

# Chilli

No, not the pepper. It's the name of a glider in the F3L category by Karel Svoboda. When I first heard in March last year that Karel was working on this Chilli — and that it would be CNC milled and looked great — I was truly excited. I don't like working with burnt wood and avoid it whenever possible!

At first, it was planned as an electric version, then with a V-tail, and finally, I got the version with classic tail surfaces. I had the kit in hand by autumn. I don't build quickly — everything takes time with me, especially since I had other projects in progress. So here's the final result only now.

I always begin the build with the tail surfaces, then the fuselage, and finally the wings. I like to have everything ready before I start building, especially with a new model — it helps avoid later modifications and adjustments. Over time, my tools and materials have settled into a consistent setup, and it was the same this time. The quality of the parts is above average — I really have nothing to criticize. The CNC work is professional. The best I've seen so far is from Josef Schweiger (Purito), which is nearly perfect.

I always try to use the lightest components possible — I save every gram. One surprise was the weight of the fuselage tube. It's quite massive and longer than most, which raised concerns about the need for nose weight. I probably could have saved a few grams on the tail surfaces, too. The fuselage is beautifully made, but I think it's unnecessarily bulky. The design is a bit overly conservative in terms of strength. I would have preferred thin aircraft plywood, possibly combined with balsa, which would allow significant weight savings. I understand it's a commercial kit, but still...

The wing construction is very well thought out, and the materials are of great quality. The wingtip washout comes automatically thanks to the pre-milled trailing edge, and I love the carbon tube leading edge. The use of a yellow connector for the wing-fuselage joint is excellent — it ensures a solid connection and secures the wing. Thumbs up!

If I were to suggest something, maybe denser rib spacing or a solid covering. That would make the use of Mr. Mitsuru Ishii's airfoil truly perfect. I also enclosed the area beneath the brake flaps, as I've done with previous models — too much debris (and bugs) tends to get inside during landing. One thing I missed during rib alignment was a rib jig (or "comb") to position them accurately. Fortunately, my 3D printer is always ready.

I used Orallight transparent covering, as usual — I prefer clear film, but white has also proven effective. It comes with a silicone backing, which makes handling easier. I always do my own wiring, including crimping connectors. For years I struggled with compromises, but now I have quality crimping pliers — the foundation — and components from Muldentail. I use 0.14 mm<sup>2</sup> wires for power and 0.08 mm<sup>2</sup> for signals.

One thing that surprised me — there's no image or instruction showing how to mount the horizontal stabilizer. The idea to permanently glue it to the tube was, of course, out of the question for me — it goes against my building philosophy. You can see from the photos how I resolved it as lightly as possible, and I'm happy with it.

Until now, I've always used 0.8 mm carbon rods for the control linkages. The problem here is the length of the fuselage — carbon rods are only available up to 1 m. I still managed to use carbon for the rudder, but for the elevator I had to go with a 0.8 mm steel wire in a PTFE guide tube. The rest you can see in the photos. I always cover the fuselage with colored tissue, then sand, varnish, sand again... The final coat is always a 2K clear lacquer. This is my standard process, and I'm satisfied with it.

My RC setup has also become quite consistent: for power, I use a 2-cell 550 mAh ultraHP from Robbe, servos are KST X06 (I set the center precisely with a programmer, so the transmitter shows zero trim), and brakes are controlled by BMS 101HV Blue Bird servos. The receiver is a

Duplex R5L — works perfectly. And of course, I use a Pico Switch, which can't be turned off accidentally.

Now for the important part: even during the build I suspected nose weight would be needed — the only question was how much. You only find out when you balance the complete model. For a CG at 88.8 mm from the leading edge, I needed to add 64 grams. That brought the total weight to 532 grams. I may move the CG back by a few millimeters (around 97 mm, as Karel suggests), but for the maiden flight I prefer a safety margin. It's a shame and slightly spoils the otherwise excellent impression.

The V-tail version will likely require a bit less weight, and in the electric version, lead is replaced by the motor. That's just how it is.

I didn't yet mention the wing joiner — 7 mm carbon (12 g) or steel (62 g). It also serves as ballast, which is a clever solution. An aluminum joiner could be used too, but I don't have any in 7 mm diameter.

This week I went out for the maiden flight. The weather wasn't ideal — the wind was swirling — not great conditions, but I couldn't wait any longer. Now the weather's completely unflyable, so I'll have to be patient a bit longer. I found that the hook was too close to the fuselage — the ring wouldn't fit — luckily I had a thinner one. The hook position also didn't feel right, so I tried two new positions but still haven't found the best one yet. The model definitely has good flying potential, but it's still raw. I didn't push it further, just removed some lead and adjusted the hook. If the weather improves, I'll continue. I'll update the report later.

Below the article is a photo selection; the full album, as always, is available publicly in chronological order and full resolution. If anyone has comments or suggestions, I'd be happy to discuss!