

Carl Denk - Cozy Classic

This beautiful European version of Nat's Cozy3 has an IO-320-B1A installed. A fuel injected engine gave Carl the opportunity to build a cowl free of the bottom curve normally needed to clear the carburetor.

Induction air is taken in through a center bottom tunnel inlet/air filter. Cooling air comes in through huge arm pit scoops. The engine installation has always been plagued with very high cylinder head temperatures and similarly high oil temperatures. Enlarging the arm pit inlets to the present size has done little to help.

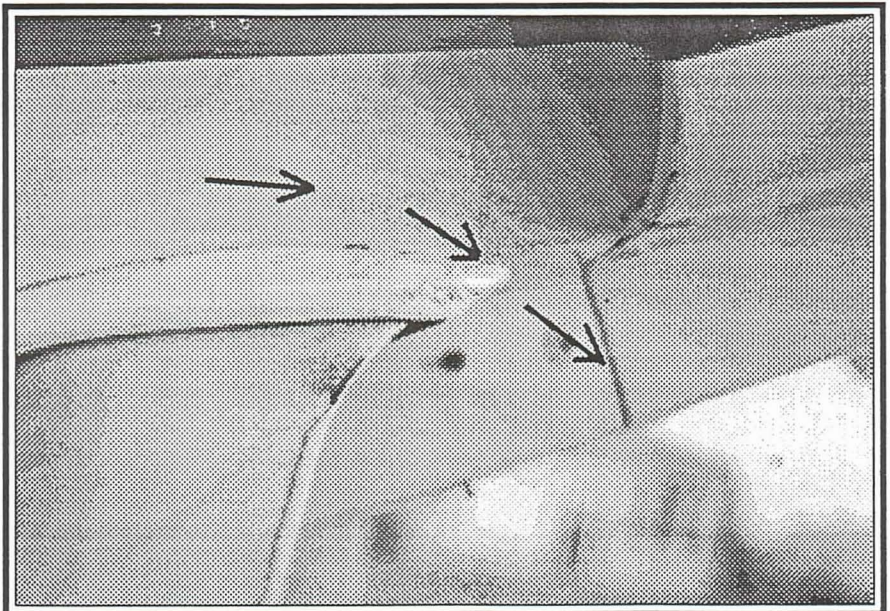
Oil flow and earlier tuft testing showed why. Note the air flow curves down the side of the fuselage between the gear leg and the arm pit inlet. It avoids entering the cowl. I guess you can't blame it. The temperature is pretty high in there. This is a test. What do you think should be done to get the air into the cowl?

The landing gear strut airfoil has been elongated to align with the flow but separation still occurs before 50% chord. It appears Klaus's previously printed airfoil (CSA Jan 95 p 32) is what is needed to keep the air from separating. On my Long-EZ that airfoil would be nearly 11" long.

The very clean cowl has an oil cooler exit at the aft end of the center tunnel. Note the wide oil streaks coming from the oil cooler opening. What can you say about the speed of the air here? What can you say about the speed of the air through the oil cooler? How effective would you guess the oil cooler is? How would you improve it?



Fly Safely !



cool air by passes cowl inlet

