

Mike is presently reported to be testing a Woofter/Saber prop extension to determine resonant frequency. It is believed to be much higher because of a stiffer design. **No Woofter extension failure** is known and many are running on the O-360 which has severe power impulses.

The most recent contact with RAF, 10-4-94, found no final answer to the O-360 vibration problem. **The O-235 with 6" extension and the O-320 with 6" extension have no vibration problem.** Presently, it may not be true of the O-360. A finite element analysis is planned but the facts are not presently known. If you are intending to purchase an O-360 for your pusher RAF will recommend you buy one with a 5th order damped crank. Counter weighted crankshafts have their own problems too, so be sure to check all the AD notes before flying over shark infested waters.

More on this discussion will be found in the Cozy Newsletter and the Canard Pusher as it all develops. The O-360 is recommended for the Cozy Mark IV and the Defiant so both these publications will have something to say, I'm sure.

The latest Cozy Newsletter (10-4-94) indicates you should do all things possible to not over speed your engine and possibly get into the resonant RPM range: Check prop flange run-out. Keep it under .002". Check and balance the prop. Check the prop to see if the blade profile is symmetrical from blade to blade. I have seen prop airfoil sections that varied considerably from one blade to the other. That causes uneven thrust from blade to blade and hence creates vibration. Mike Melvill limits his cruise RPM to 2600, well under the resonant frequency

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#### Oil Cooler Outlet Location

*Bill Freeman (KS)* - Builders looking for an oil cooler air outlet will find the top of the cowl outlet to be more efficient than the bottom exit.

#### Nylaflow Brake Line Upgrade

*Bill Freeman (KS)* - It is good to replace old Nylaflow lines that may be getting brittle from age and heat. Replace them with 1/8" OD X .028" wall 3003-O aluminum tube. The neat thing about that size is it slides up inside the old Nylaflow that you glued to the aft edge of the strut. No cutting and repainting of the strut is needed.

You should leave about a foot or so of Nylaflow outside the strut at the top (in the "hell hole" under the passenger seat) to protect the tube and keep it from kinking or chafing. You will need a piece of flexible hose (I am using Nylaflow, since it is away from heat and UV) to accommodate the large movement of the front mounted master cylinders. I have a parking brake valve mounted to a plywood hard point on each side of the fuselage about 6" ahead of the panel and 6" above the floor. The aluminum tube goes into the valve and the Nylaflow comes out.

You may have a little trouble flaring 1/8", but with a little practice on scrap tube it is not too bad. You will need a pair each of AN822-2D flared tube elbows, AN819-2D coupling sleeves and AN818-2D coupling nuts for the caliper end and probably a pair of

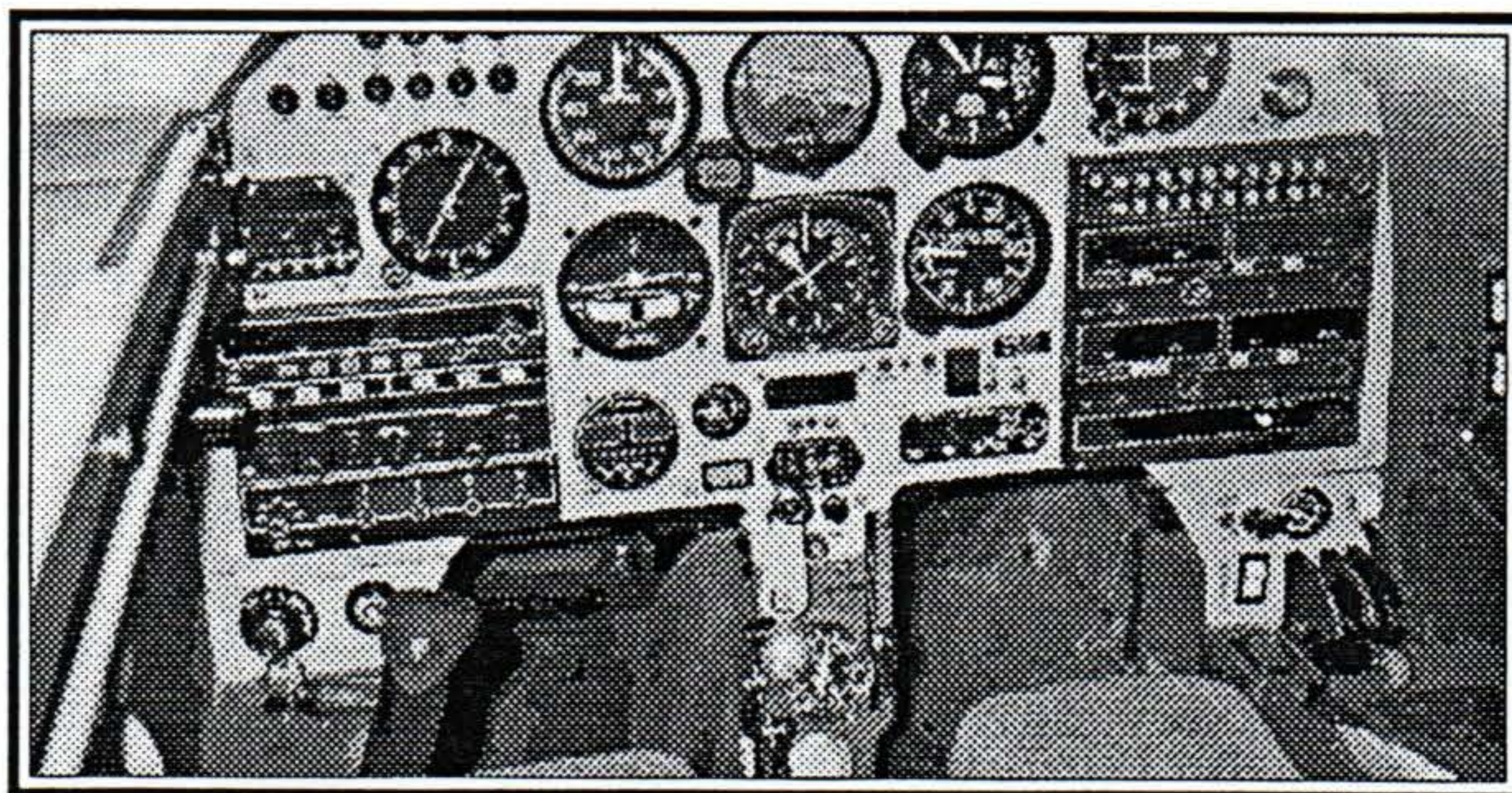
AN816-2D flared tube nipples with sleeves and nuts for the other end. I have used mine for 5 years and 500+ hours without a problem.

I always wondered why everyone complained about standard brakes on the Long-EZ, since mine were fine. Terry Yake recently replaced his Nylaflow with the aluminum and reports much firmer and better brake action after about 7 years of Nylaflow. Apparently the Nylaflow was ballooning and using up much of the pedal stroke, decreasing the brake efficiency quite a bit.

I see no need for a flex line at the caliper end since my two Cessna 150's have no flex line or strain relief loop in their aluminum brake lines. They are much larger 1/4" OD and, therefore, much stiffer. Some flex is required to let the caliper float on the caliper pins, however. Tuck the line away from the disc and protect it from direct heat with Fiberfrax and aluminum tape to ensure the fluid doesn't boil. I use DOT 5 spec (very high temp rating) which is compatible with all types of rubber and does not break down with age as does normal automotive brake fluid.

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This is your last issue.  
It's time to renew.



Check out the extra wide instrument panel on Sam Kriedel's O-360 powered "Limo-EZ". This outstanding airplane will be featured in the January issue