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Chapter 45 Newsletter	Experimental Aircraft Association	March 2015
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good standing with our chapter, h	* Please note: you do not need nowever <u>you MUST be a member of the</u> AND WE WILL ENFORCE THIS REQUIR	EAA in Oshkosh, Wisconsin. It is

NOTE : If you want to check to see if an upcoming meeting is being held or If there are last minute changes, cancellations or locations, check out this web site:

http://imapilot55.wix.com/ch45

March Meeting

The March meeting, 7:30 PM Friday 3/20/15, will be a talk by a long-time chapter member, Steve Roper. The subject of his talk is,

"Buying Salvage Airplanes, some Joys and Pitfalls; and How My Project Snowballed into a Mess, a Money Pit, a Lesson, and All of the Above!"

Come check it out.

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ANATOMY OF THE MAKING OF A SMALL PART TURNING INTO A LARGE PROJECT by Jack Dernorsek

Working on the all metal, scratch built Teenie Two has been mostly a pleasure, but the one thing that I did not enjoy was making the small aileron end caps, formed out of .040" thick, 2024-T3 aluminum sheet. Many of the parts on the Teenie are made of this material, typically bulkheads and formers where thinner .020" thick sheet are attached to the thicker material framework.

The Teenie has always been advertised as a simple project where the sheet is formed by rubber mallet between two pieces of dense plywood or hardwood. In most cases, this has been an easy affair. Trace the shape from the plans onto the plywood, cut them out, sandwich the aluminum part between the two wood forms and pound away, creating a flange around the part for riveting.

But this thicker material is stout stuff, and bending it requires some serious hammering. This process is made more difficult if the piece you are forming is very small. In the case of aileron end caps, I had great difficulty holding the small form block/aluminum sandwich while I beat on it . In fact, the hammering was so severe, the blocks only lasted for one part, being splintered and destroyed from the forces at work on the aluminum. And I have never been happy with the result, although I guess they look fine.

So I have the Teenie Two elevator to finish on the airplane, and once again, I need to make end caps out of the heavier, tough aluminum. This time however, I used a slightly different type of form block. Here is what I did.

Since the elevator shape is defined after forming (I used Ernie Lanyi's Deep Bender device at the chapter hangar to form the elevator) I started by tracing the open end of the elevator and cutting and refining the shape of some tight fitting form blocks out of wood. The top piece at right is the wood block I started with and after alterations, the second one on the bottom fit nicely. See the picture below.





Below is a picture showing the wood blocks, the steel forming plates bolted together, the paper template for cutting the aluminum, and the finished parts. An installed cap is shown at right.





The next step was to use this wood block and trace it onto two pieces of flat, 1/8" steel flat bar, which I then cut out with a hack saw, smoothed the edges and then rounded the edges of one piece so that forming aluminum over it would not stress crack the aluminum. Note the female steel form plate is about 3/32" smaller than the tight fitting wood block.

Below you see the steel plates as a sandwich, with the formed aluminum already flanged. A finished piece is at the top.



The former holes will be used later to bolt on the elevator balance weights. I'm pleased with the results.



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TENTATIVE CALENDAR OF EVENTS – 2015

Planning and setting of dates are typically done by your board of directors at the beginning of the year and sometimes change. Unless noted, meetings are held at the chapter hangar at Rostraver Airport. Hangar is C1
March 20th General Meeting at the chapter hangar. See inside for details 7:30 Chapter Hangar
EAA Officers and Board Meeting April 10th 7:30 PM Chapter Hangar All Welcome to attend our business

April General meeting, April 17th

meetina.

Workshop nights at the hangar planned...

Alternate Monday evenings although it is best to check with the Chapter President or John Warren or JackD to see if there is a meeting during periods of poor weather. We expect to move to every Monday night for Spring.

Currently the next Monday workshop will be March 23rd

During the June Westmoreland County (Latrobe) Airshow, the chapter will be helping out. We now have a new Chairman to help organize the event, coordinating our members (keeping a list of folks offering to help at the event). When the time comes, please offer to help man the booth at the show. ALSO, there are still a couple of T-shirts with names on them from last year at the hangar