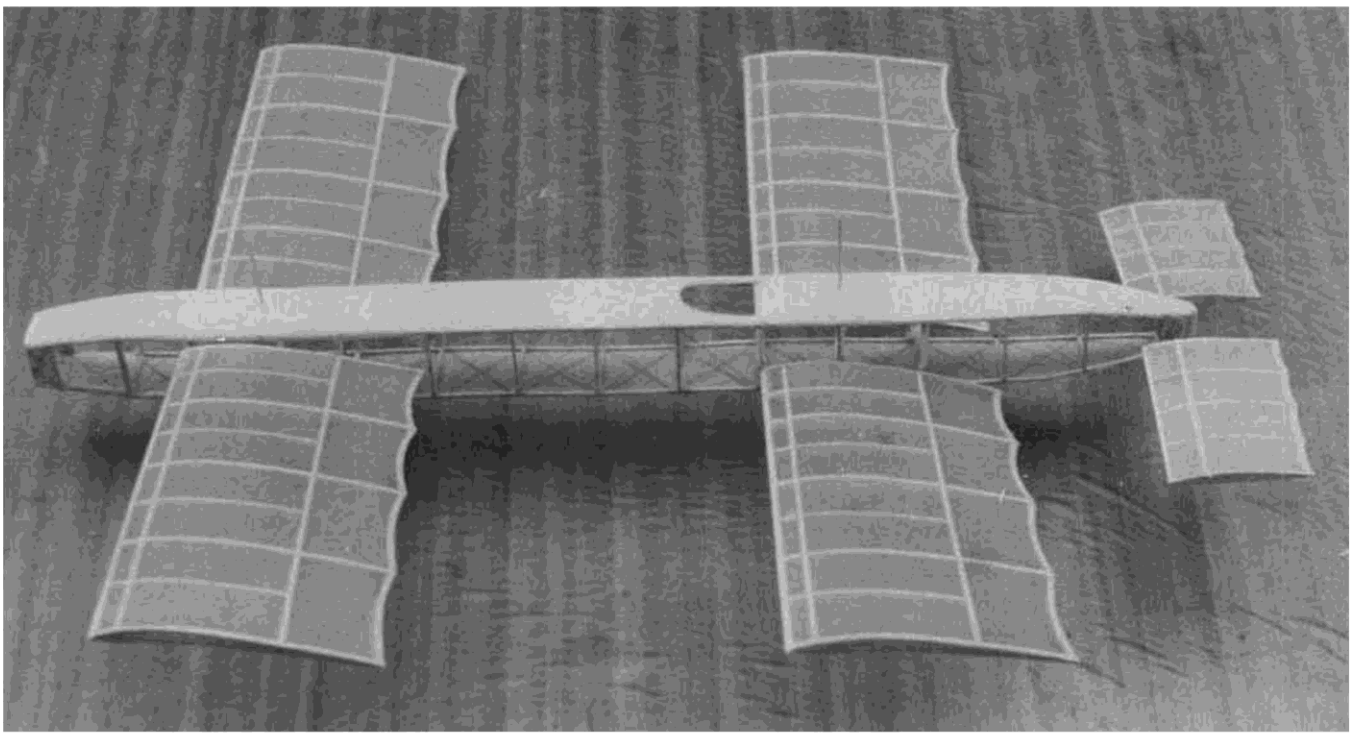


ASTRA Kapferer

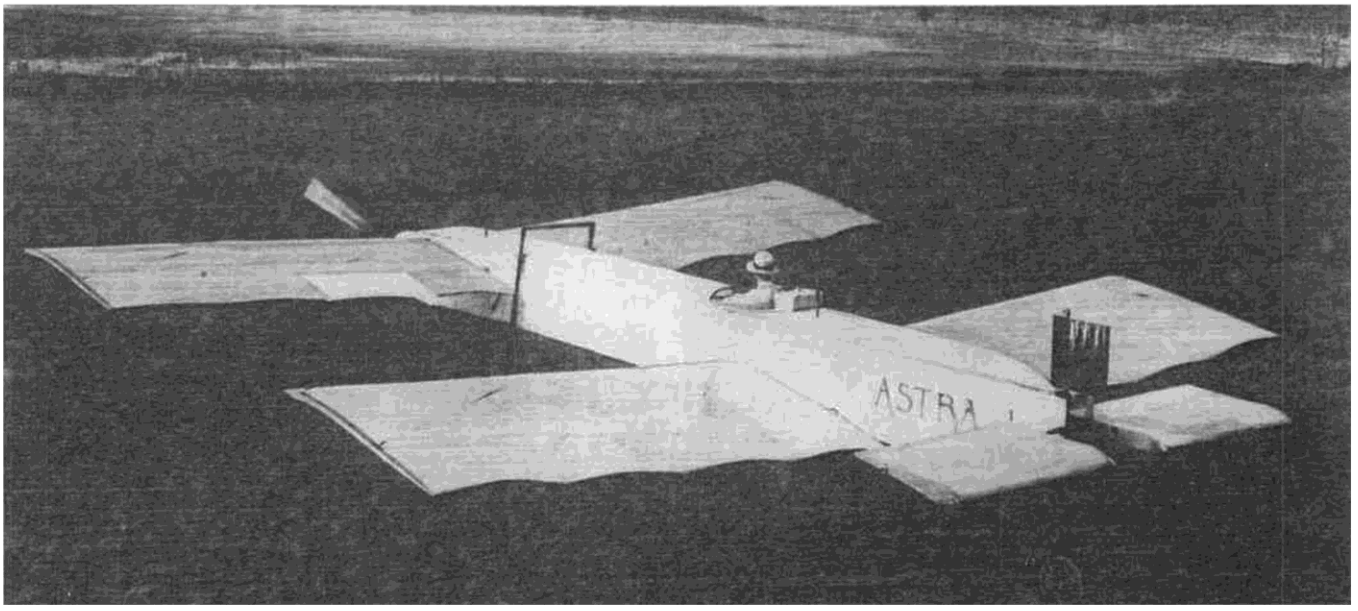
By BENNO SABEL. . .A rare, and certainly seldom-modeled monoplane, the Astra was an interesting tandem flying machine developed in France in 1908. The author's model flies well. . . .

• Henri Kapferer was one of the engineers who constructed the Air Ship "Ville de Paris," that was built by the Astra Company, Billancourt. It has been my wish to show this interesting tandem flying machine, dating from the French pioneer period (1908) to a broader hobbyist public. I had four bad photographs, but exact measurements and data, so that the model should be a 95-percent correct reproduction of its real counterpart. This reconstruction is easy to build, so there should be no difficulties in constructing it. Two different versions concerning the REP motor are given; one with 5 (24 hp) and one with 7 (35 hp) cylinder.

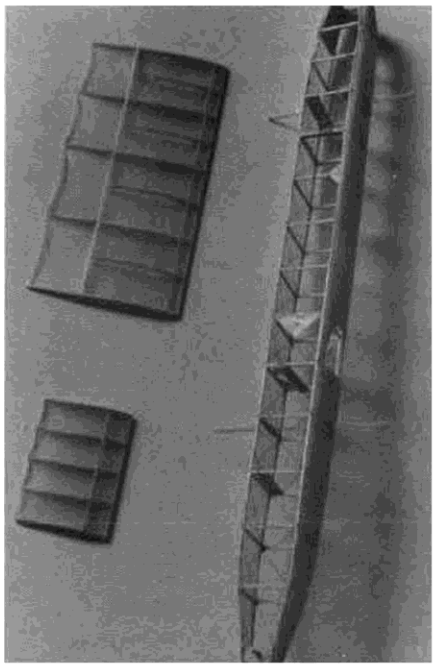
The weaker engine first used a two-plated propeller; the stronger used a four-plated propeller. Good drawings of the REP motors exist, but they don't show the arrangement of the exhaust pipe. The undercarriage might be not 100-percent correct, as there is no good photograph showing it. It looks a bit like a Voisin type.

Concerning statics, the original with its long fuselage is a quite ideal design. The model also shows good flying abilities. Whether the original did fly I don't yet know; unfortunately there is no photograph showing the machine actually flying. Perhaps the U.S. has a hobbyist who will build a life-size model! It would surely be a great sensation on aviation days.

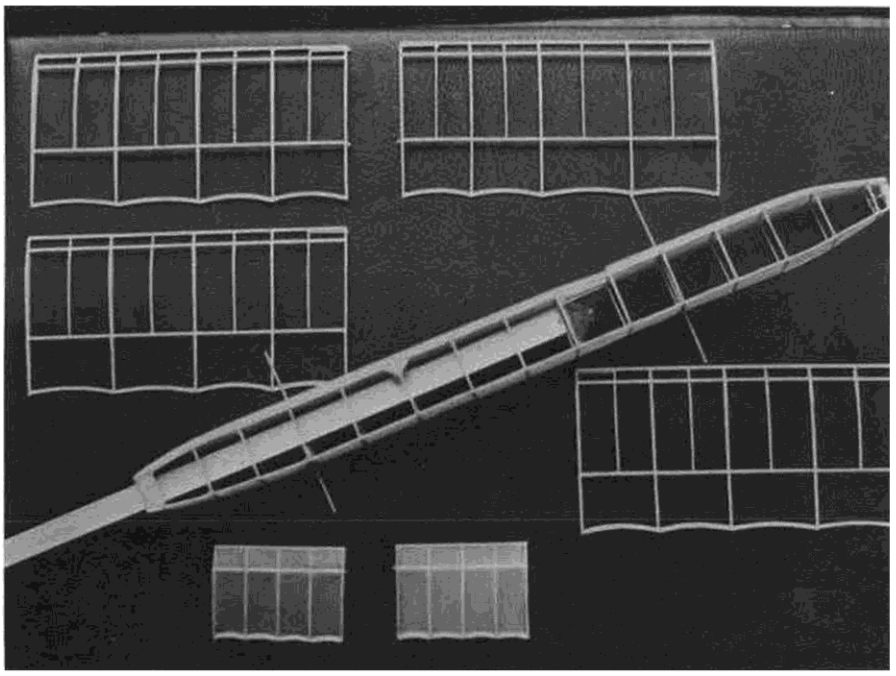
An earlier Kapferer machine had been



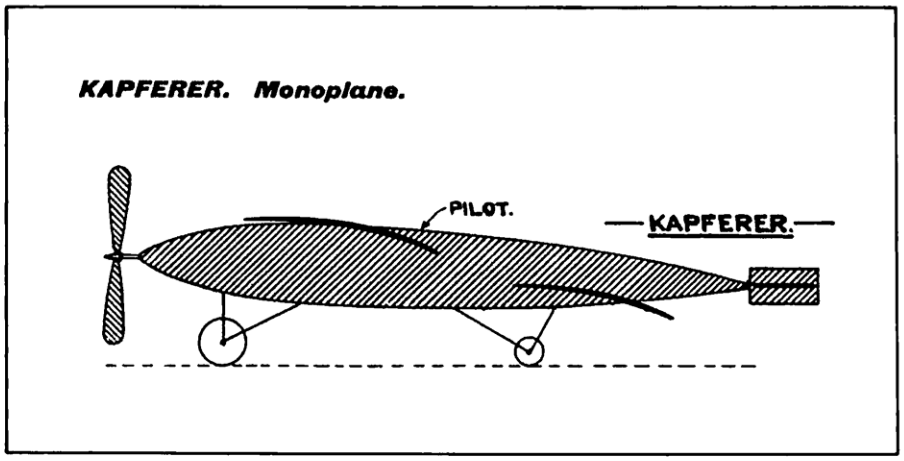
A copy of a copy photograph shows the full-size Astra with pilot posing in snazzy hat.

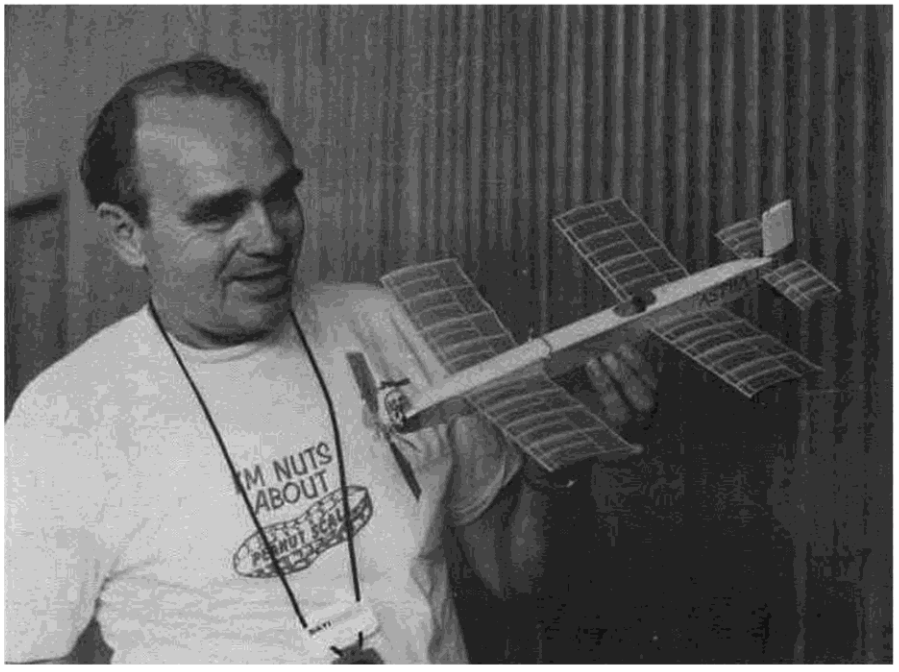


Delicately braced fuselage sits alongside half of a wing and stab of the Astra.



All the parts of the Astra laid out for covering.



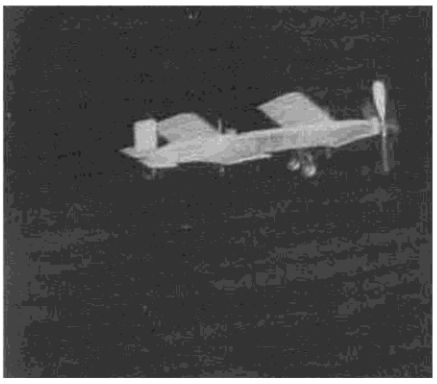


The author shows off his finely detailed Astra.

built by Voisin in 1907. This machine most probably had been built by Astra, possibly the first airplane built by this company.

My model did its first flights at the 1985 contest in Flemalle, Belgium. Because of slightly twisted wings, the flights were no longer than 37 seconds. Later, in a 1987 contest in nearby Frankfurt, the results were slightly better, but the model soon was damaged in a crash on the lower ceiling. I think that the flying limit will be at about 80 seconds, if light weight and long rubber are used. I do not recommend moving the rubber peg further back, as the model would then need ballast in the front. After building my model, as you can see on the photograph, I discovered on a rare back view photograph that the plane had actually a second lower fin. The older photographs showed the plane from an unfavorable angle with the lower fin in darkness. Bill Hannan in a letter to me considers the Astra Kapferer's fin "very small," and he was right; it was just the upper part!

My technique for winding the rubber, as shown on the plan, I can only recommend. I use it without risk for nearly all my models. •



Best flights so far with twisted wings are over 30 seconds. With adjustments, author thinks it could remain aloft for more than a minute.