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fax: 202-493-2251

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From: willford@southwind.net  
Sent: Monday, February 11, 2002 12:13 PM  
To: govt@eaa.org  
Subject: Comments to NPRM No. FAA-2001-11133, Certification of Pilots, Aircraft and Repairmen for the Operation of Light Sport Aircraft

156075  
Name: Neal Willford  
Address: 1919 N. Remington Circle  
City: Andover  
State: KS  
Zip: 67002

Comments: I would like to thank all involved for putting together an excellent proposal. I do have a couple of comments for your consideration:

1) The point should be made somewhere that the stall speeds are either calibrated or true airspeeds, not indicated airspeeds. Indicated airspeed at stall are usually several knots slower than the true airspeed.

2) The NPRM correctly points out that establishing a flaps up stall speed essentially limits the top speed. This is good. However, there is then a top speed limit imposed. Imposing a top speed would be difficult to enforce and limits efficient design.

The book "Aircraft Engine Design" by Liston (from 1942) has data for 68 different aircraft from that era plotted as a function of brake horsepower divided by wing area. A curve through the data showed that  $V_{max} = 135 * (\text{brake horsepower} / \text{wing area})^{.425}$  (in knots), which could be considered 'state of the art' for the late 1930's and early 1940's.

It is unlikely that sport aircraft would have a ratio of horsepower to wing area of greater than one, so the top speed capable for an airplane in this category would likely be less than 135 knots. The kinetic energy of an airplane at this speed would still be significantly less than that of the most common trainer available (the Cessna 172). Please consider eliminating the top speed limit or raising it to 135 knots.

Sincerely,

Neal Willford

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