Ke: [c-a] Are Berkut Wings compatable with the Long-Eze?

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Subject: Re: [c-a] Are Berkut wings compatable with the Long-Eze?

**Date:** Sun, 12 Mar 2000 23:33:06 -0500 **From:** Rob Cherney <a href="mailto:cherney@home.com">cherney@home.com</a>

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[The Canard Aviators's Mailing list]

David A Froble wrote:

>The Berkut and LEZ wings are the same, as far as dimensions go.

Well, not exactly.

Whereas the trailing edge of the Long-EZ makes a slight turn at the BL-55.5 point, the trailing edge for the Berkut is straight all the way to the inboard end where it meets the cowl. If you put Berkut wings on a Long-EZ, you should also consider using Berkut cowls. If you use the cowls, you might need to modify the firewall outline to match the Berkut fuselage shape. If you make your own cowls, it doesn't matter.

Another difference is that the inboard core for the wing is a different thickness where it mates with the main spar. Since the main spar of a Berkut is slightly taller at the firewall than a Long-EZ, the wing shape deviates from the normal thickness (W.L. dimension) at BL-55.5 to slightly thicker at BL-23 (as I recall).

Yet a third difference is the washout. The Berkut has less washout than the Long-EZ. Moreover, the Berkut trailing edge is at a constant W.L., whereas on the Long-EZ the leading edge is at a constant W.L. This last difference is not very significant, though, and it has more to do with construction methods and final assembly than anything else.

These changes are small, but they could give you grief if you didn't know about them ahead of time.

Oh, one last thing that I feel is important.

If you wish to use Berkut wings, I would seriously consider making the main spar with carbon spar caps. Being carbon, the Berkut wings are much stiffer than stock Long-EZ wings. The instantaneous loads from gusts and turbulence will transfer bigger bending moments to the spar if the wings are carbon and the main spar is glass. I am not a mechanical engineer, but this is my gut feeling.

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