



# Best Glide

by Larry Bothe, 11/12/2003

While attending the AOPA Expo convention in Philadelphia at the end of October I had the good fortune to attend a lecture by Dr. Ian Fries on the subject of surviving an emergency landing. One of the best survival techniques is to contact the ground with the plane flying under control and at the lowest safe speed. Those are very nice words, but as a practical matter how do we make sure that that actually happens?

We all teach our students that in the event of an engine failure we should slow the plane to the best glide speed and trim to maintain that speed. When teaching, I retard the throttle to idle to simulate an engine failure and the student starts to trim, tentatively at first, and then more aggressively, trying to get the Cessna 172 to slow down to 65 knots and stay there. Most aviators, students and experienced pilots alike, are not accustomed to making that great a trim change so it takes them a very long time to get it somewhere near the right speed. That time could be better spent picking a place to land, declaring an emergency, and attempting a restart.

In an effort to cut down the time spent trimming I started telling my students to just move the trim wheel 5 full "rolls" up and that would be close. But the results were mixed because my 5 rolls are not the same as somebody else's 5 rolls. And while it might be OK in a Cessna 150 or 172 it probably won't work in a Piper Warrior or a Beech Musketeer. Dr. Fries has a better way. How about full nose-up trim? Just move the trim wheel in the nose-up direction until it hits the stop. Full nose-up trim? Won't it stall? That would be way too slow!

No, it won't stall, and it won't be way too slow. Try it. In a 1980 Cessna 172-N, full nose-up trim gets me 62 or 63 knots against a book best-glide speed of 65 knots. That's close enough for me, especially considering that at any weight less than max gross the best glide would be a bit slower anyway. And your Piper Warrior or Beech Musketeer won't stall either. Why not? Because it is a certification requirement for light single-engine aircraft that they won't stall power-off with full nose-up trim.

A few words of caution: When recovering to normal cruise flight expect a substantial pitch-up as power is applied. You'll have to hold substantial forward pressure on the control wheel until you get the trim readjusted for level, power-on flight.

From now on I'm going to teach the full-nose-up-trim procedure to all my students and flight review applicants, as well as tell other flight instructors in my



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geographic area. I'm a DPE, so I come in contact with a lot of pilots and instructors. This might be a bit long to be called a "quick" tip, but it's too good a procedure to not pass along.

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