

55 inches of vintage-style charm by Ole Steen Hansen

LEIPZIGER

Leipziger was actually designed as an R/C test-bed for Litespan, which I had already tried on the free-flight Keilkraft Soarer-baby. The basic idea was to take advantage of the low weight of Litespan by creating a light, vintage-style model, but with some departures from true Vintage.

First of all, it should have a decent length nose – the beauty of own-designing being that you don't have to stick to those awfully short ones on the true vintage designs (the trouble on the other hand being, of course, that you won't end up with a Vintage model!). Second, it should have a reasonably strong wing, so that you should be able to throw it around a bit, if an aerobatic bug suddenly bites you! 'Leipziger', however, still is basically a Vintage-style model designed for Vintage-style flying. So if you are really looking for something aerobatic, you're better off looking somewhere else!

Construction

No big surprises here, if you know a bit about Vintage construction. 'Leipziger' owes a lot to the 'Red Zephyr', my first vintage model, which a couple of years back opened up a whole new (old?) world to me. You don't need all that heavy wood to keep the covering in shape! In fact you don't need much wood at all! So by reinventing this sort of construction, you'll end up producing not only lighter more crash-resistant airframes, but cheaper ones as well (and nobody in his right mind could mind that!).

'Leipziger' is a light model, and you don't have to go for more than medium grade

Danish-designed 'Leipziger'; quick and cheap to build and a rewarding flier.





Lovely airborne shot offers a clue to 'Leipziger's' stability and simplicity to fly; a .10 size engine is all you need and three channel R/C.

balsa. In some places even light is OK. I doubt if 'Leipziger' could be built much lighter, without seriously compromising the necessity of having a fairly robust airframe for everyday flying. But you could give it a try. Keep the longerons as they are, but save on the sizes of uprights, crosspieces and diagonals. Do remember though, that the weight of balsa varies enormously, and you might as well do some weightwatching by selecting softer balsa, rather than using heavier wood in smaller dimensions.

Use cyano for lightness and speed of construction or white PVA for nice flexible joints. Mine was built with a compromise of the two.

Building

I do not intend to describe in very detail how to build the 'Leipziger'. Suffice to say that you start off with the time-honoured method of building two identical fuselage sides on top of each other. It works, it's fast and great fun too.

I start from the nose and work my way backwards. Do remember to drill all holes while you have the two sides on top of each other.

I mount the servos on a plywood tray, as this makes changing from one model to the other fast and easy. It does take up a bit more room than mounting directly on the bearers, but then space is no problem in 'Leipziger'. By all means though, use your pet way!

Miniservos and a flat 225 mhA nicad pack were used to save weight. The rubber band-mounted undercarriage is a real lifesaver – I have had quite a few landings, where a fixed undercarriage would have damaged the model!

Wings and tailfeathers

Wing profile is a modified Clark Y. In short, it has just been made thicker by freehand drawing over a photocopied Clark Y-profile. The thicker profile, combined with the use of webbing, produces a wing that doesn't have to rely on the covering for rigidity – and Litespan won't give you much of this.

The leading edge might seem a bit oversize, but helps to save the day when it hits something (like the front door, when you try to take it out of the house!). Still, probably something for the weightwatcher to modify! The wing has about 10mm washout, added after building, but before covering. Don't doubt the eternal blessings of this!

If you so desire, you could glue the tailplane in position. In order to keep it locked firmly in place, I use perhaps a little too many rubber bands. Well, it's up to you...

Control throws are as follows: Elevator: 15mm each way. Rudder: 25mm each way. You would manage with less, but I like to have plenty available, should the need arise! And you don't have to use full stick all the time anyway.

Engine

My OS 10 FP is about the cutest thing you ever saw. Working like a sewing machine, and so quiet, that you could be forgiven for believing that it was en electric motor up there in the sky. It's more than adequate. In fact, 'Leipziger' took off accidentally on (what became) its maiden flight on half power. It was windy, and I had only imagined a ground run to see if it was tracking straight.

You could, of course, try other engines as well. I never owned a diesel, but I'm sure one would be fine. Also I never tried out one of the smaller four-strokes, but I feel that they probably are a bit too powerful – vintage-style flying with 'Leipziger' doesn't demand bags of power. But you could perhaps enlarge the drawing slightly, if you must four-stroke.

My engine was mounted on a ply plate, but paxolin would no doubt be fine too. Like me, you'll probably have to make some cut-

A nice pair; prototype has Litespan covering, Mk 1 heavier silver Solartex. Little difference in flying.



outs in the nose to make room for silencer and needle valve.

Covering

Prototype was covered in Litespan. Following advice from Derek Hardman himself, the front fuselage including the cabin was first covered in neutral Solartex to add the necessary strength. Litespan was then added on top of this. This produces a very light yet strong covering. Decoration was made with Solarlac in freehand.

The Mk1 was covered in silver Solartex. The idea was deliberately to try the effects of that much heavier covering. The weight of the covering certainly is something that should be taken into account. The wooden structure of the Mk1 wing weighs 80g and the covering and decorations add no less than 55g to this! Using Solartex, you'll get a stronger airframe, but also slightly heavier. Thanks to the length of the nose on 'Leipziger' though, no nose ballast was needed on the Mk1, although the CG ended up slightly further back.

My two models feel much the same in the air. Perhaps the climb is slightly better on the Litespan-version, and the landing speed a little slower. But it is difficult to tell, really. So I think you could say that you could cover in anything you like. I prefer the Litespan on the prototype – it LOOKS much better.

Flying

You're just about ready to go! And you DID check that c.g. didn't you? The position shown on the plan is where I usually have it. But on the slope, 'Leipziger' has flown with the c.g. another 10mm back.

'Leipziger' takes off from the ground easily, but remember that with models like this it must be fairly directly into the wind. Hand launching is no trouble either, and the safest way in stronger winds. On full throttle it climbs away fast, and once up there, less than half is needed to drift around the summer clouds. Find a thermal, and you don't really need that engine at all!

Using full stick and throttle 'Leipziger' can turn, loop (well, sort of anyway!), stall-turn and barrel-roll quite fast. But slow circling free-flight style climbs do look much better.

'Leipziger' works on the slope too. No, of course it cannot compete in any way with those efficient purpose-designed ships. But it'll stay up there and look nice. Leave the propeller and undercarriage on the ground, and you'll find penetration a lot better.

My slope is not very high, but steep and gets easterly winds directly from the sea, which makes for very beautiful views and steady winds. The model will fly in quite windy weather. Only slowly does it progress out towards the sea then, but the flightpath is rocksteady. Seems to indicate that what disturbs a light model in windy weather is not so much the force of the wind itself, but rather the turbulence it creates further inland.

Once out there one autumn afternoon enjoying nature, life in general and flying in particular, I let 'Leipziger' climb slowly up towards a lazy seagull also benefiting from the lift. It was almost breaking its neck looking down/back to see who was sneaking up from behind. Apparently, it decided 'Leipziger' was no bird of prey, and stayed where it was – so did 'Leipziger', never able to reach the altitudes allowed by Mother Nature's more efficient aerodynamics!

The name?

And finally – why the name 'Leipziger'? Well, I happen to have some friends in that dirty, grey, old East German city. Without trying to make this a political magazine, let me just briefly say that I DIDN'T like their old Communist system. Neither did my friends, but being DDR-citizens they had no way of escaping life there. 'Leipziger' was built during the fateful autumn, when the people of Leipzig (including my friends) started the process, that led to the fall of the Berlin Wall. So all through that autumn – even while building model aeroplanes – my friends down there were very much on my mind. So naturally the model had to be named 'Leipziger' with my friends' initials on the wing.

And in some ways it has similarities with those first rebels – small yet strong and almost impossible to keep down!

'Leipziger' will even slope soar, too! See flying notes above.



Vital statistics

Prototype (Litespan):
Span: 132cm
Wing area: 24.2dm²
Weight: 850gm
Wing Loading: 35/gm/dm²

Mk1 (Solartex):
Same as prototype except:
Weight: 925g
Wing Loading: 38g/dm²