

Waiting for good prime-weather, I found another alternative task that I could do on the fuselage build.

Bending the longerons.

This subproject is one that I feared for a long time because it is kind of funky and the cost at stake (if you mess up) is dramatic. Imagine you would have to box and ship a replacement part for this and send it from Oregon to Belgium. I guess the raw material cost is around 30\$. The shipping cost would probably close to 1500\$. You really want to go slow on this and have your measurements confirmed by somebody else before you even think of cutting a piece of.

~~The manual is quite a funny one, but the main point of the building process is bending the longerons, which is a very important part of the fuselage build.~~

"This section will require more of an artist's touch and a little finesse"

This kind of scares me.

The longeron bending process will have the following steps:

1. cut the longerons to length.
2. mark the different lengths (stations) for the bending
3. make the horizontal bend around the canopy deck.
4. bend the forward part in front of the canopy deck down 5.6 degrees
5. twist the forward part inboard 17 degrees.

Again, this is a lot of work on some very high cost part (unless you live next to the Van's shop) so be patient and work slow.

Here is a shot of the longeron angle as you receive it from Van's in your wing kit box.

It is a stock aluminum angle AA6-125 of about 180inch in length as it comes out of the box.

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First mark the longeron for front, rear, outside and Left or Right First.

Then you measure the length of the longeron. This is already a funky experience as you have off course no ruler or measure tape that is 173 inch long. So you have to do it in 2 steps.

First marked a middle marker at 100" and then measured from there the rest of the length. AS you can see on the image, I made some marks on the longeron. At the rear using a hammer and a nail, now while the ass you are still



Next mark the lengths for the bend. One mark at 28" $\frac{1}{4}$, one at 38" $\frac{7}{16}$ and one at 69" $\frac{9}{32}$.

Between 28 and 38, there is no curve, bend or twist.

The curve is between 38 and 69.

The bend down and twist is in front of 28.



Then pray and cut. In the picture down, the cut is made and needs to be grinded down to the exact length.



The picture below shows how I clamped the two longerons together and marked the lines at the same length. This way, I didn't have to measure everything again.



Voila ! Both cut to length and grinded smoothly. The length cut is done.



To end the day, I made some test bending on the cut-off scrap part. I bought these bending blocks which are supposed to make the bending process easier than described in the manual.

The manual says you have to put the longeron in a vise, put some sideways load on the angle and then wack it with a plastic mallet.

A wise man told me : You can do a lot of things with aluminum. You can bend it, twist it, stretch it, abuse it in any way you want, but you never hit on it with a hammer.

That in mind, I thought the pre-formed bending blocks would be better. I seemed to work fine on my test piece so I'll start bending the real

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stuff on the next work session.

