

ASG Soaring Safety Subjects



Landing Glideslope

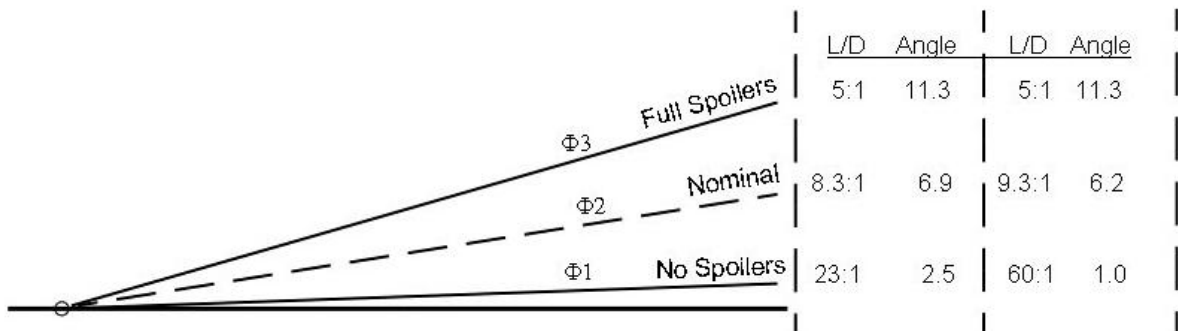
During the landing approach there is a nominal or target glideslope that represents the demarcation between being too high and too low. Most instructors consider this nominal glideslope to be the one that is the equal angular distance between the no spoilers glideslope and the full spoilers glideslope. A study of this subject raises some thought provoking questions:

Do you know the nominal glideslope for your glider?

Is the nominal glideslope the same for all gliders?

How can you tell if you are descending on this glideslope?

The enclosed figure helps to answer these questions. There are two sets of calculations in the figure. These two calculations cover the gamete of all gliders found at ASG; from Schweizers at 23:1 to Supergliders at 60:1. Angle Θ_1 represents the no spoilers glideslope and varies from $\sim 1.0^\circ$ for our Superglider to $\sim 2.5^\circ$ for our Schweizers. Angle Θ_3 represents the full spoilers glideslope and is about 11.3° (5:1) for most production gliders. This makes the nominal glideslope, Θ_2 , either 6.9° (8.3:1) for the Schweizers or 6.2° (9.3:1) for the Superglider. For practical purposes the difference between these two is not significant and should be remembered as an L/D of 10:1. This also keeps the math simple. For a no wind landing, you are on target glideslope if your vertical speed is about one tenth (1/10) of your airspeed.

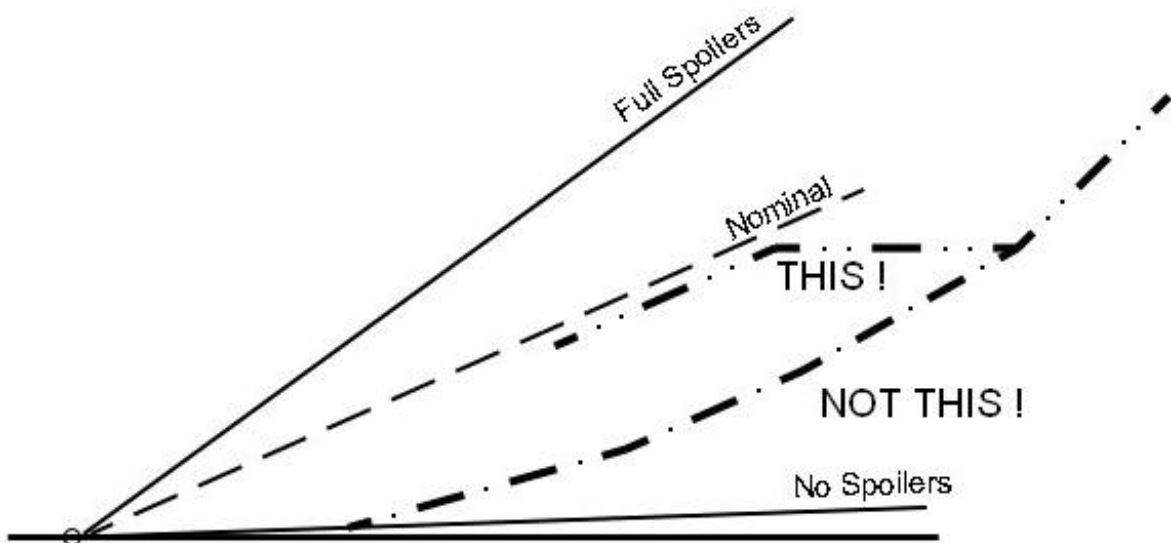


Here are some experiments that you should try. Maintain 50 Kts airspeed with full spoilers and see if your vertical speed is -10 Kts (5:1). Now maintain 60 Kts, a typical approach speed, and open spoilers until you achieve - 6 Kts (10:1). Take a look at your spoilers and remember this sight picture. When setting your spoilers for landing, you should not just pull back on the handle; you should look at your spoilers and verify this sight picture.

How should you now use this information?

If you find yourself flying your approach with spoilers open 1” and your vertical speed about - 2 Kts; then be assured; you are doing it wrong! Close your spoilers completely and fly flat until you intercept the Nominal glideslope. Then open your spoilers to ½ and continue the approach.

Sometimes, because of wind shear, sink, or whatever, you will find yourself needing to progressively close spoilers to maintain your aim point. When this happens, realize that you are falling into a trap. Close your spoilers completely and fly flat until you intercept the Nominal glideslope. Then open your spoilers to ½ and continue the approach.



END