

Echos

E. ROCH

-SALON du MODELISME DE PARIS :

Il aura lieu du 13 au 21 Avril 2002 au Parc des Expositions de la Porte de Versailles à PARIS.

- VOL INDOOR AU CARGOLIFTER (D):

Dans ce nouveau site exceptionnel (hauteur 106m!) situé au sud de BERLIN est organisé les 13 et 14 octobre la sélection de l'équipe d'Allemagne F1D. La présence de modélistes étrangers est annoncée: Polonais, Tchèques et pas moins de 10 Anglais!

- F4F et Ste FORMULE 3 g :

Le Comité Technique de Vol Libre (C.T.V.L.) de la F.F.A.M. a retenu les propositions d'alignement du règlement F4F (cacahuètes) sur le règlement international. Le classement, obtenu par addition des places "statique" et "vol", sera effectué sur un seul modèle par concurrent. Mais un classement "secondaire" pourra être établi pour les autres modèles – moins bien notés – présentés le cas échéant par un concurrent.

Par ailleurs, pour la Ste Formule, la masse minimale sans caoutchouc sera fixée à 3 g. Ceci devrait permettre un accès plus facile des débutants à cette intéressante catégorie en permettant la construction de modèles moins fragiles.

- VOL INDOOR R.C. de 2 heures et 3 minutes !

C'est la remarquable performance réalisée par Alfred KLINCK (D) avec un modèle spécial slow flyer. On espère pouvoir donner dans un prochain cahier des informations complémentaires et peut être publier un plan de ce modèle.

Abstract J.C.BOURDEAUD'HUI – B.BAILEY

- an article from J.C ZUFFEREY (Institut de systèmes robotiques, Ecole polytechnique Fédérale de Lausanne), devoted to a remote controlled plane (Span=80 cm, weight= 47g, autonomy=4 mn.). The purpose is to develop a flying robot which will move itself in an autonomous manner with only a visual sensor to monitor the external environment. This robot will be driven by artificial intelligence, inspired by insect's neuronal organisation (algorithms genetic will be used). In order to carry the robot, the challenge is to build a flying platform able to transport a 15 g payload.

Authors summarise difficulties encountered in an aerodynamic design which is applicable to our ultra-light models: the need for low speeds leads to larger surfaces for high lift, but the low Reynolds Numbers give very unfavourably low lift coefficients C_z . One important contribution to the mass is obviously the battery (31%)

Control will be maintained by aerodynamic stability for pitch, but yaw and roll are given by directly controlling the motor's alignment.

Tests in Wind-tunnel, in real conditions, permit better knowledge of that particular aspects of aerodynamics in this very extreme domain. Unquestionably an ambitious and fascinating research subject!

- an article by E.ROCH: Do control your propeller's pitch !. It is very important, for a modeller who builds his own propellers, to control accurately the pitch of the propeller. In

this article, Edmond Roch referring to geometrical considerations explains in a very simple manner the location, when given the propeller's diameter and the pitch value, of the point where the blade's angle is 45°. A table gives this location for 100mm < Diameter < 590 mm and 1,1 Pitch < 2,5. A gauge for measuring the blade angle is recommended and illustrated with photos..

-an article from R. BOOR, related to the original concept of his model (Category: "Sainte Formule", the "SAINT EXTEME"), with the Drawings...

In this article, Reginald BOOR gives an overview of the concepts which had governed the design of his original « Sainte-formule », so called « SAINT-EXTREME ».

It is essential to remember that the minimum power for flight is obtained for the in flight speed that minimises the ratio $(C_x)^2 / (C_z)^3$ where C_x and C_z are respectively the lift and drag coefficients for the whole plane. The maximum value of C_z is obtained at a speed close to the wing's stall conditions. Because it's the global C_z which is concerned, you have also to maximise also the stab's C_z . That can be obtained, reducing the deflection of the airflow on the stab by building in a large vertical separation between Wing and Stab that increases the stab's efficiency.. This major guide-line for design is used with a rearward C. G.

-a very detailed article from J.CARTIGNY on the new electrical motors KP 100. Jacques CARTIGNY has tested the new electric motor KP. Major modification lies in the fact that (folding) blades are now screwed. Tested thrust is about 108 Milli-Newton at a 6100 rpm rotation speed, which can be increased by modifying the pitch: according to Jacques' opinion, it seems that moulding defects adversely affect the propeller's pitch. Another new model with higher reduction ratio is to be tested...

-some (poetical) thoughts of J.DELCROIX on the choice of the SK-1 TREMPIK, as F4F Scale subject. A very nice plane, a good flyer, but not so easy to trim. Drawings from the author and documentary sheet complete this article.

-a presentation, of the Match-Box by T.HUA-NGOC, a 10 cm span plane with drawings.

Thanks to Fabio MANIERI's (Italy) and L.GITLOW's courtesy, this news offers drawings of a hand launch glider. This category is practised in Italy as has been reported during last event in FLORENCE. Publishing this drawings will certainly arouse comment in French, or elsewhere....

Please note that a new column "TRICKS" (ASTUCES in French) had been created, where you are invited to communicate on your Know How, Skill, best practices and tricks...Thanks for your contribution.

And obviously, event reports and photos...

Dans ce numéro, 4 plans :

- ŠK – 1 TREMPIK, F4F de Jacques DELCROIX
- ST. EXTREME, Ste Formule de Réginald BOOR
- MATCH BOX Micro-avion de Trung HUA-NGOC
- UPSTART 4, planeur indoor de Mark DRELA