

**2** Early Experiences Part 2

**3** New Web Sites

**4** First Flights Photos

**7** Classifieds

## MIGNET'S HM-14: FIRST FLIGHTS

By Paul PONTOIS



### September 10 to November 8, 1933:

Henri Mignet's life had been totally dedicated to Sport Aviation. In 1912 he built a glider inspired from a Lilienthal design. After WW1, between 1920 and 1927 he designed no less than 7 prototypes of various configurations.

In 1928, his first viable design, the HM-8, took off on its maiden flight.

The HM-8 was quite sturdy and safe for its time, and approximately 200 were built. However, Mignet wanted to take one further step toward designing and flying a totally safe amateur-built airplane, and he resumed his research.

Using a home made wind tunnel, he directed his research toward the interaction between two wings, in order to create a slot effect that would inhibit stalling. He considered the stall the most dangerous feature of the classical aircraft.

These studies eventually led him in 1933 to the development of the HM-14, a tailless staggered wing biplane, in which a variable incidence front wing would govern pitch control. The HM-14 made its first flight on September 10, 1933.

The scene for this historic event was the now legendary "petit bois de bouleau", the little birch wood, a desolate place surrounded by marshland, about 70 miles northeast of Paris. It is the same place where Mignet had camped over 450 nights in

a span of three years, suffering torrid summers and harsh winters. The reader can refer to the article "The Little Birch Wood" published previously in the Pou-Renew for additional information.

Three years ago, 67 years after the event, I made a pilgrimage to this site. The autumnal country was silent. Suddenly, I heard the shrill noise of a motorcycle engine. My heart stopped beating for a second; was I back in the past? But it was just someone passing on the road nearby.

Let's look back upon what happened on September 10.

When we discuss the first flight of a newly built homebuilt light aircraft, the plane is typically built either from a kit or from plans of a well-known model that has already flown successfully. In this scenario, if the pilot is competent, the first flight is almost a routine operation. The situation was totally different for the Flying Flea. Henri Mignet was far from an excellent pilot and was totally ignorant of the machine's behavior. He had no idea where the location of the center of gravity ought to be for this unique design. He did not even know if his strange machine was capable of flight. Only his faith in the new concept was pushing him to carry on with the experiments that lasted two months before the Flying Flea was properly adjusted.

### HM8 Project

PERSON	PAGES
Alain Meyer .....	1-33
François COLLET.....	34-59
Albert .....	60-69
Alain BERLAND.....	70-110
Emile GOMEZ.....	111-145
Patrice CHENAL ..	146-171
Thomas GOURGNIER .....	172-195
Laurent LONDON	196-230
Rosette DUPONT..	231-265
Eric FORIERS .....	266-301
Fabrice DEPONGE	302-329
Francis TURMEL .....	330-356 (Fin)

# The Flying Flea and some other early experiences

By AL SCHUBERT

August 13, 1988

## The Flying Flea

*Editor's note: This is part two of the American Flying Flea Pioneers Series which completes the story.*

Early in 1937 my brother came home from the motorcycle shop with an engine which had been assembled from used parts. It was a Harley design of 1925. That would be 63 years ago, now (1988). It had a cylinder bore of 3 & 7/16 inches and a stroke of 4 inches giving it a displacement of 74 cubic inches. It was a JDCB model. It had the "F" head arrangement. It had the exhaust valve beside the cylinder with the intake valve directly above it operated by an open rocker arm and push rod. Cam action and valve lift and size were very good so that in spite of the rather low compression ratio (about 5 to 1) because of the very low octane rating of the gasoline in those days, it gave about as much power as a "36 horse" VW (same cubic inches). The crankshaft consisted of two cast iron flywheels about ten inches in diameter and weighing about 22 lbs. apiece, with the crankpin between them. The two connecting rods were mounted on this single crankpin by means of roller bearings. The shaft on which the drive sprocket was mounted was supported on a roller bearing and carried one of the flywheels. The other flywheel was carried on a shaft supported by a bronze bushing and extended into the timing gear case and a gear that drove the gear that carried the cams for the valves and then through a series of gears drove the oil metering pump, the generator and the distributor. This oil pump that I just mentioned was not a circulating pressure pump such as we think of today, but simply a metering device for introducing fresh oil from the supply tank to the crankcase of the engine at about the same rate as it was being consumed. A hand plunger type pump was also provided (on the cycle) so that more oil might be added at the discretion of the rider. This hand pump delivered its oil directly into the crankcase where the connecting rods and main bearings were and was carried into the cylinders as a mist. The mechanical oiler delivered its oil into the timing gear case oiling these delicate parts with clean fresh oil, which then found its way into the main case. The actual amount of oil in the case at any one time was only about 1/2 cup. The recommended oil was purchased from the Harley-Davidson dealer and was said to have a viscosity of 138!

I used this engine as a wingless wooden fuselage (mentioned in the middle of page 2), to run back and forth out in the cow pasture for a summer or two. It was given the name "Potato Bug" by my mother. This was, I believe, in 1937 or '38. Perhaps both. Used to get it going pretty good clip too! About 40 m.p.h. at the most I guessed. Our first experience with it which I recall was on an ice pond in the pasture. Really only a large frozen puddle from the spring "run off" from melting snow! Not being used to steering rudder controlled craft I had made a series of involuntary (to say the least, and exciting too) circles. After I got it stopped I headed right down the middle of the pond where it went through the ice. The water was only about 18 inches deep but when I stepped out into it to get ashore I found it was indeed very cold.

By the time we got another prop whittled for it, all the ice had melted and the water had run away or had sunk into the ground. When I first used this motor on this fuselage I had it mounted with the cylinders up as in the cycle. These cylinders sticking up in front of the "pilot" blocked his "vision" of the "runway" – just like a large radial engine used to do on an old biplane. Practice soon made me quite proficient at going across the field lickety-split while keeping it going straight ahead by watching out of the corners of my eyes (just like landing an open cockpit plane).

Inverted engines were being introduced in those days in the Ryan ST and in some racers. This got those cylinders out of the pilot's line of vision and lowered the center of gravity also (a very desirable improvement), so I tried that also. It seemed to run pretty good, but the oil fed into the engine by the mechanical oiler tended to stay in the timing gear case rather than to find its way into the crankcase. To remedy this situation I added a pipe to deliver the oil directly into the case. I also decided to lighten that 44 lb. flywheel assembly a bit too so I mounted in it my 10 inch Atlas metal cutting and removed about 20 lbs!! When I put it together and started it up it very quickly cut off the woodruff key that keyed the prop shaft to the cast iron flywheel and that was the end of that! I wasn't licked yet. I used that little metal cutting lathe to make a two-piece counterbalanced crankshaft from the crankshaft of a junked Willys-Overland car. It was put together with a taper rather than a tapered spline, like most radial engine crankshafts were but otherwise looked quite similar. Because my lathe was too small to swing the crankshaft with the counterweights attached while turning the crankpin I had to weld them on afterward. As I remember it this shaft weighed 11 lbs. The engine with this shaft in it but without the generator and distributor weighted 80 lbs. Ah!--, but that was without a magneto!

What is not readily apparent to the casual observer is that the Harley VEE twin does NOT fire at equal intervals of 360 degrees like the opposed or the vertical twin engines do, but at intervals of 315 degrees and 405 degrees! This sort of complicates the adaptation of the usual high tension magneto to such an engine. In fact these engines had magnetos that were made especially for them and a magneto made for an Indian motorcycle would not work on a Harley because the Indian VEE twin cylinders were set at 42 degrees and the Harleys' at 45. These mags had to be driven at half crankshaft speed and they had no impulse couplings, either. Unless the mags were in very good condition these engines were rather hard to start by propping because one could hardly turn them fast enough. Well---, I didn't have a motorcycle mag, and I did not have the money to buy one either, but I did have in my possession an eight cylinder Berling magneto from a Curtiss OX-5 engine and IT WAS HOT! It would spark even though it was turned VERY slowly!----, but it weighed 22 lbs! It had large horseshoe magnets and breakerpoints that rotated with the armature while the cams that operated them stood still. I had to make a cam assembly with the cams set at the proper angles to fit the firing interval of the engine. Quite a trick but with that little lathe, some drills, and a good file, with a good measure of determination, I managed it.

EXPERIENCES-continued on page 3

**Experiences—By Al Schubert***Continued from page 2*

When it was installed it worked and the spark could be advanced and retarded while the engine was running. Each sparkplug had to be connected to four of the terminals of the mag, and it had to be started on No. 1 cylinder because when the spark was retarded for starting, the spark for number two plug was a bit weak.

Well, ---How did it work? It started well enough and ran well enough and put out power equal to a 36 h.p. VW at about 15 lbs. less but certainly did not run nearly as smoothly as my 36 horse VW did 25 years later. Those two 3 and 7/16 inch cast iron pistons and their connecting rods all going in the same direction and all starting and stopping at the same time simply could not be smoothed to a really acceptable level of vibration by any sort of balancing short of having another set going in the same direction in the same plane and starting and stopping at the same time. This is exactly what the opposed aircraft engines (twins, fours, and sixes) are and do as well as the aircooled VWs and Chevy Corvairs. For this Harley "74" engine I whittled a total of six propellers.

About this time the magazine POPULAR AVIATION printed an article about a man from Oregon by the name of Yates who built some planes using the geodetic type of construction. I had always admired the Lockheed Vegas and Orions with their molded plywood fuselages. I came to the conclusion that the only way that the homebuilder could copy these beautiful shapes would be to use this geodetic method. I said to myself, "Why not build a Flying Flea using this form of construction rather than the plywood box type that Mignet uses?" The more I thought about it the more sense it seemed to make. That Harley engine would surely pull it, I was convinced. With this type of construction one could make it round or oval in any combination that he wanted. With that inverted engine one could see over it or around it too. And hadn't Mignet said that he had used a Harley engine once?

But I, like many builders of today, would not build it exactly like the designer had designed it. I would make some improvements. I would make it a little smaller, and thereby a little lighter, so that it would be like the latest one shown in the magazine. I made the span of the front wing to be 17 ft. instead of 19 1/2 ft. and the rear one 11 ft. instead of 13 ft. Wing chord was reduced from 56 in. to 48 in., but I left the thickness the same. This had the effect of increasing thickness from 10.8% to 12.5%, which to me seemed to

be of no great consequence. The rest of the parameters, including the CG, the angles of incidence of the wings, the amount of overlap of the wings in terms of percentage of the chord, the leverage of the controls, and the angular movements they produced on the various surfaces remained the same.

The fuselage was built with 1/4 inch fir plywood bulkheads, and 1/8 in. by 1 in. birch strips arranged in two opposite diagonal directions. These were tacked and glued wherever they crossed each other or a bulkhead. The cockpit though quite small, and form fitting was quite comfortable. This uncovered fuselage weighed about 30 lb. The landing gear was composed of a chromoly steel tube 1 1/2 in. in diameter x 1/8 inch thick and 48 inches long weighing 8 lbs. and two 5 x 25 wheels and tires weighing 20 lbs. apiece. The wheels were "borrowed" from a Parks P-1 Biplane. No shock absorbers were used. Wing ribs were stick and gusset type, made of 1/4 x 1/4 birch strips and 3/64 inch birch plywood gussets. Spars were made with birch booms and a latticework of 1/8 x 1 inch on each side, nailed and glued. The spar for the rear wing was cantilever and the front one was wire braced. The leading and trailing edges of both wings and the tips were of wood. The centers of both wings were covered with criss cross geodetic strips nailed and glued wherever they crossed anything. From there out to the tips the geodetic strips reached only from the leading edge to the front spar. Although the shape of the airfoil was not maintained as well as one might like, the wings were light and surprisingly strong and resistant to drag and torsion. Workmanship, however, left something to be desired, in fact the whole thing looked like it had been built with a club and a stone axe. Nothing was varnished. It was not expected to last so long that it would need varnishing. The rear wing was fastened to the fuselage by three bolts. The front wing was pivoted on a single cabane strut and braced by four streamline wires from the aforementioned "Parks". The front wing had about 65 sq. ft. of wing area and weighed 44 lbs. covered. The rear wing had about 42 sq. ft. of wing area and weighed 22 lbs. covered. Covering material was muslin

EXPERIENCES-continued on page 6

**New Web site!**

It seems that the RSA is on the way up again.

They are starting a new site:  
[www.rsafrance.com/](http://www.rsafrance.com/)

Regards,  
Paul Pontois

**Web sites to check out!**

The new Web site of POUCEL is  
[www.pouduciel.com](http://www.pouduciel.com)

Thank you  
Daniel DALBY

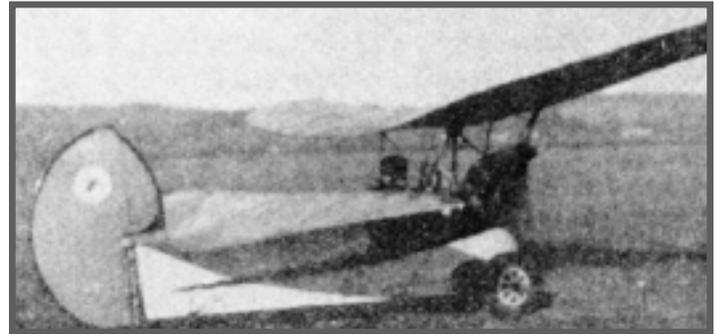
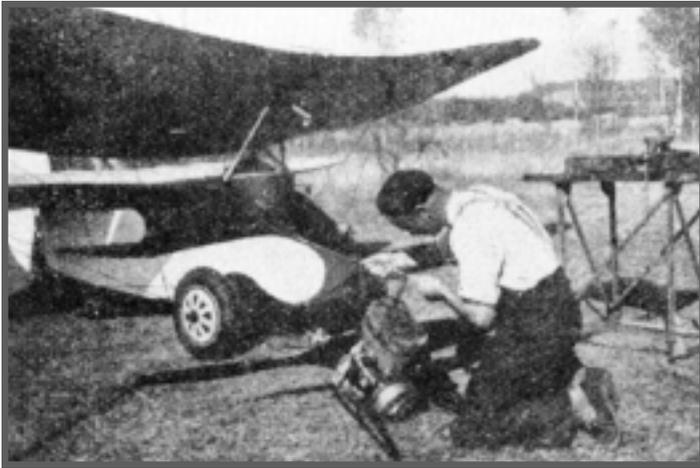
-----  
French Builder: François Collet  
<<http://perso.wanadoo.fr/terres.ciel/>

-----  
<http://inter.action.free.fr>

**To purchase Le Sport de l'Air 1994 "the book":**

[www.vldweb.fr/fr/cat9/rub56/produit315.html](http://www.vldweb.fr/fr/cat9/rub56/produit315.html)  
Pouducièrement votre  
Jerome Falc [Langon, 33]

MIGNET'S FIRST FLIGHTS-continued from page 1



Hereunder are some extracts from the diary of this courageous man.

**September 10** - The wind comes from the East. It is 91 degrees under the tent yet opened on both sides. I wait for the evening. I am scared.

7:00 pm: Let's go! The engine is wonderful, running smoothly and powerful. Quick to accelerate, The machine is at once tail-up. I pull the stick. Still tail-up, I pull more. Easy take-off, but stick full aft. My flight is very jerky. I am very nervous and very brusque. Fortunately no one can see me. The machine bounces 10 or 15 feet high, touches down, bounces again. My piloting technique is awful. With regard to the machine, too much lift on the rear wing (both wings have the same span, 5.56 m). I am uneasy with the lateral stability. It should be OK theoretically. But it does not seem to be. Too much warp on the left wing. The engine torque seems too low.

Very bumpy taxi on the grass strip, a jog for 1600 feet. The ground reacts too much and my back not enough. I have to adjust the rear suspension. I passed over deep ruts. Terrible bounces, but the pivoting front wing reacts very well.

All in all, I am happy.

**September 14** - Nothing works. I do not understand what is happening. No stability in any direction. The sun has been in my face all day. The day is hot as in midsummer. The grass is high on the strip and the wind is blowing crossways. I am terribly thirsty and my mind is blank. I was so comfortable in Paris in my cool workshop!

I flew two straight lines, by leaps and bounds. I flew badly and landed badly. I taxied back to my tent, fed up of everything, and arrived to see that I have visitors.

**September 15** - I remove the rear wing fabric in the middle. I cut off 40" of spar and splice the 2 ends. I fit the fabric back and varnish it. That reduces the span 5 feet. The plane is better looking this way.

**September 16** - In the morning I put the rear wing back on the fuselage and tighten the tension cables.

In the evening, the wind drops. A friend coming from the North of France brings me luck. I make two nice 1,500 feet flights, which he photographs. If I reduce the throttle brusquely before landing, the plane goes nose up, If I do it slowly, it is better. The front wing is too high. Not good looking and upward couple. Very long gliding before landing. I land in the dirt track at the end of my strip. I take off at 1,400 RPM and my engine can go as high as 1,600. Sounds good!

**September 17** - 104 degrees in my tent. No air. I work with only my undergarments on.

I cut the cabane tubing to lower the front wing 5".

Gliding improves, but I keep throttling back too late. Landings are endless. I land several times in the ploughed field. Very hard to tow back to the strip.

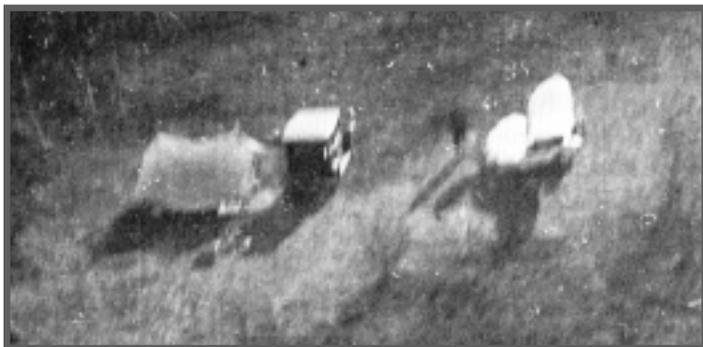
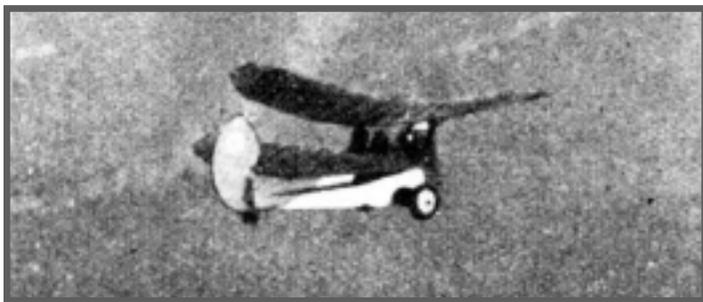
I test the stability by rocking the stick sideways. I make extreme control movements. Pushing the stick too much forward, I dive from 15 or 20 feet up. The bottom of the fuselage knocks on the ground, the bungees being at their full length. The propeller cuts 2 grooves in the ground. I bounce. I do not know how high - 25 or 30 feet in the air. The engine vibrates. I stop it. I shake the stick, then flare, touch down correctly. The prop tips are smashed into pieces. I have the prop wrench in the plane. I remove the broken prop, walk back to my campsite and come back with a spare prop. Its pitch is too small, but I fix the prop on the hub and restart the engine. Meanwhile, night has fallen. I come back to the camp full throttle, scaring off a flock of partridges. My honor is saved!

So, then what? Well, everything is fine. Pitch stability totally perfect, roll control very effective, even at low speed, but even when I tilt it, this damned machine does not turn. Too stable!

**September 19** - Thinking about my accident the day before yesterday. I had the same accident last year and broke the HM-12. This time, being more sturdy, I withstood the shock. What did I do exactly? In both cases, I pushed the stick too much forward. Why? You idiot, I maneuver too abruptly. I have to calm down and be gentler on the controls.

**September 20** - In the morning, I purchase two beech beams, which I roughly shape at a local carpenter in Vailly. In the evening, I carve propeller # 20, except for the hub hole.

**September 21** - Tonight, prop # 20 is varnished and installed on the plane.



**September 22** - At night, I fly with the new prop. The pitch is a little too high. (55") Long time to accelerate. Light crosswind. To run straight, I have to give a lot of rudder to prevent the weather cock effect. I let the plane gain speed by getting the tail up. I give a sharp pull to the stick to take off. And it really goes sideways because of the drift. The machine is very stable and refuses to sideslip in flight. I make very correct straight lines but still do not know what I will have to do to turn. The sporting way would be to climb to 1,000 feet in 3 miles and to try turning. Daredevil method! It works, or...

I am scared to death. I will never do it!

**September 26.** - After 4 days of drizzle, at last a clear evening. Several 2,000 or 2,500 foot-long flights. The machine is too sensitive. Delicate to pilot. I must be centered too much to the rear.

When I push the stick to accelerate it pulls too much in my hand. I have to slow down half power and fly nose high. If it were a classical aircraft, I would spin.

Back to the camp, taxiing on the dirt path, a large rut combined with a stone makes me topple to the front. The propeller sticks into the ground and the engine stalls. A blade is broken clear through.

**September 28** - I spend the afternoon at the carpenter's. In 5 hours I carve prop # 21. Pitch 51".

**September 29** - Landing on a "private hunting ground" signpost, I break two ribs of the rear wing. I repair them in two hours.

At night, I make a nice flight. I switch off the engine before landing at 50 feet high. First time I do it.

**October 6** - I remove the fabric of the front wing trailing edge and raise the trailing edge. The glue is slow to dry, as the air is very humid. Difficult to varnish too. The varnish comes milky.

**October 7** - I remove the rudder and add a counterbalance front part to it. I move the rear wing backward and tighten the cables. It is raining and the rudder is drying in the car.

**October 10** - The machine is ready. Stormy weather.

**October 12** - Excellent flight. The reaction of the stick in a dive is perfect. The balance is OK. My happiness knows no bounds.

**October 21** - I change the struts cables to 3/16" They carry the load of the plane. It is not necessary, but puts my mind at rest.

I fly a few straight lines. By mistake, I am on the right side of the strip. I gently push the stick to the left. The machine banks, I let it go where it wants and I make a good landing. That means that I turned!

Interesting! Let's do it again. I push the stick to the left. The landscape slips to the right. The machine banks and turns left. That means that the plane turns correctly. Lifting the tail of the ribs made the difference. A small change for a big success! I could not turn because I was flying nose up and near stall. I feel that from now on the experiments

## Experiences—By Al Schubert

*Continued from page 3*

from Sears Roebuck costing 10¢ per yard. It was treated with 5 gallons of nitrate dope purchased from Karl Ort, York, Pennsylvania. The front wing contained a small gas tank holding 2 qts. An oil tank holding 1 quart was fastened to the motor mount which was arcwelded together from 3/8 inch wrought iron gas pipe. The whole plane ready for flight weighed 285 lbs. and I weighed 180 lbs. The center of gravity with me in the cockpit seemed to be just where the latest information said it should be.

Four propellers were whittled for the Flea. Three from pine and one from an oak 2 x 4. Three of them were scaled down copies of a Fahlin prop seen on an N-B Trainer. The first was 48 x 31. It turned 3,100 static and seemed to be just about right in that respect but did not seem to develop quite the thrust one would have liked. Next carved was a prop using the same templates (angles and blade sections) but with them located 4 1/2 inches apart along the length of the blade making it 54 inches in diameter and 35 inches in pitch. This one turned only 2,500 R.P.M. and very quickly overheated the engine. It did not develop as much static thrust either. The third one used a new set of templates which gave a diameter of 51 inches and a pitch of 28 inches. The bolts that held these props to the hub of the engine were only 1/4 of an inch in diameter, the same as those used on the Heath Henderson engine and they were just too small or else they were not tightened sufficiently to prevent the propeller from slipping back and forth with the power impulses of the engine, elongating the holes and breaking at least one of the bolts. This even before a reading could be taken of the tachometer. The fourth prop was made from an oak 2 x 4 to a new design to a diameter of 52 inches and a pitch of 24 inches. It turned quite noticeably faster than any of the others and put out a good bit more thrust. I estimated that it went maybe to 3,300-3,400 RPM static. I could not measure it because my tachometer would not go that high.

The Flea was easy enough to taxi even though it had only a skid on the tail. The large rudder was controlled by the sidewise motion of the stick. There were no ailerons. The turned up wing tips were supposed to take care of the banking during turns in the air and to keep the wings level in straight ahead flight. Pulling the stick back increased the incidence of the front wing, and pushing decreased it. There were no pedals for the feet.

Early in the spring of 1941, probably the first part of April, I tried to make a short hop, but the wind was blowing too strongly across my longest so I tried it on a shorter one which was sheltered from the wind. Here I could not even get the tail off the ground before I would have to throttle back because I was approaching the end of the runway. The last time I got up a pretty good speed but the tail was still on the ground. Suddenly I was what looked to me to be about 2 1/2 ft. in the air. I pushed the stick ahead (probably too much), and down it came onto its wheels over it went onto its nose, and stood there held from going farther by the front wing, the leading edge of which was vertical to the ground. I jumped out of the cockpit over the trailing edge of the wing onto the ground and surveyed the damage. Before tipping it back we took a picture of it. While we pushed it back to the shop I was both elated and disappointed at the same time!

MIGNET'S FIRST FLIGHTS-continued from page 5

will progress faster. Now, I have to study how the machine climbs.

**October 25** - Altitude record! I climb to 100 feet. I fly over the birch wood and my camp. I dare not yet turn and come back to my starting point. The plain, 1 1/2 mile wide and 2 miles long, is not large enough.

**October 27** - A storm nearly blows down my tent.

**November 6** - The engine is overhauled. I am ready for the next flight, which should be the real first flight. The machine is stable in pitch and roll. I can turn with a large radius. The climbing is fast. I remind myself to fix the altimeter on the instrument panel.

**November 8** - This day, I sent a cable to my wife: "My first turn lasted 20 minutes. Altitude, 1300 feet. Behavior much safer than conventional aircraft."

A mild wind blows from the East. I wait nervously for the evening. I am going to make a real flight! I cannot stay here endlessly. The cold season is coming and I will have to leave. Let's take the chance! It climbs, it turns, it is stable, etc.

I ruminate over these thoughts all day long. I take a walk to warm up my body and my ideas. When I am cold, I am good for nothing. What a chicken!

At 3:30 pm I make a last check and handprop the engine. Am I going to make a flight test?

I move off to the east, take off correctly and pull the stick. I am 50 feet high. There is still time to land if I want to. No, let's go!

The rest of the story was published in Issue #3 of Pou Renew (Third Quarter 2001) "On the Flying-Flea's Trail"

Translated by Paul PONTOIS  
Edited by Chris FRANK

## About the POU RENEW...

The **POU RENEW** is the official English language newsletter featuring Henri Mignet's designs: Pou-du-Ciel, also known as the "Flying Flea", and other designs derived from it. The newsletter is a source of information for all enthusiasts who own or love the POU, and who are building, will build, or have built a Flying Flea.

**POU RENEW** is published quarterly in January, April, July, and October. Subscription rates are US \$16, anywhere outside the US \$20. Overseas subscriptions by cash or international money order only.

We encourage you to send letters, articles, comments, needs, etc., to: **POU RENEW**, c/o The Independent-Register, PO Box 255, Brodhead, WI 53520-0255. E-mail us at: pou@indreg.com.

## Expired!

**Many thanks to all of you who have sent in their subscription in support of the POU RENEW!** Your mailing label shows when your subscription expires. If you have the word expired on your label your subscription is DUE and you risk the chance of not receiving the next issue of the newsletter. If you would like to receive the **POU RENEW** Newsletter, please send your subscription dues to **POU RENEW**, c/o The Independent-Register, P.O. Box 255, Brodhead, WI 53520-0255.

If you move, please promptly inform the **POURENEW**. The USPO informs the **POU RENEW** with a postage due notice which is payable by **POU RENEW**. Informing us that you will be moving helps keep the subscription rates down.

Disclaimer: The newsletter is published to provide a common means of communication among builders, owners and historians of Flea style aircraft. The newsletters are a compilation of ideas and data from various sources. Technical material in the newsletter is for reference and education only and its use is not recommended by the **POU RENEW**, nor the newsletter editor, or The Independent-Register publishing company, nor by any member of the **POU RENEW**. **POU RENEW** does not sanction, nor does it accept responsibility for, participation by any member, or other reader, at any fly-ins, gatherings, or events that may be mentioned herein.

**NOTICE:**

Pierre Rousselot's article (in French) on Internet on the Flying Flea stability. See: NOUVELLES REFLEXIONS SUR LA STABILITE LONGITUDINALE DES APPAREILS DE FORMULE MIGNET.

<http://inter.action.free.fr/>  
In chapter "publications"



**See French  
JOLLY ROGER FLEA  
pictures/videos:  
<http://jolly.roger.free.fr/lespoux.htm>**

**Le POU du CIEL, the French newsletter**

Superb publication directed by Michel JACQUET, the Flying-Flea Convention organizer

Subscriptions are available (23 Euros for the year 2004)

Send subscriptions to:  
Michel JACQUET  
Amicale Proudocieliste  
30 rue Boudon de St Amans  
47240 BON-ENCOTRE

For more information:  
Telephone: 05-53-68-06-94  
E-Mail: M.Jacquet@free.FR

**Model building, aviation books, videos & more**



PEANUTS & PISTACHIOS International, Vol. 2

Brief articles on Pistachio philosophy, adjusting Peanuts for flight, and photographing your own models. Included are plans for a Pistachio Bebe Jodel and Waterman racer. 3-view drawings include a 1928 Mignet Avionette, 1911 Caudron, 1936 Mauboussin, and a miniMAX ultralight,

plus numerous photos. Softbound, 18 fun pages. \$7.95

MODEL BUILDERS & THEIR MODELS INTERNATIONAL

History • Techniques • Tributes • Inspiration – From Hannan's Runway, another "Amperсанд" publication, compiled by Bill Hannan, featuring more pages, more photos and full-color covers!

Similar format to Runway's previous Peanuts & Pistachios volumes, Model Builders & Their Models is truly international in scope, including contributions from builders and photographers in eleven different countries.

**Grunberg's HM-293**

Ultralight, Folding Wings



**More Than  
130 In Flight  
or Under  
Construction**

Construction manual and detailed drawings with French-English translation brochure

Also agent for MIGNET  
HM 360/380 plans

**Paul PONTOIS**

1890 Rang des Chutes - Sainte Ursule  
Quebec-JOK3MO-CANADA  
819-228-3159 • Fax: 819-228-4138  
E-mail: pontois@atou.qc.ca



**Le Sport de L'Air**

(Three videos included on CD.  
Original 665 page text in French,  
with numerous pictures. Includes revised HM.14  
plans. All HMs through HM.1000.)

\$ U.S. 30

\$ U.S. 5 postage and handling per CD

**HMS  
221 N LASALLE STE 3117  
CHICAGO IL 60601-1553**

Allow two weeks for delivery

**NEW POU WEB SITES:**

<http://perso.wanadoo.fr/aircollection/essais.htm>  
<http://www.avion.ch/hm8/>



POU Modèle Mexicain

I have been able in the last four months to gain a footing into the radio control model aircraft world on a very big site and forum.

I developed an Hm14, Hm16 and Hm380 model package offering model reflexed airfoils plots and data. It has been real popular and I have had a lot of feed back.

Attached is a model of an Hm14 and an Hm290. I figured it's an excellent opportunity to get the Pou known more by using the model world. The amazing thing is they have no data.

Very strong interest in the United States, United Kingdom, and South America.

Rob Germon



See Link: <http://acac.fr.st/>

I send you a photo of the Pou Freighter of Croises found on the site of IA.C.A.C: Association des Constructeurs d'Avions de Chavenay (Association of the Builders of Airplanes of Chavenay). This photo is in the section under construction. Seen the photo, she seems recent, does anyone know more?

Jerome Falc  
(Langon, 33)

**François MOREAU's  
POU KIDS**

School of Aeronautical Activities in France

Amateur FLYING FLEA  
construction in France

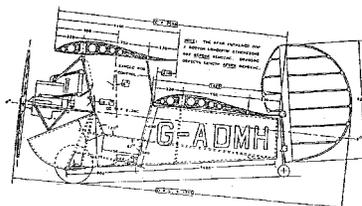



<http://www.chez.com/airetespace/>  
 E-mail: [air-et-espace@libertysurf.fr](mailto:air-et-espace@libertysurf.fr)  
 Also see on: [www.flyingflea.org](http://www.flyingflea.org)

**POU RENEW**

c/o The Independent-Register  
P.O. Box 255  
Brodhead, WI 53520-0255

*Address Service Requested*



Standard Mail  
US Postage  
PAID  
Brodhead WI  
53520