



Connecticut Flitzer Werke

Morrisov Machine Rolled Out On Time

Oktoberfest 2007 was party time at the Flitzer Werke as massed marching bands celebrated the rollout of the fuselage of the resurrected Morrisov machine. Workers were given the evening off to drink to their magnificent achievement before attending a fabric workshop next day at the Glenn Curtiss museum in Hammondsport, NY.

In tune with the latest aerospace industry practice, the newly unveiled Staaken Flitzer lacked seat cushion and cockpit instruments, and will not fly anytime soon.



Flitzer - the Link with the Past - Ernst Udet

Baron Ivan Morrisov, while a senior flight instructor at the *Sportflug GmbH für Mittelfranken und Oberpfalz* at Furth, near Nuremberg, in the late 1920s and early '30s, also flew as a stunt pilot in the four movies that starred World War I ace Ernst Udet. Morrisov's working relationship with Udet (the two are pictured together at bottom left) extended to "The Baron" acting as understudy for Udet in his many air show performances across Europe, and eventually accompanying him on his tours to the U.S.

Morrisov would typically fly to these events in the school's Staaken Z-21 Flitzer customized in his own colors of the Bavarian flag and Kazakov tail insignia, but would perform Udet's routine in the maestro's red and silver U-12 Flamingo on the rare occasions when he was called upon to do so.

Pictured right: Morrisov races Udet's U-12 against bike and car on a snow covered track in Switzerland.

(Photos: Morrisov family archive).



Morrisov (left) and Ernst Udet.



Highlights of the Morrisov Rollout



The ancestral Baron would have been proud! Bands played, workers frolicked, and the Baroness danced her Gypsy magic to ensure good karma would continue to surround the project to resurrect the 1926 Morrisov machine.





Emergency clamping: Growlers can provide up to 4 lbs each of versatile, localized pressure.

Plywood Covering The Fuselage

The Flitzer fuselage is covered with plywood of varying thicknesses, ranging from 1 mm to 2 mm. The trick is to glue the sides on flat, without wrinkles, clamping and weighing down as necessary to ensure good glue joints.

All plywood for the Morrisov machine was stored not in the workshop but for several weeks in the Baroness's garden shed, where it could acclimatize to the unheated Connecticut environment in which it would live when on the aeroplane. Then, before gluing, it was liberally wetted, even being laid on a wet towel while glue was applied so that it went on in its most expanded, dampened state. It could only shrink as it dried! That proved to be the case, and the skin is tight as a drum.

The rounded fuselage decking presented a greater challenge to clamp without resorting to staples (even though the office stapler was approved by the British CAA as part of the Miles Aircraft production process).

Finally, the cockpit opening was cut out and reinforced with 2 mm ply and a balsa wood lining.



Straps were invaluable for holding the decking in place.



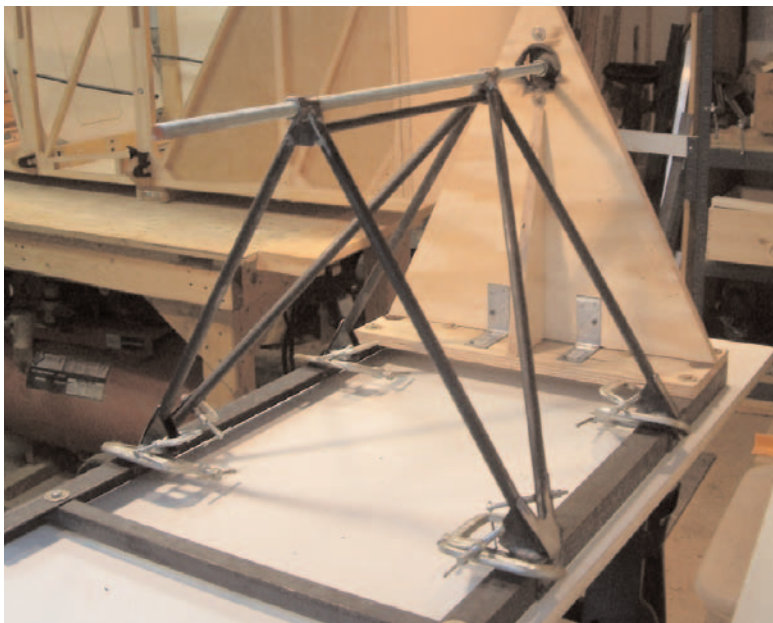
The cockpit door was built in place with balsa filling in preparation for cutting it out. The lower member left room for the hinge, and incorporated T-nuts for the hinge attachment screws.



The cockpit opening was marked and cut out.



The latch was built in, plywood liner attached. Cutting out was with a hacksaw blade and a sharp knife.



90% Done —and Halfway There!

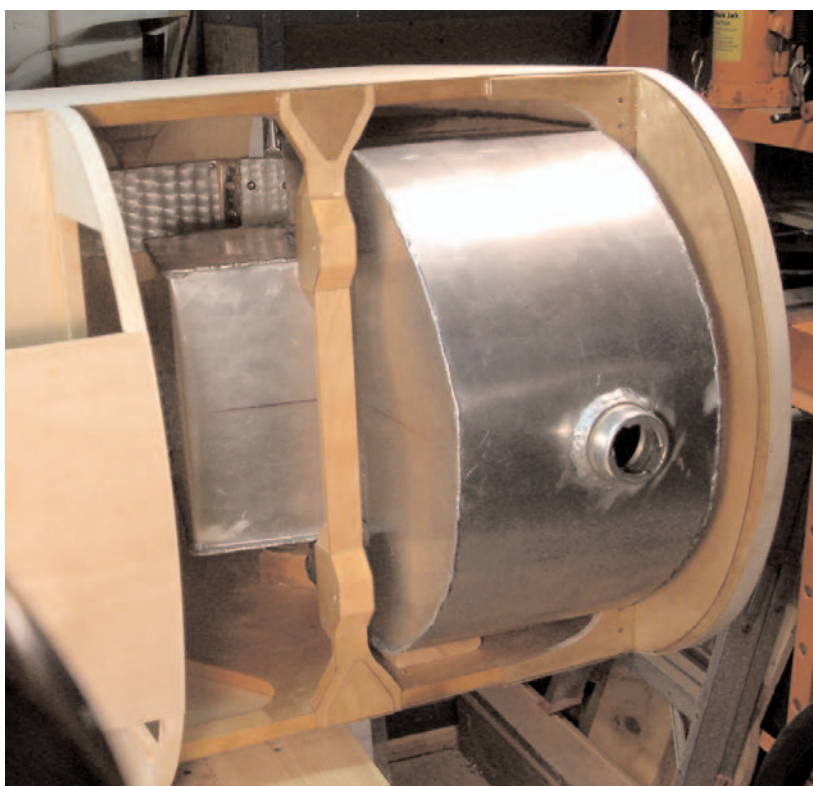
That's the conventional wisdom on any airplane project, and the Morrisov machine is proving no exception. Some weeks the progress is nothing short of meteoric, then others are spent on details, details, details, or on building jigs in order to make up structures accurately.

The Flitzer Werke staff have built their share of jigs this summer, for accurately locating the brake backplates on the axle, for making up the undercarriage (top left and bottom right), and for constructing the quite complex cabane strut structure (top right, diagonal left) that connects the upper wings to the fuselage. And then there was the fuel tank...another jig, more innovation and more solutions.

Pictured left: one mustn't forget progress to date. Four wings and the tail were structurally complete one year ago; now they will be prepared for covering with fabric.



Welding expert Ed Baranski shows off the tank he welded up for the Morrisov machine.
The white piece of paper in the filler neck is the bill!



Making the Fuel Tank

A dummy gas tank was made from foam to gauge maximum size and to ensure it would fit in through the cockpit opening. The design was then fabricated of 50 thou 5052 aluminum, which is much more malleable and weldable than 2024-T3. The tank was constructed in two major parts, and jigged—and strapped—to keep its shape while being welded. The flange where the sheets met was trimmed to a minimum.

Because the firewall on the Morrisov machine is moved rearwards by 2-1/2 inches, the fuel tank bay is narrower fore-and-aft than a standard Z-21. The reduction in fuel capacity, coupled with a thirstier 80 hp AeroVee engine, would make for a much shorter range. However, the “box” on the rear of this tank brings it back up to 14 U.S. gallons, while still allowing full forward travel on the control stick. The extra capacity does, of course, mean one must be careful of maximum weights, but at least it is on the center of gravity.



Prototype Flitzer Comes to Light



Chris Bobka, Braumeister und Inspektor der Flitzer und Flitzermotoren.

The only known photograph of the prototype Z-1 Flitzer *Luftschiffparasit* Zeppelin-carried scout plane has been discovered by Chris Bobka, Braumeister und Inspektor der Flitzer und Flitzermotoren.

Bobka recently acquired a rare copy of the book, *Flugplatz Staaken: Ein Stück Luftfahrt-Geschichte*, published in 1965 by German aerospace historian Rainer W. During.

There, amongst the numerous photographs of Staaken's Zeppelin history, is one that reveals one of Germany's deepest secrets of the 1920s: that Staaken Flugzeugbau developed the Z-1 Flitzer as an airship-launched survey aircraft for the arctic exploration unit of the *Anstalt für Geo-Wissenschaftliche Forschung* (Establishment for Geo-Scientific Research — a “front” organization to conduct clandestine military surveys).

“I saw this little biplane on the photo,”



Inset: The prototype Flitzer D692 is caught in this aerial shot of Staaken Flugzeugbau at the Zeppelin Werke as it is moved from the hangar to the tent where it was hidden between test flights. The tall workshops at the rear can still be seen today.

said Bobka.

“I knew immediately what it was. I am amazed that a historian of During's renown could have overlooked such important material.” Indeed, During failed to mention Staaken Flugzeugbau at all in his history, so well had the secret been kept over the years. Since his book was published, the German civil aviation authorities have confirmed that all their pre-war records were burned by the Russian

invasion forces in 1945, so many more secrets may yet emerge.

Originally equipped with skis, the Z-1 Flitzer was shipped aboard the steam schooner *Eisbar* as part of a secret 1926 air-sea expedition to find Atlantic refueling stations for transatlantic postal flights and the U-boat fleet. Staaken Flugzeugbau went on to develop many sporting variants of the Flitzer, including the *Bavarian* Z-21 made famous by Baron Ivan Morrisov.



A Historical Cover-Up

Baron Ivan Morrisov met Glenn Curtiss in the late 1920s to ask advice on breaking into Hollywood with his Flitzer. Eighty years later the current Baron Morrisov visited the Glenn Curtiss museum in Hammondsport, N.Y., for a three-day workshop on fabric covering techniques that will be applied to the resurrected Morrisov machine.

Full circle? Perhaps. But no more getting high on the dope! Stewart Systems promises to cover up all that historic woodwork with water-based or water-carried products that are friendly to the environment, and won't burn, either. The Flitzer Werke will keep an open jar of nitrate thinners handy to replicate authenticity.