
Untwisting a foam wing

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With the advent of "Foamies" sometimes the quality is doubtful. Occasionally the part will come out of the mold too quickly (not allowed to cool enough) or the mold is slightly off causing a twist in the foam wing.

Such was the case for my Night Flying foamy. I considered struts to hold the wing in alignment but that would only be effective to the farthest point out on the wing. The twist from the end of the strut to the wingtip would still be there.

After some research I came up with this idea for my EPP foam wing:



Get water boiling.



While the water is getting hot check the twist with Robert Incidence Meters. Using paint sticks and rubber bands (or some other materials you have available) affix a lever to the wing. The root of the wing is secured with blocks and a weight (not shown). The wing tip is twisted slightly more than required as there will be some resistance to the twist force. In this case a tip support/fulcrum opposite the twist wasn't required. On longer wings it probably would be to keep the wing from curving.





When the wing incidence is set cover the wing with a towel. Pour the hot water on the towel. I found no difference in how the water is poured, root to tip or front to back. When the towel has cooled remove it and re-check the incidence. This is a trial and error system that will probably have to be done more than once until its right. One note: The hot water will cause the towel to stick anywhere hot glue was used to secure something, in this case the LED strip) to the wing. Yes, the LED strip still works.

According to the incidence meters a 1.5 degree twist was removed. I haven't flown it since the repair but straighter flight is expected.

This wing is EPP (Expanded Polypropylene) foam. Whether this would work on other foam types is unknown to me.