

SLOPE SOARING Part II.

by Klaus Weiss

I don't do nearly enough Slope Soaring, but this follow up to the article I wrote a few months back, is at the request of readers.

I'm not professing to be an expert on the subject – far from it, but I do realize that this facet of soaring can be a solitary pursuit, not requiring the assistance of any other pilot or helper, and as such, will be attractive to a lot of you out there. It also seems to me, to be a very fast growing branch of R.C. flying.

I am a member of an R.C. forum, and the most participation and volume of 'chat' is in the slope section. Foamies and P.S.S. are in the majority on slopes, and you will see an over abundance of flying wings, compared to other types of gliders.

Slope soaring offers flying experiences not found in other types of RC model flying. You can lazily fly along the hill with a 'floater', or make high speed runs, slope race with others, perform aerobatics or fly combat. There is something for every skill level of pilot. Besides being a lot of fun, how many other model pilots do you know who really look forward to having the wind blow?

Slope soaring lends itself to exploration of a variety of sites, but you must ensure that you are legally permitted to fly at the locations you use. I have seen pilots flying at beach walls, in close proximity to cars, houses and members of the public. I have seen heated arguments between hang glider pilots and R.C. pilots (only two of them) at one site near my home location, where the end result was signs being placed by Local Council, prohibiting the flying of R.C. models. Lack of common sense and an aggressive attitude can lead to the loss of a flying site, so be careful where you fly and how you behave. If there is a Club at a particular site, join it. Insurance is a paramount requisite for our sport, but an increasingly large number of pilots are refusing to abide by lawful or common sense principles. I know of two excellent slope sites being closed to R.C. pilots due to the actions of one or two irresponsible persons. Safeguard your site, by doing the right thing by members, the public, and the regulatory bodies.

Wherever you can find a respectable-sized hill with a 16-30 k.p.h. wind blowing straight onto it, you can usually slope soar.

Wind is deflected upward by the gradient of the hill, creating the lift we soar on. The amount of lift generated by a particular hill is regulated by the wind velocity and the degree of incline of the hill. Also, a hill that has a smooth approach to it (free of trees, buildings and etc.) will almost always produce stronger lift. Don't overlook



places like dams, reservoirs, cliffs overlooking lakes and river valleys. They all make good flying sites. The ideal slope site is one in which there is a "bowl" created by either a curved hill or by a series of hills. Most of my slope soaring has been done on coastal sites, where the lift is smooth and strong. The onshore winds have no obstacles to disrupt the flow, so if you can find such a location, the lift should be fantastic.

If you find a likely ridge to fly, look around to see if there are any birds soaring off the hillside. Sometimes a slope will not look that different from any other place, but if you see a hawk circling, or a flock of swallows skimming along the face, you will know it's a good spot. Birds are better at finding lift than we will ever be.

There is a great feeling, knowing that you can do just about any manoeuvre that power flyers can do, and you can stay up for as long as the wind is blowing. An added bonus to all this, are the panoramic views you get from the top of a hill.



If you are going to fly at a spot where other pilots are flying, then it is best to talk with them, to find the best area for each wind direction and strength. You can also get tips on flying and landing at those locations. If you are flying foamies, then landing areas are less important. Just avoid hitting rocks. Landing on grass, tussock or bushes is fine.

of Bald Hill.

Looking down on Stanwell Park Beach from the top

Before flying, ensure that your batteries are charged. Always make sure that no one is on your frequency before turning your radio transmitter on. When you choose a slope, have a good look around and imagine where you will fly, and then decide where you will land. Before throwing off, do a range check on your radio gear, by standing about 20 paces from the plane with the transmitter antenna pushed fully down, and ensuring that the control surfaces respond to inputs.

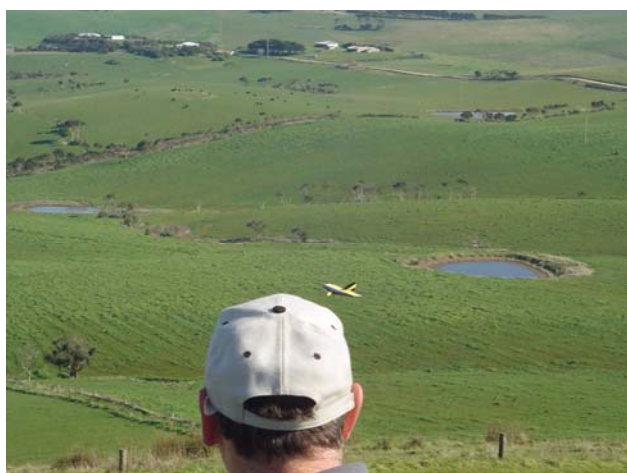
Always throw off straight into the wind, straight and level. Be ready to stop a steep initial climb by pushing the stick forward. Also be ready for a sudden turn to one side. Concentrate on keeping the model in front of you and heading away from the slope. If the model heads down and out from the slope, try pulling up a little. If the model continues to sink, land it before you lose it. If the model climbs nicely but starts to drift back over your head, push in some down to get speed up, and hold it until the glider is out in front of you. Once you are comfortable, try flying some flattened figure 8 turns, always turning into the wind. Remember to add up elevator when turning. If you want to stay up and in the lift, turn into the wind.



It sometimes happens that you make a turn toward the hill and start to sink toward the hillside. Don't panic. If you approach the hillside smoothly, you may be able to use ground effect to skim along the hillside, gain speed, then climb out, turn back into the wind (which gives you lift) and make it back to the lift zone.

Getting the correct trim for your glider, will vary depending on what the wind is doing. If you're getting good lift, you might want to add a couple of clicks of up trim to take advantage of that, so that you do not have to hold the stick back constantly. If the wind is blowing you back and you want the glider to penetrate better, you can add a few clicks of down to keep the model out in the lift, and motoring along. Adjusting up and down as the conditions change can make flying more fun.

If you are flying a model with a heavy wingloading, or if it is a fibreglass or wood construction glider, you will need some sort of predetermined plan to work out your landing approach and touchdown area. The biggest problem with landings is when the pilot doesn't have a plan.



Beaut inland slope site on the Bass Coast of Victoria



As with any other flying, when landing you have to pick your spots on the downwind, crosswind and final legs of the landing and hit them with your plane in the proper attitude. On fast models, I like to dive down wind far enough to where I can just get back up to the landing zone for final. Have a few practice runs to get an idea of what you are working with in terms of speed and energy retention. On the final approach, turn into the wind, before settling into a nice level landing. If you are coming in too fast, go around for another attempt. It just takes a little practice to nail landings all the time.

Another method, is to do a downwind dive with lots of altitude loss, an upwind leg that is flat, until you are directly below the landing zone, then a vertical line that climbs to the level of the cliff top where you level out and side slip into the landing zone. This is a good method for 'floater' type sailplanes.

Adjust these techniques to suit your slope conditions and flying styles. Some of the most entertaining flying is done with creative landing patterns. Experienced glider pilots can toss a glider off a slope and bring it back to land at their feet, but when you're learning, you want a place where you have a reasonable area to land. At worst, you will have to hike down and retrieve it.

There is a lot of fun to be had, slope soaring. The variety of models is quite large, and your flying will improve very quickly. If you can land well at the slope, then you will have no problem landing on flat fields. Whether you opt to fly the ever increasing spectrum of 'foamie' gliders, or scale gliders, or PSS warbirds, or whatever, there is scope to fly all over the countryside.



No matter if the slope is inland as above, or on the coast, as above, you will love flying there.

If you haven't tried slope soaring, give it a go. I am sure you will have a load of fun.