

Glider Launch

First ensure that the glider, assembled, has all parts in line, with no warps (a little washout on each wingtip is fine) and check the auto-rudder release and dethermaliser systems for proper operation.

Wait for a day with just a light breeze and take a standard 50metre (164' towline) and a reliable 'helper' with you, plus some shims, modeling clay etc. You cannot tow a small glider on a dead calm day (and it's not too easy for larger ones either!)

Wedge the rudder in the straight-ahead position and make gentle hand launches into wind adjusting ballast, etc. until you have a very slightly stalling glide; if it shows an inclination to a slight natural turn then adopt that turn as your glide pattern even if requires a complete amendment of a/rudder lines to suit (best done at home); otherwise adjust the rudder to indicate a gentle turn that just eliminates the slightly undulating flight you had previously.

Hook towline to model and link up the a/r and d/t lines. Your assistant faces squarely into the light breeze and holds up the model in one hand with the other lightly supporting a wing; you are now 50 metres away with a full line out – do not try to use short lines as models react faster on such – making sure that the model is directly downwind of you.

Look at the towline! If it bows to one side then you are slightly across wind, move until it droops slightly between you and your helper but with no side bias. You need reliable communication with your launcher, simple commands such as 'get ready' and 'go' for example; when you feel confident that you are directly into wind – that the wind is not too strong, and that the area ahead of you is free of obstacles, potholes, etc. - give a suitable 'launch/go' signal as you take up the slack in the line until taut and then run into wind briskly – not TOO fast -whilst looking over your shoulder at the model. This takes practice! Hold your winch in one hand with about 6/7' of slack between it and your towing hand.

To launch, your assistant holds the model into wind, nose up a little, and should allow you to almost pull the model from his/her hand whilst taking a step or two forward at the same time – the model should rise from the hand. **DO NOT THROW!**

All being well the model is now in the air with nose up and starting to climb. You're still running but now you have to do two other things simultaneously – if the model is starting to pull hard, slow down ... ease the pressure on the wings; watch it carefully!

If it is starting to go up in a straight path, be grateful! If it swings violently to one side and starts to drop its nose **STOP** running, if necessary reverse and run towards the model and try to get it released from the line before it impacts; on the other hand if it 'weaves' from one side to the other – and back – just play it carefully on the line and release it as you think fit. To release, just stop running and let the model float off the line; if it's pulling fairly hard then simultaneously release the slack portion of line that you have been carrying with you. Do not try for full line height at first, be content with achieving a safe release whilst learning the 'feel' of the model on the towline.

Once released, watch the glide closely. Stalling slightly in a very wide circle – increase turn a little; conversely too tight/steep a circle means less rudder and maybe a small reduction in ballast. Do only one thing at a time and observe the result.

So, the glide is safe ... now pay attention to the towline handling. The first thing mentioned previously – the side/downward swing is dangerous. The major reason is that the towhook is too close to the CG (it's unlikely as set up on Lulu plan, but still possible), if you have any means of adjusting the towline ring further forward on the hook, do so and try a cautious launch once again – OBSERVE! Alternatively you can remove some nose ballast to move the CG a little to the rear, thus effectively placing the hook further ahead of it. Maybe do both... If the model still pulls a little to one side but without as much nose-down tendency as before you first check that you are still into wind (a crosswind will take the glider to one side in which case you run in opposite direction to the 'lean' to get directly back into wind and the model should then straighten up. It may also be necessary, now, to adjust the rudder slightly to compensate for any slight side swing on tow.

If the model weaves gently from side to side, the reverse applies – move back the hook position. Ultimately you are aiming for a model which kites to the top of the line in a safe and controllable fashion, quite rapidly immediately after release by your helper but adjust your own speed to suit that – and the attitude and 'pull' of the model. When you have it towing, releasing and gliding you can watch the glide more closely with the extra altitude and then fine-trim both glide and turn to give what you consider to be the best pattern for longest duration.

In 'neutral' air you will not get full line height. If you're running fast and the model is going nowhere but just following like a dog on a leash then either there's not enough breeze at all OR you're in a patch of 'sink' which you might run out of if your stamina is up to it. Mine isn't any more, but you're younger than me....

If it starts going up on the line then accelerates whilst pulling like hell...STOP – it's a thermal! Run toward it if necessary, get the strain off the wings; it will end up right above you with the line bar-taut – to release pull the line down sharply to below waist level and release it – and the slack length – abruptly to flip the model off – it will probably stall but then recover into its' glide circle and now's the time you'll be glad you checked the d/t timer start system for suddenly it has become VERY important to you.

It may, similarly, accelerate to height whilst pulling hard ... but if the line then sags a little, rather than being taut, then you're merely feeling the effects of a strong gust – the same preventative methods, as in the preceding paragraph, still apply.

A well designed and trimmed glider – generally a little larger than a 'Lulu' – can be 'kited' close to the top of the line in a moderate breeze, with a little sag therein; however one has to constantly adjust line tension by increasing or slowing the towing speed to accommodate variations in wind strength – when a thermal is encountered then the airplane will strongly pull to full height, to be released . .but it takes experience and observation to be aware of the difference in 'feel' between a thermal and a gust.

I never said it was easy! Towing and flying a glider is an art which I cannot teach you – it comes only from experience. FEEL what the model is telling you through the line, whether it's pulling too hard and endangering the wing structure (and a gust can be very sudden – you have to be able to compensate almost instinctively), learn how to counteract a sudden swing due to wind shift, be cautious as you fly further in differing wind strengths – and ALWAYS use the d/t. Lulu's can thermal from very low altitudes – trust me, I know!

You'll probably fold the wings sometime anyway – it's part of the learning curve so do not be discouraged. You'd have done it sooner without the spruce spar you put into it. The smaller the model the harder it is to fly, oscillation and reaction rates are faster in comparison to larger airplanes; if you get to like what you're doing and want to go further I could point you toward my 'Night Owl' which was designed especially for this purposes, much like a 'Lulu' in many ways but a thick flat-bottomed 3-spar wing of 60" span, very strong, easy to handle and flies better than I expected it to when I drew it up!

Be patient, careful and precise and then practice with full line length and short d/t's, the more you fly it the more confident you'll get and the results will get better also.

Good luck!