HOW TO BE A BETTER PILOT

CFI Tim King continues his series aimed at the beginner paraglider pilot

NO 5. SLOPE LANDING

ALL PHOTOS: TIM KING

Fig. 1

The perfect slope landing requires a high degree of precision slow flying, combining finesse on the controls - both weight shift and the brakes - with a healthy dose of commitment. It is not uncommon for the novice pilot to either contact the slope too hard and too fast, or to miss the slope all together and have to go around for another attempt.

Back when I was learning the slope landing, my first few attempts resulted in me turning away from the slope just as I was about to touch down. I thought I needed to land directly into wind and was a little put off by the ground rush across the slope. This resulted in suddenly finding myself too high and flying out from the slope, then having to go around again for another attempt... only to repeat the process again, getting lower and lower down the hill and rapidly running out of options!

The slope landing is all about approach speed and angles, coupled with the commitment and confidence to fly slower and closer to the hill and with more subtle control. The key points for slope landing are:

- **Check the wind bias and land on the into-wind leg**
- **Decide on a specific intended landing area**
- **Check the surface for hazards**
- **Get your legs down early**
- **Fly really slowly and low**
- **Use weight shift when trimming the angle of approach with only small, subtle brake inputs**
- **Be aware of your options if you miss on your first attempt – are you running out of safe slope?**
- **It's not over until the wing is mushroomed and made safe.**

Flying slowly

For a controlled slope landing we need to be comfortable flying our wing 'real slow'. I use this phrase when teaching students to explore the lower speed range of the glider. Real slow is slower than min sink. There are several situations when we may be required to fly this slowly: to momentarily avoid congestion on a busy ridge, or to give ourselves more thinking time and space when scratching or slope landing. Obviously we do not want to stall the wing in flight at any more than a couple of feet off the surface, so it is very important to understand where the stall point is.

When learning to fly real slow, we need to be low enough that, if we did inadvertently stall we would simply land with a 'flare'. Practice flying real slow when you have a nice, clean slightly-sloped top landing area and light lift - just enough to keep you up. You will be able to explore the lower end of your glider's speed range in safety, and because you have the ground as a reference you will also be able to see and appreciate the effects of altering your speed, converting speed to lift and experimenting with banked turns too.

Sand dunes like the Dune du Pyla in France are the perfect playground to perfect your low-level skills and really get to grips with how your glider flies. For many years now I have taught students at my skills clinics at the Dunes. The art of low flying, speed control and conversion is a vital skill that will help you 'feel' the wing and appreciate its potential.

It's always fantastic to see the confidence that the students come away with, really understanding their glider's limits and becoming able to squeeze every ounce of performance from it. And if you stall or spin a couple of feet over the sand there is no harm done, and a valuable sensation and lesson has been learned.

The angle of approach

Now that we are flying slow enough and low enough, and in control, we can concentrate on our angle of approach. This is fundamental to the effective slope landing. It determines our groundspeed and point of landing.

We start by following the contours of the slope (Fig. 1). Imagine the contour lines of an OS map laid over your slope, and float along these, making subtle alterations to our track by weight shifting. This has less effect on roll than just using the brakes, thus minimising any pendulum effect whilst near the slope.

As you get closer to the slope, it's a good idea to get yourself upright in the harness so you can get your legs down quickly if required. If you are still a little unsure about slope landings, it's advisable to get your legs down and ready well in advance to pre-empt any sink and possible early contact.

You will develop your own particular style, but I often use a little more outside brake (downslope


Fig. 2


Fig. 3


Fig. 4

side) to crab the glider, and compensate by weight shifting into the slope slightly. The ratio of these two controls will be constantly varying as the terrain and air dictates.

If we approach the slope with too steep an angle towards the slope we will contact it too hard and too fast! An angle of approach that is too shallow will position us too far from the slope and consequently too high to land. Once we have found the correct angle that allows us to parallel the slope, our legs will be down and we will be flying real slow (Fig. 2).

We may encounter sink at any time, which is why our legs need to be down and ready. Or we can move away from the slope to give ground clearance if we don't want to land just yet, keeping a constant distance from the slope. We may also encounter extra lift. In this case we can weight shift the glider up the slope as we rise in the lifting air, maintaining the constant distance from the slope.

Once we have set the speed, our legs are down and we have a clear surface, we are ready to make our landing. If we are paralleling the slope, all we need to do is edge very slightly towards it at a very shallow angle and contact will be possible. A foot or two off the surface, before you make contact, make the flare and run off any excess speed (Fig. 3).

The last part of the flare can be a little deeper on the outside brake, to stop the wing overshooting you. You can then stop your run, turn, and bring the wing down in a controlled fashion up the slope. Do not flare too much with the outside brake too early, since this could 'fly' you away from the slope leaving you too high for a safe landing.

At first it's best to practice by flaring symmetrically or even with a little more input on the upslope brake to ensure you stay in contact with the ground on landing. Only pull more on the outside brake when the wing begins to drop onto the slope (Fig. 4). Once down, mushroom the wing before a thermal or gust can grab it.

Once you get the hang of flying slow and close to the slope, along the contours with a suitable approach angle to the slope, you will have more confidence to 'scratch' along the slope to eke out any small bits of lift and perhaps fly your way back up the slope. Before you would have landed, but now with practice you will be prepared for a slope landing at any time and will be ready to deal with it appropriately.

Note: I am flying an EN B level glider with fairly long brake travel (a Sky Anakis2). When referencing my brake positions in the photographs, be aware that your glider may stall with less brake travel than shown.

Next month: How to progress efficiently and safely from the "new-CP" stage, plus spring flying hazards.

Tim King is CFI of Sky Paragliding (www.skyparagliding.co.uk). An earlier version of this series of articles appeared in Skywings in 16 parts between October 2003 and June 2005. The present series has been substantially revised and updated.