

Faute de place, seulement quelques extraits de la longue lettre de Gustav

The history

In the early eighties the Sukhoi Design Bureau who normally only made military aircrafts had started the development of a new a revolutionary single-seat Aerobatics airplane. To their help they had four Aerobatic pilots and the designer Vishislav Condratchev who brought with him knowledge and ideas from his time at the Yakolevs Design bureau! In 1984 The Sukhoi SU-26 made its maiden flight and it would soon become clear that what has emerged from the Design Bureau was a winner.

The SU-31 Pistachio Drawing (will it ever be built?)

Some years later during my university studies I obviously thought that I had time between the studies and a girlfriend to also build a Pistachio and again I decided to go Russian. This time with the SU-31, the more powerful single-seater version of the SU-29 which in turn was an evolution of the SU-26.

Since then, the close to, finished drawing has survived on various attics over numerous moves until it finally succumbed to the flames of the large 2012 fire in the old Bavarian town of Coburg where I now reside.

This might, however, still not be the end of the story since I just recently found a surviving CD with a scan of the drawing! When Jacques was asking for material to C.E.R.V.I.A Lars suggested me to give him the drawing. So now perhaps somebody finally might build the model after all these years!

The differences and documentation

The SU 31 do not differ much from the SU 26. The most easily recognized difference is that the decking behind the cockpit has been made lower for better visibility. The 31's fuselage side is also more rounded and the landing gears are straight in contrast to the 26's who's landing gear was rounded as seen from the front.

I cannot remember where the 3-view came from but it was a quite detailed and accurate drawing from, perhaps Aeromodeller Magazine. Armed with a 3-view you can also check if I enlarged the tailplane or not. The story of the Sukhoi aerobatic aircrafts could be viewed on YouTube (31 min in) in "Wings of Russia Soviet Aircraft 15 / 18: Training and Sports Full Length".

The build

The high weight of my SU-26 Peanut was simply down to a too sturdy build (to thick dimensions and too heavy balsa). 1 x 1 mm Balsa stick would be the bread and butter for a Pistachio build much like the 1, 6 x 1,6 are for Peanuts. You could perhaps also go down to the other classic dimension of 1/32" (0,8 mm) however I generally think it is better (achieves a higher strength to weight ratio) to lower the weight by using lighter balsa rather than to decreasing the dimension. In terms of decking I would sand down the lightest balsa that you can get your hands on (with balsa sheets, e.g. decking, there is no such thing as *too* light). Sand down from 0,5 mm and then thin out aftward to around 0,35 mm towards the end of the decking. The shaped (very slight double curve) nose sides (where you will hold your fingers when winding) could be made with solid balsa (firstly shaped on the outside and then hollowed on the inside) or you bend and sand 1 mm balsa to the double curve shape.

Be careful with the canopy! Since it sits relatively far aft of the center of gravity its weight will penalize twice, one time for the canopy weight itself but it will also be a culprit for extra nose weight. Use as thin (= light) plastic for the canopy as possible. You should also take care to build the nose light because the nose is so long on this airplane that you could get away with no nose ballast. The color schemes for Aerobatic airplanes are almost always complex BUT that of the Sukhoi Aerobatic machines are easier to achieve than it first appears. The reason is that this striking scheme is built up with multiple parallel straight lines so with a metal straight edge and a sharp razor blade the cutting of this marking is a "kinderspiele". My choice, of paper is always the lightest of the Esaki tissues (no longer produced but still in stock at for examples Sam's models in England).

If choosing to paint the model it should be kept in mind that white is the heaviest of all the pigment with Red being the runner up! A trick to combat this heavy dilemma that I heard from the Chezk master builder Jiri Dolezel is to paint the first layers with silver, the lightest pigment, as a base cover before spraying on a thin layer of white. The first layer of the light silver pigment allows the heavy pigmented white layer to be made much thinner! It does exist a Silver colored Esaki tissue (almost the same weight as the other tissues), perhaps this could be a good starting point. For markings of the vents in the nose, rivets and seams etc. I suggest a very fine fineliner. My favorite is Sakura's *Pigma Micron Fineliner* with a 0,05 mm tip (very thin line).

The drawing is for a Pistachio sized model however the design would also easily scale up to Peanut size. I would only increase the balsa stick dimensions like mentioned in the paragraph above and increase the number of ribs in the wing and tail planes (double for the wing and one rib extra in each tail half). If you want to achieve a smoother, more scale-like, upper decking in the fuselage I would also suggest balsa sheeting all the way. Sanding it thinner aftward ending up at the tail with 0,2 mm (until it feels like paper). The curved shape of the decking should hinder the thinn balsa from buckling and deforming. Scaling it up even further!? yes why not, just increase dimensions, number of ribs/stick and detailing as you see fit.

Lastly a word of warning. Do not trust the drawing entirely, I made it for over twenty years ago and I remember that I did not completely finish it, the templates for the upper/nose decking for example has never been tested (so cut them oversize), also there are details, e.g. "Aileron spades", that are not represented in the drawing. Maybe that is for the best though, since Pistachio models cannot handle (but also do not require) all details to be represented. Good luck!