

Notes on Flying Short Final

References: Glider Flight Training Manual by Thomas Knauff - Landings (pgs 94 - 115)

The following is club specific information to supplement Knauff's TLAR pattern and landing procedure.

The primary objective of the landing pattern is to get to a point a couple hundred feet up, in a steep descent (3/4 spoilers) at a stable speed, pointed down the runway you intend to land on. This point is called "Short Final." As part of our "goal oriented approach," designed to prioritize getting down and stopped on the runway safely, give up everything else to get to this point. You might give up a rectangular pattern, left vs right pattern, any downwind leg at all, etc.

Adjustments to land at a particular touchdown point happen earlier in the landing pattern than short final. It is much easier to have a long final leg, establish a stable approach and adjust spoilers to get to the steep approach angle, and come down the steep angle to make an accurate landing. A shallow approach will have a bad outcome if there is any sink.

Proper speed, established as you enter the downwind leg, must always be above the yellow triangle on the airspeed indicator (from POH for U.S. gliders). The yellow triangle indicates the minimum allowable approach speed. Add to this speed an allowance for the wind.

Remember that "stable" means airspeed and glide slope to the aim point are established and steady. The glide path should be stable well above the tops of the trees. This is what you'll be doing going into a field. Also, wind shear (wind gradient) tends to happen as you descend below the tree tops. When there is significant wind, expect to push the nose down as you descend into this slower moving air in order to keep up your airspeed.

If full spoilers are needed – or not enough – add a slip or dive with full spoilers to burn off some altitude. If too low, leave the spoilers closed until the desired steep glide path is achieved.

If you are low, do not apply spoilers just because you have turned final. While this will work on a benign day, you really want to practice for your next off-field landing by achieving that steep approach on short final.

Fly the plane all the way to the ground, keeping a constant pitch attitude, with the same spoiler setting, then flare just enough to stop the rate of descent. Do not close the spoilers to slow the rate of descent. You will not hurt the glider if you flare too little. Flaring too much can result in ballooning up, followed by a stall and serious damage to you and the glider. So err on the side of too little flare.

An advanced technique is to ease the spoilers to full – short of actuating the wheel brake – once past the controlling obstacle, whether that is treetop height over the grid (~30 ft – our club policy), or when you clear the trees on the approach to an off-field landing. This will get you down quicker, increasing the available runway and shortening the rollout.

Half spoilers or more on short final will lead to safer arrivals.