TsAGI 1-EA
the FIRST RUSSIAN HELICOPTER

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BEST GREETINGS TO THE PARTICIPANTS of the 33rd European Helicopter Forum
AND CONGRATULATIONS on the 100th Anniversary OF THE FIRST HELICOPTER FLIGHT

CORNU’s helicopter which achieved the first true free flight
November 13, 1907
Technische Meilensteine

Die Geburt des Hubschraubers

Wie an anderer Stelle bereits erwähnt, blieb ein großer Teil früher Pionierarbeit an Hubschraubern im Dunkeln und wurde nie aufgeschlossen. Mit einer solchen Darstellung ist die Arbeit der deutschen Zeitung "Flugzeitschreiber" gefördert worden, die eine umfassende Darstellung der französischen Entwicklung gebracht hat.

Paul Cornu

Außer in dieser "Pionierzeit" der Entwicklung des Flugzeitschreibers war der Name Paul Cornu ein bekannter Wissenschaftler, der in den 1920er Jahren große Verdienste erbracht hat. Er war einer der ersten, die sich mit dem Flugzeugbau und -fliegen beschäftigten. Seine Arbeiten waren eine Grundlage für die weiteren Entwicklungen in diesem Bereich.

Der Tragschrauber von Breguet und Richet

Aber nicht nur durch die Entwicklung von Hubschraubern wurde Paul Cornu bekannt. Er arbeitete auch an der Entwicklung von Tragschraubern, die von den Firmen Breguet und Richet entwickelt wurden. Die ersten Versuche mit Tragschraubern wurden im Jahr 1917 durchgeführt, und schon damals waren sie eine Stufe weiter als die einfacheren Hubschrauber.

Links Seite: Zwischen 1873 und 1900 baute Carl Zander an den "Vorläufer" Luftschiff Bremen IV, das freilich nie geflogen ist, aber doch die Entwicklung eines Hubschraubers darstellt. Der erste Hubschrauber, der einen beheizten Flug überbrachte, war diese Entwicklung Paul Cornus mit Tandem-Rotoren. Unten: Einige der historischen Tragschrauber Nr. 1 vom Boden ab, jedoch wurde er von vier Mann in Ganzheizung gehalten.

KAMOV
The first two full-size helicopters ever to fly took to the air in France in the second half of 1907. It was a time of general excitement: automobile, flying machines, aeroplanes and a host of other inventions such as the phonograph, radio and telephone were all in the news. All over Europe and America hopeful inventors were building every kind of flying machines, with limited success.

One team comprised the brothers Louis and Jacques Bregeot. Their family had been first in the world of clocks in Louis XVI's time, and with wealth and good technical knowledge behind them they began the design of Bregeot aircraft - a story which is still being written. Their first Gypsoplane looked like a combined assembly of biplane and helicopter, but actually comprised a steel tube frame carrying a 45 hp Antoinette engine driving four biplane rotors which provided 22 lifting surfaces. Louis proceeded the work by exhaustive tests of blade (wing) sections, control methods and the whole mechanical design and aerodynamic theory of the helicopter. In this respect he followed the methodical approach of the brothers Bregeot - and thus generally known in Europe - and, like them, he achieved his objective.

With help Vollard at the controls, Gypsoplane no. 2 was flown at Douai on 19 September 1907. Many experts claim it was on 30 August, but the latter date is the accepted one. Despite its slender weight of 75 kg (165 lbs) the great device tilted majestically off the ground to a height of 2 m, held steadily by an arrangement on each of the four arms. On 29 September the flying height was increased to 2.5 m. The four rotors were nothing more than four large fans, but at this time even the most advanced aerodynamics were not familiar with the advantages of lightness. The result was a very poor lift and a poor weight/balance ratio. The machine was able to fly only when the air was still, and even then the control was not easy. In the end, the Bregeots decided to abandon helicopter design and devoted themselves to the world of aeroplanes.

Unfortunately this first Gypsoplane no. 2 could not compete with other more advanced machines. The Air Ministry of France later awarded to Bregeot a prize for his work. The Bregeots were not the only ones who attempted to produce a helicopter. In 1907 the brothers Charles and Constant Brechet, from Besançon, the French Capital of Switzerland, built a similar helicopter. Unfortunately, it was not successful and they decided to abandon the project.

The first helicopter to fly in the United States was the Wright-Baird helicopter. The Wrights had built the first successful aeroplane in 1903 and were trying to build a helicopter. The Wright-Baird helicopter had two sets of wings, one set on top of the other, and a rotor at the front. The helicopter was driven by a 50 hp engine.

The first successful helicopter flight in the United States was made by Orville Wright on December 17, 1903. However, Orville Wright was not the first to build a helicopter. In fact, a number of people had tried to build a helicopter before the Wright brothers.

The Kamov helicopter, designed by Vladimir V. Kamov, is a Soviet helicopter that first flew in 1946. It is known for its unique design, which includes a single rotor and a tail rotor. The Kamov helicopter has been used for a variety of tasks, including search and rescue, aerial survey, and transportation. The Kamov helicopter is still in use today and is considered one of the most reliable and effective helicopters available.
FIRST HELICOPTERS

First helicopter built by BERLINER (1920)

PESCARA’s helicopter flying in a hangar (1921)

DE BOTHEZAT’s helicopter (1922)

ASCANIO’s aircraft during his record flight (1930)

FLORINE’s aircraft stays in the air almost 10 minutes (1933)

BREGUET’s aircraft during his record flight (1935)

KAMOV
TSAGI-1EA FIRST SOVIET HELICOPTER

- Start of activities: 1928
- Building: 1929-30
- Ground tests: August, 1930
- First flight: September 13, 1930
- Helicopter flight demonstration for Air Force & TSAGI management: November 16, 1930

A.M. Cheryomukhin - designer, pilot and scientist in fixed-wing and rotary-wing aviation

KAMOV
TSAGI-1EA FIRST SOVIET HELICOPTER

1930
TSAGI-1EA FIRST SOVIET HELICOPTER

August 14, 1932
helicopter has reached flight altitude of 605 m

- PREVIOUS RECORD FLIGHT
  (ASCANIO) 1930
  18 m

- FOLLOWING RECORD FLIGHT
  (BREGUET) 1935
  158 m
TSAGI-1EA HELICOPTER FIRST FLIGHT MEMORIAL

14 Августа 1932 года с аэродрома, находившегося на этом месте летчик-инженер А.М. Черемухин совершил рекордный полет на первом советском геликоптере ЦАГИ-1-ЭА поднявшись на высоту 605 метров.
THANK YOU FOR YOUR ATTENTION

ANY QUESTIONS?