Connecticut Flitzer Werke

First Wing Completed

The Connecticut Flitzer Werke celebrated a major milestone in the resurrection of the Morrisov machine with the completion in early March of the first wing. The starboard upper mainplane will now be stored with the completed tail surfaces until the other three wings are finished this summer.

Spars for the next three wings are finished, and all metal fittings have been manufactured, welded where necessary, and powder coated. Industrial resources throughout Connecticut are assisting with heat treatment/stress relief of welded parts in an FAA-approved autoclave, and corrosion-proofing with a powder coating process.

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The Morrisov Staaken Z-21 Flitzer will wear the identical German registration number D696 as delivered to the *Sportflug GmbH für Mittelfranken und Oberpfalz* at Furth, near Nuremberg, in 1926.

Flitzer - the Link with the Past

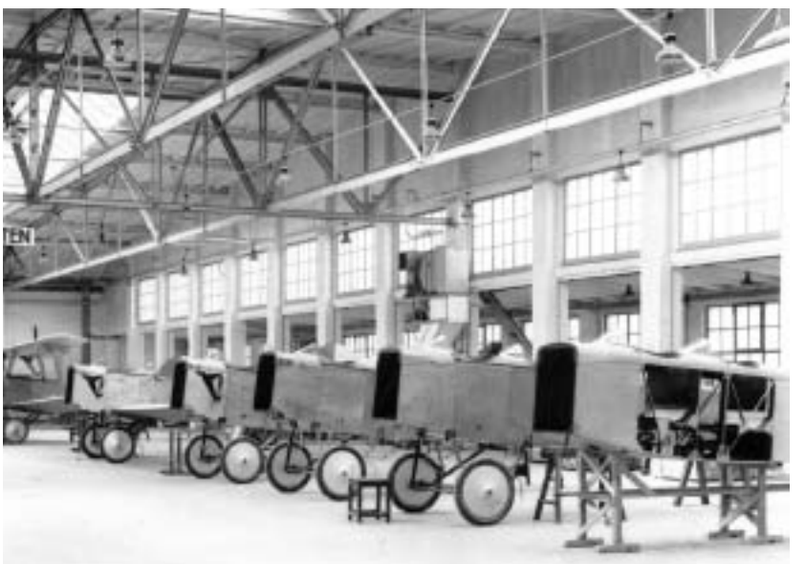
Ernst Kessler.

"The U-12 had considerable influence on the design of the Flitzer"
— Ernst Kessler, Chief Designer, Staaken Flugzeugbau

American financier William Pohl of Milwaukee looked at a devastated Germany after World War I and decided it was the place to produce sporting aeroplanes for the European and U.S. markets. He set up Udet Flugzeugbau, near Munich, in cooperation with fighter ace Ernst Udet, and soon the U-12 Flamingo was in production. The two seater became a popular training and sporting aircraft.

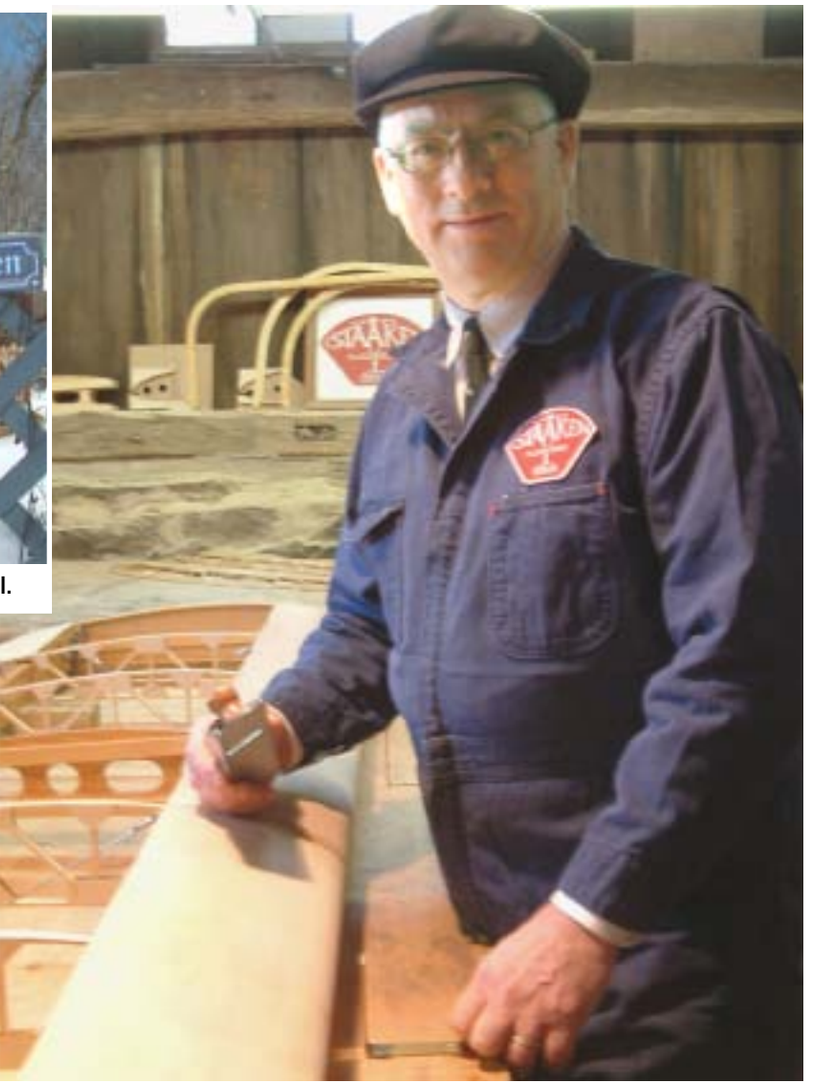
Baron Morrisov flew many of the customer acceptance flights for the Udet factory, and became known to Pohl.

That friendship was to prove pivotal in later years when Morrisov's barnstorming career in the U.S. began to founder, and performances in his Flitzer could no longer support his lifestyle. Pohl found work for Morrisov as a company pilot, saving him from having to sell Flitzer D696.



Udet U-12 Flamingos in production. The Flitzer owes a lot to its design.

Connecticut FlitzerWerke never closes. Biergarten is seasonal.



Skills of 80 years ago are brought into play at the FlitzerWerke — Morrisov.

The Connecticut Institute of Advanced Aeronautical Research conducted tests to destruction on the Flitzer's internal wing bracing.

Sometimes the Test of Time Must be Tested Again

"It was good enough then, so it must be alright now" is not a philosophical question one wants to consider while cruising along at 3,000 feet.

Older construction methods often have an elegance and simplicity that evolved from practical engineering experience. But did they become obsolete because better ways were found, new materials evolved, or the accountants took control?

The Connecticut Flitzer Werke demonstrated the strength inherent in the Flitzer's internal wing bracing with an actual test to breaking point.

Wire spec: S42 BS2056 316 stainless steel — from SkyCraft UK
16 gauge wire broke at 500 lbs.
14 gauge wire was OK when the test rig broke at 1,040 lbs.
Stress analysis of the Flitzer estimates the maximum extreme stresses at 155 lbs. for the 16 gauge wire and 1,059 lbs. for the 14 gauge.

"Real" aircraft wire should test about 200 kpsi so this stuff is the right stuff as long as it does not suffer from brittleness, which it appears not to"
—Chris Bobka, *Braumeister und Inspektor der Flitzer und Flitzermotoren*

Twang!!! The aircraft wire held, but a steel hook on the test rig failed.

Flashback: First trial fit of the wing parts on January 1.

Industrial Might 1: The Sousa Corp.'s FAA-approved autoclave was used to stress relieve welded parts.

Wing structure takes shape, bracing wires fitted.

Wing leading edge "corner" was formed to wrap around as a single piece of 1 mm ply.

Every part is hand crafted from scratch from original drawings for the Staaken Flitzer. As much as possible the materials and tools are similar to those used in the original, recreating the skills of the typical aircraft factory of the 1920s.

Plans call for all four wings of the Morrisov machine to be completed by mid-summer, when construction will begin of the wood-framed, plywood covered fuselage.

Target date for completion is Spring 2008.

Industrial Might 2: Powder coating in East Hampton.

Trailing edge plywood is clamped gently in place.

Wing wires are secured with double Nicopress sleeves. The turnbuckles were made at the Flitzer Werke.

Flitzer—a Long History

The Z-21 Flitzer was a sport flying development of the Staaken Z-1 Flitzer. Conceived in secrecy in one of the Zeppelin repair sheds at Staaken, near Berlin, the Z-1 was a purpose-built *Luftschiffparasit*, airship-launched for aerial survey work by the arctic survey unit of the *Anstalt für Geo-Wissenschaftliche Forschung AG* (Establishment for Geo-Scientific Research—a 'front' organization). Originally equipped with skis, it was shipped aboard the steam schooner *Eisbär*, which was specially equipped with ice-breaking bows and a retractable airship mooring mast aft, as part of a secret 1926 air-sea expedition to investigate evidence from old Nantucket whaling logs of a reported landmass north of Jan Mayen. Having lost its overseas possessions after Versailles, Germany was looking for Atlantic refueling stations for transatlantic postal flights, as well as potential U-boat bases.

The original Z-1, registered D-692, is still flown in the UK, where it has also been exhibited in the RAF Museum.

Forming a leading edge skin.

The leading edge (1 mm ply) was attached in two lengths, secured with innertube clamps.