

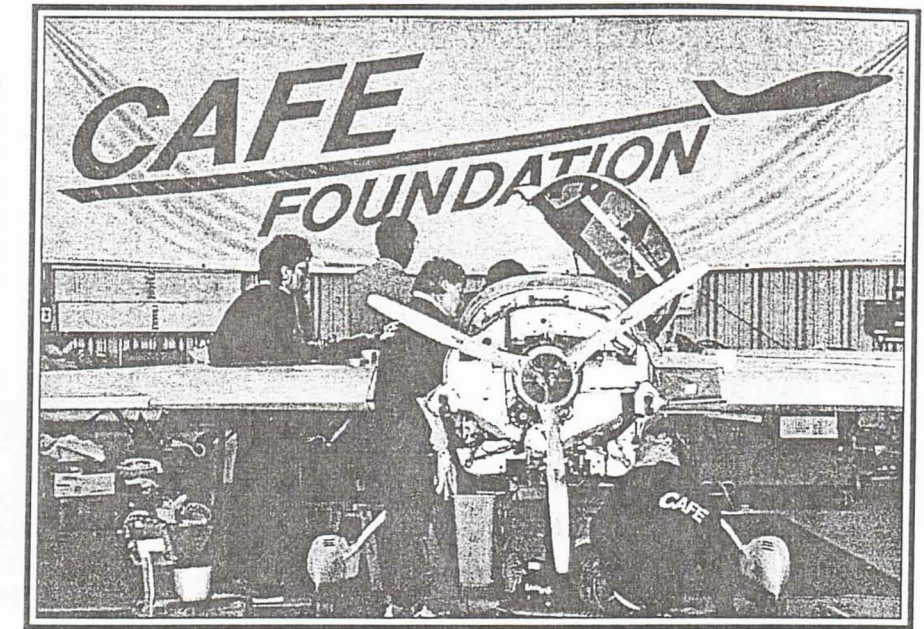
My Experiences with CAFE

Mark Beduhn (AR) - I was sitting under the wing of my plane at AirVenture '98 when Brien Seeley came by and introduced himself as a member of the CAFÉ foundation. He said they were interested in testing a Cozy Mark IV, and asked me to consider allowing them to use my plane. Brien explained that they would do a weight and balance on electronic scales, have a professional test pilot explore the flight envelope of the plane, and then publish the results in Sport Aviation. He then gave me a packet of information, and asked me to think about it. It didn't take me long to conclude that this was a unique opportunity that I should take advantage of.

The information that Brien gave me included instructions on building the wing cuffs that hold some sophisticated instruments to the wing of the plane. Although they didn't look too difficult to make, I decided to allow myself a couple of months, to make sure that I had enough time. I confirmed a test date with Brien, and then ordered the materials that I needed. It took me about 3 weeks to build the wing cuffs which I mailed to CAFE foundation. I then got ready for the 1600 NM trip from Conway, Arkansas to Santa Rosa, California.

The weather for the trip was perfect, and I arrived on Friday afternoon at around 3:00 PM. The first thing that had to be done was to determine the empty weight of the plane. My Cozy was emptied, the fuel was drained, and we then rolled it on to the electronic scales which were built into the floor of the hangar. The scales are so sensitive that we had to close all of the doors and practically stop breathing while the measurements were taken.

A laptop computer attached to the scales so that the CG of the plane could be instantly calculated whenever the plane was being weighed. After the initial weight and center of gravity were measured, the fuel truck came and topped off the tanks. After



CAFE volunteers attaching sensors to N494CZ



C.J. Stephens (top) and Brien Seeley (bottom) remove cowl

filling the tanks C.J. Stevens (the CAFE test pilot) and I went for a familiarization flight. Since C.J. has flown practically every thing with wings, and also owned a Vari-Eze for 10 years, I didn't expect it to take long for him to get used to my plane. I was correct. He seemed very comfortable with the plane after only a few minutes. We flew for a half hour or so, landed the plane, and rolled it back into the hangar.

Several more CAFE volunteers had arrived while we were flying and immediately started working on the plane after we climbed out. Everyone had their assigned task. It was

like watching a racing pit crew in action. The cowl was removed and numerous instruments were installed. A video camera and laptop computer were mounted in the cockpit for gathering data. The wing cuffs that I had built in preparation for this testing were attached to each wing, and the sensors were installed in them. At about 7:00 PM I went to the hotel exhausted, but the CAFE people continued to work on the airplane until around midnight.

When I arrived back at the hangar on Saturday morning, C.J. was already on the third test flight. Every time he landed, a flight parameter was changed. They changed either the

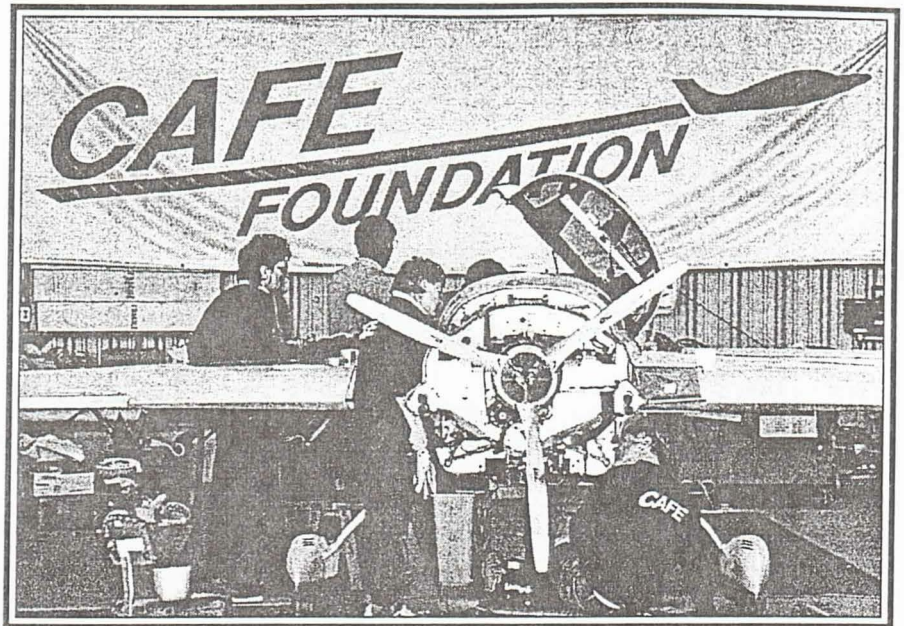
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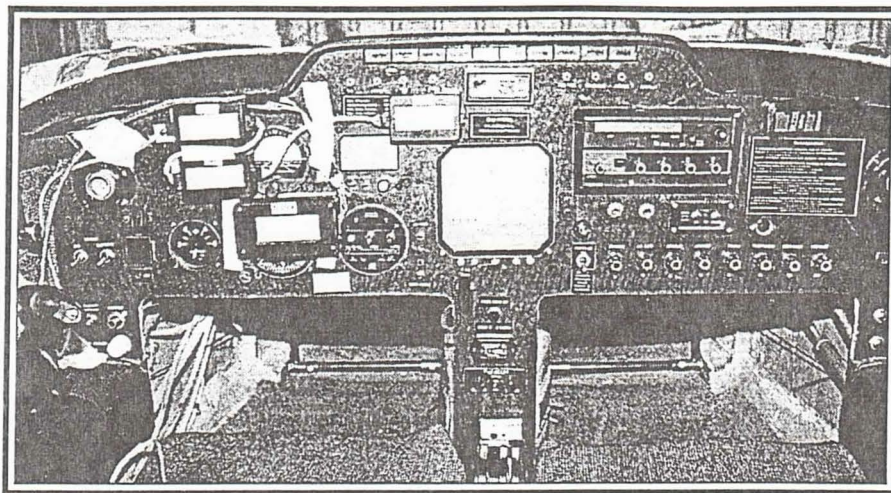
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weight, the CG or both. The intent was to test as much of the flight envelope as possible. Having the scale hooked up to a computer made these changes very quick and efficient. C.J. continued flying all day and finished just after dark. On Sunday he flew 2 more times for his subjective flight analysis and was done around 10:00 AM. When the last flight was completed, the plane was swarmed by CAFE volunteers removing all of the instruments they had previously installed. By 2:00 PM the plane was back in it's original flying condition and ready to go. Whew! A lot was accomplished in only a couple of days!



Notice the additional CAFE sensors on Mark's panel

My experience with the CAFE foundation was very positive. I met some very nice people and learned a lot

about my plane. I consider myself very fortunate to have had my plane tested by this very professional group

of volunteers. I would highly recommend that if you are ever offered this same opportunity, don't pass it up!

Comparing LSE Inductive and Capacitor Electronic Ignition

Bob Holliston (WA) - After four years flying my Long-EZ Klaus' inductive ignition without a problem, I decided to update to the capacitor type. I did this for a promised performance gain and available options such as digital timing readout and manual over ride. Out of curiosity I did a little testing. I made a full power run at 9,000' density altitude, landed, changed plugs and harness and installed my 2nd magneto. This took about 1-1/2 hours and went back up. The take off seemed slightly more lethargic but the difference was small. However, back at 9,000' density altitude, the difference was eye opening, 10 mph! The next day I installed the new ignition and could discern a 2 mph increase over the inductive system, as Klaus said.

My average fuel burn on cross country flights between 14,500 and 17,500 is 5.6 gph with an O-290-D2 and standard Precision Airmotive MA-3 carburetor. This is at 205 mph and 2700 RPM. Talk about efficiency!

Wanted

Wanted: wheels, brakes, nose gear fork, conical engine mount and instruments for Long-EZ project. Bob Holliston 509-493-2961.

EZ Meets Sea Gull

Jim Price (MI) - I'm not particularly proud of my "letting this happen" but if we can't learn from one another we learn at a slower rate and sometimes a much more costly process. I've always known that the chance of this happening is much greater down low... but sometimes the fun factor makes it hard to resist. It is good to know how well these materials hold up to such abuse.

I thought I'd let you know of a VERY unusual "event" that happened to me. I flew into Westchester, NY and made the wonderful trip down the Hudson River from there early Sunday. While I was at 300 ft. going northeast up the southern end off Long Island I collected a seagull just offshore JFK. Ugh!.. I was looking inland at the airport and had just glanced back when whoosh... thunk... I just saw a blur and thought it had hit the canard. Thank God that it didn't. It hit the outboard right wing where the winglet joins the wing. The poor guy was quartered. There was lots of debris (mostly blood & some meat) on the outer winglet both above and below the wing and on the upper and lower winglet on the inside. It took the nav/strobe right off the winglet.

Thankfully, there was just a little cosmetic damage. I did the tap tap test, but fortunately found no delaminations. It might have helped that I was trying to keep things slow, 125 knots, to help avoid an "event" like this. I guess I need to do more bird watching and less rubbernecking. Thanks to Burt for designs and materials that hold up so well to my torture testing!

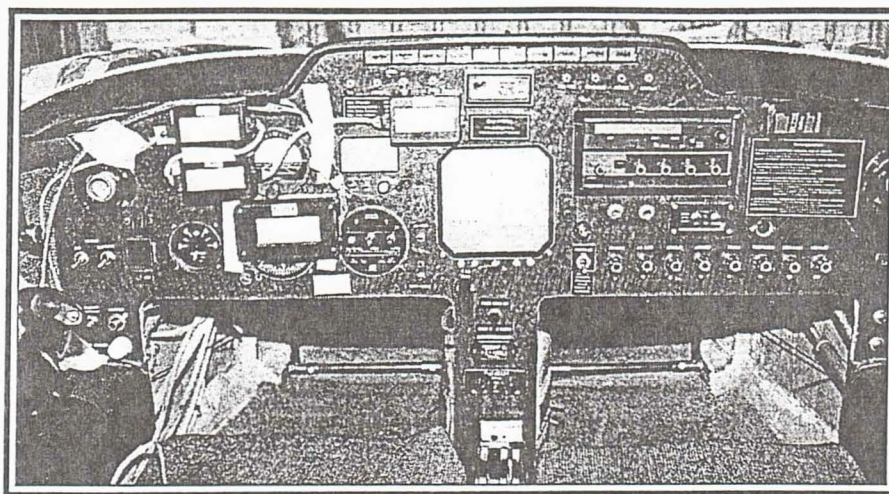
Going low is an easy way to get around this area of JFK but bird watching is a requirement. I normally prefer to stay high on trips to reduce the obstacle possibilities. Please don't tell me about the birds that fly at + 80,000' let's just leave it that the higher you go the fewer fowl that there are and that most are down very low. I wouldn't like to see what a bird like this could do to a canopy, propeller and even wonder what it would do to a canard. Best of luck in your avoidance of a situation like this.

I didn't know That . .

ED: - When making secondary bonds, use Scotch Brite pads not sand paper to abrade under peel ply. If you use sandpaper coarser than 180 grit you may damage the fibers.

Post curing parts generally improves strength by about 10%.

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