WHAM

NEWS, VIEWS, and REVIEWS

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Sunflower Squadron
Wichita, KS

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December, 2025

Observations on Propellers for Outdoor Rubber Powered Models — Steve Griebling

The great search for the perfect propeller continues, but I have made a few observations that might be of some value to fellow gum band stretchers.

1. The higher the pitch and the greater the width of the prop, the lower the rpm. - but --- 2. High drag, slow flying models require lower pitched props than fast, low drag models. (Prop pitch can be compared to the gear ratios of a transmission. If you are going slow, you must be in low gear = low pitch.)

3. Most plastic props do not have true helical pitch. (So what??) I don't know about this either, but many modelers feel that props should have helical pitch.

4. Helical pitch means that at any point along the blades the prop will theoretically pull the airplane forward the same distance for each revolution. Stated another way, the prop will have the same pitch in inches at any point along the blade. Sounds good doesn't it??

5. Pitch in inches can be calculated by multiplying the tangent of the blade angle by the circumference (diameter x pi) at the same point on the blade.
For example: a 7' diameter prop has a tip circumference of 22'. If its tip angle is 20 degrees; Tan 20 = .364; so .364 x 220= 8*. So its pitch is 8' at the tip.

6. The diameter on the blade where the blade angle is 45 degrees is always pitch divided by pi. For example: at 8' pitch; 8/3.1416 = 2.57' = diameter at the 45 degree point.

7. Most bottle formed props never have a blade angle as high as 45 degrees even at the root because R is difficult to twist the blades enough to get a difference in angle of 46" to 220.

8. Under-cambered blades will create a low tip pitch 9 the trailing edge sweeps forward at the tip. This is often responsible for the lack of helical pitch (by calculation) when measuring tip angle of a finished prop. I usually calculate prop blanks to get helical pitch, then mess ft up by slanting the tips forward to eliminate tip stall!

9. Plastic props range in aspect ratio from 2.8 to 4.3, averaging about 3.3. (blade length / blade width). A very low aspect ratio results in a wide blade, but a wide blade with undercamber results in a very great pitch difference from leading to trailing edge and soaks up a lot of power and makes for an inefficient prop.

10. Props for very light weight indoor models are intentionally made very inefficient to keep the RPMs low, but the models are so light that they fly anyway. (Many indoor models have motor weights equal to the airframe weight!) From an old Cleveland Freeflight NL

August 12, 2025 Meeting Minutes

ATTENDEES:
Jeff Englert, Regina & Marty Kline, Linda & Chuck Powell, Ed Salguero, Marilyn & Bill Schmidt, Dave Wiebe

President Powell called the meeting to order; Minutes were approved as delivered.

Treasurer's report reported a positive balance.

OLD BUSINESS:

Reviewed contests.

NEW BUSINESS:

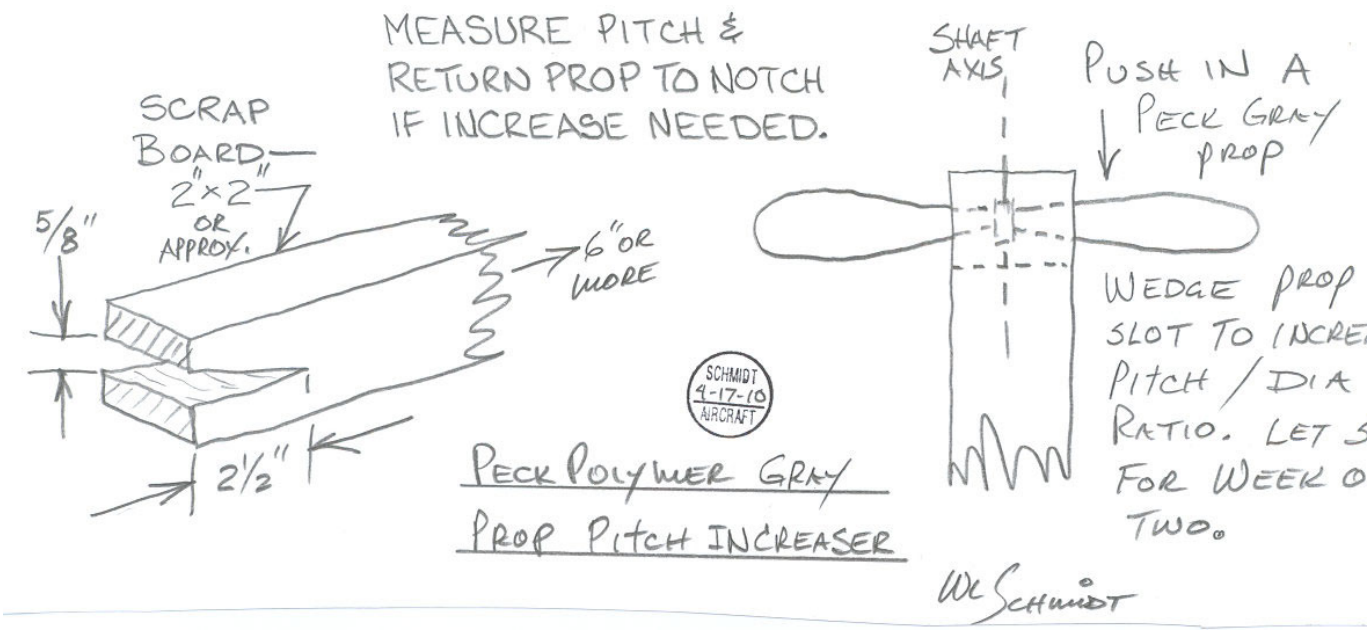
Discussed the upcoming NATS

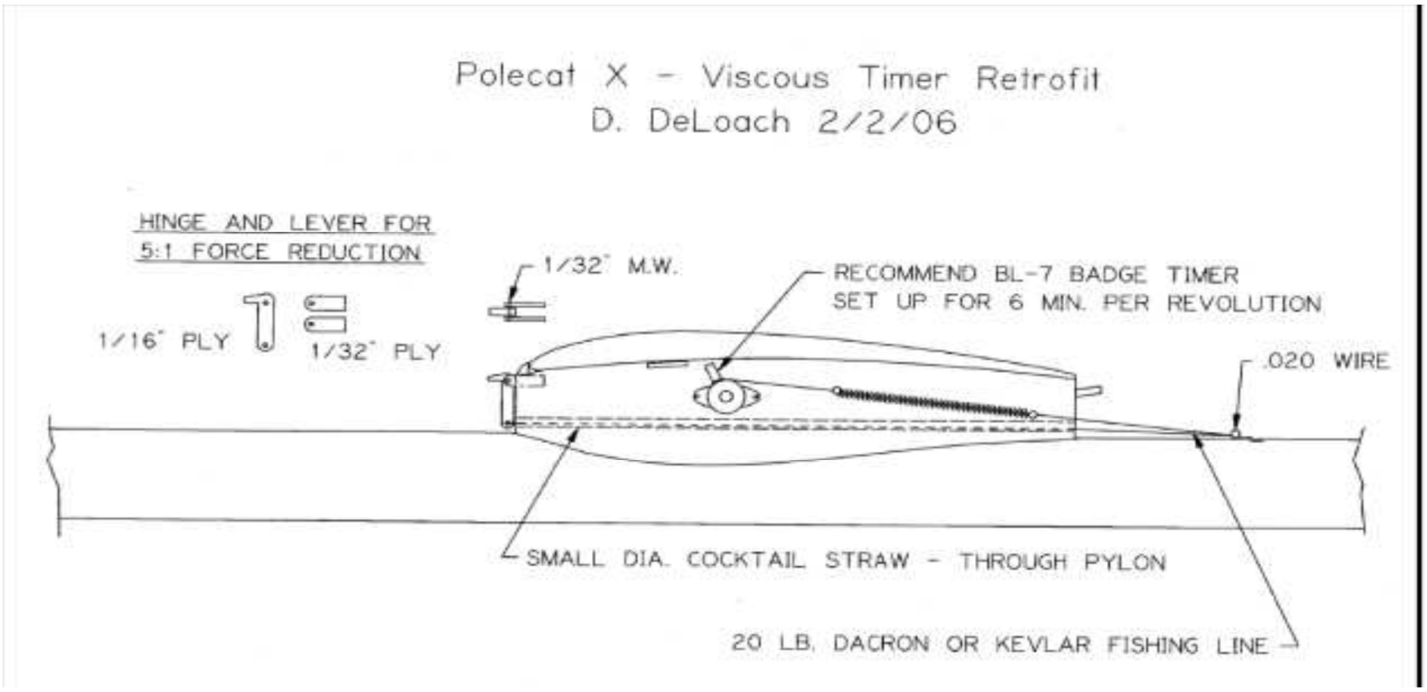
Tulsa Glue Dobbers Sept 12-13 at Marion!

SHOW AND TELL:

Chuck Powell showed his finished Taylorcraft. Bill Schmidt plan and Brodek kit.

Bill Schmidt showed a 120% size Comet Grumman Avenger TBM.





This is a slick wing dethermalizer set-up developed by Don DeLoach. It releases the wing in a straight forward manner. The diagram shows a viscous timer, but a fuse or radio DT could be substituted. The key difference is the use of a straw as a tunnel to run the DT string through the pylon to run the forward lever (rubber band hold).

SAM 56 — Wichita Historical Aircraft Modelers

FLYING ACES — Sunflower Squadron — Wichita, KS

The next SAM 56 Dinner Meeting will be at:

Mediterranean Grill

335 S Towne East Mall Dr., Wichita, KS 67207
(316) 651-5599

Saturday, January 3, 2026

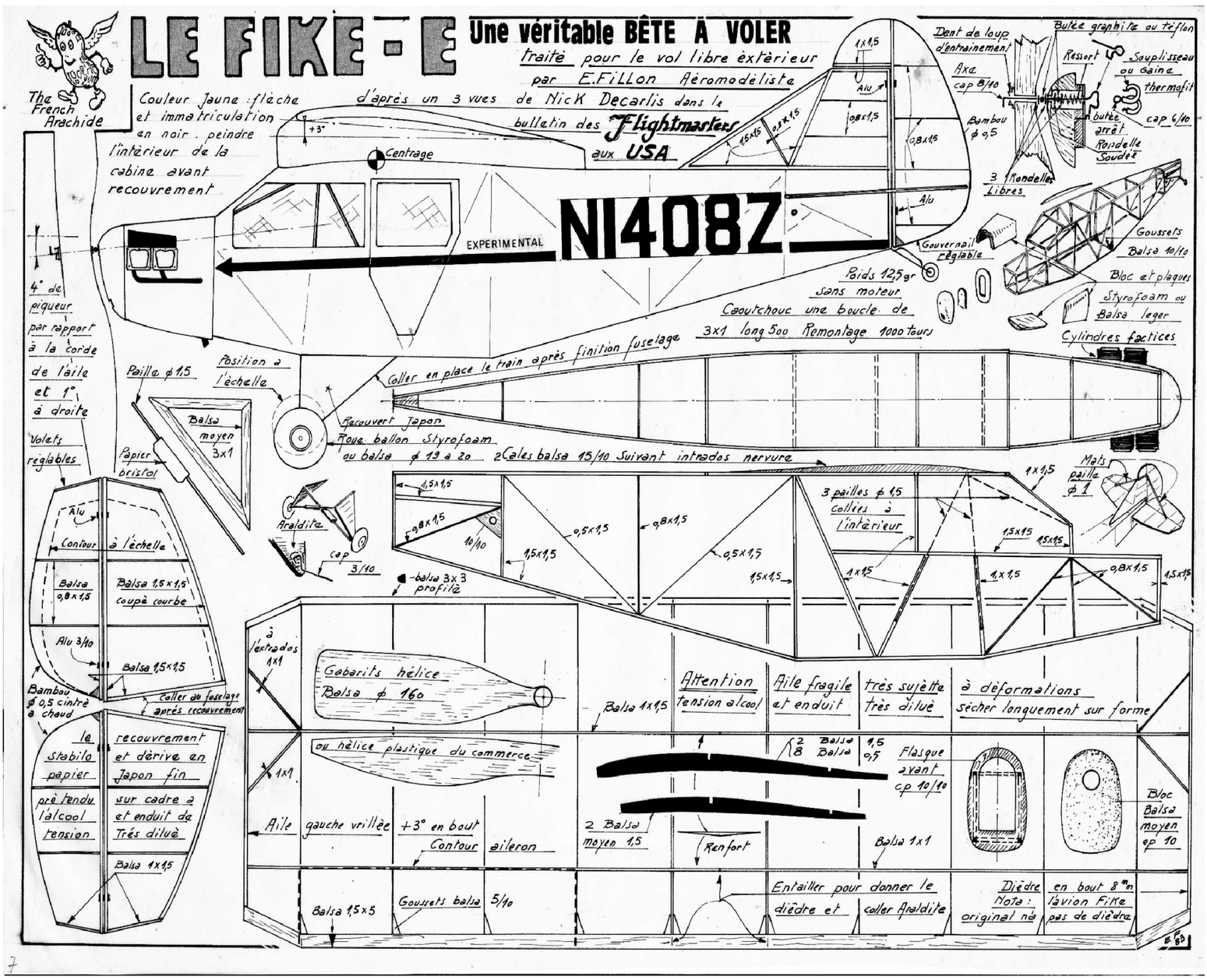
Social Hour @ 6:00 PM, Dinner @ 6:30 PM...

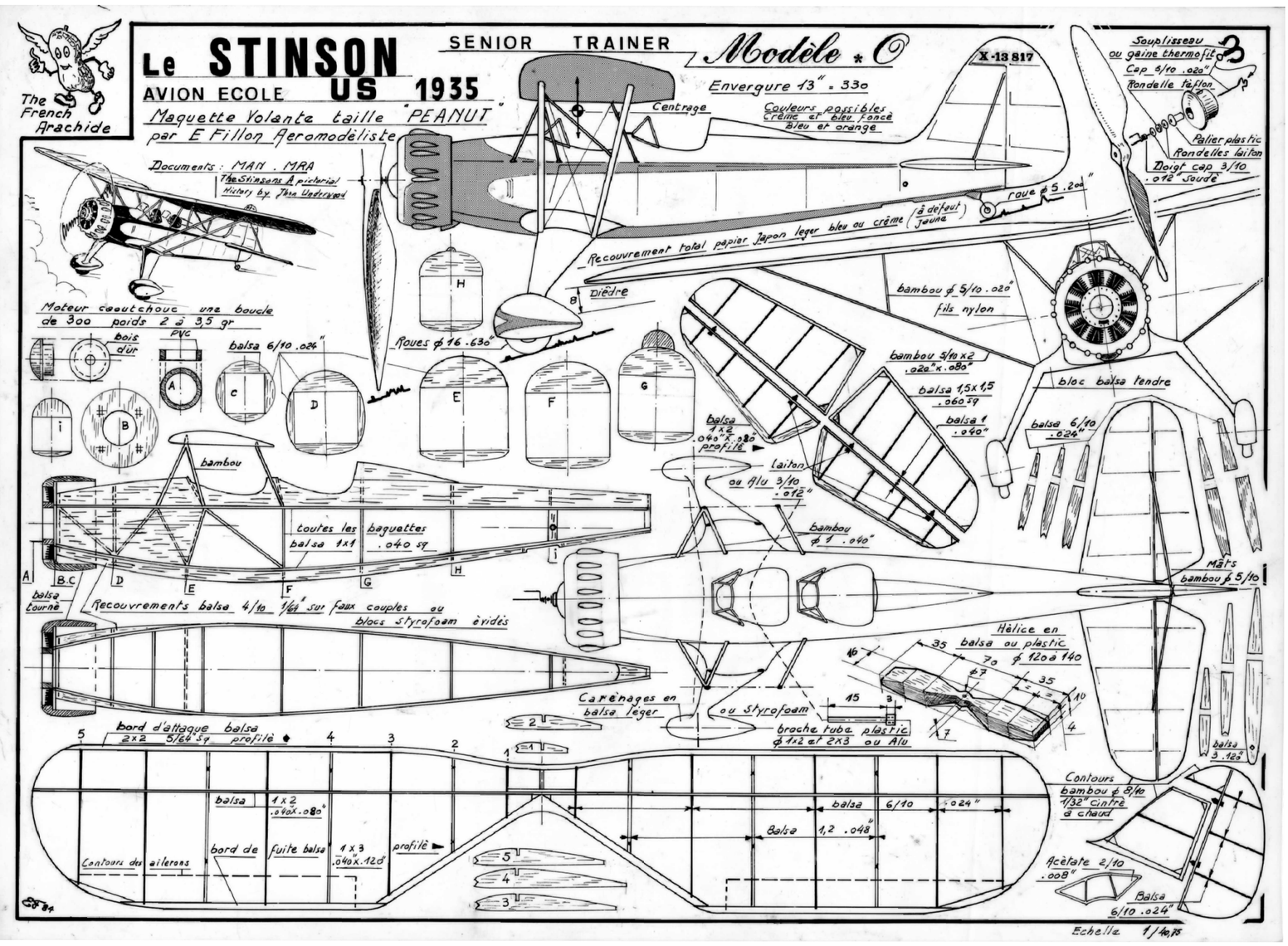
Upcoming events:

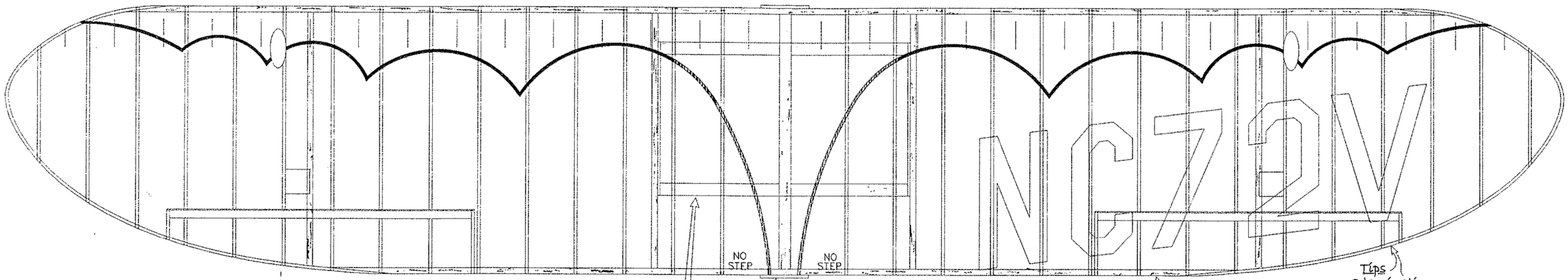
Membership Information:

Open to all interested AMA members, founded to encourage and promote model airplane building.

Member dues $20 annually, Subscription only; $12 annually, $18 foreign


LE FIKE - E
Une véritable BÊTE À VOLER
traité pour le vol libre extérieur
par E.FILLON Aéromodéliste
d'après un 3 vues de Nick Decarlis dans le bulletin des Flightmasters aux USA
The French Arachide
Couleur Jaune : flèche et immatriculation en noir . peindre l'intérieur de la cabine avant recouvrement
Centrage
EXPERIMENTAL
N1408Z
Dent de loup d'entrainement
Butée graphite ou téflon
Ressort
Souplisseau ou Gaine thermofit
Axe cap 8/10
Bambou ϕ 0,5
butée arrêt
cap 6/10
Rondelle Soudée
3 Rondelles Libres
Gouvernail réglable
Gousset Balsa 10/10
Poids 12,5 gr sans moteur
Caoutchouc une boucle de 3x1 long 500 Remontage 1000 tours
Bloc et plaques Styrofoam ou Balsa leger
Cylindres factices
4° de piqueur par rapport à la corde de l'aile et 1° à droite
Volets réglables
Paille ϕ 1,5
Position à l'échelle
Coller en place le train après finition fuselage
Balsa moyen 3x1
Papier bristol
Recouvert Japon
Roue ballon Styrofoam ou balsa ϕ 19 à 20
2 Cales balsa 15/10 Suivant intrados nervure
Mats paille ϕ 1
3 pailles ϕ 1,5 collées à l'intérieur
Araldite
cap 3/10
balsa 3x3 profilé
Contour à l'échelle
Balsa 0,8x1,5
Balsa 1,5x1,5 coupé courbe
Alu 3/10
Balsa 1,5x1,5
Bambou ϕ 0,5 cintré à chaud
Coller au fuselage après recouvrement
le stabilo papier pré tendu l'alcool tension
recouvrement et dérive en Japon fin sur cadre à et enduit de Trés dilué
Balsa 1x1,5
à l'extrados 1x1
Gabarits hélice Balsa ϕ 160
ou hélice plastique du commerce
Attention tension alcool
Aile fragile et enduit
très sujette très dilué
à déformations sécher longuement sur forme
Balsa 1x1,5
2 Balsa 1,5
8 Balsa 0,5
Flasque avant cp 10/10
Bloc Balsa moyen cp 10
Aile gauche vrillée +3° en bout
Contour aileron
2 Balsa moyen 1,5
Renfort
Balsa 1x1
Balsa 1,5x5
Goussets balsa 5/10
Entailler pour donner le dièdre et coller Araldite
Dièdre en bout 8 mm
Nota : l'avion Fike original n'a pas de dièdre


Le STINSON
SENIOR TRAINER
Modèle * C
AVION ECOLE US 1935
Maquette Volante taille "PEANUT"
par E Fillon Aeromodéliste
The French Arachide
Envergure 13" . 330
X-13 817
Centrage
Couleurs possibles Crème et bleu foncé Bleu et orange
Documents : MAN . MRA
The Stinsons A pictorial History by John Underwood
Souplisseau ou gaine thermofit
Cap 6/10 .020"
Rondelle téflon
Palier plastic
Rondelles laiton
Doigt cap 3/10 .012" Soudé
roue ϕ 5 .200"
Recouvrement total papier Japon leger bleu ou crème (à défaut Jaune)
Dièdre
bambou ϕ 5/10 .020" fils nylon
Moteur caoutchouc une boucle de 300 poids 2 à 3,5 gr
bois dur
PVC
balsa 6/10 .024"
Roues ϕ 16 .630"
bambou 5/10 x 2 .020" x .080"
balsa 1,5x1,5 .060 sq
balsa 1 .040"
bloc balsa tendre
balsa 6/10 .024"
balsa 1x2 .040" x .080" profilé
Laiton ou Alu 3/10 .012"
bambou
toutes les baguettes balsa 1x1 .040 sq
bambou ϕ 1 .040"
Mâts bambou ϕ 5/10
balsa tourné
Recouvrements balsa 4/10 1/64" sur faux couples ou blocs Styrofoam évidés
Hélice en balsa ou plastic ϕ 120 à 140
Carénages en balsa leger
ou Styrofoam
broche tube plastic ϕ 1x2 et 2x3 ou Alu
bord d'attaque balsa 2x2 5/64 sq profilé
balsa 1x2 .040x.080"
balsa 6/10 .024"
Balsa 1,2 .048"
bord de fuite balsa 1x3 .040x.120" profilé
Contours des ailerons
Contours bambou ϕ 8/10 1/32" cintré à chaud
Acétate 2/10 .008"
Balsa 6/10 .024"
Echelle 1/40,75



L.G. Braces
1/16" x 1/8" Balsa

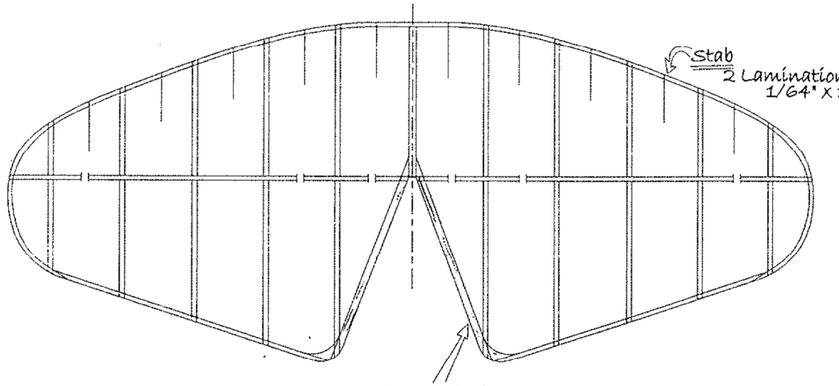
Dihedral Braces
1/32" Bass

1/16" sq. Sliced Rib--
Airfoil: Sprungbatten 3406

Wing L.E. & T.E.
1/16" Balsa
Dihedral 1-1/4" per side

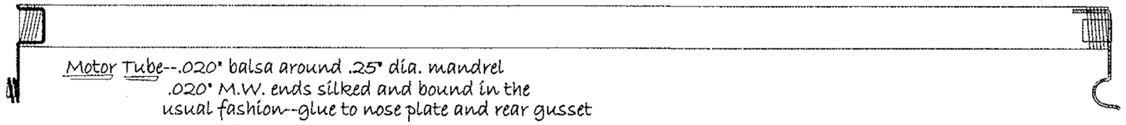
Tips
2 laminations
1/64" x 1/32" Bass

Stab
2 Laminations
1/64" x 1/32" Bass



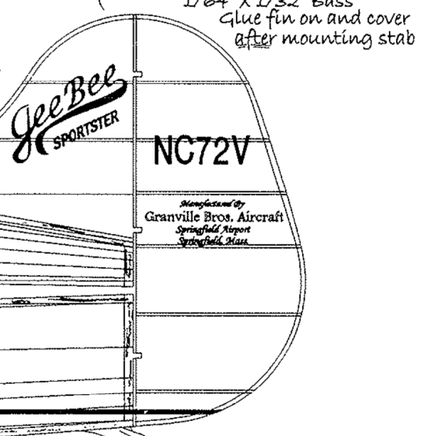
1/32" sq. Balsa



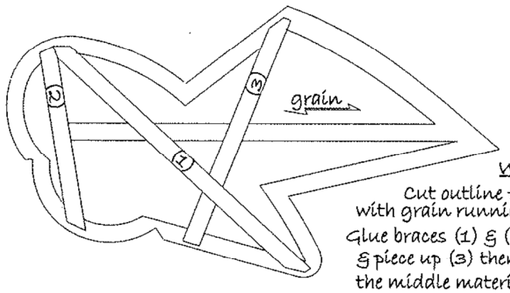


Motor Tube--.020" balsa around .25" dia. mandrel
.020" M.W. ends silked and bound in the
usual fashion--glue to nose plate and rear gusset
at the odd angle shown.
I used a plastic prop from one of those indoor Czech 'Flies;
easy to replace. 3 deg. down, 3 deg. right thrust.

Fin-- 2 Laminations
1/64" x 1/32" Bass
Glue fin on and cover
after mounting stab



All fuselage framing 1/16" sq. and
sheet balsa; sheet cockpit area,
above and below wing, and
nose to rear of cowl.



Wheel Pants:
Cut outline from .020" bass
with grain running as shown.
Glue braces (1) & (2) down
& piece up (3) then cut away
the middle material.

My Plane is green on yellow Esaki
per Professor Fate's comments in Sept/Oct 99 FAC News;
lettering, cheat line, and registration numbers black.
Wire and brace points are shown on the drawing;
the plane flies well without them. However, as this
model is meant to raise smiles more than to battle
Mr. Smoothie, it might be fun to include them.
A small twig of a panic brace, running from
the fuse to the right wing T.E., was necessary
to control flopping about.

Cowl and mechanical details
1/64" bass, horiz. grain, tissue covered,
glued to nose plate with a strip of black
condenser paper (my NoCal equivalent
of FAC-requisite dummy radial engine)

NoCal JeeBee Mod. E

Des. & Dr. Michael J. Heinrich
After Bob Hirsch & Rocky Russo
Thanx to Flying Aces

12/99MJH

1930 FAIRCHILD KR-21
KREIDER-REISNER DIVISION

HAL SWANSON'S MODERNISTIC MODELS

FLYING MODELS

SHOULD HAVE 3° INCIDENCE IN UPPER WING UNDER LEADING EDGE. 3° RIGHT & DOWN THRUST

ALL RIBS 1/32"SHT.

1/32"SHT.

SOFT BALSA HEAD REST

1/32 "X1/16" STRINGERS

1/32"SHT. SIDE STRINGERS (2 REQ'D.)

BP

ALL FORMERS 1/32"SHT.

FLYING WIRES COLORED THREAD

LIGHT CELLULOID

1/16"SQ. STRINGER

1/16"SQ.

1/16"SHT.

1/32" SHT. "C" GRAIN BALSA

WIRE HINGE

.035 DIA. WIRE SKID

SOFT BALSA BLOCK

3/32"SHT.

1/16"SHT.

1/32 "SHT.

1/16"SQ. STRINGER

1" DIA. WHEELS

HANNAN GRAPHICS
MARLOW ENGR.
WILLIAMS BROS.
(ALL HAVE THIS SIZE IN STOCK)

1/32" SHT. "C" GRAIN BALSA

WIRE HINGE

1/8" SQ.L.E.

WING STRUT LOC.

1/16"SQ. SPARS

1/16"SHT. TIP

WIRE HINGE

AILERON ROD LOC.

AILERON 3/16"SHT

1/8"X1/16" T.E.

1/16"SHT.

FILL IN WITH 1/16"SHT.

1/32"SHT.

1/8"X1/16" T.E.

DIHEDRAL

11/32

5/16

WIRE AILERON ROD

1/16"X1/8" STRUT

COLOR

ANY COLOR THE MODELER PREFERS

5 CYL. KINNER K5 RADIAL ENGINE CAN BE MADE BY USING 3/4" SCALE CYL. FROM HANNAN GRAPHICS OR WILLIAMS BROS. & SCRAP BALSA.

.035 DIA. WIRE L.G.

3/8" NOSE PLUG

HANNAN GRAPHICS OR WILLIAMS BROS.

5" DIA. PROP.

WILLIAMS BROS. 5-1/2" CUT DOWN TO 5"

HAWKER SIDDELEY HARRIER

Designed By P.A.Shepherd

