magazine* and *Aviation History*. He also served as producer for Aerial Effects for the Lafayette Escadrille documentary film. Mr. Wilkins holds a master's degree from Harvard University and is adjunct faculty for St. Mary's College.

**In this edition of Cockpit Chatter**

**From The Top** – Jim Byers Passing, Mini Young Eagle Rally

**Board of Directors Meeting Minutes** – August 3, 2021

**Treasurer Report** – Current Status

**Social Committee Report** –

**Young Eagles Corner** - 2021 Status, June 12 Pictures and Mini Rally

**The Homebuilder's Corner** - Molding and Rapid Prototyping

**The Flying/Maintenance Corner** – Oshkosh and YE Rally

**For Sale** – 2W6 Hangar space for rent

**Chapter Calendar** –

## Update on 2W6 Construction Schedule

Submitted by 2W6 Airport Manager

Terminal construction: Began end of June and runs through December. This will close portions of the Terminal, details of the closures are unknown at this time.

Runway 11 threshold is scheduled to be displaced between September and early November. More information to follow as the dates get closer. Please remember to check NOTAMs as we go through Phase II (primarily earthwork) of the Runway extension and Phase III (paving of the extension) expect to be completed in 2022.

### **FROM THE TOP**

Tom Weiss, President EAA Chapter 478

It saddens me to pass on the information on the passing of Jim Byers. I got to know Jim really well when we were building the Curtis A-1. Jim was a skillful woodworker and he built the struts that go between the wings and the bamboo tail booms for the A-1. His attention to detail was amazing and the overall quality of the work was top notch.



Jim is on the left installing Brass Reinforcement on the A-1 Wings



The A-1 Wing Struts Jim made, note the racks he made to hold them and prevent damage!

Everything he built for the airplane fit without any adjustments. He also had an easy going demeanor but the internal drive to make sure that what ever he was working on was done right. He served several positions in the Chapter including Treasurer. I will miss Jim, he was great to have as a member of the Chapter. My condolences go out to his family.

We have some good Chapter events planned for the rest of the year. Trying to organize several fly-outs this year, the first attempt last week was cancelled due to weather. Let me know if you have suggestions for fly-out locations. Also if you are aware of any Fly-Ins or other aviation events scheduled this Fall that would be a good fly-out event for the Chapter.

Be thinking about what you want to do activity wise for the remainder of the year and let us know on Tuesday. Looking forward to seeing everyone Tuesday.

## **James Henry “Jim” Byers**



LUSBY — James Henry "Jim" Byers, 84 of Lusby, MD and formerly of Huntingtown, MD, passed away on July 28, 2021 at his residence. Born March 19, 1937 in Washington, DC, he was the son of the late Carl H. Byers and Catherine (Hoover) Byers. Jim graduated from Oxen Hill High School in 1955. He married his wife, Dorothy Virginia Curtis on November 19, 1959 in Mt. Rainier, MD. They moved to Calvert County from Millersville, MD in 1985. Jim was a Printing Specialist with the Washington, DC Government Printing Office for thirty four years, retiring on December 1, 2000. He was a member of the Headers of Oxen Hill Hot Rod Club, serving as President in 1958. Jim was also a member of the Moose Lodge, the Chesapeake Bay Radio Control Club, and the Experimental Aircraft Association EAA Chapter 478. He was the Scout Master for Boy Scout Troop 955 in Millersville and was a private pilot.

Jim is survived by his wife, Dorothy V. Byers; his children, John M. Byers (Terri) of Morristown, MN and Joseph P. Byers (Karen) of Brandywine, MD; his grandchildren, Lynnae A. Lukes (Marcus) of Elysian, MN, Shannon N. Byers (Anthony) of North Augusta, SC and Anthony T.J. Elkins, Jr. (Marian) of Brandywine, MD; his great-grandchildren, Avery Breyer, Payton Schrot, Oakley Lukes, Sunny Lukes, Mason Lukes, Adley Simmons, Hannah Elkins and Patrick Elkins; his siblings, Jay Brown (Jean) of Myrtle Beach, SC, Susan Carter (Rick) of Fairmont, WV, Carl R. Byers (Sandra) of Mt. Crawford, VA, Charles T. Byers of Bridgewater, VA and Richard Byers (Nancy) of Grottoes, VA. He was preceded in death by his father, Carl H. Byers; his mother, Catherine Hoover Brown; his son, James M. Byers; and his sister, Patricia Vaughn.

## **UPCOMING EVENTS**

Picnic in September

### **Warbirds Over the Beach 2021 ...is back!**

Virginia's largest all-Warbird Air Show is back!

Join us October 2nd & 3rd, 2021 to see rare WWII and WWI-era aircraft in flight!

**For more information, please call 757-721-7767  
<https://militaryaviationmuseum.org/>**

## **EAA CHAPTER 478 MEETING MINUTES**

EAA Chapter 478 Board Meeting Minutes  
August 3, 2021

1972: During a 45-minute test flight at Edwards Air Force Base, the McDonnell Douglas YF-15A-1-MC Eagle prototype, 71-0280, went supersonic for the first time, reaching Mach 1.5.

Attendees: John Attebury Don Byrne, Darryl Crawford, Paul Gambacorta, Gabriel Murray, Bill Posnett, Tom Weiss, Sid Wood, and Bernie Wunder

Agenda:

1. August Program
  - a. Tentative program is a person involved WWI Flying documentary.
  - b. YE Website and Oshkosh Pictures.
    - i. Possible that the county will boot us out of terminal.

- ii. Might be able to go back to the museum. More open environment from a COVID standpoint.
- 2. Picnic – 25 Sep at MD50, this is the September Program
  - a. Chapter buys the brats & such, take donations, ie similar to years past.
- 3. 10 Year Anniversary of the A-1, do we want to do anything?
  - a. Labor Day weekend is the anniversary of its public display. Does the museum want to do anything? Doesn't seem like the museum requires anything. Dusting?
- 4. October Program Charles Fox visit for RV8 project
- 5. November Program
  - a. Keynote home builders event promotional to drive membership, based on an EAA brief given at Oshkosh.
- 6. Young Eagle Events? – Fall Rally location?
  - a. Fly out of CRE or 2W6? Need CRE to discuss it at their board meeting.
  - b. 20+ YE ready to go, needs to be a Saturday. Aiming for August 14<sup>th</sup>. Host at CRE. Focus on leftovers first.
- 7. Tool Crip Loaner Program kickoff?
  - a. Need a call for chapter members to go out.
- 8. Fly Outs, Poker Run, Breakfast events, Other events?
  - a. Poker run is a logistical challenge & all-day flying event.
  - b. Social flyout breakfast, send out to the whole chapter.
- 9. Other Topics??
  - a. Methods to raise money?
  - b. Tires to recycle. Container to hold old tires outside of Sid's hanger, soliciting help/suggestions.
  - c. August 11<sup>th</sup> FAA Wings event at University of Maryland UAV center on Patuxent River NAS airspace.

## **TREASURE'S REPORT**

Submitted by Don Byrne

<u>EAA Chapter 478 Financial Report</u>	
Through 30 May 2021	
<b>Fund</b>	<b>Amount</b>
<b>Petty Cash</b>	\$78.01
<b>Savings</b>	\$439.00
<b>Checking</b>	\$22,038.80
<b>Total</b>	\$22,555.81

# SOCIAL COMMITTEE CORNER

No Report

## YOUNG EAGLES CORNER

Young Eagle Coordinator – Darryl Crawford

We had a successful “Mini Young Eagle Rally” at CRE on the 14<sup>th</sup>. 18 Young Eagles were flown by 5 pilots. The scheduling system that is part of the Young Eagles Website worked really well and controlled the flow of Young Eagles to a manageable level. We had just the right number of volunteers to work the event with several of our St. Mary’s based members helping out. I would like to hold several more of these this year using 2W6 for them as well as CRE to help us get YE from both Counties. Thanks to everyone that helped with the event, we can’t conduct events like this without your help. TAW

### 2021 Statistics

Year	Flights	Year	Flights	Pilot	Young Eagles Flown 2021				Total
								MISC	
1992	6	2008	51	Attebury, John					0
1993	54	2009	113	Bray, Buck					0
1994	44	2010	156	Byrne, Don					0
1995	79	2011	187	Carruthers, Steve					0
1996	89	2012	242	Crawford, Darryl					0
1997	90	2013	79	Farry, Kristen					0
1998	47	2014	127	Frech, Egon					0
1999	23	2015	248	Gambacorta, Paul					0
2000	113	2016	206	Gates, Don					0
2001	94	2017	205	Harvey, Ed					0
2002	90	2018	209	Hollady, Mark					0
2003	101	2019	112	Kornacki, Troy					0
2004	66	2020	2	Lightstone, Bob					0
2005	138	2021	32	Moody, Chris					0
2006	97			Nelson, John					0
2007	122			Piercy, Jake					0
				Surfield, Ron					0
TOTAL	1253	TOTAL	1969	Wunder, Bernie					0
GRAND TOTAL		3222		Totals	0			0	0



## A Few Pictures from the June 12<sup>th</sup> Rally.



# **THE HOMEBUILDER'S CORNER**

## **Molding & Rapid Prototyping...E-AB Style!**

Submitted by Brian Link

Among the many reasons I made a dynamically-scaled test model of my aircraft design was to explore and perfect many of the fabrication techniques that would be expected of me when I progress to constructing the full-scale prototype. One of these techniques would prove to be highly critical- that of making molds...and producing parts from them. This aircraft, given its composition, will be comprised of several molded composite panels, all of which bearing significant flight loads, with some having little room for error.

The model itself followed a moldless composite construction, in the same manner of a Rutan Long EZ. Although this construction technique is okay for some things, the finishing process is very cumbersome, time consuming (hence the "90% done, 90% to go" saying) and the end product tends to be significantly heavier, and, if that were not enough, the completed part may not have the intended final aerodynamic shape! In my case, my aircraft was originally intended to be a moldless design, but I made the change to a molded construction in order to facilitate easier maintenance and such. The result was a 275-pound savings in weight- Dow 2-pound density foam is not exactly lightweight! But, in order to achieve this desired outcome, I would have to learn the entire art of mold making and master it!

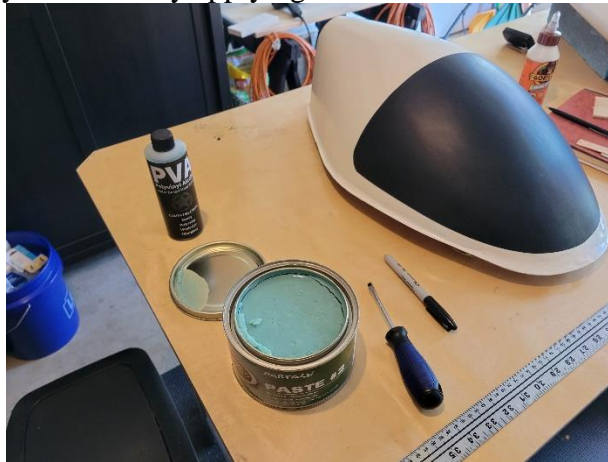
But where would I start learning? Enter the late Mike Arnold. Some of you may know who he was, but for those who don't, he was a master composite artisan who made a small little aircraft called the AR-5. Despite not having any formal engineering background, in the summer of 1992, this design of his set an FAI C1AO class speed record of nearly 220 miles per hour...on just 65 horsepower! He made a series of superb composite construction videos, one of them focusing on mold making. I watched the video repeatedly, to the point of memorizing it.

The process from idea to part is very straight forward. The first order of business is to make a sort of full-scale model of the desired part, called a "plug". This is actually one of the most critical phases of the whole process, as the plug has to be as exact as possible, with as little blemishes as possible, because whatever is on the plug ends up on the mold, and whatever is in the mold ends up on the part. The plug is everything...plugs rule! Once the plug is made and finished as perfect as possible, you then apply the appropriate mold separation products on it and perform a fiberglass-epoxy layup on it. This is the "initial female mold". This is what the mold maker uses to place further things, such as joggles for overlaps and such in it. Once the mold maker is satisfied, he then uses this initial mold to make a secondary, male mold, this time using chopped mat fiberglass and poly-ester resin. On this, final finishing and contouring is performed. Once complete, a chipped mat fiberglass & poly ester female mold is laid up & pulled from the male mold. The end result is the production mold, where parts are fabricated, joggles, markings in all. There are several more steps in between what I mentioned in this basic description, but you get the idea. Mike Arnold's full video can be found at [https://www.youtube.com/watch?v=H5A7\\_oPAw9c](https://www.youtube.com/watch?v=H5A7_oPAw9c)

After making a couple practice pieces, I proceeded to make a plug of the compound curved canopy and engine cowling, using inexpensive foam found at your local Lowes, glassed over and



contoured with Bondo, to include fillets. I used a combination of hotwire templates for the initial “2D” cuts, then hand-sanded the final shape using other templates. The result after a considerable amount of filling, sanding, filling and sanding repeatedly, was a plug that was geometrically & aerodynamically accurate and smooth. Once the paint was all dried up, I carefully applied several coats of specialized mold release wax. This wax serves not only to separate the layup applied to it, but fills the microscopic pits and abrasions not seen with the naked eye, assuring a truly smooth surface. Once complete with that, I applied several coats of a material called polyvinyl alcohol, or PVA. This water-soluble material foams an additional layer, a vinyl coat that serves as a redundant release. I gave a couple days of carefully applying this material and allowing it to dry.



Canopy/Cowling Plug with mold release wax and PVA at the ready



Wax & PVA applied, ready for layup! Beer not included.

Once the PVA was dry, I applied a layer of epoxy primer; the same thing from Lowe's. From that, I applied three plies of bi-directional glass, wet down fully with non-toxic EcoPoxy (note: EcoPoxy is not rated for manned aircraft structural use, but used it on the model). Given the normal process of mold making, what I just laid down would be the initial female mold, the second step in the mold making process, but appreciating the need to rapid-prototype differing aerodynamic shapes, this layup was to be the actual part used on this model. Once the layup was complete, to give a layer to perform final contouring with, I dusted the still-wet surface with glass microballoons.

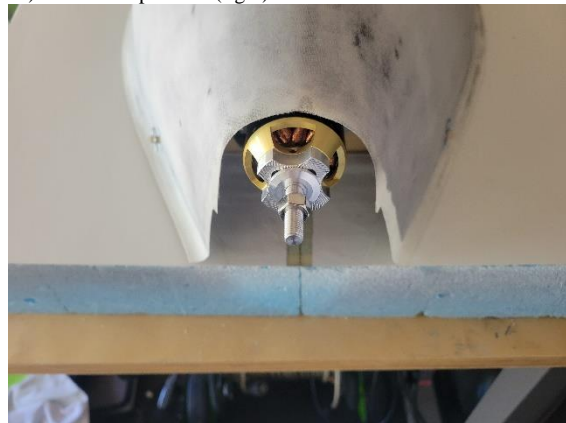


Layup complete with glass "micro" applied. Pro Tip: N95 mask is required, unless you want glass in your lungs!

Two days later, I took the big leap of faith, and carefully separated the new part from the plug. Fortunately, this great struggle, which included the use of flexible spatulas and a generous supply of compressed air, yielded my prototype part! After cleaning the plug and molded part of all the PVA and wax, I used the plug to place the part on for fine contouring. After all was said & done, the part was trimmed and fitted to the aircraft, and painted shortly after.



Molded part pre-trimmed before (left) and after separation (right)



Molded canopy after final trim & fitting, before painting

The next steps from here are evaluating several rapidly prototyped candidate cowling shapes against predictions and confirming the ideal balance between the desired cooling area, its subsequent drag and resultant handling qualities across the planned operating envelope. So far, so good; this has been an amazing journey so far...plenty of challenges ahead but I find myself enjoying every minute of it!

Did I ever mention how fun developmental testing is??



# **THE FLYING/MAINTENANCE CORNER**

## **AirVenture 2021 & YE Flights**

Submitted by Bernie Wunder

July & August are usually pretty good months aviation wise for me. Went to Oshkosh the last week of July to attend AirVenture 2021. It is surprising how many folks from Southern Maryland I know attend AirVenture (prob between 10-20). I volunteered the whole week in the Homebuilder's Hangar and had a great time. EAA has really worked hard the last few years to consolidate the homebuilder's airplanes, activities, exhibitors, kit manufacturers, the forums, and other infrastructure to bring out the aircraft Homebuilder effort going on today. The volunteers I worked with in the



Homebuilder's hangar used a scissor lift to clean the lights and fans in the building. The lift was parked outside the hangar for EAA video, but they never showed up, so we used it to do some sightseeing around the building and to watch the airshow/fireworks on Thursday



night. The couple of photos below show the homebuilder area and a lot of the homebuilt aircraft parked around the airport.

AirVenture was subdued in my opinion from previous years, probably because of COVID. Some of the large indoor activities did not occur, there was no "big announcement," one-week wonder, or new airplane to grab everyone's attention. But I think EAA was estatic that

the airshow came off with over 600,000 attending, 40,000 campers, and 12,000 airplanes. The week was also stretched out, so instead of one jam packed week, people were coming/going in and out all the time prior to and after the closing of the airshow. But the big noisy military jets were all there along with the best fireworks and night airshow in the nation.

I lived in a tent for over a week and that is another story. Always an adventure. Had two major storms and the tent survived the first one, but I took it down for the second one and slept in the car. Lot of rain and so next morning, put the tent back up. Got back to camp at 5pm and one of the arching tent poles had snapped at the top and the two pieces formed a perfect scissor and cut a nice big hole in the top of the tent-- Guess what – duct tape does not stick to waterproofed tent fabric and now I had a nice hole in the top of the tent and there was very little wind during the day!. Fortunately, no more rain during the rest of the week and my daughter got a new tent. 😊



On Saturday, August 14<sup>th</sup> we held a mini-YE rally at CRE airport. I flew three kids and really enjoyed it even though the heat index was over a 100. My flight path was to St Clements Island and back to show the YE where the first settlers in Maryland touched down in the Potomac River here in Maryland. My second YE and his Mom had come all the way from Richmond to get an airplane ride. Told them to go the Pax Museum and fly the simulators where he could fly jets, shoot missiles and drop bombs. That was where they were headed when I left them. Using the EAA YE reservation system and with the great volunteer team led by Darryl Crawford, everything went smoothly; we flew around eighteen youth with five pilots. Thanks everyone!



## **FOR SALE**

*I received this note from Joe Carbanaro, if interested contact Joe directly. TAW*

Hello Tom, I hope all is well with you and your family.

If possible, could you please add a note in the newsletter that I am looking for someone to share half a hangar with my Cessna 140.

The former hangar mate was Bob Miller and his Thorp T-18. The hangar is owned by Steve Bildman and the space was large enough to accommodate the small low wing and high wing planes.

Half the rent is \$250.00 per month.

My contact info: Joe Carbonaro, e-mail: [jcarbo21@gmail.com](mailto:jcarbo21@gmail.com), cell: 301 904-7510

Thank you.

Joe C.

## **CHAPTER 478 CALENDAR OF EVENTS**

Date	Event	Location
JANUARY		
FEBRUARY		
MARCH		
APRIL		
May		



June		
July		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		

## **In the Chocks**

Thanks for all of the inputs this month, looking forward to seeing all of you at a Chapter event soon.

Build, Repair and Fly Safe.

Tom Weiss – Editor/President

*Cockpit Chatter* is published monthly by the Experimental Aircraft Association (EAA) Chapter 478 solely for the dissemination of information and ideas to the membership. Gatherings are held on the Third Tuesday of the month at 7:30 PM in the Patuxent River Test and Evaluation Museum. Membership is \$20.00 per year and requires an active membership in EAA. Any opinions expressed herein are strictly those of the author and do not necessarily reflect the opinions of the chapter or the Experimental Aircraft Association.

Chapter Officers

President: *Tom Weiss 2020-21*

Vice President: Paul Gambacorta 2021-22

Secretary: Gabriel Murray 2020-21

Treasurer: *Don Byrne 2021-22*

Committee Chairs and Chapter Advisors

Social Chairman: *Bernie Wunder*

Membership Chairman: John Cook

Program Coordinator: Paul Gambacorta

Young Eagles: Darryl Crawford/Keith King

Flight Advisors: *Bill Posnett*

Technical Counselors: Sid Wood 2018

Newsletter Editor: *Tom Weiss*

Web Editor: Chris Moody

Tool Crib Committee: Colin Cline/Alan Tolksdorf

Board Members

*Sid Wood 2020-21*

*Darryl Crawford 2020-21*

*Chris Moody 2021-22*

*Egon Frech 2020-21*

*John Nelson 2020-21*

*Bill Posnett 2020-21*

*Bill Englehart 2021-22*

Chapter Web Address

<https://chapters.eaa.org/EAA478>