

Subject: RE: [c-a] Vari-Eze wing taper pin problem

Date: Wed, 6 Oct 1999 12:12:11 -0400

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To: "Hunter, Gary GA SCC" <GH334766@MSXSCC.SHELL.COM>

CC: "Canard-Aviators (E-mail)" <canard-aviators@canard.com>

[The Canard Aviators's Mailing list]

Gary,
Thanks for that info!

And thanks to all the others who have pitched in their experience on this one.

To summarize the feedback I've received, and info in the CP's, regarding stripped threads in a Vari-Eze wing taper pin:

1) The bolt is only used to snug the top and bottom pins into place. They should not need to be torqued to more than 36 in-lb. If the taper pins aren't in solid with that light a torque, something's not fitting. Lap them into place with valve grinding compound and check for full contact with engineering blue. Pin should have about .030 in. "shoulder" at least remaining above fitting. Grade 8 bolts are OK, and that's what Ken Brock has always supplied. (And he keeps them in stock. Call him if you need any.) The lock nut is applied to retain the bolt. Torque spec's for the lock nut are 50 - 70 in-lb. Stripped threads on bolt or pin are probably a sign of over-torqueing, and

2) Don't make your own taper pin, or even replace with another Brock pin, if you can possibly use the original Brock pin. Fit is critical.

3) Stripped threads in a bottom taper pin can be repaired with a helicoil and be good as new again.

4) Drilling out the threads and just using a lock nut to retain the bolt is OK, too. (Thanks for the verification, Gary.)

5) Re-assemble wing fittings and hardware with generous coat of grease to avoid corrosion, especially if you're near the coast.

6) It's a good idea, but not necessary, to put a dab of paint on the bottom lock nut and check that it's in place during preflight (I use clear tape over the bottoms of the wing fittings).

Sorry for the long post, but there was a fatality and a lawsuit (Burt won) over a taper pin issue quite some years ago (two were left out by the builder-pilot!), and it was a big deal for a while. These wing fittings are so strong that you can "set 'em and forget 'em" for thousands of hours, but that strength comes from good design and precision manufacture and assembly. No Brock-made wing attach fitting has ever failed in flight. This has been a chance for me to re-acquaint myself with the details that, when attended to, will keep that statement true.

Ed Hanley
Vari-Eze N45CR

-----Original Message-----

> 2) Ken Brock looked at it, while here in Reno for the air races, and said
> he'd agree with Mike - helicoil - or just drill out the threads and snug it
> into place and hold it in with the lock nut, since the bolt and threads see n
> tensile loads
>

Gary Hunter wrote:

I have been flying with a locknut on one of my stripped out taper plugs
for 14 years now.

Simplist cheapest solution of all.

Kindest Regards,

Gary Hunter