



KEN HAMILTON'S

British "Pou"

OLD TIMER Model of the Month

Designed by: Ken Hamilton

Redrawn by: Al Patterson

Text by: Bill Northrop

• For no less than 44 years, we have had a continuing fondness for one particular, little rubber-powered scale model. It was love at first sight when we purchased the October 1936 issue of *Flying Aces* magazine (15 cents) and turned to the construction article by Ken Hamilton, complete with five pages of full-size plans, for the "Pou du Ciel," Flying Flea (the not-so-glamorous literal translation being "Sky Louse"). Even by today's standards, Ken's drawings, and the model built from them, were extremely accurate, well detailed, and thoroughly

researched.

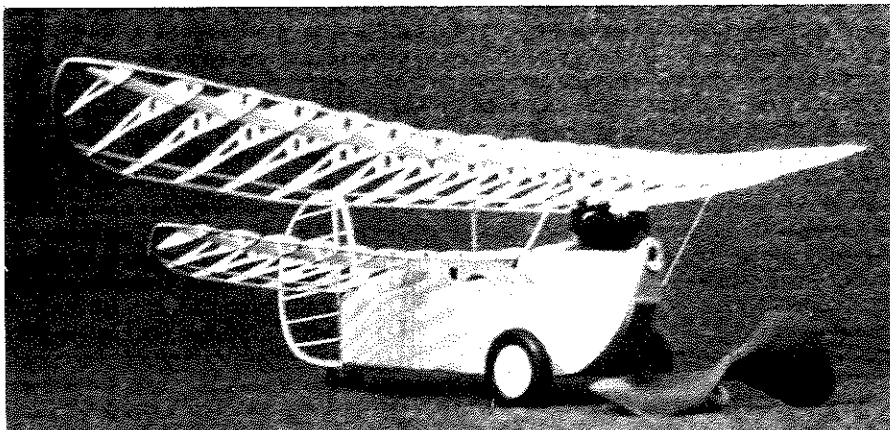
Over the course of four decades, we would occasionally dig into our old magazines and revisit the many-thumbed, dog-eared, and yellowing collection of familiar pages. And without fail, we would stop and study with care and admiration, the drawings and photos of the Flying Flea by Ken Hamilton. Several times, the most recent being about 12 years ago, we almost began construction of a Flea, but it never quite happened. That last attempt was in the form of a 2-1/2-times-up model for R/C (wouldn't you know). The inherent design problem, which you will read about further on, did have somewhat of a dampening effect on our enthusiasm.

Then, a couple of years ago, we heard

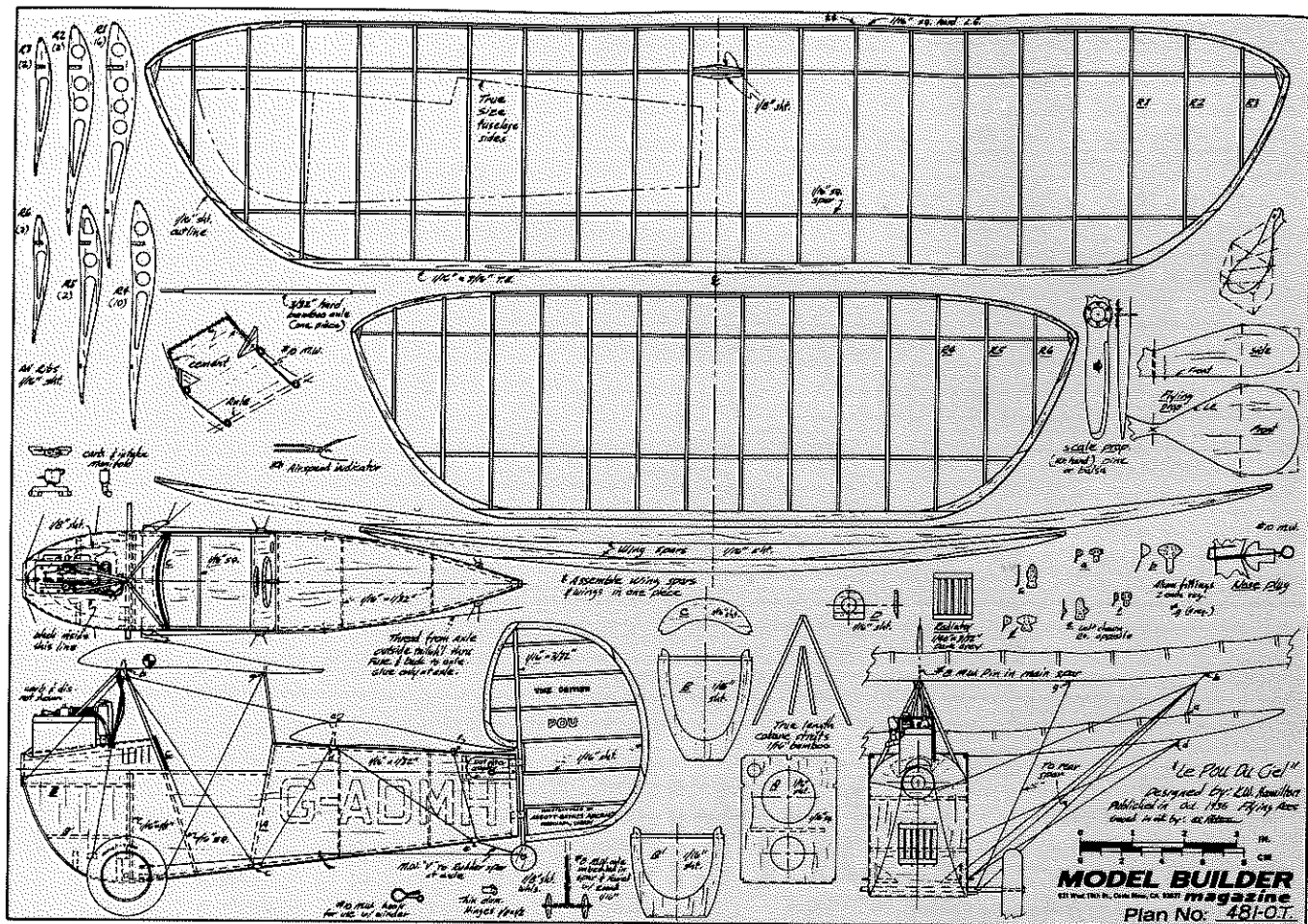
about a Ken Hamilton who had appeared at a Flightmasters' scale meet at Mile Square. We asked someone if this could possibly be the "Flying Flea" Hamilton, and were assured that it was. However, we didn't get around to following up the lead. But finally, the long letter came about a "Jimmie Allen" contest, which we published in "...Three if by Air" last month, and we made our contact with the person belonging to the name that we had known for 44 years! And not only that, the Flea is still alive and well and looking just as good as its photos (which we have reproduced herein from prints recently made from the original negatives!).

From here on, the italicized copy is new material about the Flea, sent to us by Ken Hamilton, and if we had the time, we'd build the Abbott-Baynes version, but with the newer double-convex airfoil, and moving the top wing up and forward...

Brainchild of Frenchman M. Henri Mignet, the "Pou du Ciel" first flew in late 1933. The simple, low cost, single seater was of unconventional tandem wing design relying upon generous dihedral and a low CG for lateral stability, there being no ailerons. The single control column surface control (no foot controls) pivoted fore and aft for pitch control, sideways for directional control. The forward wing was pivoted at its front spar attachment, and rearward movement of the control column pulled down on cables attached to the rear spar to increase the angle of incidence.



"And now for the 'inside story'..." said *Flying Aces* in its original caption for this photo in the October 1936 issue. We can hardly argue the point.



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Moving the stick forward allowed the wing to float upward and decrease the incidence angle. Side-to-side movement of the stick turned the rudder, resulting in banked turns.

Widespread interest quickly developed among would-be private or sport fliers, and the first Pou built in Britain flew in mid-1935, being built by a S.V. Appleby. His machine utilized a more powerful Ford 10 water-cooled engine. The aircraft version of this four-cylinder auto engine was developed by Sir John Carden, who fitted it with a thrust bearing at the propeller shaft end, an aluminum cylinder head, and dual

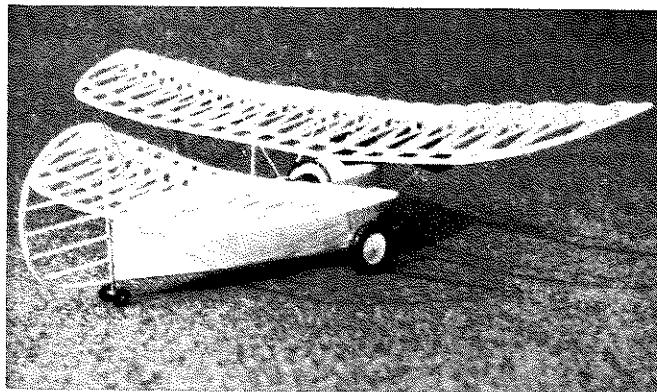
ignition, in which form it developed a maximum of 30 bhp.

Following minor damage in a crash landing, the Appleby Pou was redesigned to semi-enclose the engine, lower the radiator into the fuselage nose, and to increase the forward wingspan. Performance was substantially improved due to the lowered drag and improved aerodynamics, and this version was placed in production by Abbott-Baynes Aircraft of Farnham, Surrey, selling complete and flight tested in the late 1935 for £198!

Scores of Fleas were built, in Britain, not all of them flyable. After several fatal

accidents in which a pattern emerged, tests were initiated in France and Britain in late 1936. The Flying Flea was found to be unsafe, and Britain grounded them (the French action is not known by me). Although safe in the usual slow and level flight, a Flying Flea allowed to build up speed in a nose down attitude, would uncontrollably dive into the ground.

Although H. Mignet successfully redesigned the airplane to eliminate the problem, the Flying Flea movement never regained momentum. H. Mignet's redesigned Pou incorporated an entirely new airfoil in both wings in which the formerly undercambered wings had



Above 3/4-rear photo was not used in the F.A. article. Model still exists and is in excellent condition. Ken Hamilton brought it to our office and we actually held it!



These 3-views, reproduced from the September 1963 issue of *Aeromodeler*, are available from Model and Allied Publications Ltd., P.O. Box 35, Bridge Street, Hemel Hempstead, Herts HP1 1EE England.

convex lower surfaces, the cables to the forward wing rear spar were replaced by push-pull rods, and an elevator was provided in the rear wing trailing edge. In addition, the forward wing was moved up and forward to increase the gap and stagger.

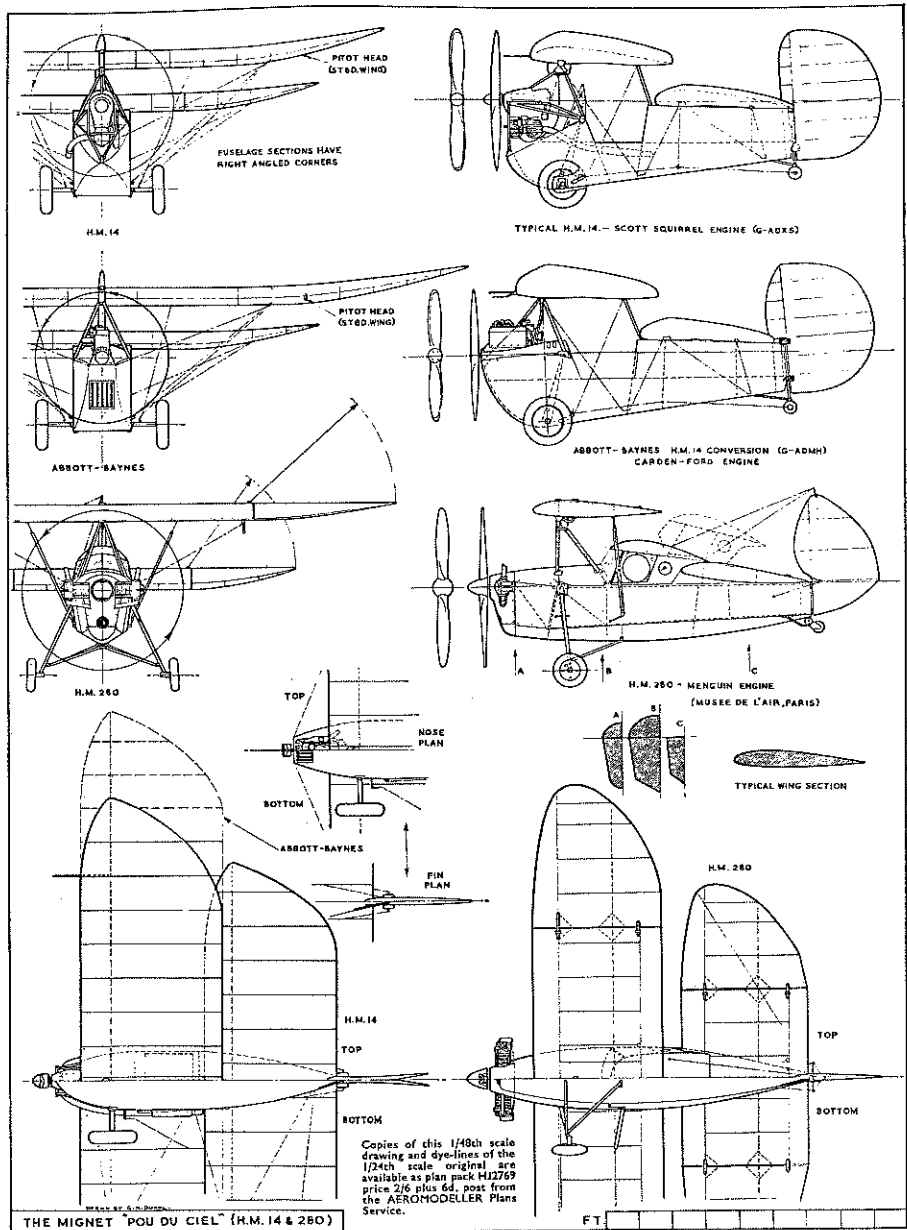
The Abbott-Baynes British Pou was selected as the prototype for the rubber powered model, as the semi-enclosed Ford engine and fuselage nose shape lent itself to an enclosed rubber motor. In flying the original 22-inch span model, the tucking tendency of the prototype was never encountered. Larger gas powered models of this prototype have flown in stable manner. One, however, following a whipstall, remained in the dive in prototypical manner, all the way down!

As I reexamine my references today, and study my drawing again, it still stands up to scrutiny. I would make only the following changes if I were to redo the drawing today. I list them for your reference, and you may wish to incorporate one or more of them in your drawing.

A. The rudder ribs should be tilted upwards at rear, to be at right angles to the rudder spar, which is correct as shown in its forward tilt. All lettering on the rudder should retain its relation to the ribs, thus becoming tilted too. In addition, move the words "The British" and "POU" up one rib bay each. This is per information I used at the time; the Abbott-Baynes catalog. I cannot explain why I made the drawing differently!

We made this change as the drawing was being prepared by Al Patterson.

Continued on page 35

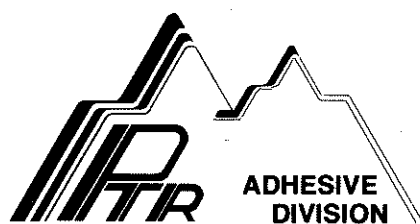


Short, stubby, ugly, and cute. All of these adjectives fit the Flea, it's just a matter of how you feel at the moment. If we built one, we'd stay with this particular model, but use the double-convex airfoil that cured the one bad habit.



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leading and trailing edges of the surfaces.

Finally assembled and ready to fly it looks terrific, all orange tissue with some black tissue trim doped on in various places. Say what you want about plastic film finishes, I like them too, but for satisfaction, as well as really light weight, the good 'ol tissue and dope act just can't be beat.

Now the point of all this is that quite often all of us get so caught up in the rush that it is very difficult to step aside and let things just go by for awhile. In my case, I have spent years in the rushing flow of contests, going faster, turning tighter and so on. So fast was the flow that I had almost forgotten why I got involved in modeling in the first place. I got involved just like you did, I wanted to build a flying thing. That it would fly was almost assumed, that I could actually control it was a chance worth taking; the important thing was just to build it. Regardless of how well it flew or how big a hole I managed to make when flying it, the next model was built, not necessarily to construct a superior flying machine, just to build another, even if very ordinary.

Before long it was on to contests and then building took a different line. Unnecessary structure was eliminated, faster building techniques were used, for Combat flying dispos-a-models were cranked out by the dozens, and tissue and silk coverings were out of the question.

Nothing wrong with that, won't be too

long before I'm right back in the flow and goin' for it. But this past month I relearned what it can and should be all about at least once in awhile. Give it a try yourself, next time you feel the flow pulling you under. (And you know what? The hobby is a lot less expensive when enjoyed this way. wcn)

Flea Continued from page 39

B. In this configuration, and with registration G-ADMH, the real POU was all silver, with registration lettering in the style shown, in black outlines only. Rudder lettering was black. In its original configuration as built by Appleby, and before Abbott-Baynes restyled the nose and extended the forward wing-span, the fuselage was dark, with lettering light and outlined, as it appears in photos of my models. In coloring my model red and putting red scallops on the rudder, I apparently chose to go the route of artistic license for my model rather than adhere strictly to the prototype scheme. *(The fuselage, and rudder scallops, also the wing registration lettering, are red; the surfaces are silver, on my model.)*

C. At the Flightmasters Meet at Mile Square on December 7, 1980, someone was introduced to me as planning to build a R/C Pou from a blowup of my drawing. He asked where the CG should be; it was not shown on the drawing. I told him he would have to find the proper place by experiment. Now I find

that in the Flying Aces article, page 94, I say it should balance about a 1/2-inch behind the main spar of the front wing. Perhaps an arrow upward against lower surface of the wing in the side view could convey this information on the drawing for the benefit of others. (It has been done. wcn)

Ken, along with his delightful wife, visited R/CMB's office recently, and brought the original Flea with him. We actually held it in our hands, after seeing it for the first time in that *Flying Aces* magazine, 44 years ago! It was an indescribable experience. . .



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