EAA Chapter 478
COCKPIT CHATTER
Lexington Park, MD August 2024
A Silver EAA Chapter

# EAA Chapter 478 Monthly Gathering

## September 21, 2024
## Chapter Picnic
## Chesapeake Estates Airpark – MD50
## 950 Side Saddle Trail, Lusby MD
## 2-4:00 PM Social and Setup
## 4:00 PM Picnic starts

Directions: Highway 2/4 North, right on 497 (Cove Point) to right on Little Cove Point Rd, 1.8 miles to back gate, left on Crystal Rock at the first stop sign. Right on Bunkhouse Road, right on Side Saddle, straight into the airport parking lot, picnic will be on your right.

## In this edition of Cockpit Chatter



## FROM THE TOP

Darryl Crawford, President EAA Chapter 478

The Chapter Gathering this month will be replaced by the annual picnic. The location, date and time is above as are the times for setup and when we plan to serve the food. Bring a dish to share. Looks like the weather will be good. Everyone should come and try to meet a member you haven't met before.

We will not have a Young Eagle's rally at MD50 this year, it may be replace by a rally at 2W6 instead. This will be decided at the Board Meeting in October.

We are starting to talk about if we want to hold a Build & Fly workshop next year. Looking for your ideas and for additional volunteers. Please let me know what your thoughts are and if you can help with the next event.

Be safe, and see you soon.

Donation QR Code for EAA Chapter 478

## UPCOMING EVENTS

Chapter Picnic – 21 September 2024
October Board Meeting – 1 October 2024
October Gathering – 15 October 2024
October VMC – 21 October 2024

## EAA CHAPTER 478 MEETING MINUTES

No Minutes this month

# TREASURER'S REPORT

Submitted by Don Byrne

| EAA Chapter 478 Financial Report<br>Through 8 September 2024 | |
|---|---|
| **Fund** | **Amount** |
| **Petty Cash** | $34.40 |
| **Savings** | $439.00 |
| **Checking** | $21,474.32 |
| | |
| **Total** | $21,947.72 |

# YOUNG EAGLES CORNER

Young Eagle Coordinators – Keith King, Paul Gambacorta, Greg Stevens

The below Youtube link is the TV coverage from the Cambridge Young Eagle Rally held on 10 August.
https://youtu.be/5-T2LUdv0U0

## Young Eagles Monthly Update

## September 7th Young Eagle Rally at 2W6

Submitted by Paul Gambacorta

The September 7th Young Eagle Rally was held at St Mary's Airport (2W6). We had six pilots lined up to fly the 31 Young Eagles from the Ryken Flight Academy, Navy Sea Cadets and the general public. Ground coordinators included Tom Weiss, Mike Weiss, John Reinert, Sid Wood, Jim MacWilliams, Ken Barlow (photographer) and Patrick Fogel (photo assistant). Greg Stevens remotely supported the event. Pilots included Don Byrne (4 YEs), Chris Moody (5 YEs), Paul Gambacorta (7 YEs), Egon Frech (5 YEs), Ken Cahill (4 YEs) and Mike D'Errico (6 YEs). Weather provided some scattered clouds with ceiling at 12,000 feet, winds were 5 – 10 knots from the West/Northwest supporting runway 29 operations and good visibility. Around 1:00 pm clouds and scattered light rain with gusty winds and moderate turbulence resulting in ending YE flights for the day. Eight Young Eagle Flights were canceled due to the deteriorating weather conditions, these Young Eagles will be given priority at a future event.

Preflight walk-around provided an opportunity to quiz the young aviators to understand their level of understand about the features of an airplane. They saw first-hand how the curvature of the wing induced lift and the effect of the ailerons, elevator and rudder to control the aircraft and how the flaps provide increased lift and drag.

Young Eagles traveled from as far away as Bowie, Brandywine Waldorf, Prince Frederick and Huntington Maryland; and King George and Port Republic Virginia.

The Young Eagle Team for this Rally are pictured below.

From left to right: Ken Cahill, Egon Frech, Don Byrne John Reinert, Mike D'Errico, Paul Gambacorta, Mike Weiss, Tom Weiss, Chris Moody and Sid Wood. Not shown; Jim MacWilliams, Greg Stevens, Patrick Fogel and Ken Barlow (taking the photo).

# Young Eagles Flown by Pilot in 2024

| Pilots | 6/8 | 6/20 | 6/21 | 7/19 | 8/10 | 9/7 | | | | Other | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Joe Arvai | | | | | 2 | | | | | | 2 |
| John Attebury | | | 4 | | 5 | | | | | | 9 |
| Robert Bray | 5 | 2 | | | 4 | | | | | 1 | 12 |
| Don Byrne | 4 | 1 | | 4 | 5 | 4 | | | | | 18 |
| Dan Byrnes | | | | | | | | | | | 0 |
| Richard Byrnes | 3 | | | | 4 | | | | | | 7 |
| Ken Cahill | | | | | | 4 | | | | | 4 |
| Darryl Crawford | | | | | 1 | 6 | | | | | 7 |
| Michael D'Errico | 3 | | | | 2 | | | | | 1 | 6 |
| Egon Frech | 5 | 2 | | | | 5 | | | | | 12 |
| Paul Gambacorta | 5 | | | 6 | 2 | 7 | | | | 3 | 23 |
| Don Gates | | | | | | | | | | | 0 |
| Grant Miller | | | | | | | | | | | 0 |
| Chris Moody | | 2 | | | | 5 | | | | | 7 |
| John Nelson | | | | | 2 | | | | | | 2 |
| Robert Jake Piercy | | | | | | | | | | | 0 |
| Charles Quandt | | | | | 4 | | | | | | 4 |
| David Rivera | | | | | | | | | | | 0 |
| Marc Slavin | | | | | 4 | | | | | | 4 |
| James Spencer | 6 | | | | | | | | | | 6 |
| Richard Van Natta | 3 | | | | | | | | | | 3 |
| Brian White | | | | | 5 | | | | | | 5 |
| Benard Wunder | 6 | 2 | 8 | | 3 | | | | | | 19 |
| Total | 40 | 9 | 12 | 10 | 43 | 31 | 0 | 0 | 0 | 5 | 148 |

| EAA Chapter 478 Young Eagles Total | | | |
|---|---|---|---|
| Year | Flights | Year | Flights |
| 1992 | 6 | 2012 | 242 |
| 1993 | 54 | 2013 | 79 |
| 1994 | 44 | 2014 | 127 |
| 1995 | 79 | 2015 | 248 |
| 1996 | 89 | 2016 | 206 |
| 1997 | 90 | 2017 | 205 |
| 1998 | 47 | 2018 | 209 |
| 1999 | 23 | 2019 | 112 |
| 2000 | 113 | 2020 | 2 |
| 2001 | 94 | 2021 | 65 |
| 2002 | 90 | 2022 | 269 |
| 2003 | 101 | 2023 | 164 |
| 2004 | 66 | 2024 | 148 |
| 2005 | 138 | 2025 | |
| 2006 | 97 | 2026 | |
| 2007 | 122 | 2027 | |
| 2008 | 51 | 2028 | |
| 2009 | 113 | 2029 | |
| 2010 | 156 | 2030 | |
| 2011 | 187 | 2031 | |
| **Total** | **1760** | **Total** | **2076** |
| **Grand Total** | | **3836** | |

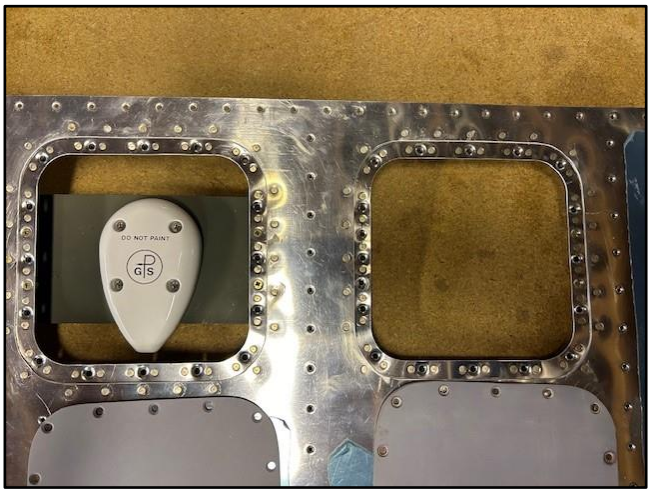
# THE HOMEBUILDER'S CORNER

## RV-7 Builders Report

Submitted by Tom Weiss

I have reached the point in the build of the RV-7 that Vans leaves you on your own to figure out. The electrical system and avionics are systems that the RV-7 plans and instructions don't address. I have decided to go with a VFR Garmin G3X glass panel system. I am to the point of deciding where to mount antennas. My system requires four antennas, one for communications, one for transponder/ADS-B and two for GPS. This report is about the mounting of the GPS antennas.

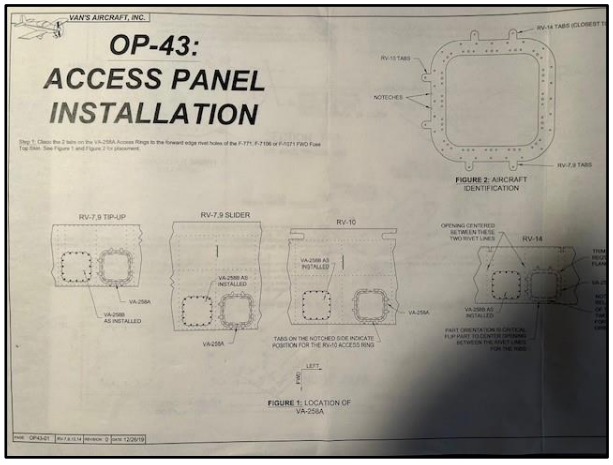
Why two antenna you ask. One is required for the GPS signal that is used as part of the ADS-B broadcast and is required to be a certified antenna which just means it costs more. The second is what I call non-certified and costs less. These two antennas are different shapes and sizes and will each require a unique mounting solution. Antenna pictures below, certified is on the left.





The first requirement for GPS antennas is that they have a clear view of the sky to be able to see the GPS satellites. This means they have to be facing up. I had four choices for mounting these antennas:

1. Under the cowling: Many builders mount these to the engine mount by building a small aluminum plate and attaching the plate/shelf to the firewall or the engine mount. This works well because the fiberglass cowling will not impact the function of the antenna. The primary drawback is the heat environment under the cowling.
2. On the instrument panel glare shield: This is a great location for the non-certified antenna, but the configuration of the Garmin certified antenna makes this mounting difficult and the certified antenna is white which would cause a reflection in the canopy which would be a problem.
3. On the back of the fuselage: This is a great location for the Garmin certified antenna and probably the best location because it would have unrestricted view of the sky from horizon to horizon, the non-certified is not a weather proof design and would have to mounted inside somewhere.
4. Under the forward inspection panels: Vans has an optional kit (OP-43) for installing inspection/access panels between the canopy and the firewall to provide access to this area for servicing. Without these access panels, the only way to work in this area is by laying on your back under the panel.




I decided to go with option #4 for a couple of reasons. I had already installed two inspection/access panels and I wanted to learn something new. The drawback of this location is that the covers for the access panels are aluminum, which would not permit the antennas to see the satellites. This presented a useful opportunity to learn how to make flat fiberglass layup and form the layup into cover plates. As many of you know, RV builders in general tend to have an aversion to working with fiberglass. All of the fiberglass components for the airplane are supplied by Vans ready to mount with very little fiberglass work required.

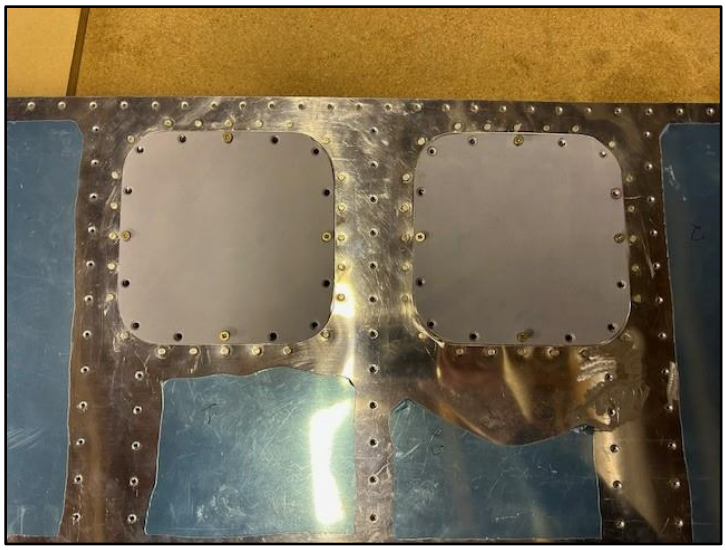
The first thing to do was to determine the size of each panel. Next I selected a flat section of my work bench and covered it with plastic cling wrap from the aviation cabinet of my wife's kitchen. This would keep the fiberglass from sticking to the bench. Next to check out what supplies I had. I had two types of cloth, bi-directional straight (Sid will probably correct my terminology here). I used painters tape to mark the perimeter on the plastic wrap to be sure I made the panels big enough. For no good reason other than how much cloth I had, the first layer I put down was the straight weave, the bi-directional next then straight for a total of three layers. After getting all three layers fully wet with resin (my resin is brown), I put peel ply on top to help suck some of the resin out and hopefully give me a flat surface. Picture to the right is before the Peel Ply.

After allowing a couple of days for it to dry, I removed the peel ply which worked well and was able to remove the layup from the plastic wrap. So far this is working ok. Next was to determine which surface would be the outside. After I selected one, I mixed some resin and floated on the top to fill the pin holes, after this dried I started block sanding. Picture at the left is after the first sanding, the dark spot are low spots. I sanded this several times between using resin filling and used some feather fill from Poly Fiber. Once I thought I was done sanding, I sprayed with some sanding primer and found more pins hole, so I filled and sanded some more.

After being happy with the outside finish I placed the aluminum cover plates on the fiberglass sheet and match drilled the holes and cut the panels out. Picture at the right is the aluminum panels C-clamped to the fiberglass getting ready to cut and drill. Then I countersunk the screw holes and checked the fit on the panel and sanded until they fit. The layup was thicker than the aluminum plates, so I sanded the edges where the screws go so the panels won't stick up as much.

The last step was to build aluminum mounting trays for each antenna. These can be seen by looking at the first two pictures in this report. I attached these to the existing panel mounting flanges with #6 screws and locking nuts. This skin will the last skin riveted to the fuselage and this won't be done until right before first flight.

In general I think this turned out OK. I think the antenna performance will be OK, I probably wound not have if I was planning an IFR system. But I did learn that I don't want to build fiberglass airplane. Turns out the fiberglass panels are 18 grams heavier (about ½ ounce) than the aluminum, guess I could sand some more to reduce the weight, but I don't think I will. Time will tell if I need to go back and change this due to a performance issue.



# Builders Report RV-8

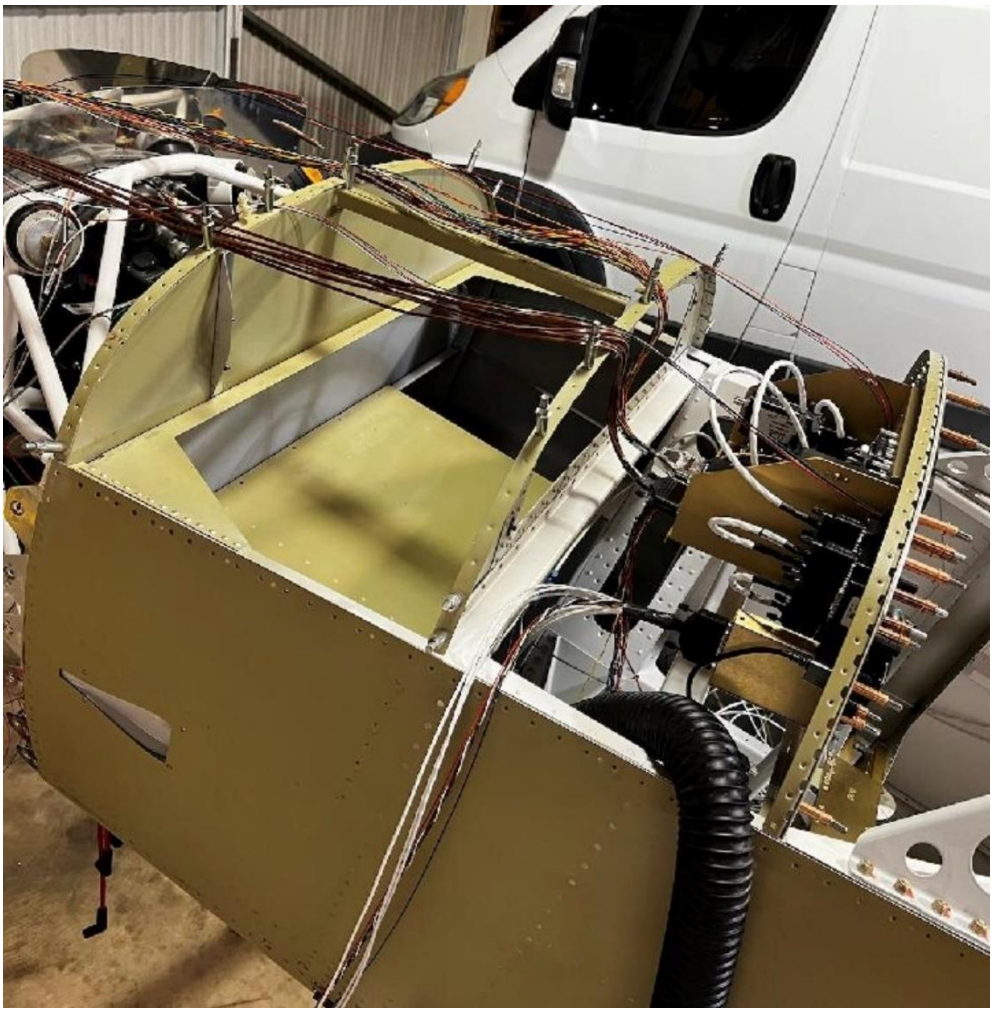
Submitted by Charlie Fox

It's one of those sad but happy days for me with my RV 8. Since I'll be 90 yrs old in October I've decided to truck my RV-8 to TN for my son-in-law, grand son and their A&P friend to finish. My grandson is now a Captain for Sky West airlines and is excited about finishing the plane and flying it. My grandson, who is also a CFII has promised to let me fly it in TN as much as I want or he will fly the plane to So. MD for me. What could be better for someone who no longer has a hangar at 2W6.

The fuselage is well on the way to completion, Darryl has done beautiful work on the Dynon glass panel, panel wiring, engine sensor installation, remounting prop, installed spinner and finishing the baffling.

I have fitted the cowling, but Sky Bolt fasteners still need to be installed. The plan is to initially fly the plane before painting it. But that atrocious pink cowling color will have to be changed.

Wiring laid out from instrument panel. That's a lot of spaghetti.



Dynon Instrument panel with a cut out for a Garmin 650 to add IFR capability. I had to have an air speed "steam gauge" since I'm an old steam gauge pilot. Hind sight is great but those trim indicators on lower right side wasted a lot of panel space. The reflection on the Dynon panel is interesting since that cross bar reflection shows up as blue but is actually white.

Wings are mostly finished except for installing control rods, control surfaces, auto pilot servo and riveting bottom panels in place.

Building the Wing tip lighting kit was fun, easy and is ready to mount into fiberglass wing tips.

Even though the plane is 90% complete my son-in-law, grandson and their A&P friend will have to finish the other 90%.

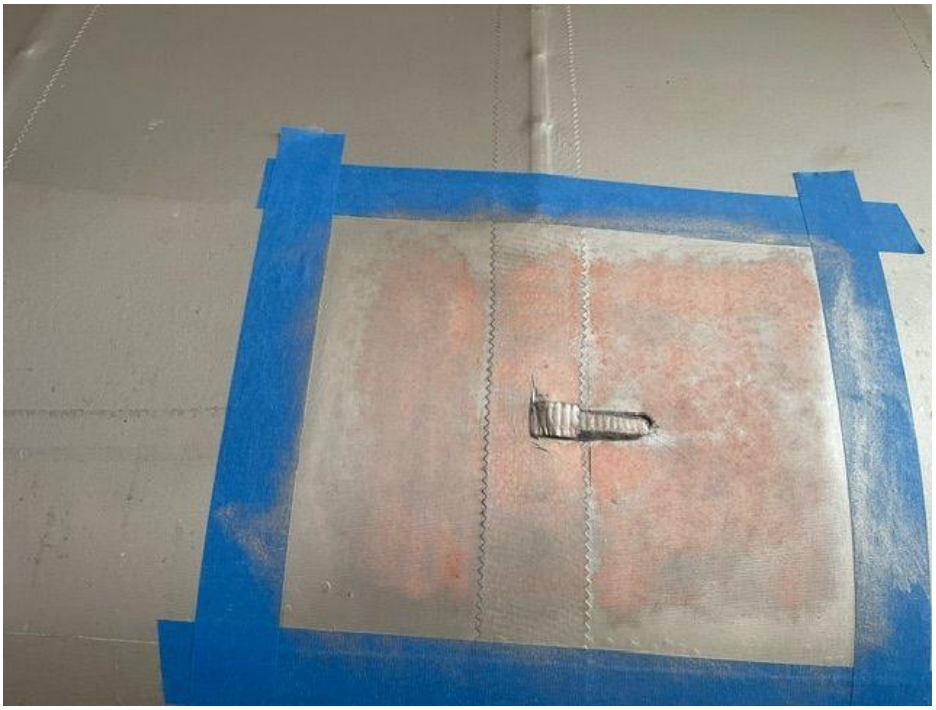
# THE FLYING/MAINTENANCE CORNER

## Fabric Repair Using POLY FIBER

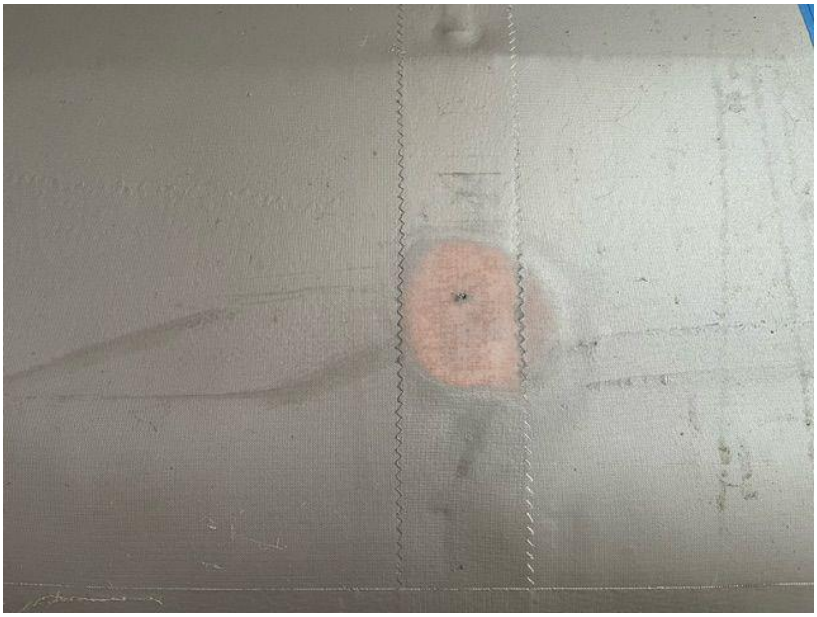
Submitted by Don Byrne

Four members of EAA Chapter 478 (Attebury, D'Errico, Tokarski and Byrne) are restoring a 1941 Aeronca Super Chief CA65 that was used in the WW II Civilian Pilot Training Program. The aircraft is being painted in the L3F scheme with dark olive drab on top and federal grey on the underside.

While moving the RH wing, the fabric was damaged resulting in an upper wing surface 3" tear and a separate fabric puncture. The wing was repaired using the repair process in the PILY Fiber manual, which an approved repair under the POLY FIBER STC. The following pictures show the repair process.

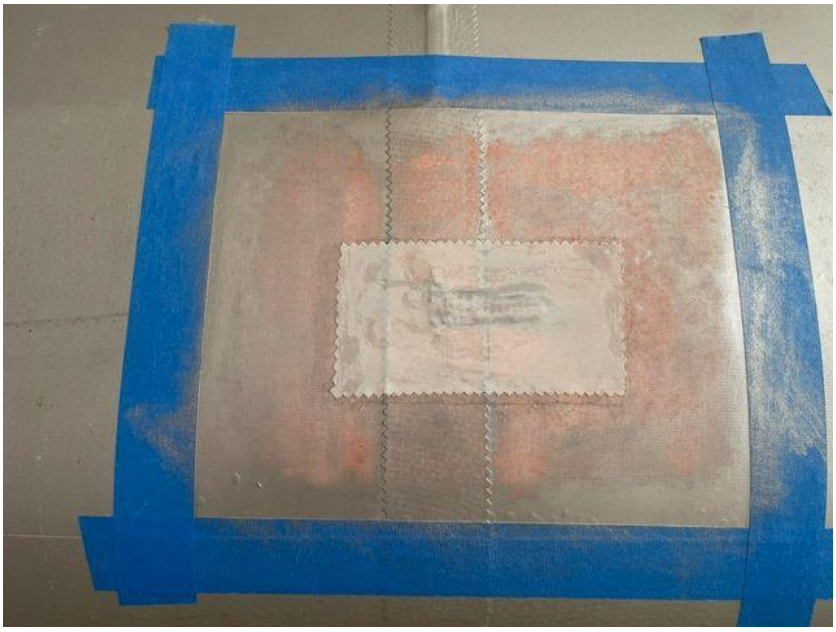


The tear in the fabric after wiping with MEK down to the pink POLY BRUSH coat.



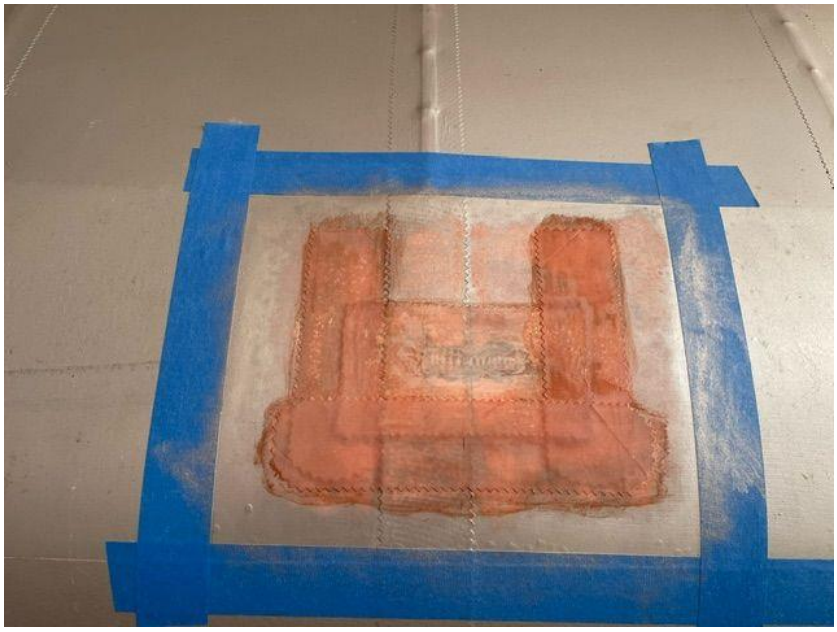
The puncture in the fabric after wiping away POLY SPRAY UV silver coats with MEK.

The “dollar patch” repair glued over the puncture with POLY TAK adhesive.



Patch glued over tear with POLY TAK. Per the manual for a tear less than 8” length, patch needs to extend at least 1” in all directions beyond the tear.

The patch over the tear with finishing tapes after two coats of POLY BRUSH. Because the tear was on the upper wing surface, finishing tapes are required.



The dollar patch after two coats of POLY BRUSH.

The finished repair after three coats of POLY Spray, restoring the UV protection and returning the repaired areas to the same finish as the rest of the wing. The wing is now ready for the POLY TONE color coats.

# FOR SALE

EAA Chapter 478 has received a donation of aviation supplies from Mr Steve Abbot. His wish was to sell these items and use the proceeds for youth programs in our chapter (workshops, build and fly program, etc.).

Here's a list if the items with a suggested selling price. If you think the price is too high, make me an offer. Details and purchases can be made by contacting Don Byrne at byrnehangar@comcast.net

David Clark H10-40 headset $120

Stratus 2S ADS-B In $ 300

Garmin GPS MAP 496 $500

Life Raft, Survival Products Incorp 4 Person $ 700

Champion Oil Filters CH48108-1 (QTY 4) ($48.50 at AC Spruce) $ 160

Aircraft Cover for Cirrus SR20, Bruce's Custom Covers $ 200

Nose Tow Bar $ 100

CHOC-IT Collapsible Wheel Chocks FREE

Twist In Tie Down Anchors (QTY 2) FREE

# For Sale

Quad City Challenger II Clip Wing Special E-LSA, 2007 kit, Rotax 503 Dual CDI, Dual Carbs, Tuned Exhaust, 2.62 Cog belt PSRU, Wood 2-blade prop, Electric Starter, Kutzelman strobes, ACK 406 ELT, Stewart Systems Dacron Fabric and White Paint, Fiberglass Nose, Wing Tips and Wheel Fairings - Midnight Black,

Dual Throttle levers have Friction Lock. Dual Starting Enricher Lever. Electric Fuel Pump. Engine driven fuel pump. 10-gallon Fuel Tank. Electronic Fuel Gauge.

3rd Door Upgrade available, Quad City Fairing kit in the boxes, 503 never been run – still has preservation oil, assembled with all new rubber engine mounts, hoses, tubes and electrical wire.

Needs First Airworthiness Inspection, and ready for first flight. Hangar- M4 at K2W6 St. Mary's County Airport.

Go to EAA Builders Log Site search Zip Code 20619 and click Sidney Wood for pictures and construction log details.
$19K
Sidney Wood
240-538-8465
smwood@md.metrocast.net

# CHAPTER 478 CALENDAR OF EVENTS

| date | Event |
|---|---|
| 21-Sep | EAA Chapter 478 Annual Picnic 2-6 pm @ MD50/CRE (Chesapeake Ranch Airport) |
| 1-Oct | EAA Chapter 478 Board Meeting 6-8 pm @ 2W6 Terminal |
| 15-Oct | EAA Chapter 478 Members Meeting @ 6-8 pm @ 2W6 Terminal |
| 5-Nov | EAA Chapter 478 Board Meeting 6-8 pm @ 2W6 Terminal |
| 11-Nov | Veteran's Day Holiday |
| 16-Nov | EAA Chapter 478 VMC Meeting 9-10 am; YE Flts 1030 am - 1230 pm @ 2W6 Terminal |
| 19-Nov | EAA Chapter 478 Members Meeting @ 6-8 pm @ 2W6 Terminal |
| 28-Nov | Thankskiving Holiday |
| 3-Dec | EAA Chapter 478 Board Meeting 6-8 pm @ 2W6 Terminal |
| 7-Dec | Massey Aerdrome Fly In 10 am - 2 pm (ESTIMATE) |
| 14-Dec | EAA Chapter 478 VMC Meeting 9-10 am @ 2W6 Terminal |
| 17-Dec | EAA Chapter 478 Member's holiday Party 5-8 pm @ 2W6 Terminal |
| 25-Dec | Christmas Holiday |
| 1-Jan | New Years Day Holiday |

# 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

*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 ^: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 Web Address
https://chapters.eaa.org/EAA478