

Fauvel's AV-50/AV-61 "Lutin"

The Fauvel AV-50 "Lutin" (Imp), also known as the AV-61, was a single-seater all-wood light aircraft of tailless configuration, designed by Georges Jacquemin, a Canadian engineer. One of the last of the Fauvel aircraft, the AV-50/AV-61 looks like it would make a good flying electric. If built light, it may have more than a little thermal soaring potential.

The nomenclature of the "Lutin" has a rather interesting history. The AV-61 designation was given because of its chronological position in the Fauvel line. Its predecessor was the AV-60 "Leprechaun," built and flown in the USA. The AV-61 was a simplified version of the AV-60 and the construction principles were the same with the exception of a few details (some control components were identical to those of the AV-45 motorglider, for example). The nomenclature was changed to AV-50 to more accurately reflect its design and construction heritage.

Suitable power plants included modified Volkswagen engines, developing 40 to 67 hp, and the 40 hp Rotax or Hirth two-stroke engines. The nose length can be modified to accommodate various engine dimensions. A tandem wheel, tailwheel or tricycle landing gear could be fitted. The tailwheel version is depicted in the included 3-view which is derived from a small Janes' illustration and reproduced "shop" drawings.

The AV-50 wing section could be either the original Fauvel 14% or a Wortmann FX 66-H-159 laminar airfoil. Neither of these sections are appropriate for model use. The Fauvel is too thick, particularly at the leading edge, and the Wortmann profile has an upper surface high point which is probably too far back even with turbulation. Better choices for a model are the Eppler 228 ($C_m = 0.0143$) and the Eppler 230 ($C_m = 0.0250$).

One prototype was under construction in Australia; its wing section, originally intended to be thinner, retained the thickness of the Fauvel section. It is unknown as to whether this aircraft ever took flight. No other AV-50 are known to be under construction.

The AV-50 plans show a very cute little aircraft that would perform well given the proper airfoil whether built as a model or as a full size aircraft. The big question is why this aircraft hasn't been more successful. One contributor is, of course, Charles Fauvel's death, but a more major factor may be simple lack of advertising.

It is very difficult to obtain information about this aircraft, and we wish to sincerely thank Christophe Bordeaux of France for forwarding to us electronic copies of all of the relevant information in his archives.

References:

Bordeaux, Christophe. <<http://www.nurflugel.com/Nurflugel/Fauvel/>>

__. Personal e-mail correspondence, November and December 2003.

Characteristics and performance of the AV-50/AV-61

Wing span	7.50 m, 24.61 ft.
Length (with VW engine)	4.10 m, 13.45 ft.
Wing area	10.60 m ² , 114.1 ft. ²
Airfoil	Fauvel 14% or Wortmann FX 66-H-159
Aspect ratio	5.2
Empty weight	190 kg, 419 lbs.
Gross weight	329 kg, 725 lbs.
Max. speed (tailwheel version)	205 km/h, 127 m.p.h.

