Good Grief

It's A Cricket!

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(Translation by Philippe Van Pelt of the EAA Air Museum Staff)

(All Photos by the Author)

THE WORLD'S SMALLEST twin engine airplane is buzzing around the French countryside these days. It is called the MC-10 "Cricri", or Cricket.

Designed by Michel Colomban, an engineer at the Societe Aerospatiale, the Cricri is a tiny low wing, trigeared thing with two chain saw type engines mounted on stalks protruding from the nose of the aircraft . . . for all the world like the antennae of its namesake, the cricket. Once over the shock of the smallness of the machine, a close examination reveals an astonishing array of technical innovations.

Why such a small airplane? Colomban's goal was to cut costs and building time to new lows . . . with the following guidelines:

Material Price — 5,000 francs ($1,000, approximately, as of the January trade market), including two new engines and the instruments.

Gas Consumption — 4 to 5 liters per 100 km (equivalent to approximately 4 to 5 quarts per 62.1 miles) with a mixture of 4%.

Metal Structure — To simplify maintenance — but should not contain any complicated mechanisms, components, etc.

Portability — The aircraft should be constructed in such a manner so that it can be assembled or dismantled like a sailplane and loaded on a trailer in no more than 2-3 minutes by two persons . . . who can carry it in their arms (!).

Construction Time — Should be no more than 1000-1500 hours, depending to some extent on the competency of the builder. Only a minimum of tools and equipment should be necessary.

DESCRIPTION OF THE MC-10 CRICRI

Wing — Area - 3.10m² (33.3 sq. ft.)
Span - 5m (16.4 ft.)
Aspect ratio - 8

The airfoil is thick and is a Wortmann laminar profile. The construction process developed by Colomban which makes possible a highly accurate and smoothly finished profile, plus the low Reynolds Number of the wing (chord is 480mm - almost 22 inches), which allows a positive laminar flow, combine to indicate why the choice of this airfoil. Suspended below the trailing edge of the wings are full span Junkers type flap-ailerons which can pivot from −15° to +35°. They can move symmetrically to provide high lift (flap function) or differentially for lateral control (aileron function). This basically simple arrangement has the added advantage of allowing the wing to flex freely.

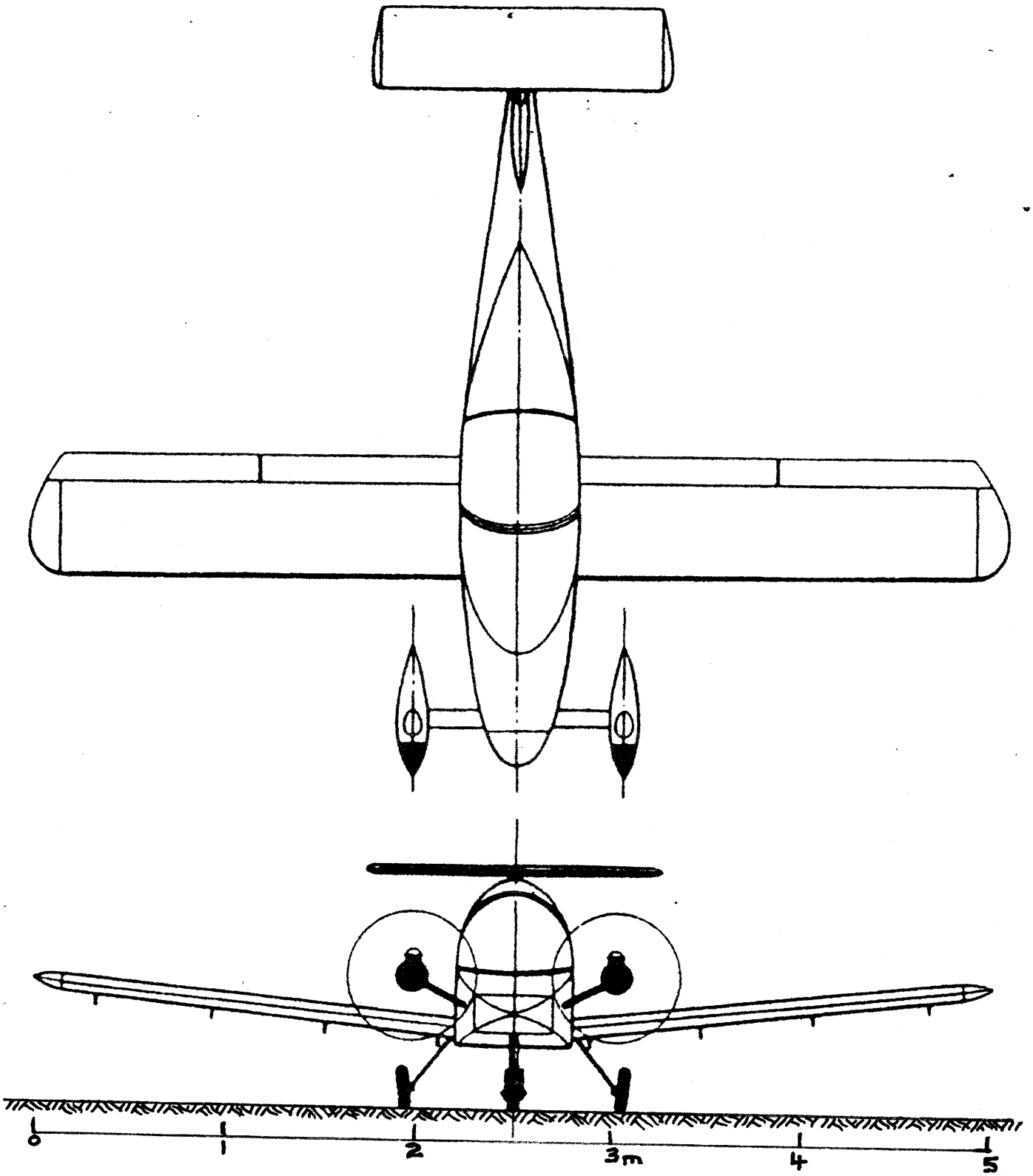
Horizontal Tail — Area - .60m² - 6.4 sq. ft.
Span - 1.45m - 4 ft. 6 in. (Less than the width of a typical French auto.)
Weight - 2 kg - 4.4 lbs.

The Cricri has a full cantilever "T" tail. The "all flying" stabilator has the same airfoil as the wing, but with 12% thickness and built slightly asymmetrical. This has the effect of aerodynamically reducing tail loads somewhat. Artificial trim takes care of the rest. The elevator feel is rigid.

Vertical Tail —

The vertical fin and rudder are swept back at a slight angle — has the same airfoil as the stabilator. The classic rudder is cable controlled and is adjustable in flight.

Fuselage — Type -Soap-box like
Length - 3.90m - 12.8 ft.
Width - .60m - 1.92 ft.
Height - .35m (plus the canopy) 1.12 ft.
Weight - 14 kg - 30.8 lbs.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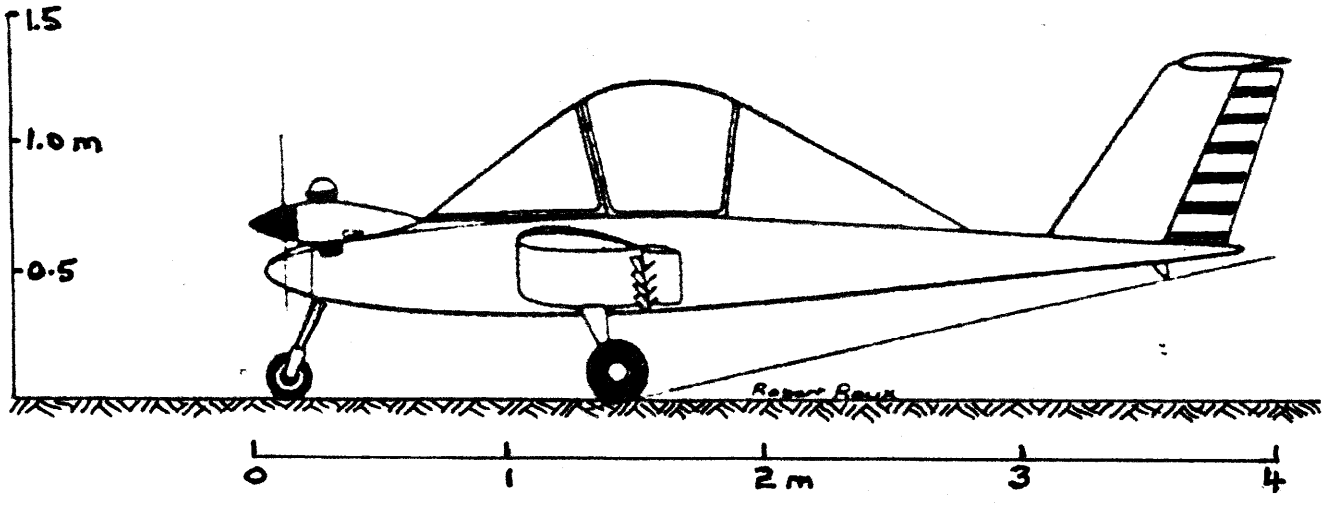
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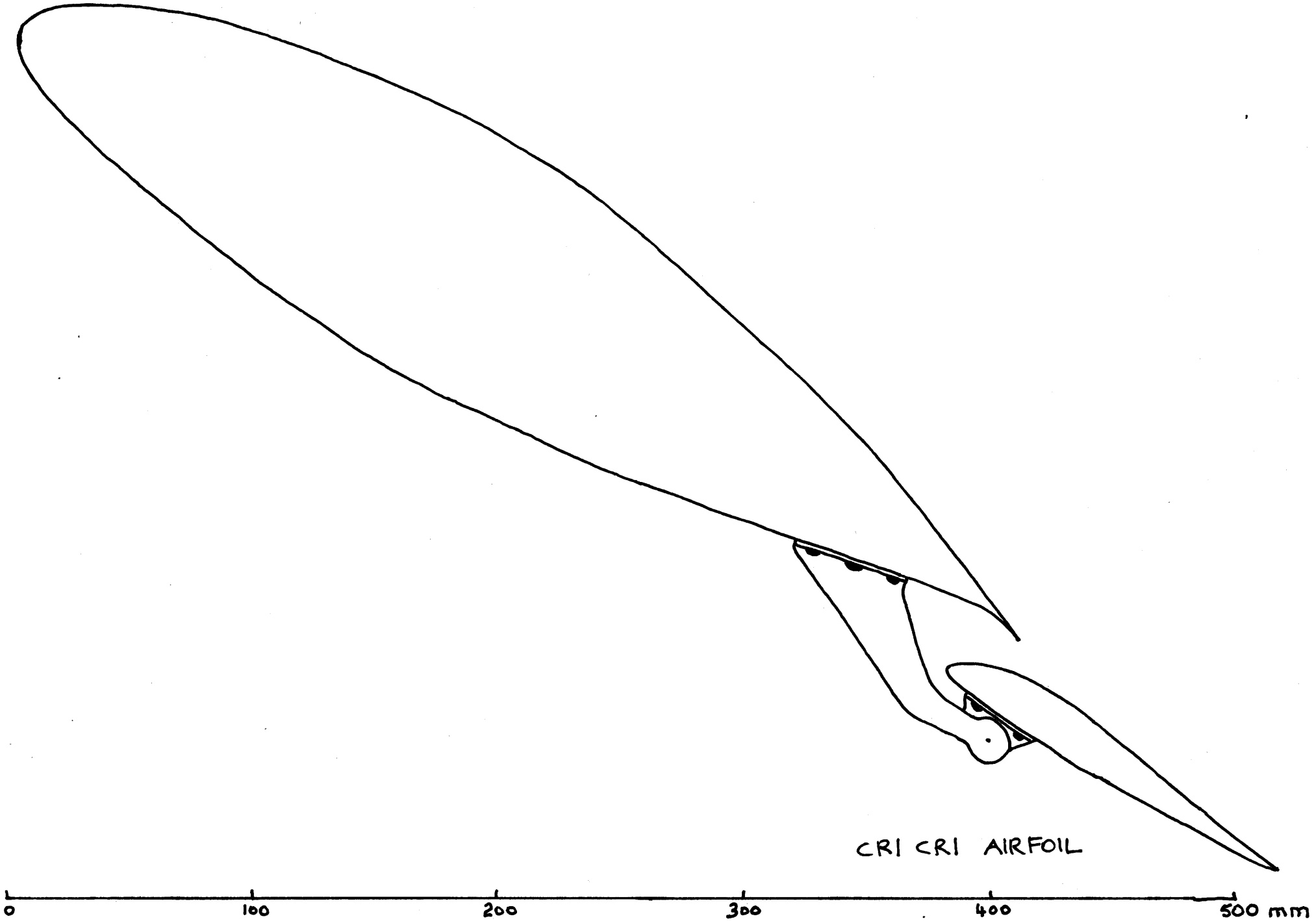
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