



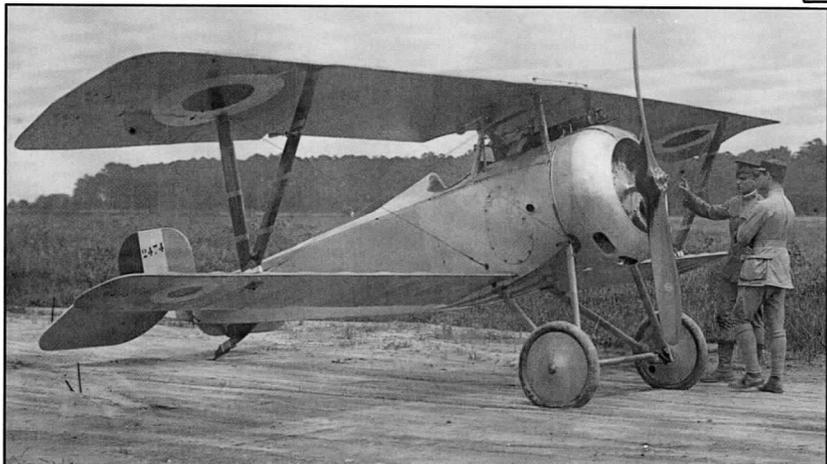
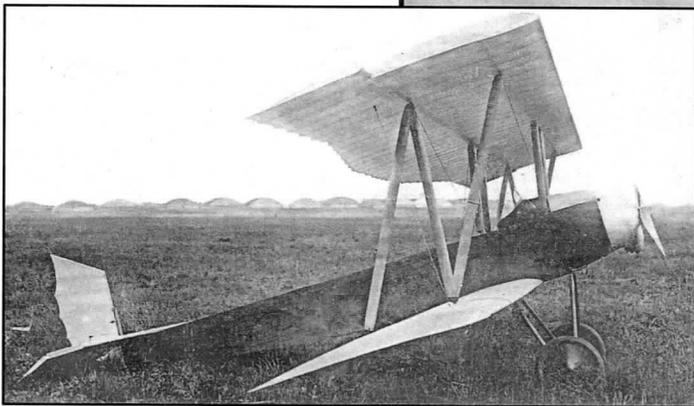
# MAX FAX

The Journal of the dreaded Potomac Pursuit Squadron #6 of the Flying Aces Club

Editor: Dave Mitchell

2017-3

*AILES  
FRANÇAISE*



Stew liked the Ryan YO-51 Dragonfly from the last issue so much, he built one!



Dave Mitchell photo

Glen has a nifty P-40 No-Cal design going--plan and article in the next MaxFax



Dave Mitchell photo



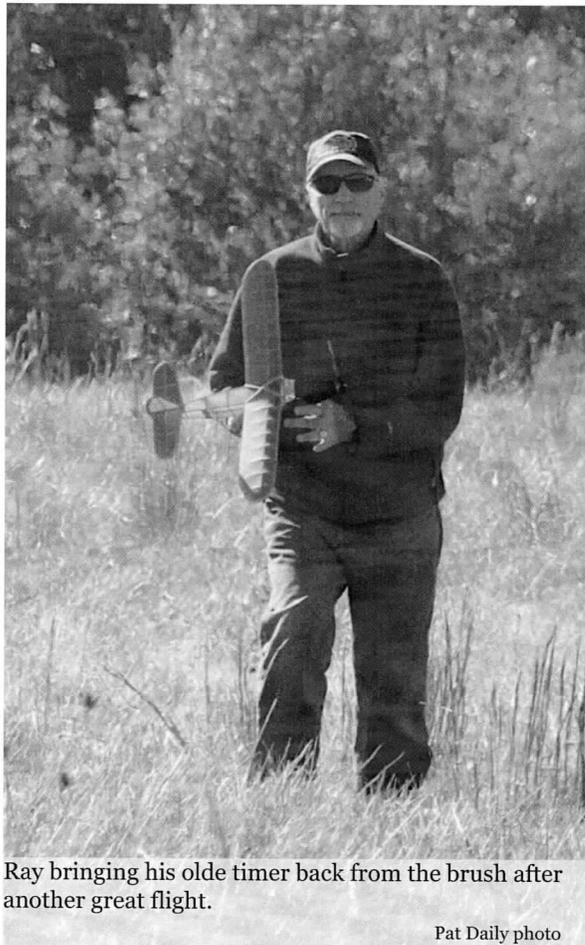
The editor's new EasyBuilt PT-19 tests the air. Early flights look promising. Lots of fiddly bits still needed...

Pat Daily photo



Stew's not the only one who likes the looks of the YO-51. John Stott's been around the block and still looks great! John reports that there are 44" worth of struts on this bird, at 16" WS.....

John Stott photo



Ray bringing his olde timer back from the brush after another great flight.

Pat Daily photo



Stew trimming out his neat 1/2 size Gollywock--looks to be a potent flyer! He's working up a kit....

Pat Daily photo

## MAXFAX 2017-3

Howdy readers! Once again I'll beg forgiveness for bringing this issue to press so late, but I think it will be worth it. I had been considering a French-centric issue for a while, when what should arrive in the mail but a package from none other than **Roger Aime**, with a super neat **Farman 231** plan! A proper French design, from a proper Frenchman! This aircraft has got it all: charming simplicity, good moments, and enough variation between closely-related types that you could easily go a little bit one way or the other and distinguish yours from the crowd. I had a lot of fun digging into the internet for information on this sprite. I dunno about you, but I gotta have one. *Merci, Roger!*

Anyway, that was just the push I needed to finally get on the stick. I went into the MaxFax archives to pull out a sketch-plan from the late great **Hurst Bowers** (not French, but he did serve as Air Attaché at the US Embassy in Paris) for his charming **Farman Sport** biplane. Those of you who like to build by your wits oughta like this one-- along with a few photos, there's *just* enough there. **Stew Meyers** (also not French) pitched in a lovely **Megow Nieuport 17** plan from his stash that is just begging to be built. Last but not least, I did my best to cross check and fill in the details on my own peanut **Nieuport 28** plan. I'm not French, but I know a nice airplane when I see one, and the N.28 is about as pretty as they come. This plan is probably the furthest thing you can get from Hurst's; I clearly don't know when to stop. But that just means there's something for everyone in this issue...

**President Simperts** has contributed a list of the flying opportunities in our area. We have a response to the rubber chart that we published last issue from Mike Moskow, leading to a correction to one of the rubber formulas. I found a nice write-up by **Ken Rice** on calibrating torque meters. I tried out the formulas and I got the same answers Ken does, so color me encouraged..

Thanks to everyone who contributed to this issue. Got a plan, or an article you think needs to see the light? Send it on...I'm always looking for fresh material!

-Dm



**SUBMISSIONS** - send articles, plans and high-resolution photos to Dave. Electronic submissions preferred, but I do old school too.

Dave Mitchell, Editor  
230 Walnut St. NW  
Washington, DC 20012  
[davedge@me.com](mailto:davedge@me.com)

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### Dues should be addressed to:

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Bethesda, MD 20817

Make checks payable to "D.C. MAXECUTERS"

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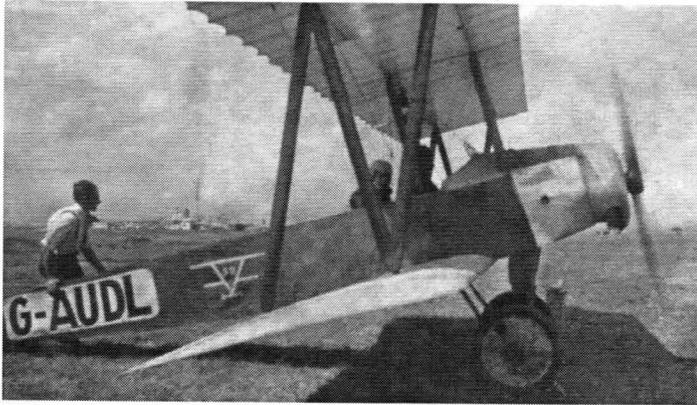
### Cover images:

**Front:** A bevy of French aircraft. Clockwise from the top: Farman F.231; Nieuport N.28; Nieuport N.17; Farman Sport.

**Back:** Eugene Jacques Bullard was the first African American military pilot, flying for France with the *Escadrille SPA 93* and *Escadrille SPA 95*. He is shown standing before his Nieuport N.17, with his flying companion Jimmy, a Rhesus monkey. More on Bullard at: [https://en.wikipedia.org/wiki/Eugene\\_Bullard](https://en.wikipedia.org/wiki/Eugene_Bullard)

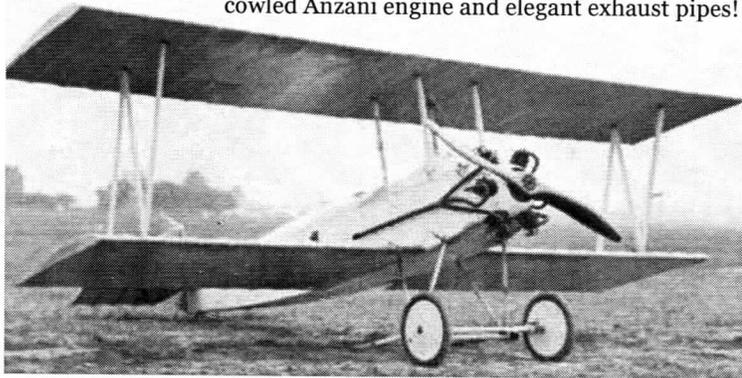
Pre-production version of the Farman Sport, G-AUDL, with cowled LeRhone 9Z engine.

# FARMAN SPORT

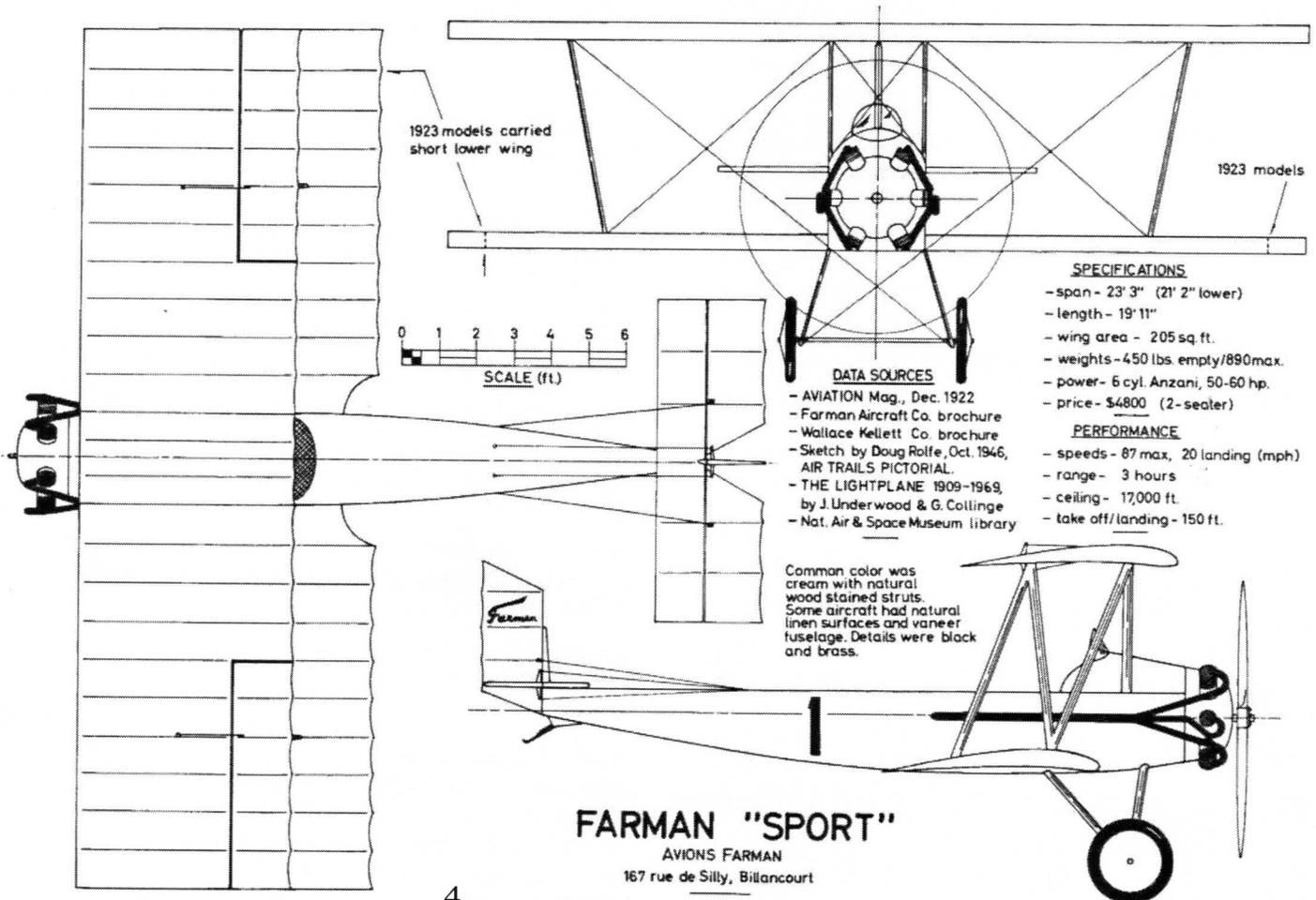


G-AUDL, port side

Production version of the Sport, with partially-cowled Anzani engine and elegant exhaust pipes!

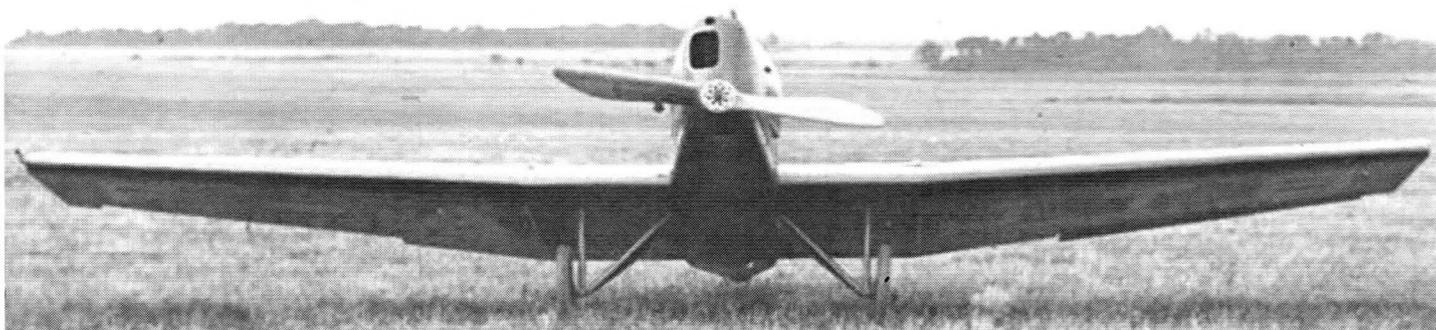


No elegant exhaust here; easier to model though...



# FARMAN F.231

Great view of F-AJTB shows basic cowling details as well as landing gear spread. Note that despite the apparent bulge on both sides of the cowling, the rear edge of the cowling finishes off flush to the sides of the fuselage in the photos following.



F-ALGX is Farman F.350, No.6, a close variation of the F.231. Note three-piece windshields and addition of fixed fin.



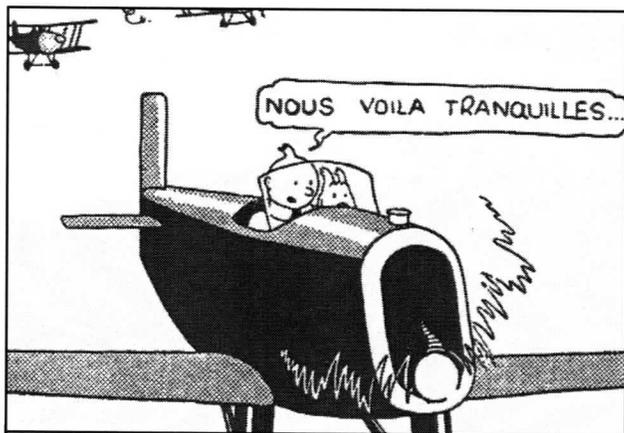
Below, in this poor image of F-AJTB one can just detect the presence of the goose emblem on the port side. The lettering at the bottom line of the engine cowling says "Farman Renault", a reference to the Renault 4PB engine.



Two shots of F-AJTB in different stages of development. Note again the addition of a fixed fin in the photo to the immediate left; Roger Aimes' plan depicts the earlier version seen at the lower left, which has no fixed fin. Also note one-piece windshields, registration lettering on the stabilizer, and model / serial number at the bottom of the rudder.

Le départ de Lallouette et de Permangle à Istres, le 11 janvier.





The Belgian comics artist Hergé regularly featured well-drawn aircraft in his work. In the first, B&W edition of "Cigars of the Pharaoh", one of the many *TinTin* serialized comics, TinTin escapes from the bumbling police duo Dupond and Dupont (Thompson and Thompson) in a Farman F.231, with his faithful pup Snowy wedged in the cockpit beside him. Snowy's many talents apparently did not include piloting...

In January of 1931, Marcel Lalouette and Jean de Permangle set a light plane long distance record flying Farman F.231 F-AJTB.

**Light Plane Long Distance Record**

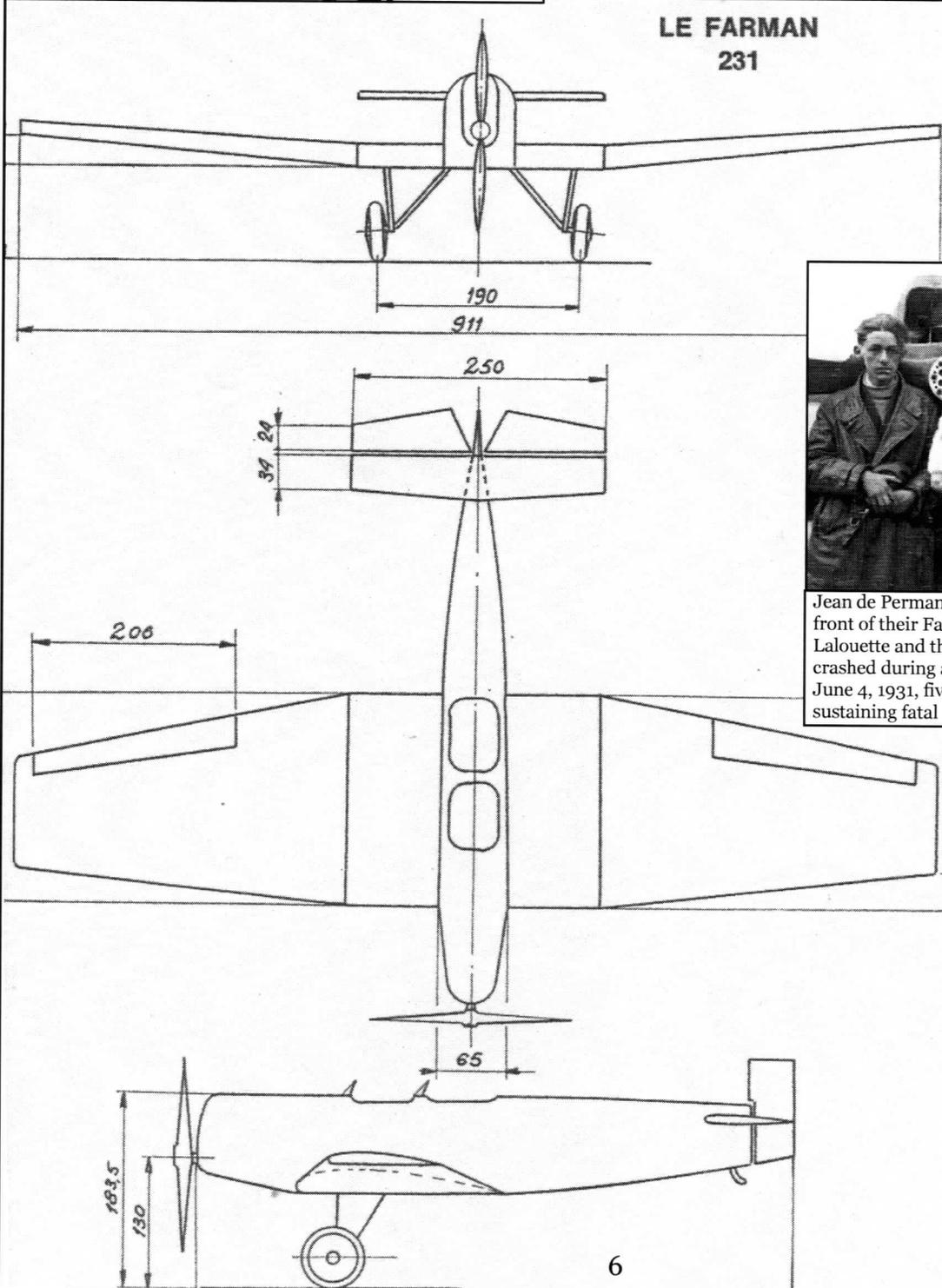
ON January 13th-14th, 1931,  
Pilots Marcel Lalouette and  
Jean de Permangle flew a  
**FARMAN F.231 (95 h.p. RENAULT)**  
from Issy to Villa Clément in French  
West Africa, covering

**1,687 MILES**  
in **22 HOURS**

using  
**Mobiloil  
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Jean de Permangle (l) and Marcel Lalouette (r) in front of their Farman F.231. At center is Mme. Lalouette and their child. Permangle and Lalouette crashed during a flight off the coast of Barcelona on June 4, 1931, five months after this photo was taken, sustaining fatal injuries.

A Series of 75  
65  
**AVIATION**

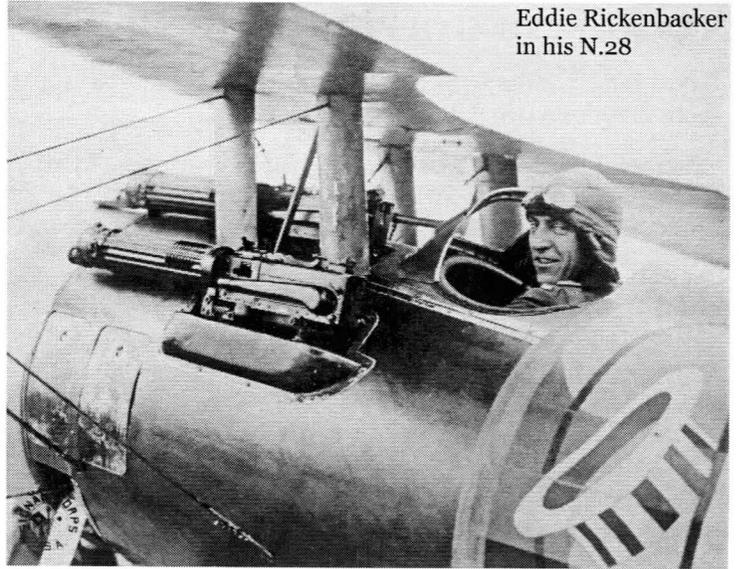
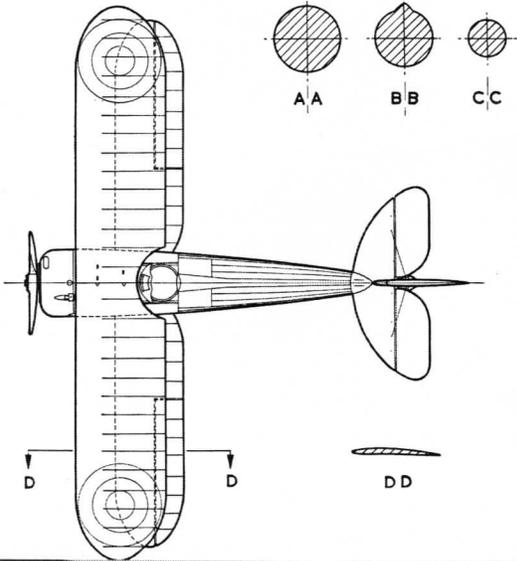
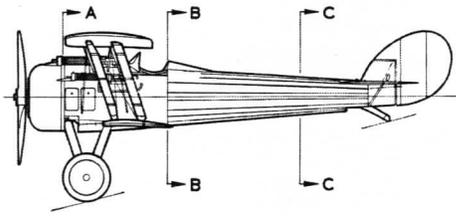
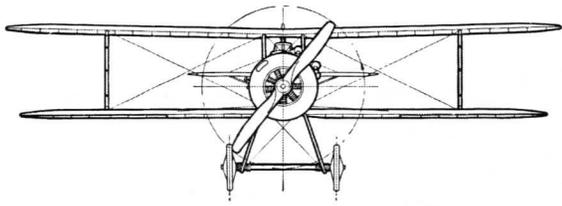
**M. Henri Farman.**  
*Chev. Légion d'Honneur,  
born 1874.*

M. Farman, a French citizen of English birth, was a racing cyclist and motorist until he took up aviation, Sept. 1907. Among his notable feats are—the winning of the Deutsch-Archdeacon prize of 50,000 fr. by a circular flight at Issy (1908); the long-distance record flight of 144 miles at Mourmelon (1909); and a 30 mile flight with two passengers (1910).

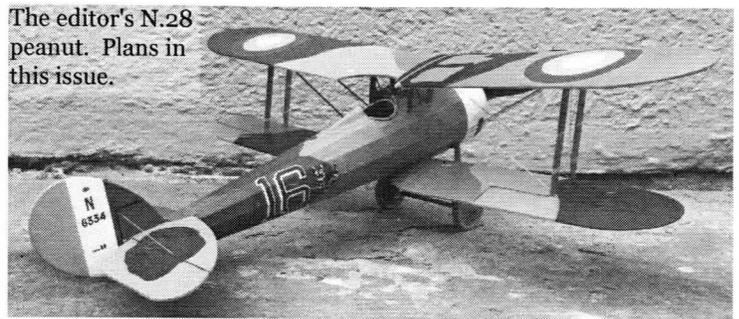
**CAPSTAN  
NAVY CUT**

FOR PIPE SMOKERS  
IS UNEQUALLED.  
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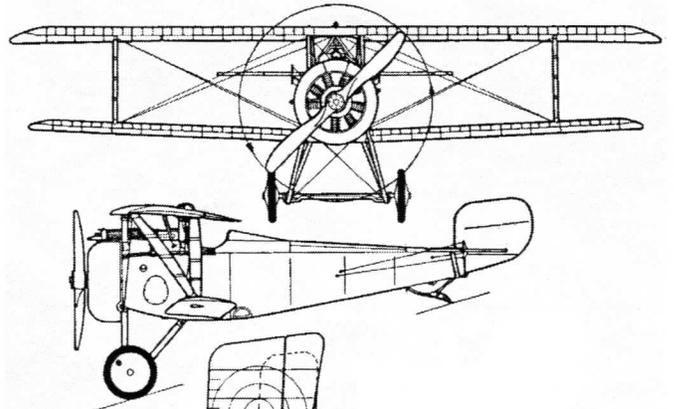
ALBUMS FOR THESE PICTURE CARDS CAN BE OBTAINED AT 1/- EACH THROUGH ALL TOBACCONISTS.



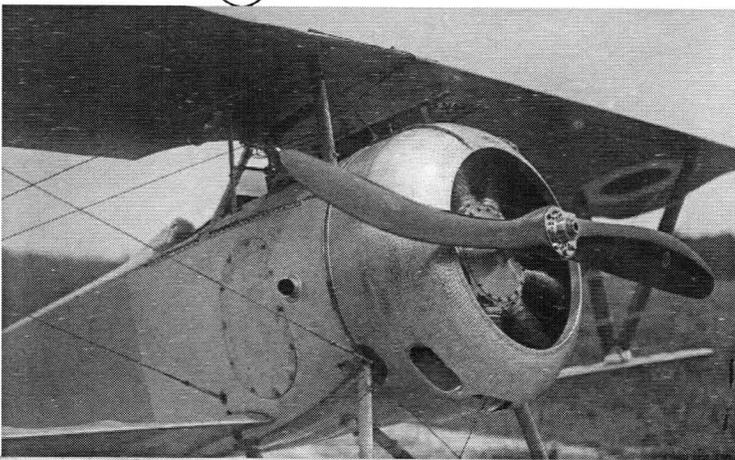
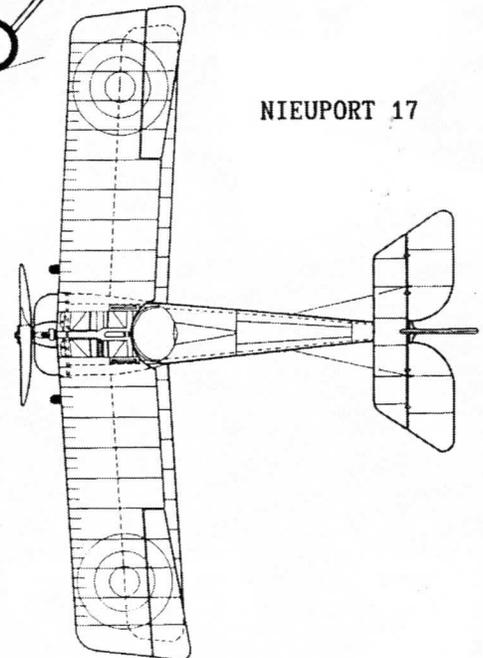
Eddie Rickenbacker  
in his N.28



The editor's N.28  
peanut. Plans in  
this issue.



NIEUPOINT 17



## LOCAL FLYING OPPORTUNITIES

Local fun-fly venues, as well as quasi-local contest sites... note that many are date-restricted.

**National Building Museum** – 3/4/18 – 90' cube flying space – FF and Light RC in separate atriums – Point of Contact: Glen Simpser – grfreeflight@hotmail.com, 301-843-2896

**Highland Springs HS** near Richmond, Va – POC: Billy Batkins, wwbatkins@henrico.k12.va.us, 804-737-8614, Contests on 11/12/17; 1/21/18; 4/22/18; and 6/17/18. November contest will feature A-6, Mini-Stick, P18, LPP, TSA, Peanut Scale, Dime Scale, WWI NoCal, Phantom Flash, Parlor Fly and mass launches for Parlor Fly, Phantom Flash, WWI NoCal, Peanut Scale and Dime Scale. With the bleachers retracted the floor is 100' by 120' with the usual retractable basketball goals around the edges. The ceiling is 20'6" to the bottom of the girders. 18' to a retractable center curtain. Fun Flying opportunities on 8/6/17, 9/30/17, 10/21/17, 12/9/17, 2/24/18, 3/17/18 and 5/12/18 in a smaller gym.

**Bauer Community Center** – Wednesdays during school year 12:45-2:15 – FF and Light RC – POC Stew Meyers, stew.meyers@verizon.net, 301-365-1749.

**Bykota Community Center, Towson, MD** – Fridays 6:00 – 9:00 – air conditioning off – 25' ceiling in 40' by 50' room. FF and Light RC, POC: Randy Kleinert, rkleinert@verizon.net, 410-931-0094.

**Frost Middle School in Fairfax, VA** – dates TBD – rubber-powered models, no RC or gliders 84'x48'x25' – check-in at visitor's desk - POC Scott Richlen, settva@gmail.com, or Eddie Alfaro, Eialfaro@icloud.com. Home of the Fabulous Foo-Fighters FAC club.

**Wood Middle School gym** – dates TBD - POC: Doug Griggs, dbdbgriggs@gmail.com – home of the Marauding Mustangs FAC club. Rockville MD.

**CCBC in Catonsville, MD** - POC Steve Fujikawa, steve.fujikawa@maiaero.com, 443-223-5756. Dates for 2018 TBD during Jan. to March. Friday 9:00 pm till all get bored. Beautiful round domed gym with top of dome 45'. Air frequently becomes quite still. Any rubber and certain types of RC is ok.

**Westfields High School** – Sunday mornings 9:30 to 11:00 Don Dzczur, dszczur@verizon.net

**West Potomac High School** – arranged by Joseph Franco, Educational Engineer, 703-718-2574 jfranco@fcps.edu

**Kudzu Contest Raeford, NC** May or June 2018 – DC Maxcutters and CAFFA; FAC, SAM and AMA events. Great fun on a large sod farm. Dave Mitchell davedge@me.com

**Hurricane Contest Raeford, NC** Oct 14-14, 2017 FAC, AMA, and SAM events. POC John Diebolt, 919-467-1025, jdiebolt@mindspring.com.

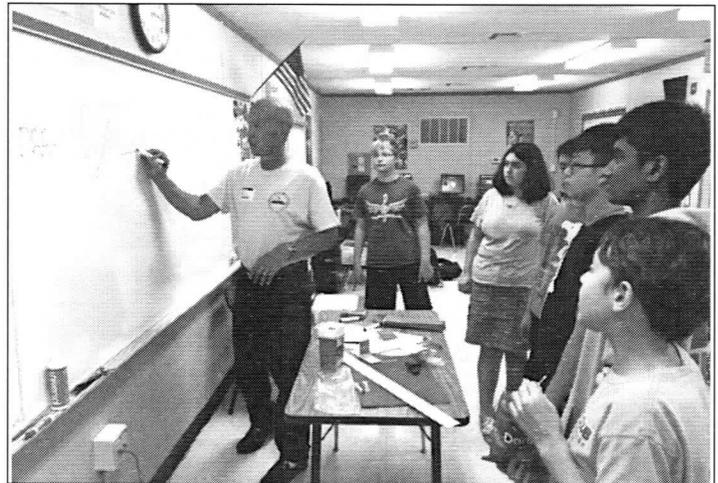
**Sotterly Plantation – Hollywood, MD** Flying in Front Lawn by Parking Lot. Small fee for daily or seasonal entry. POC: Claude Powell, powellchp@md.metrocast.net, 301-690-2189. Quiet FF only, MD State run RC field is a mile away.

**Lakehurst Hanger 1 – Lakehurst, NJ.** Further afield there is flying on weekends and Federal holidays for indoor FF and RC in the old dirigible hanger. Giant building. Flying arranged through East Coast Indoor Modeler club – you need a pass and AMA card to get on to the Navy Base.

## FABULOUS FOO FIGHTERS REPORT FAC Squadron #75

At the first session of the Fabulous Foo-Fighters for this school year, we were happy to see the return of 5 students from last year and 3 newbies. Plus, our high school mentor, Ben Jackson, was once again on the job. So, it looks to be another great year (our fifth!!) Some of the kids went to work almost immediately on their Volare Centurion No-Cals. Thanks **George Bredehoft** for the donation! Check out Volare's website at <http://www.volareproducts.com> All the new recruits start out with Mountain Lions, from **Laser-Cut Planes** (<http://www.lasercutplanes.com>). With Junior High kids you never know if this stuff will stick or not, so the best thing is to get them building right away and see if they enjoy it. Most kids can get a Mountain Lion together and ready to fly in a couple of sessions.

Here is Professor Scott giving his lecture on stability and dihedral. Poor kids thought that this would be a "learning-free" zone. Not so! Oh yikes! He's managed to talk about vectors, and hypotenuses, and all that math stuff that we snored through in class! So it really does apply to something?



At the beginning of the school year it always seems to take some time to settle into the rhythm of this stuff. But our five students from last year have pretty much settled into the routine and are building very well. Plus our new students seem to be pretty focused on their builds. So, I'm excited about the progress we'll be making this year.

----Scott Richlen

## ACKNOWLEDGEMENT / CORRECTION

The miscellaneous rubber sizing formulas I published in the 2017-2 MaxFax ("Rubber Lore--Charts and Formulas") sprang from the nimble mind of **Don Srull**, whose command of the physics of Free Flight never ceases to amaze me. This is especially so since I have absolutely no faculty whatsoever for creating formulas, or creative

mathematics. I can be induced to insert values into an equation from time to time, however, and it was in that context that I presented that very useful information-- because if I can use it, **you** can.

Having failed to cross-check those formulas with anyone prior to publishing, however, I set myself up for receiving letters like the one below from the estimable **Mike Moscow**, who, like many before him, has confused my

ability to breezily convey information with my ability to actually comprehend that same information. As Mike has noted, there is a problem with the formula I presented for **determining the length of rubber to put in your model**. The correct formula should be:

$$\text{Motor Length} = W/b$$

Where:

"W" = desired motor weight

"b" = desired motor cross section

Mea Culpa! Not sure when or where I got that one scrambled, but thanks to Mike for making me think about it long enough to actually understand it!

As to Mike's advocacy for winding to torque, it's very much the right way to do it, and we include his personal torque chart on the next page. As a matter of practice, I have found it difficult to keep the gear at hand or the torque meter calibrated or the something or the other, or I'm just lazy, and tend instead to wing it, relying on a nuanced feel for the torque climbing as transmitted through the winder and an occasional knot-squeeze that tells me I can go another 10 winds before.

**KA-POW!!!**

\*sigh\*

-Dm

Dave -

As I park here in Ardath's domicile, I'm most pleased to receive Max Fax.

Your rubber calculation sheet is mostly good. I use different formulas, but your results are almost equal; except for motor length. A lovely happenstance is that 1ft of 1/8 rubber weighs 1 gram. This lets us use the weight as though it were an area.

In this case, using 16 gm as 16 sq in gives a rectangle of  $1 \times \frac{16}{16}$ . If we now reduce the small side to 3/4, we have  $\frac{3}{4} \times \frac{2}{16}$ , and "l" equals  $\frac{16}{2}$  or about 21. A your 33 is NFG for which  $\frac{4}{3}$  even reason.

As a matter of practice, contest flying using wind count is a source of catastrophe. Switch to Torque and save yourself a lot of grief. Especially so for second wind on same motor.

I've enclosed my torque chart. I wind to 85% for first flite, 70-75 for next, and hope there isn't a third on same motor.

Regards,  
Mike M

P.S. My planes are 150-200 gm and use about a 35% motor. 40% on larger models

## MIKE MOSCOW'S TORQUE WINDS CHART

It goes without saying that the chart below is meaningless unless your device is calibrated properly.

**Figure 1. Torque Chart for post-2008 Tan Super Sport (total width expressed in eighths of an inch)**

eighths	T <sub>fail</sub>	T <sub>.85</sub>	T <sub>.75</sub>	notes
2	3.0	2.5	2.2	
3	5.0	4.2	3.7	4 x 3/32" or 6 x 1/8"
3.5	6.0	5.1	4.5	2 x 1/8" + 2 x 3/32"
4	7.0	6.0	5.3	
4.5	8.5	7.0	6.4	6 x 3/32"
5	10.0	8.5	7.5	4 x 3/32" + 2 x 1/8"
5.5	11.5	9.8	8.6	4 x 1/8" + 2 x 3/32"
6	13.0	11	9.7	8 x 3/32" or 4 x 3/16"
7	16	13.6	12.0	4 x 1/8" + 4 x 3/32"
7.5	17	15	13	10 x 3/32"
8	19	16	14	
9	23	19	17	12 x 3/32" or 6 x 3/16"
10	26	22	20	
10.5	28	24	21	14 x 3/32"
12	34	29	26	16 x 3/32" or 8 x 3/16"
13.5	40	34	30	18 x 3/32"
14	42	36	32	
15	46	40	35	20 x 3/32" or 10 x 3/16"
16	51	44	38	
16.25	51	45	38	22 x 3/32"
18	59	49	44	24 x 3/32" or 12 x 3/16"
20	69	59	52	
22	78	67	59	
24	88	75	66	32 x 3/32" or 16 x 3/16"
26	98	84	74	
28	110	92	83	
30	120	101	90	

If you have a torque meter that is calibrated well but, for whatever reason, you casually chop the torsional wire to a different length...eh, you've just decalibrated your device (see below on how to get it back by making a new dial face) and while you may be winding to some relative value you recognize, you're not winding to calibrated inch-oz numbers as Mike is outlining above. You have been warned.

## TORQUE METER CALIBRATION

by Ken Rice

From: "Batsheet" via: Okie Free Flight Flyers

Document found at: [www.modelflight.com](http://www.modelflight.com)

Most of the torque meter construction articles that I've seen call for calibrating the finished instrument by comparing it to a known-accurate torque meter, or by using

a system of measured weights and moment arms. Neither of these is easy to do with any precision. Fortunately, there is a standard engineering formula for calculating the angular deflection of a solid shaft that works nicely for determining the dial marking instead. The simple formula is:

$$a = \frac{C \times T \times L}{D^4 \times G}$$

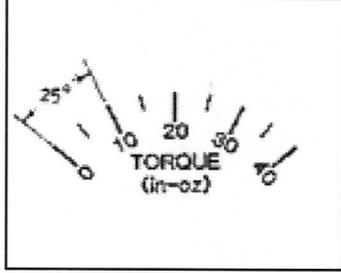
The formula shows how many degrees that a shaft will twist, given the diameter and length of the shaft, and the amount of twisting force. The parameters for this formula are described below in both US and standard units (standard in parentheses):  
 a = angle of pointer deflection in degrees (degrees)  
 C = constant: 36.5 (584)  
 T = torque in inch-ounces (newton-millimeters)  
 L = length of the music wire torsional element in inches (millimeters)  
 D = diameter of the music wire torsional element in inches (millimeters)  
 G = torsional Modulus of Elasticity for music wire in pounds/square inch (newtons/square millimeter):

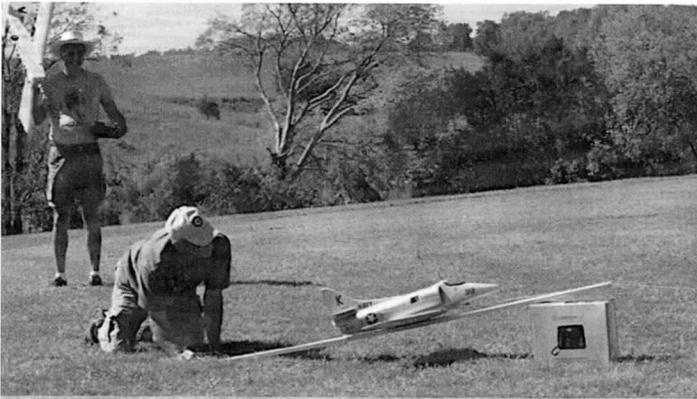
Wire Size	G
less than .032 (.81)	12,000,000 (82 740)
.011-.062 (.84-1.6)	11,850,000 (81 700)
.063-.125 (1.6-3.2)	11,750,000 (81 010)
.126-.250 (3.2-6.4)	11,600,000 (79 980)

For example, one of my meters (for two to six strands of 1/4" rubber) uses increments of 10 in-oz each, I used the formula like this:

$$a = \frac{36.5 \times 10 \times 12}{.062^4 \times 11,850,000} = 25 \text{ degrees}$$

The dial face was drawn with 25 degrees between each 10 in-oz marking. Carefully verifying this calibration with weights showed it to be correct. I've also verified the suitability of the formula by comparing it to published torque meter designs, such as Cezar Banks' indoor instrument that was reprinted in the July '83 Bat Sheet. Working from the plan measurements, the formula accurately calculates the exact calibration of the dials as shown on the plan. The formula can be used handily in reverse for designing a torque meter. You can insert the desired amount of dial deflection, and calculate the diameter or length of the music wire needed to do the job.

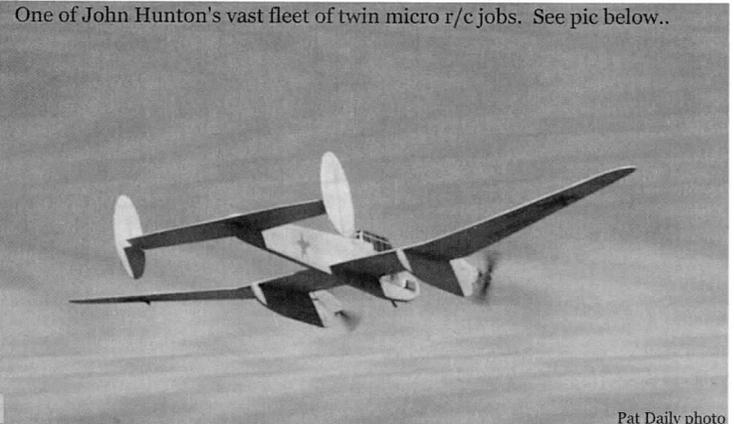




Nice foamy A6 gets a catapult launch off the deck

Pat Daily photo

One of John Hunton's vast fleet of twin micro r/c jobs. See pic below..



Pat Daily photo

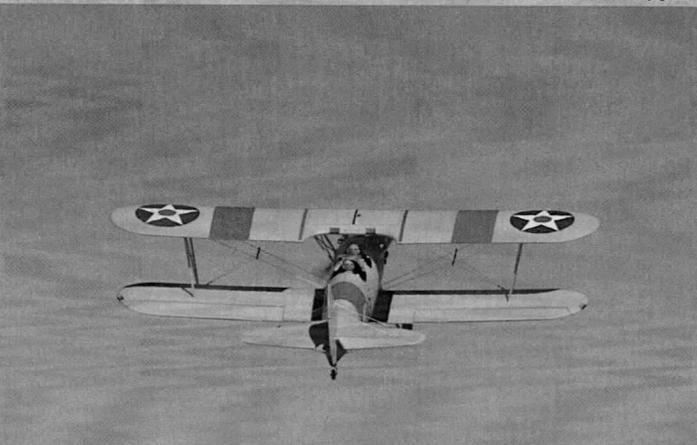


A heroic launch scene at AirDale.

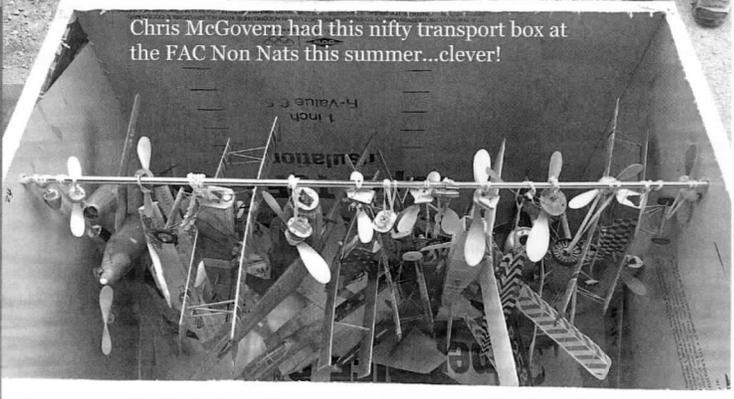
Pat Daily photo



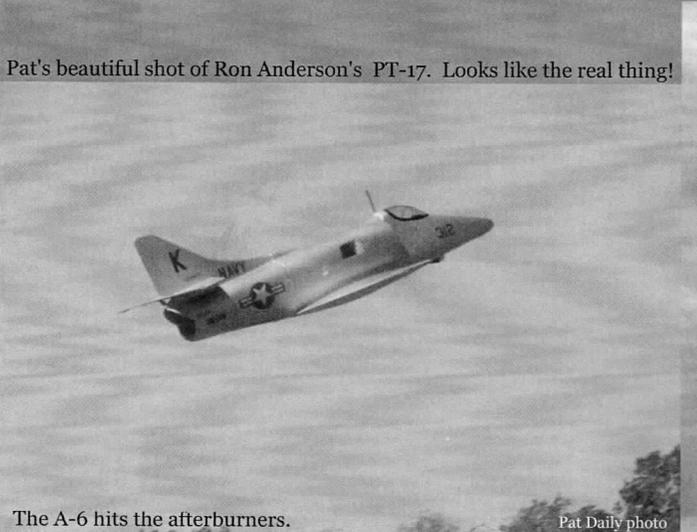
Pat Daily photo



Pat's beautiful shot of Ron Anderson's PT-17. Looks like the real thing!



Chris McGovern had this nifty transport box at the FAC Non Nats this summer...clever!



The A-6 hits the afterburners.

Pat Daily photo



Mike's big Hurricane climbs out.

Pat Daily photo

# MaxFax 2017-<sup>3</sup>



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## CONTENTS:

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- Nieuport N.28
- Farman Sport
- Nieuport N.17
- More Rubber Lore



2\*1\*\*\*\*\*ALL FOR ADC 207  
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44457 Three Coves Rd  
Hollywood MD 20636-2706

## EDITOR: ARTICLES & SUBMISSIONS

Dave Mitchell

## MEMBERSHIP, DUES

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8304 Whitman Dr.  
Bethesda, MD 20817

## UPCOMING EVENTS

### Highland Springs HS Fun Fly 10/21, 12/9

Highland Spring, VA

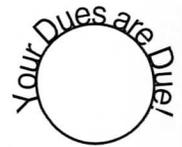
### Bauer Community Center

Rockville, MD – Light indoor flying, Wednesdays during school year 12:45-2:15

### Bykota Community Center

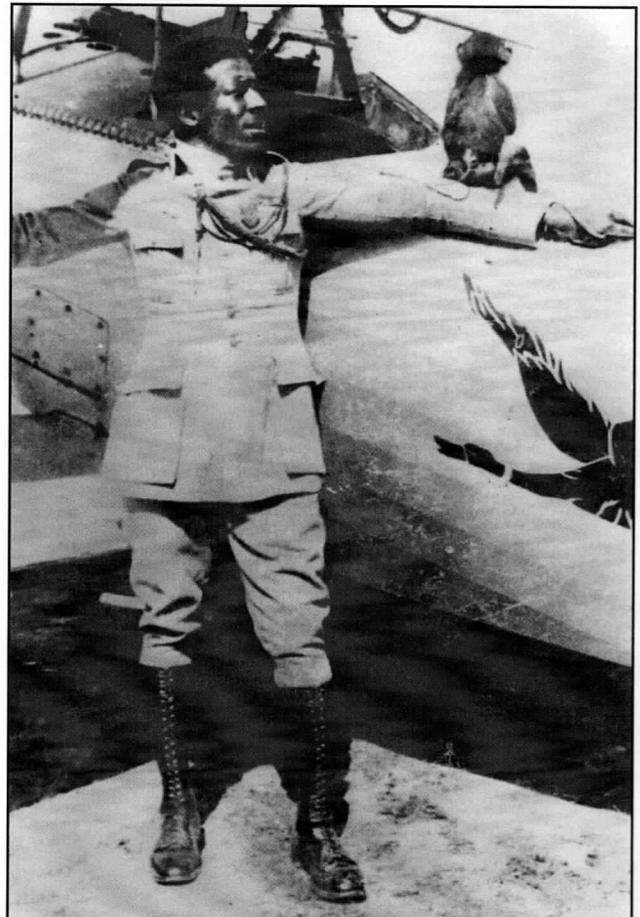
Towson, MD – Fridays 6:00 – 9:00

See "Local Flying Opportunities" on page 16 for more information



## RENEW ON LINE!

Go to [www.dcmmaxecuter.org](http://www.dcmmaxecuter.org) and click on **MaxFax** at the top of the page.



Eugene Jacques Bullard at his N.17

# MaxFax 2017-<sup>3</sup>



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## CONTENTS:

- Farman F.231
- Nieuport N.28
- Farman Sport
- Nieuport N.17
- More Rubber Lore



2\*1\*\*\*\*\*ALL FOR ADC 207  
CLAUDE H. POWELL 2018  
44457 Three Coves Rd  
Hollywood MD 20636-2706

## EDITOR: ARTICLES & SUBMISSIONS

Dave Mitchell

## MEMBERSHIP, DUES

Stew Meyers  
8304 Whitman Dr.  
Bethesda, MD 20817

## UPCOMING EVENTS

### Highland Springs HS Fun Fly 10/21, 12/9

Highland Spring, VA

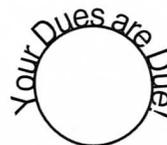
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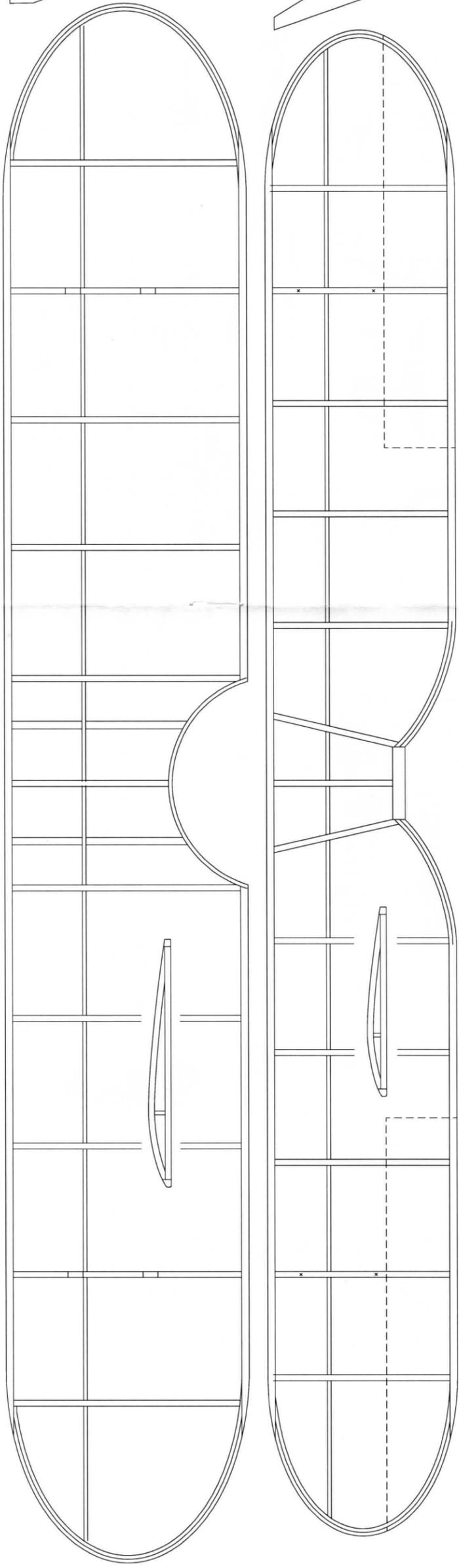
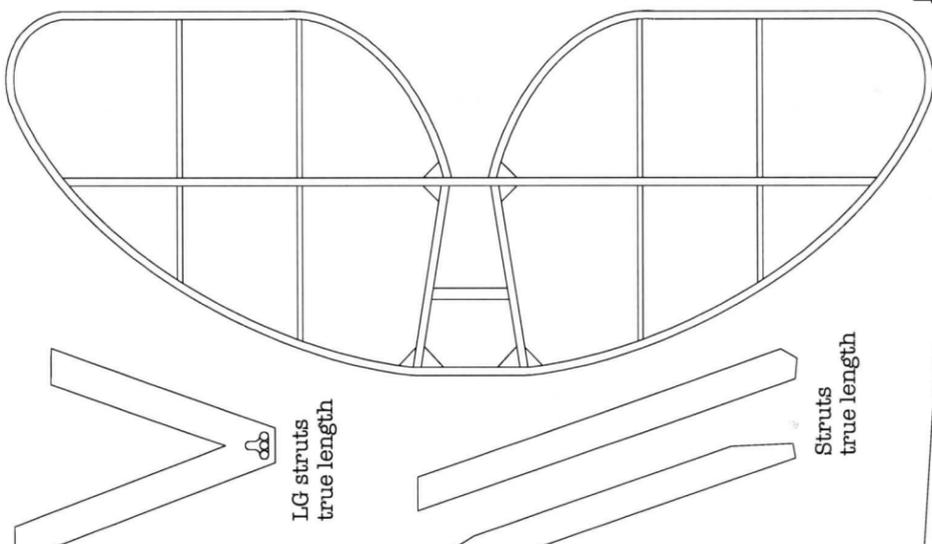


## RENEW ON LINE!

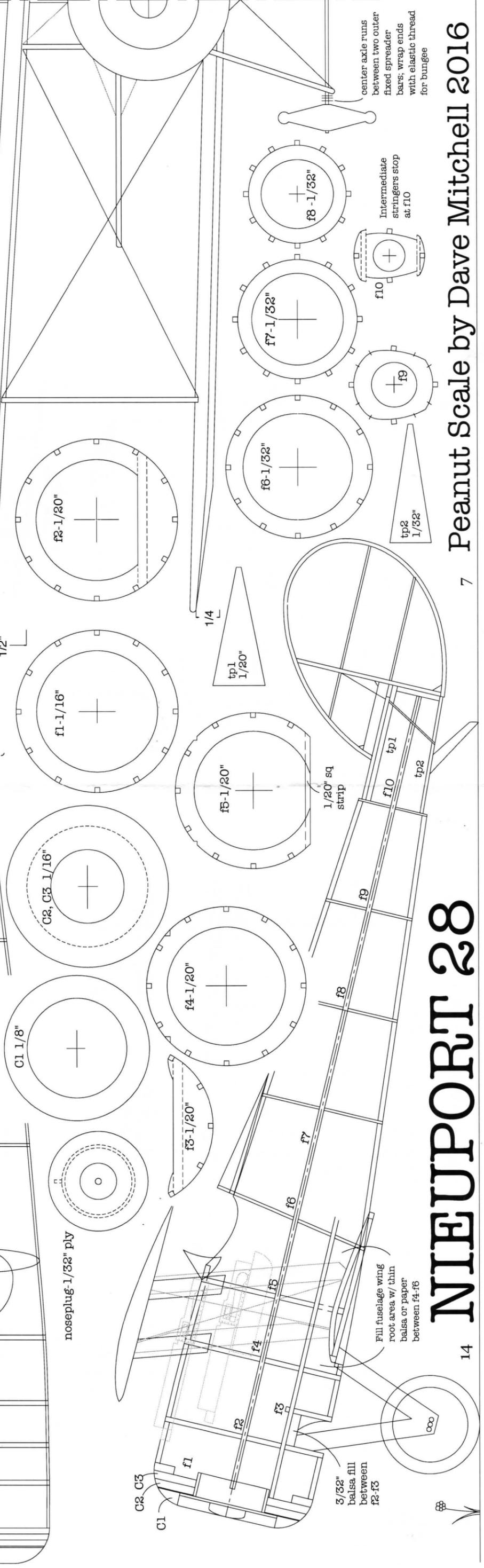
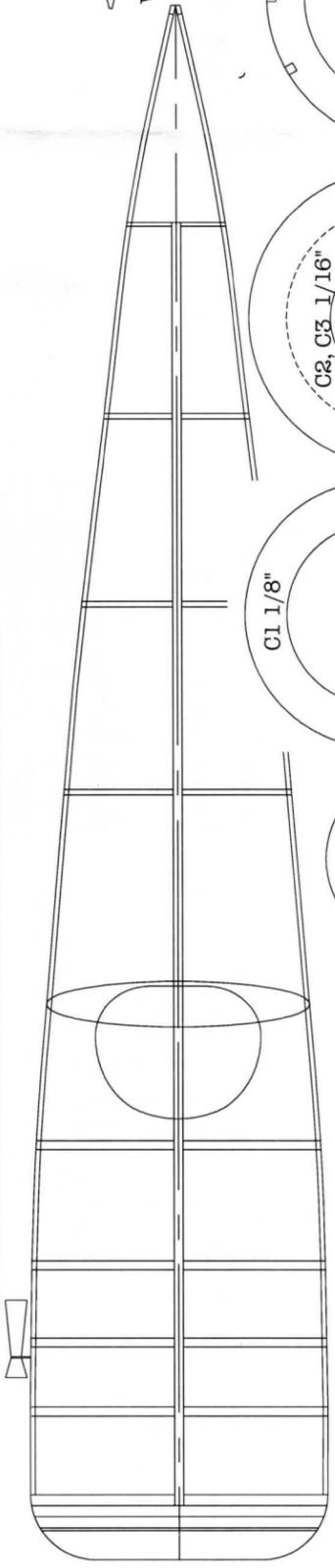
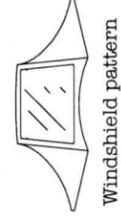
Go to [www.dcmmaxecuter.org](http://www.dcmmaxecuter.org) and click on **MaxFax** at the top of the page.



Eugene Jacques Bullard at his N.17

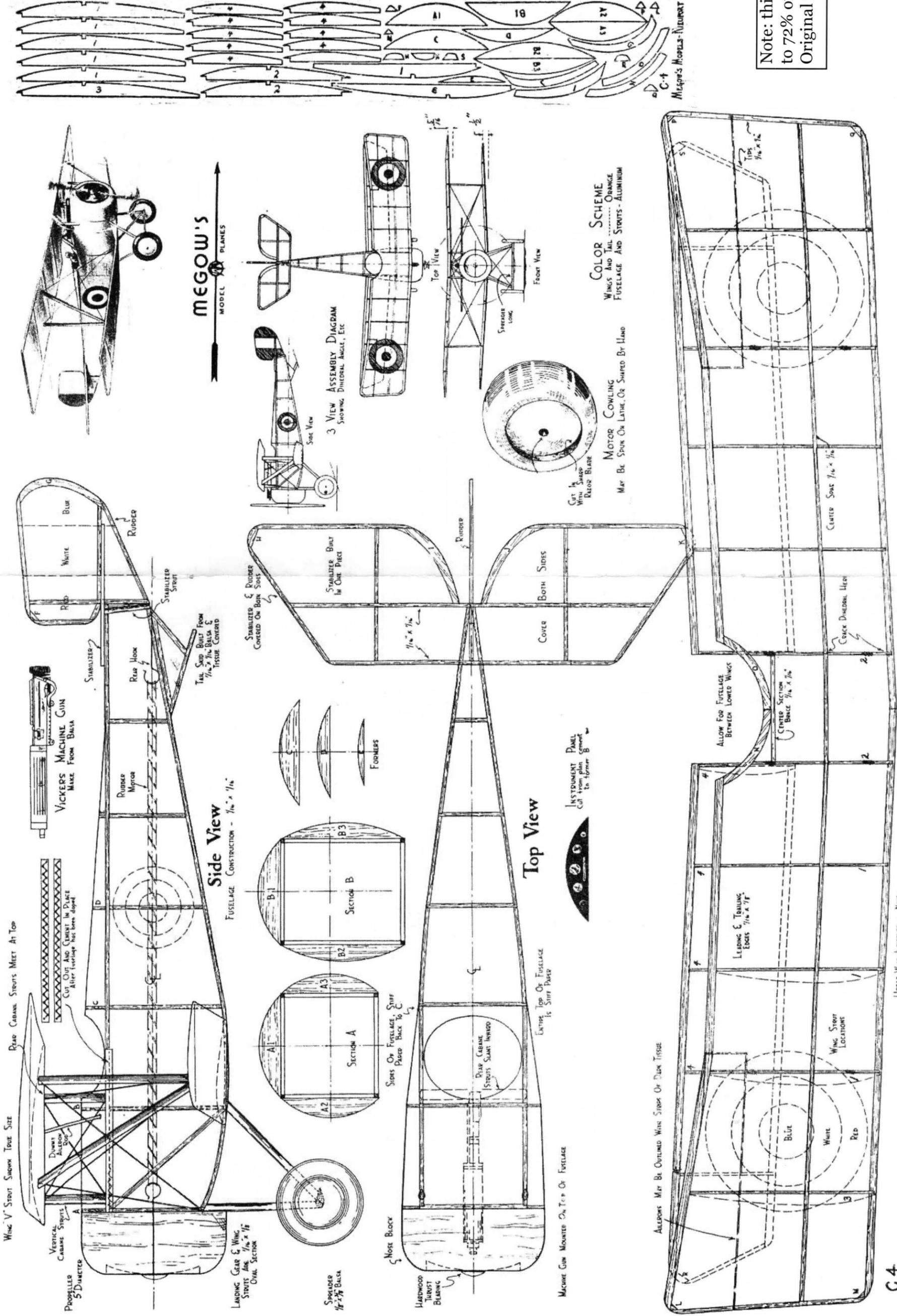


All curved outlines are laminated balsa.  
 Wing spars hard 1/32"  
 Wing ribs built up with 1/20" square  
 Wing LE and TE 1/16" square  
 Fuselage stringers 1/20" square



# NIEUPOORT 28

7 Peanut Scale by Dave Mitchell 2016



Note: this plan is reduced to 72% of its original size. Original wingspan is 18"

C4

MEGOW'S, PHILADELPHIA, PA., U.S.A.

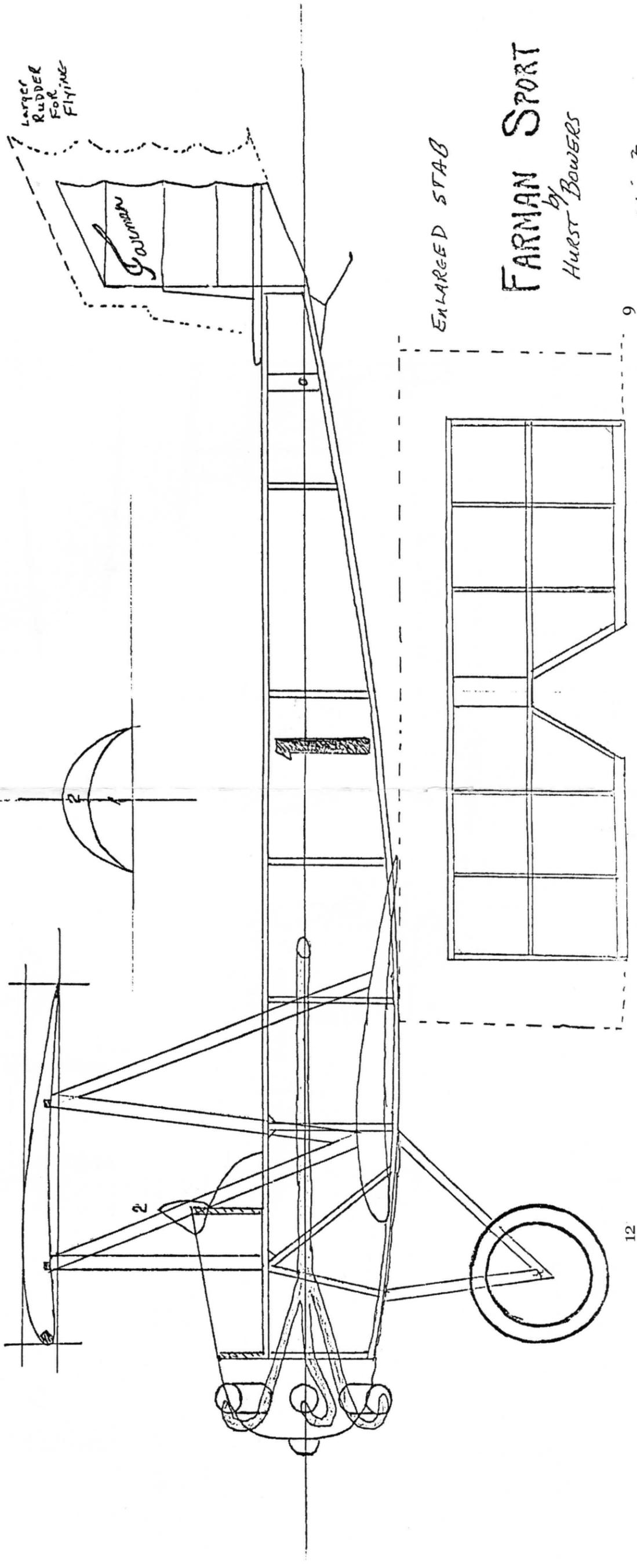
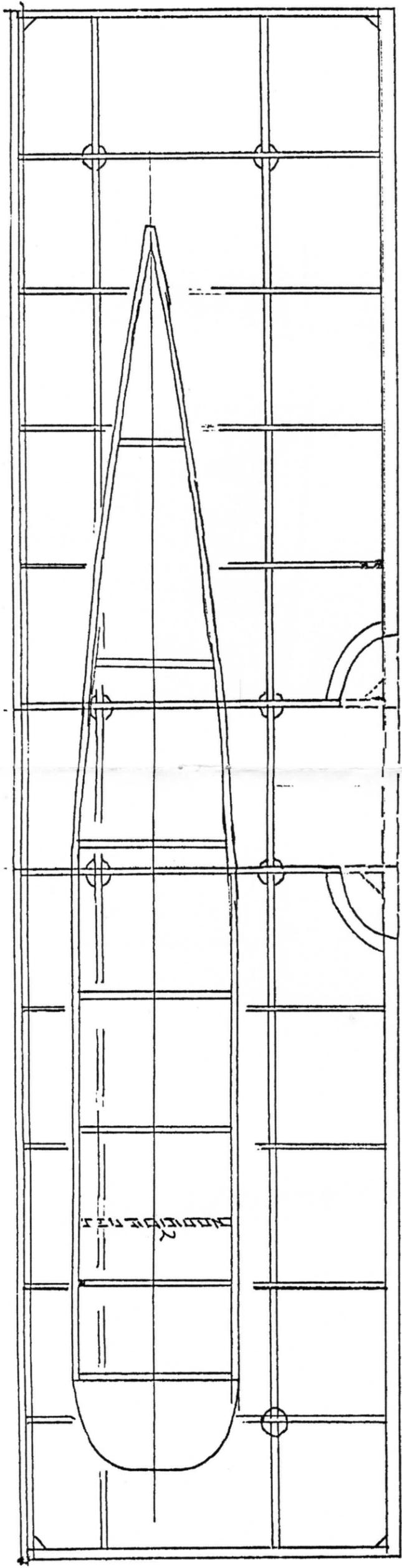
8

Wing Layouts

French Pursuit Nieuport XVII C1

13

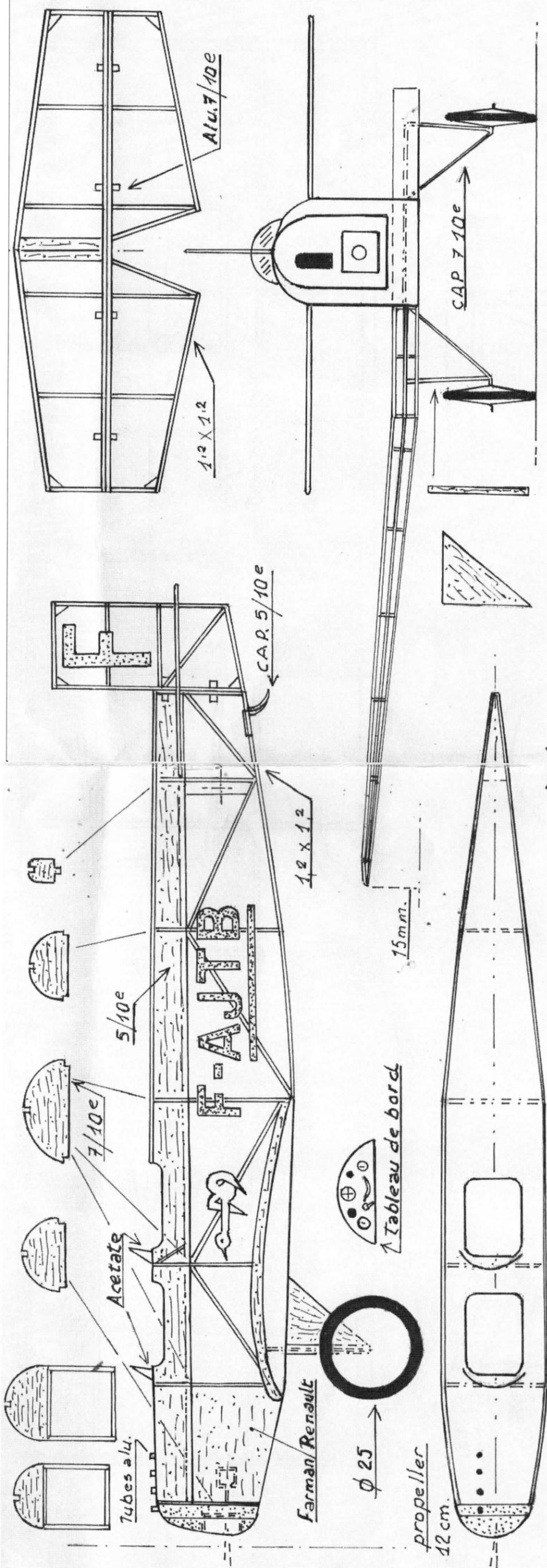
Upper Wing Incidence - None  
Lower Wing Incidence - 1/2°  
Wm. D. Hoover, Jr.



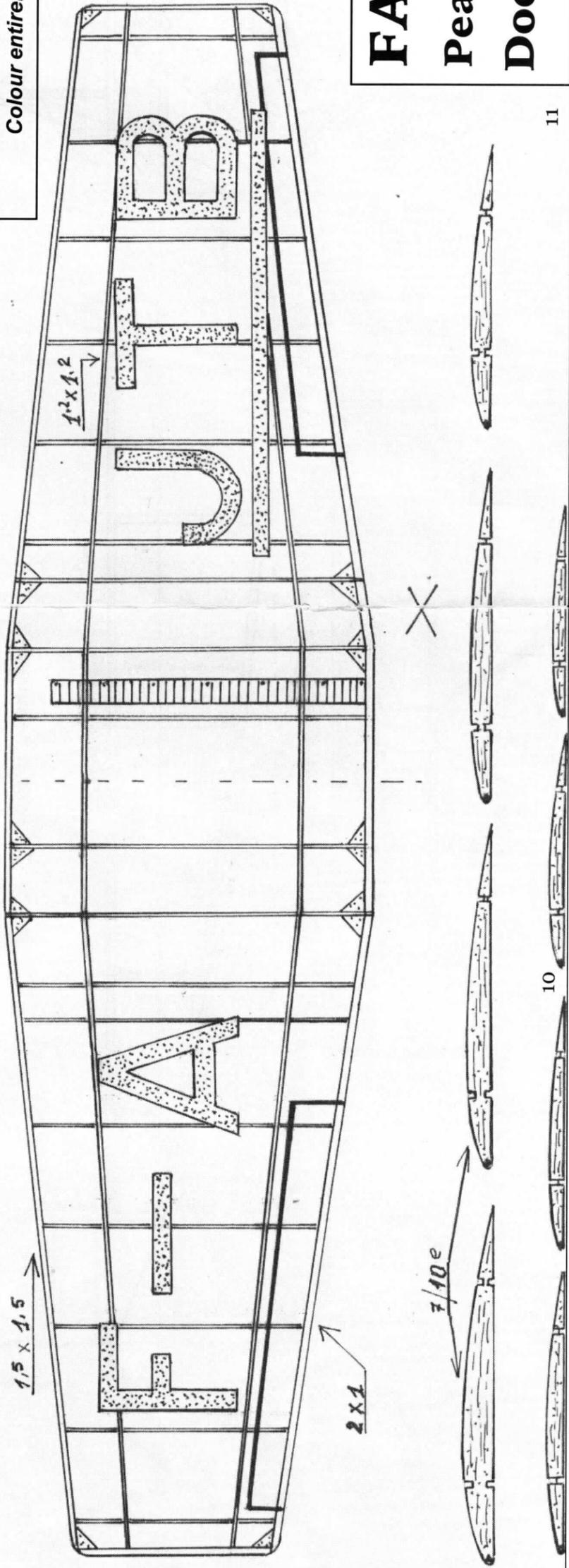
Larger  
RUDDER  
For  
Flying

ENLARGED STAB

FARMAN SPORT  
by BOWERS  
HURST BOWERS



On top and bottom same size registration letters  
 Colour entirely red letters white



**FARMAN 231**  
 Peanut de Roger AIME  
 Doc. les Ailes 1932