



# MAX FAX

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

2020-2





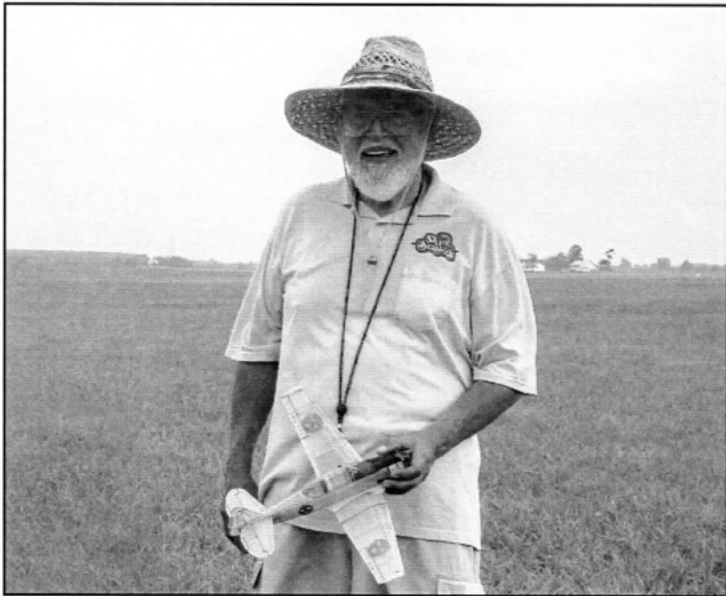
John Houck's flying style was as easy as his manner (top). Photo by Tom Hallman. Above, John lets fly his SE5 peanut in the 2017 Non Nats WWI Peanut Mass Launch. At left, John pauses for the camera. We're gonna miss that smile....bottom photos by Clive Gamble.

## **MAXFAX 2020-2**

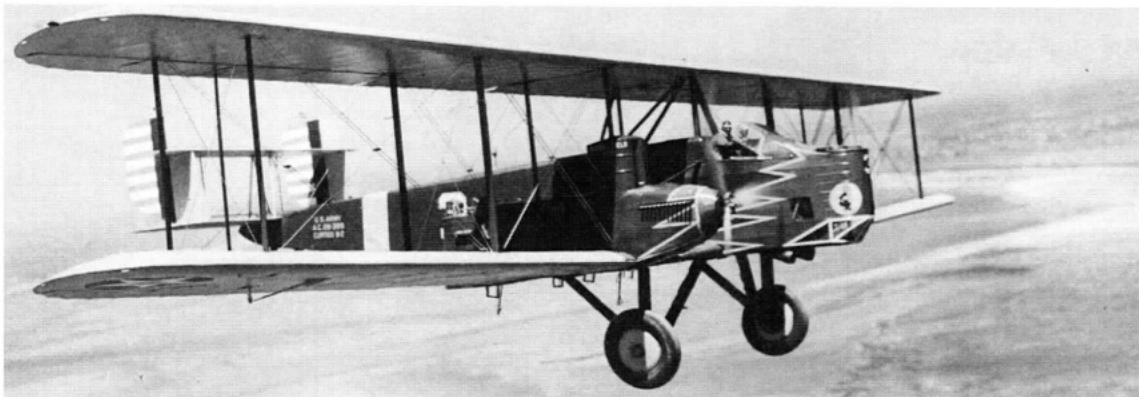
### **John Houck Sr.--Gone West**

For decades, John Houck Sr. and his family have been fixtures at all the legendary East Coast FF venues. If you were blessed to have been a part of the annual fall Wawayanda contests, you'll recognize the Houcks as one of the kindest, most engaged and most inspiring FAC families ever. No matter the weather, you'd find three generations of family at the field, all involved in one way or another, all having a great time....with Big John at the head of the parade. It is difficult to imagine it any other way.

Our hearts, thoughts and prayers go out to Louise and all the family.



John's orders were to "Keep 'em flying" ...so we'll honor that, and carry on. **Stew Meyers** doesn't have enough to do editing the FACNL, so he contributed a neat reworking of the old Comet Tiger Moth design. We print both here, so you can compare 'em and decide which floats your feathers. He also inspired ME to take a fresh look at my FAC Peanut Scale Nieuport 28 design. The result is not one but TWO new plans. The pared-down, Neo-Dimer version appears in this issue; Stew will run the "Not-A-Dimer" version in the upcoming FACNL. Elsewhere, **Wally Farrell** gives away all his Mass Launch secrets, while **Octavian Aldea** wrote up a neat primer on flaring tubing ends. **Tom Hallman** shares a rare National Model Supply plan for the Curtiss B2 Condor with us. The usual odd stuff fills out the issue. Enjoy... Dm



A Curtiss B2 Condor (Model 52) of the Army Air Corps 11th Bomber Squadron. Beginning in 1929, thirteen B-2s were built, as well as six civilian passenger versions (Model 53). Of these six, three were converted Model 52s, for a grand total of 16 "variations on the theme". Regardless of the theme, by 1934 all 16 had been relegated to the dustbin of history. But *we* still love 'em.

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

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Your mailing label indicates the year and month of the last issue of your current membership. An "X" in the box below your address is a reminder that your dues are due.

### **ONGOING EVENTS**

#### **2020 FAC MINI-NATS POSTAL CONTEST**

July 4-July 31

See FACNL #313 for the rules, or check the FAC Website

Dave has asked me to write a few words on participating in mass launches, which are my favorite events and a great source of fun. The rules are set up to make it possible for any good flying plane to take a win. There is just nothing better than to be in a mass launch where the planes stay in a pack and circle overhead--you can't do that by yourself! Let's review some strategy and tactics.

**Practice and preparation-** I love to fly and I try to fly once a week at least when weather permits. Practicing with your planes helps you refine your launch and solidify your plane's trim settings. I try to trim my planes to fly straight out of my hand without any required banking to either side. I simply can't remember that level of detail on the flight line. When trimming, too tight a turn might keep you on the field but it will cost you altitude. A good glide is critical. It will often take me a full season to get a plane flying optimally. Build a lot of planes and spend time trimming them. Collaborate at the field. A second set of eyes on the flight pattern is invaluable.

Before the meet I make and install new motors in all my planes. The motors get washed, tied, lubed and put into the planes. It is surprisingly time consuming. I do this out of respect for the competition and to preserve my sanity. I drive long distances to enter meets. I don't want a bunch of old broken motors to wreck the fun.

**Participate-** Enter as many mass launch events as you can. In terms of strategy and tactics tactics this is a bit obvious, right? I go to a meet with enough planes to enter all the mass launches. Deal me in. It is routine for fliers to wish each other good luck before the launch. This is the FAC, it is fun, not a cutthroat competition.

**Launching-** When launching your plane, your hand should be at eye level or above as the plane is released. You don't want to follow through like you are throwing a fastball and you don't want to retract your hand or pull it back. You should get a friend to take a couple of pictures of your launches to reinforce to you that you have a good form. On the flightline you have to really be careful not to do an adrenaline launch. Don't push the plane too hard. You want the plane to leave your hand at its flying speed. Timing is critical, letting go too late will often result in a dork, push too hard and you are likely to stall.

**Placement on the line-** Eventually your plane is going to turn left or right so you want to make sure that you're not going to come across the line and be a target for a mid-air collision. Likewise if one end of the line is going to be facing canopies or trees and the other end of the line is in the open you want to go to the open placement. No sense in launching in to more turbulence that you have to.

**Motors and props-** This is a possible FAC PhD thesis I think, but we will keep it short here. I run props that are 33 to 40 percent of the wing span, usually with more pitch twisted in. My motors are 3 to 4 times the prop to hook length. To run long motors, you need to have a Stott peg at the back, a reverse S hook at the front, and a nice clean interior so the motor won't get hung up.

**Winding-** You should gradually increase the number of turns as you progress in the heats of the mass launch. Don't start out by winding your plane all the way up. You're just wasting energy that you're going to need for the later heats when the competition is stiffer. I usually wind to torque, but whether you use turns or torque, you want to go up progressively from say 80% to 90% then 100% of your practiced values. Don't exceed the number of turns or torque that you have gone to in practice. That's just a recipe for disaster.

**Be ready to make adjustments -** Go to the flightline with some clay and either some shims or an adjustment tool for your nose block. I strongly endorse the use of the Gizmo Geezer nose button. Sometimes conditions make your plane behave in ways that you didn't quite expect and you have to make adjustments on the move. Now, you have to be careful because the FAC rules do not allow test gliding in between heats, or repairs, but you *can* change the ballast or the thrust settings if the conditions require it.

The ethics of the FAC have always been that we help each other. I have been the recipient of a great deal of good advice from my fellow flyers and I hope that this information will encourage you to participate in the mass launches. They are a great venue for combining luck and skill. I hope to see you out there!

-WF

*(Editor's note: Perhaps you haven't noticed it, but at press time Wally is currently one Kanone away from tying the late, great Gordon Roberts for the all-time FAC Kanone lead. Wally composed this strategic review for me a while back, before the coronavirus pandemic hit. The resulting shutdown may have put his historic march on ice for the time being, but we trust that the smoldering fire of his gentlemanly ambition will melt all obstacles, and he will ultimately prevail.)*

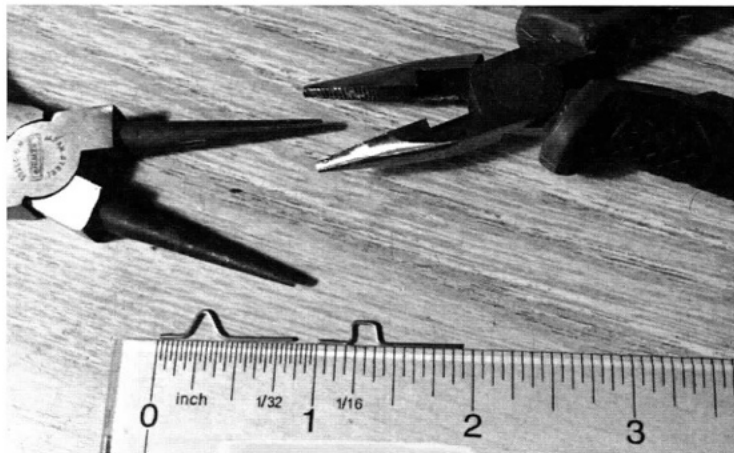
## FLARED TUBING ENDS

**Octavian Aldea** came up with this neat tutorial for making flared ends on small diameter tubing. Mastering this technique will certainly help you to make tidy wheel retainers, and it \*might\* make you highly sought after in the CO2 motor community... -Ed.

### How to do it:

1- Bend 2 music wires of 1/32" diameter as shown. The important thing is the angle of the first bend at the shorter end. Also the 2 ends have to be more or less aligned (as shown along the edge of the ruler) to avoid excessive wobbling.

The first wire is bent at about 45-60 deg (use round nose pliers for first bend); the 2nd wire is bent at about 90 deg.



I also deburr the shorter end that will go inside the tube. In my mind, this helps to prevent cratching the inside of the tube wall, thus minimizing weak points that might form into cracks during the flaring process.

2- Clamp the 1/32 ID (3/64 OD) tube in the vise with 2 popsicle sticks or some hardish wood (balsa is too soft).

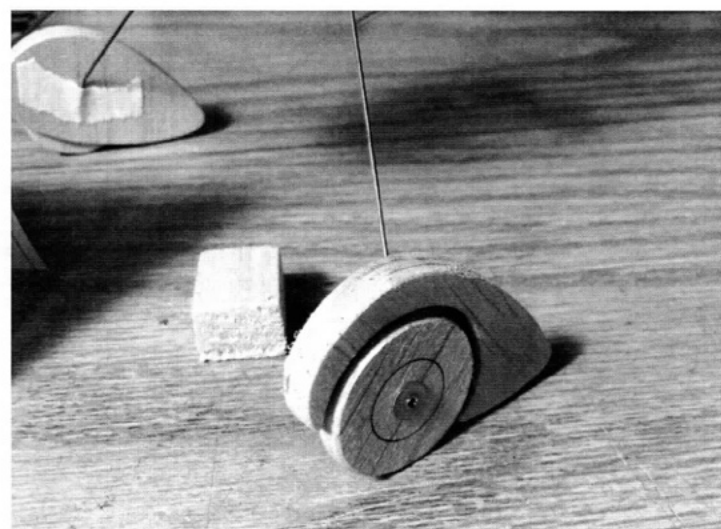
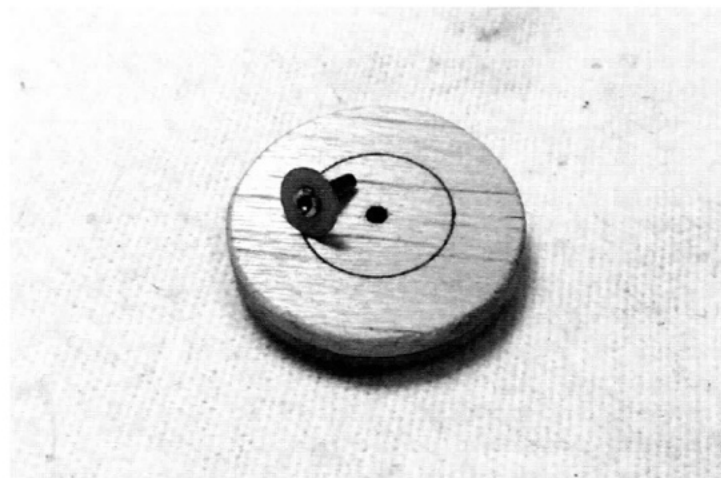
3- Insert the 45deg wire in the tube end and rotate at low speed using an electric drill. Use moderate pressure. The tube end will widen at about 45-60 deg angle.

A tiny drop of oil seems to help reduce cracking risk and wear on the tube.

4- Now, using the 90deg wire, repeat step 3 to flatten the flange.



5- Cut tube to desired length and add a washer if needed to increase flange surface; wash off oil the best you can from the inside inside of the tubing, maybe with an acetone soaked sewing thread (I didn't try that yet though).



It's about as hard to as it looks :-). I did 4 flanged tubes of which 1 cracked, but was still usable.

This idea was developed/stolen from a short how to by **George Kandylakis**, posted on a Facebook page on CO2 motors for model aeroplanes.

-Octavian

*Ed. note for CO2 fans---*There are a couple of interesting developments on CO2 in the online world. If you do Facebook, search for **CO2 Motors For Model Airplanes**. This is the page run by George Kandylakis that Octavian mentions above. Great tips and techniques for maintaining CO2 motors! Also, typing in **CO2 model flying** in Facebook will get you to a page run by "Buz". Buz sells miscellaneous CO2 parts on eBay, seems to know his stuff, and has a good supply of \*some\* of the bits and pieces needed to keep these little gems running. You can get a catalog of his parts by e-mailing him at [co2@buztruckindustries.com](mailto:co2@buztruckindustries.com). He **also** writes a CO2-centric blog at: <https://co2mfnx.blogspot.com>

Hopefully, I'll have more on these promising developments later...

# NIEUPORT 28 NEO DIMER

Two model airplanes dominated my mind as a youth; the **Guillows Fokker DR1** and the **Guillows Nieuport 28**. Well-supplied with kits by my modeling father, I built at least three of the DR1s, all wet-powered .020 screamers. I loved their solid, compact form and their bulldog stance. Unfortunately, whether guided by my trembling hand at an Ace pulse radio transmitter or free-flight, their career trajectories were all the same: a prolonged, fastidious and prideful build, followed by a violent, stunningly quick and psychologically damaging re-kitting. I have not built a DR1 of any sort since my last one left a smoking hole in the earth some 45 years ago. **Stew Meyers** gifted me the exquisite 48" VK Triplane kit many years ago, back when I was still attempting to fly R/C. Perhaps he was trying to help me address my mental block? I pull it out every now and then, dream of replacing all the spruce with 6# balsa and converting it to rubber, and then wrap it back up...someday...someday....maybe.

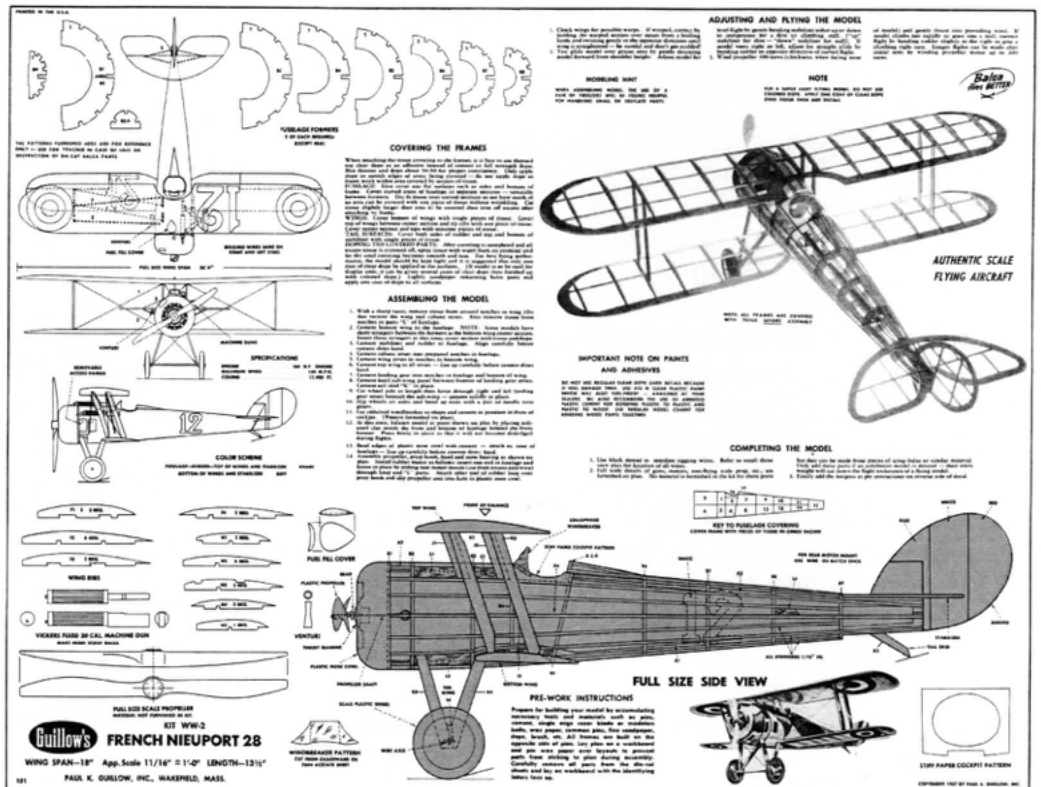
The N28, on the other hand, was the anti-DR1: streamlined to a tee, elegant, neat...and something about that kit fastened itself upon my neurons and refused to let go. I remember thinking even then how clean this classic plan was, but in truth it was the massive plastic cowl dominating the kit parts that set the hook and made my heart leap. Guillows was always generous with the vacu-formed plastic bits, but this was something else entirely, a shiny, bright red injection molded hunk of hard plastic. To a kid as yet unfamiliar with the pursuit of lightness, it screamed "quality". It must have weighed three ounces all by itself. However, I soon realized that unless I was willing and able to do some serious surgery on that prized object so that it might accept an .020, the cowl marked the Guillows N28 as a rubber-centric design--and a very poor one at that.

Sawing out the molded Gnome rotary to create a removable nose-plate was well beyond my skill set at the time. A young boy was left with few options other than to try and thread a woefully inadequate rubber motor through the nose-button hole, and be content with yard hops for flying. And so, perversely, for all the allure of that kit--not to mention the aircraft itself--I built it but once, and I don't think I ever tried to fly it. It was a hangar queen, doomed to some ignominious fate that I can't remember, but one which probably involved firecrackers and other tools of destruction. My dreams of watching it whistle gracefully through the air remained unfulfilled.

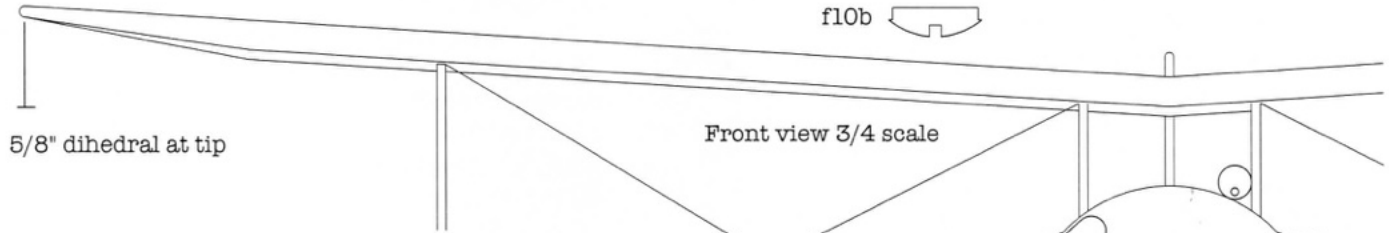
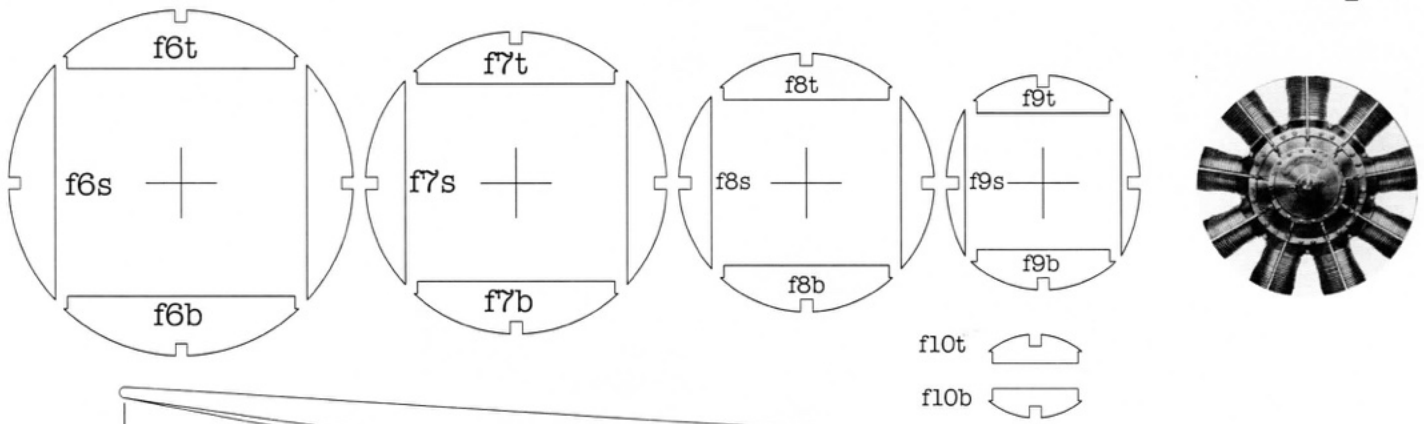
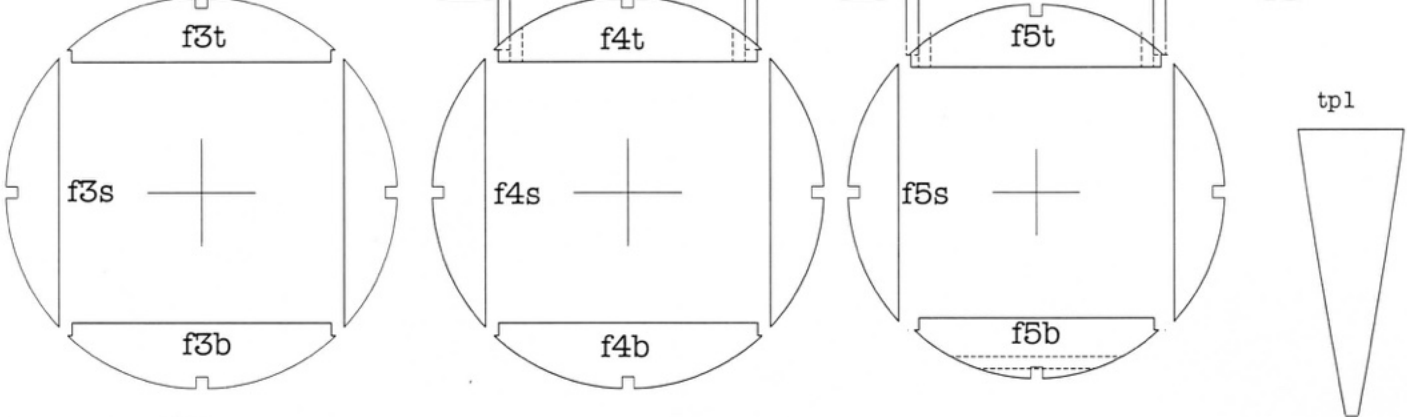
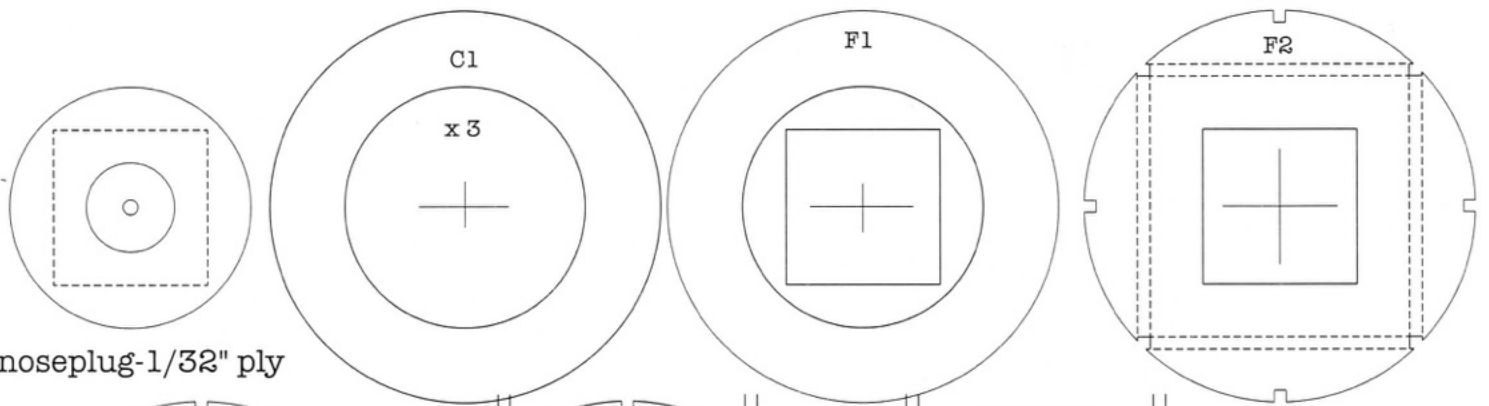
I finally attempted to address that void a few years back with a Peanut design, inspired by my friendship with **Bill Hadden**, who was (and still is) building a full-scale version

with **Mike Dale** and **Tom Woodburn**. Following their intent, I gave it the markings of the aircraft flown by Lt. William E. Brotherton of the 147th Aero Squadron. I went deep down the rabbit hole, and did it up proper indeed as an FAC Peanut Scale job. It's a very pretty model, if I do say so myself, but as a peanut it is just a touch..fiddly. I've had to work hard to get it to fly 30 seconds consistently, and while it has shown glimmers of real potential, it had to be built very lightly indeed to have any hope of making like a bird. We shall see if it survives being sorted out.

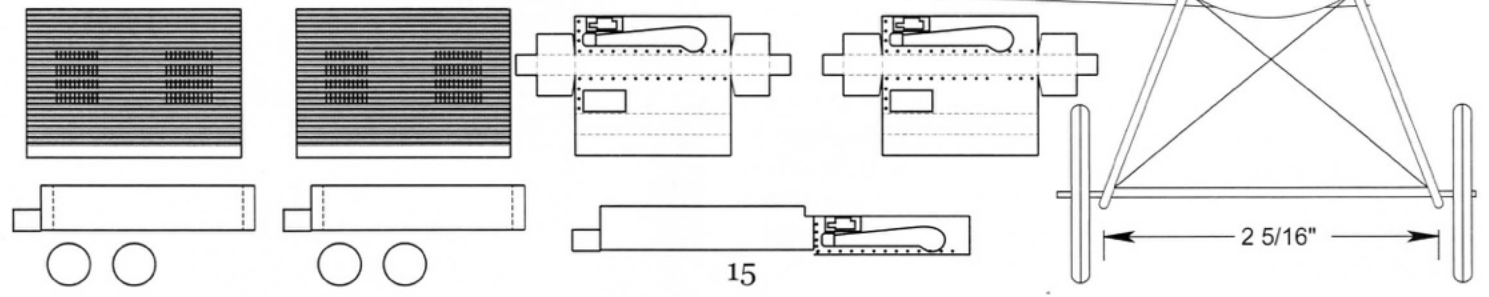
Anyway, when Stew suggested a Neo dimer version, I thought "why not?" and got to work. At first blush I figured I'd just scale the peanut design up to 16" and leave it at that. But in short order, I realized there was too much structure in that peanut design for it to serve as a proper Dime Scale standard bearer, so I set about creating two plans: one, a proper Neo Dimer, the other, a Not-A-Dimer. THAT took up a lot of time, which is why you're getting this issue later than I promised in the last issue....both are 16"; I gave the



Not-A-Dimer to Stew for the FACNL, and kept the Neo Dimer for this issue. Trying to maintain the Dimer ethos meant sucking a lot of wood out of the structure. I went with a classic box design rather than full formers, simplified the rear fuselage a bit, made some concessions to the pronounced roundness of the cowl, and gave it a bit more dihedral than I allowed myself on the Peanut. If you're an N.28 purist, you may want to build the Not-A-Dimer version, in particular because I kept the fuselage stringers to a bare minimum on the Neo Dimer, trying to get the flavor without the calories. I haven't built it yet, but at least on paper, I'm pleasantly surprised at how...reasonable the thing looks at this size. Maybe my dreams will be realized after all....how about yours?



**NIEUPORT 28 16" Neo Dime Scale**



# Building the Comet Dime Tiger Moth

Stew Meyers

These old Comet Dimers have a simplified design that presents some structural problems. I try to build as closely to the original design as possible with a few reinforcements which will result in a model that will survive many flights. I have redrawn the original plan and supplied separate details of the mods. I also have recreated the printwood sheet. I have restrained my self from trying to make it any more scale.

In the past 83 years the plans for this model have been reproduced many times. The plans currently available on line are the same as the ones I collected forty years ago. The wing span is slightly over the magical 16" enshrined by the FAC. at 16.25". This sent me off to measure my other Comet Dimers; all are just 16" span. So I have redrawn it to this restraint.

The Comet Dimer Tiger Moth is one of the original dimers that had a single surface wing. This presents a problem, if built exactly to plan, as the spar is on the bottom of the rib and there is a space between it and the surface covering that promotes drag. Moving the spar to the top side of the rib will greatly reduce this.

The plans says to add the spar after the wing is built. This still holds true if we put the spar on top. Build the outer panels without the spar. Pin the spar down and glue the outer ribs over it before adding the dihedral. This reduces the probability that you will split the rib. If you omit the under camber on the ribs that doesn't contribute much to weight deduction you can skip this step and add the spar as you normally would. Might as well then, cover the bottom of the wing as well. The slight weight gain is off set by drag reduction. I do this about half the time and don't notice much difference in performance.

The center ribs are modified from those shown on the plan by removing the under chamber to reinforce them when we glue the spar in place. Assembling the lower wing panels is straight forward. Jig the center rib perpendicular to the plan and elevate the outer panel 1/2". Glue the center rib in place. Trim the spar flush. The upper wing assembly is only slightly more complicated. Again jig the center most rib "B" perpendicular to the plan and elevate the outer panel 1/2". Glue the rib in place. Do not trim the spars flush. Make the upper wing center section box with ribs "A".

Fit the outer sections in place, but don't glue them yet. It will be much easier to cover the outer sections with tissue before they are assembled to the center section. After they are covered jig them up and glue them to the center. The spars extend into this to lock the dihedral. Add a shim to fill the spar slot and cover the center section with bond paper.

I use tabs on the end of struts to mount them to the wings and fuselage. The Tiger Moth has cabanes that are vertical which makes alignment much easier than if they were splayed. The simplest approach is to simply glue the tab on the inside of the strut, but I prefer to saw a small slit in the end for the tab. Light card stock works well for this. Easy Built Easy Hinge material is even better. This tab reinforces the ends of the strut so we can drill a small hole in them for

rigging attach. Small doublers with a slot are provided at all strut attach points for these tabs. To install the cabanes, simply lay the fuselage down on the plan and glue the cabanes in place. Do this after the fuselage is covered.

The lower wing attach is a bit more complicated. Simply butt gluing the root rib to the fuselage is not only weak, but hard to align. I use staple wire pins. It's important to use soft iron. If you use hard music wire and it prangs you will never get the correct angle bent in again.

The key here is to have some tubes for the staple wire joiners to plug into. Staple wire is about 0.018in dia. One way is to form a tissue paper tube around a piece of 0.20 music wire. I like to use Tite-Bond here. Make it 1.5" long to span the fuselage. However, now that Special Shapes has #05035 (TT-61) brass tubing, which is 1/32 od. with a .005 wall which makes the id. 0.020, I use it. When I have made the fuselage sides, I match drill their locations with a 1/32 drill. After assembly, check the holes with a piece of 1/32 MW and install half an inch of tube. Run a piece 1/16 sq. along them as a reinforcement. Wrap with dryer sheet. For those concerned about weight these tubes weigh only 1/10th of a gram.

Add a straight section of staple wire at the inner apex of the leading edge. Bond it in with a small patch of dryer sheet and cyano. Add the forward gusset. Plug this into the LE tube. Run a sharpened piece of 0.020 mw through the TE tube to locate the rear wire position in the root rib when you are happy with the angle of attack. Remove the wing and add a 90 degree section of staple wire in the hole. Bond it to the rib with a small patch of dryer sheet and cyano. Repeat on the opposite side. Now you can cover the lower wing panels.

I have added an upright and former to provide support for the forward cabane. Build the fuselage sides, using line up formers at F4 and F6. Add the balsa sheet sections to the nose sides and bottom. At this point fit up the cabanes, lower wing, and undercarriage. Slits are made in the fuselage longerons to accommodate the tabs on the ends of these items.

A word here about all the struts on this model. The plans show 1/16 square everywhere. Obviously an economic consideration. Use your Guillows grade timber here. I go a step further and have upped them all to 1/16 x 3/32. The tabs I use on the ends provide a handle to hold them when painting.

The slits for the tabs on the struts are made with a Zona saw and enlarged with a strip of sandpaper to fit the tabs. Thin cyano is used to attach theme to the strut. I use a solvent based cement to glue the tab into the structure--you may want to remove it at some time. The slots to accommodate the tabs are made with a #11 scalpel or X-acto blade. I fit up everything before I covered the model.

The landing gear is fairly complicated and no true lengths are shown on the Comet plan. The bent pin axle shown is problematic, being prone to twist out and weakens the strut it is attached to. Since the print wood sheet is missing, it's unclear what the wheel originally was. Early on these were probably sheet balsa disks, later kits had hardwood wheels. In the past, I have often used Peck Polymer wheels, but have decided to use foam disks this time.

I show true lengths for all struts. The rear struts are



made in two triangular halves and joined with a tab at the center and then as an assembly attached to the longerons with tabs. Not scale, but it fits the plans. Attach it to the fuselage with tabs. The drag strut attaches with tabs on both ends. The bent pin is replaced with a 0.020 music wire "Vee" axle that is glued and bound to the bottom of the struts. The ends have a piece of TT-61 tubing over the hub end to provide a 1/32 od axle. Build and fit up this assembly before covering or attaching cabanes.

The original plans show black and white insignia to cut out and glue to the plane. Of course, I have made color tissue-cals to replace these. The bogus color scheme called for an orange fuselage and yellow wings and tail. I went for yellow over all with wing struts left natural wood. Due to the single stringer on top, I covered the entire center section top with vellum in lieu of the bond paper usually called out. If I had covered the lower surfaces I would have added the side numbers to the bottom wing. I have found I can coat these single surfaces with light coat of low shrink dope with little warping.

I moved the rear peg forward one bay and went with a removable nose block with a Peck thrust bearing. This type of model makes a great gym flyer so I went with a Peck 5.5" North Pacific prop in lieu of the 4" machine cut prop called out on the plans. A loop of 3/32 ought to do the job.

Outside I would go with a lager prop and more rubber.

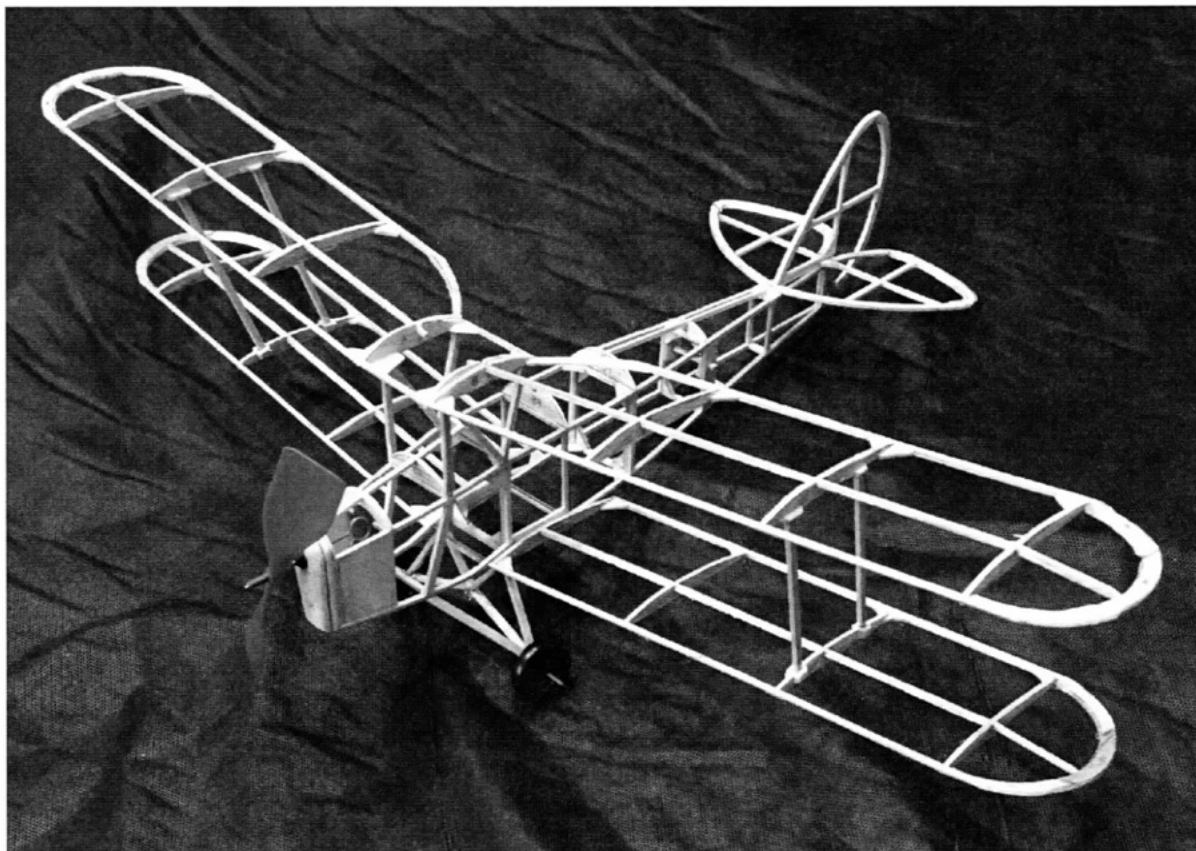
The prototype bones weigh 11 grams with everything but the stab struts and rigging. I predict 15 grams all up. Speaking of rigging, this is easily done with one 30 " loop on each side. Start from a rear cabane to the lower end of the rear interplane across to the upper end of the forward interplane back to the fuselage rigging point and up to the upper end of the rear interplane and down to the bottom of the forward strut and back to the forward cabane.

I have trouble drawing a straight line or circle without using a guide. For circles I use a template or a compass, for lines a straight edge. When I go to cut balsa print wood, I have the same problems. For small circles I use sharpened brass tubing, for larger ones a circle cutter; and a steel straight edge for linear cuts. For an outside circle one can cut outside the lines and sand to finish it. For an inside circle (hole) this doesn't work for me. A case in point is the nose former for the Tiger moth in this issue. You want the

nose block to be a tight fit in this to control the thrust line. I use a sharpened brass tube to cut the top of the hole and cut the rectangular bottom with a straight edge. The circular blanks removed can be cut in half and used to make the plug with a rectangular piece. This proved to be a nice fit for me. You can make it snugger by gluing on a layer of tissue.

Now when it comes to making foam wheels, there is a problem. The foam is too soft to act as a bearing for the axle. Gluing in a 1/16th dia. Tube still doesn't provide enough bearing area. A 3/16 or 1/4 dia hub would do. I make this from a wooden dowel with a 1/32 hole drilled in the center.

Getting this concentric with the wheel is a problem. If you cut the wheel with a circle cutter, you can get a nice round wheel. But it is hard to accurately locate the center to



cut with a sharpened brass tube.

If we modify the process and glue the hub in place before we cut the foam wheel and use the hole in the hub for the circle cutter we end up with wheel that is concentric to the hole in the hub for the axle.

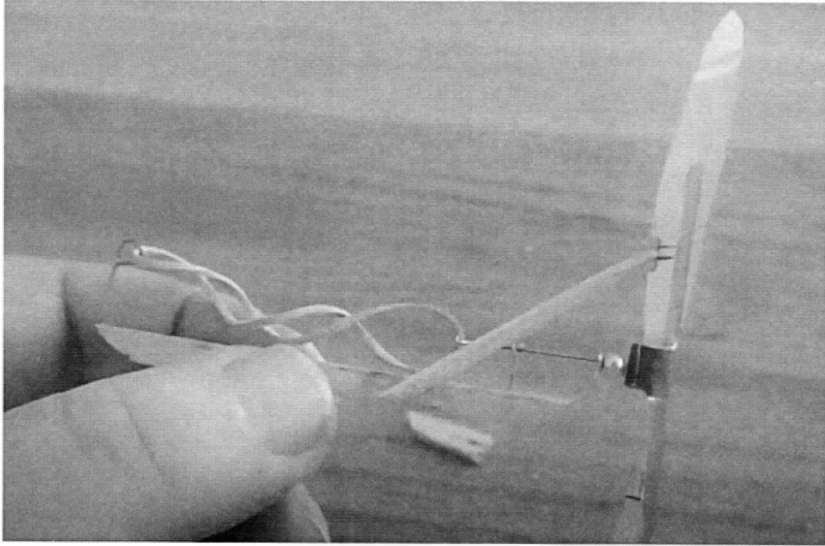
If you have a lathe you can chuck up the dowel and bore an accurate center hole. If you don't have one and only use a drill press your hole may be a little off center. Not a problem if you glue the dowel in the foam before you cut the outside of the wheel. The hub may be a little off, but the wheel will be concentric with hole in hub and the axle. I use a disk of card stock as a hub cap to further spread the load over the foam wheel. Just make sure the thickness of the dowel hub is the same as the foam stock. Two Peck 3/4" wheels weigh 1.1 grams. Two foam wheels weigh 0.25 grams and look a little more scale to boot.

17 My finished model came in at 14.1 grams.

## LIGHTWEIGHT PAPER PROPS FOR INDOOR FLYING

The idea for these paper props is nothing new; similar patterns were featured on old Comet (and other) plans back in the 30's. **Archie Adamisin** saw that they might be a good choice for indoor No Cals and 1/2 No Cals, and made a neat YouTube tutorial on how to cobble one up for yourself! Check it out at the following link:

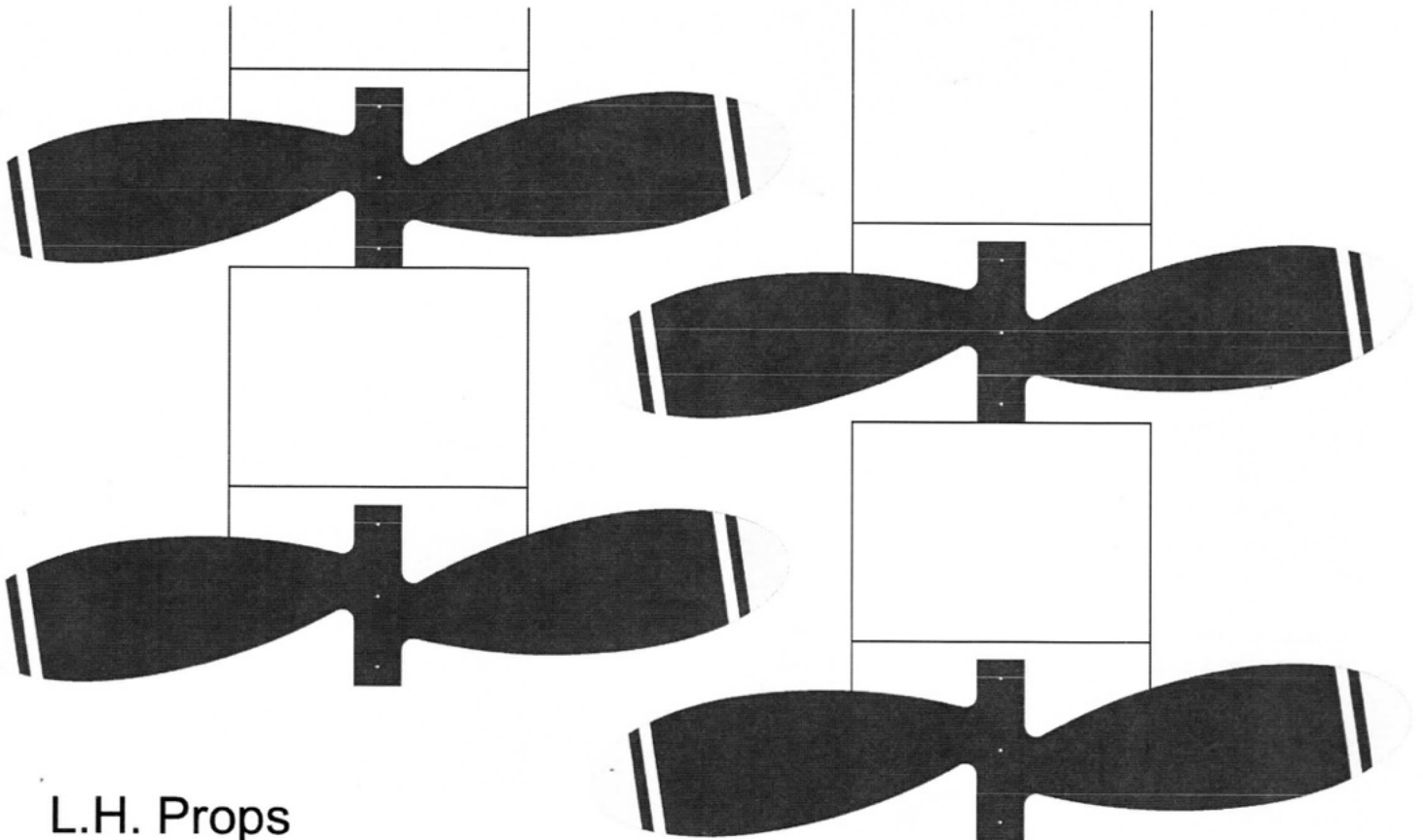
<https://youtu.be/7SP5ET8-BVQ>



**Rick Pendzick**, never one to let a fun idea go unimproved, added a stiffening spar to the paper prop, AND a MOTOR HUM DEVICE! You will be the envy of all the kids on YOUR block when you make one of these! Rick shows how he did it here:

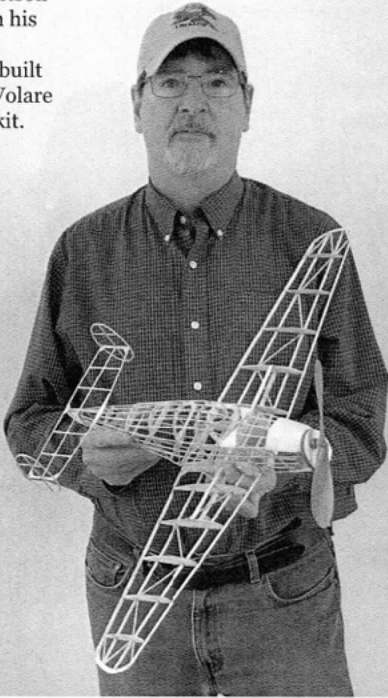
<https://youtu.be/65fo9icqpwY>

Ready to try YOUR hand? Here's four patterns of the same sort that Archie and Rick used. When you've used them up, who says you can't come up with your own? Eh? Who?

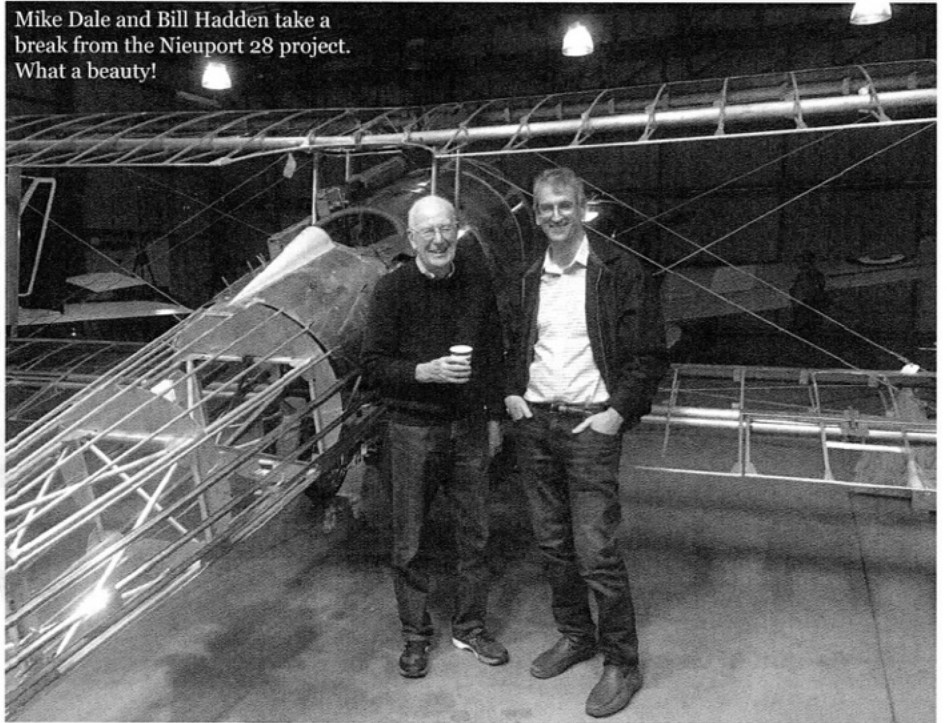


L.H. Props

Barry Harrison poses with his neat Vega Starliner, built from the Volare Products kit.



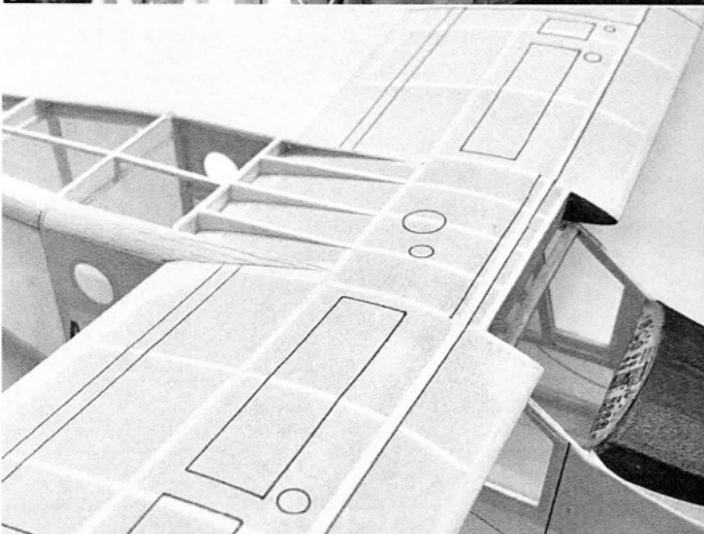
Mike Dale and Bill Hadden take a break from the Nieuport 28 project. What a beauty!



Tom Hallman sent us this picture of his dad, the late Donald Hallman, holding Tom's Fairchild 24.



Mike Isermann has been busy. That ain't no pile of Texas BBQ bones--that's BALSA! He's got some work to do....



Also from Tom Hallman, a close up of his nifty new Pilatus Porter. Note the rounded fuselage edges...



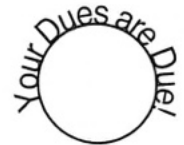
Doug Beardsworth has GeeBee Fever! Glide tests on the big R1 show great promise.

D.C. MAXECUTERS  
% Dave Mitchell  
230 Walnut St. NW  
Washington, DC 20012

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Hollywood MD 20636-2706



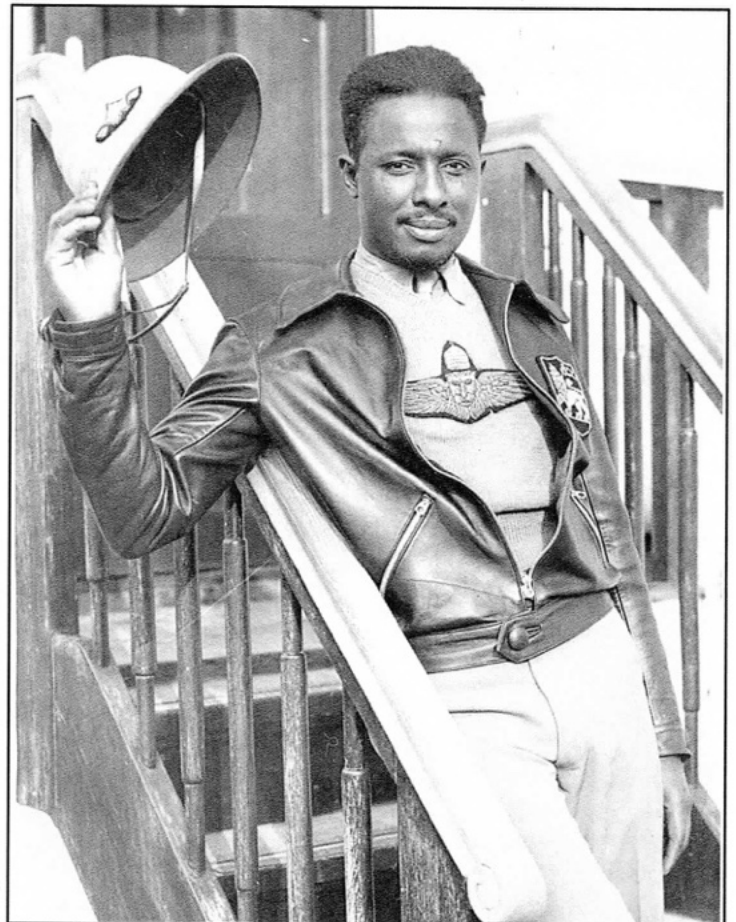
RENEW ON LINE!

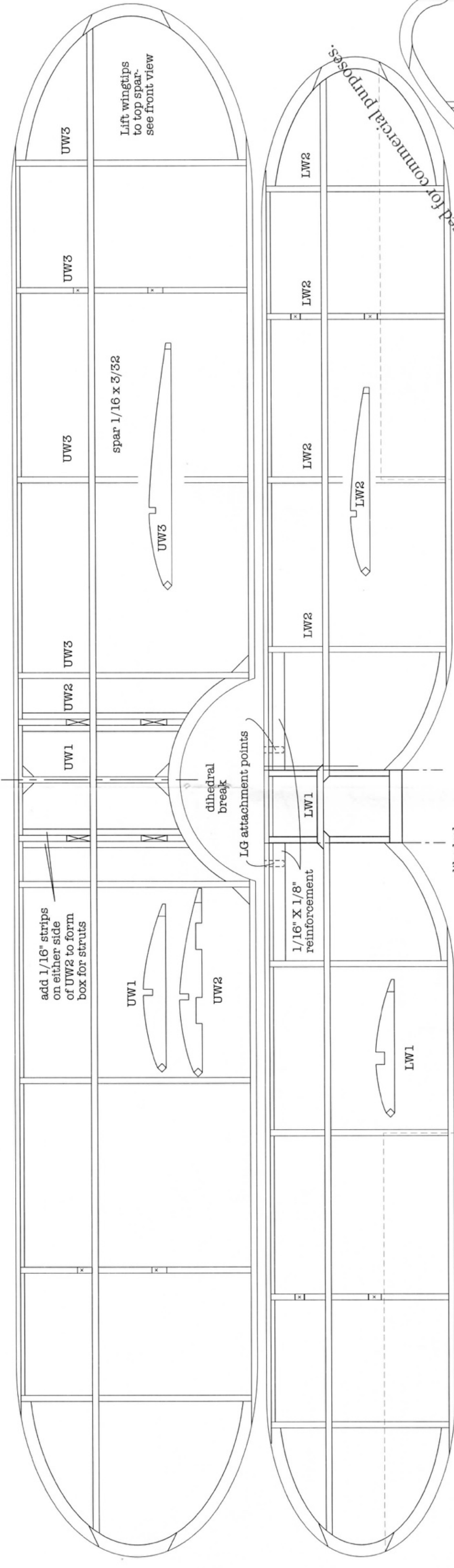
Go to [www.dcmxecuter.org](http://www.dcmxecuter.org) and click on **MaxFax** at the top of the page.

**Cover images:**

**FRONT:** Missing man formation. Adapted from a photo by Photographer's Mate Airman Apprentice Jay C. Pugh - [http://www.navy.mil/view\\_image.asp?id=16280](http://www.navy.mil/view_image.asp?id=16280), Public Domain, <https://commons.wikimedia.org/w/index.php?curid=1435798>

**RIGHT: John Charles Robinson** ( 1905–1954) was an American aviator and activist, known as the "Brown Condor of Ethiopia" for his outstanding service in the Imperial Ethiopian Air Force during that nation's resistance to Fascist Italy in 1935. Robinson pushed for equal opportunities for African-Americans in aviation during his early career, and along with **Cornelius Coffey**, founded the *Challenger Air Pilots Association* in Chicago in 1932, a segregated flight training program adjunct to the Curtiss-Wright Aeronautical University. Denied access to white airfields, the association flew out of a self-made airfield in Robbins, IL and counted among its graduates **Jane Harmon Bragg**, the first black woman to earn a commercial pilot's license. Robinson's achievements and activism gained considerable press during early efforts to confront racially based prohibitions in the US. He is also sometimes referred to as the "Father of the Tuskegee Airmen", having initiated the development of an aviation school at Tuskegee Institute and, by his actions, having inspiring the famous all-black group of pilots who served in the US Army Air Force in WWII.





DC MAXECUTERS PLAN

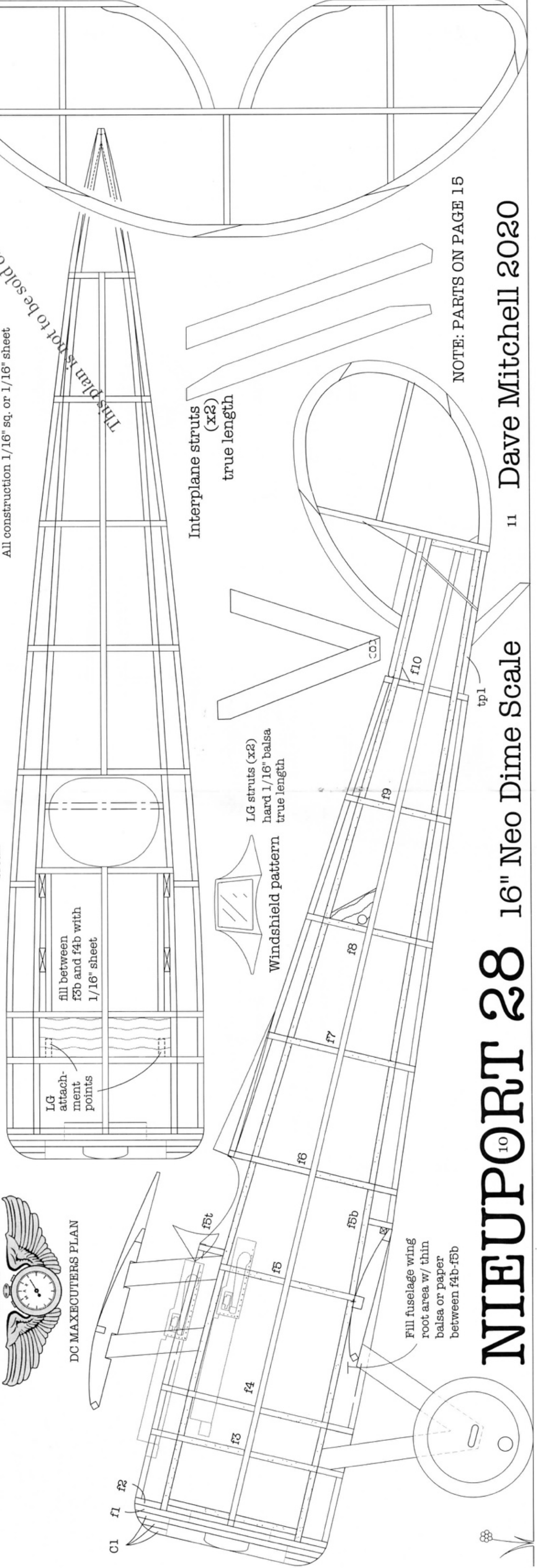
another

All construction 1/16" sq. or 1/16" sheet

This plan is not to be sold or used for commercial purposes.

dihedral break

dihedral break



# NIEUPOORT 28

NOTE: PARTS ON PAGE 15

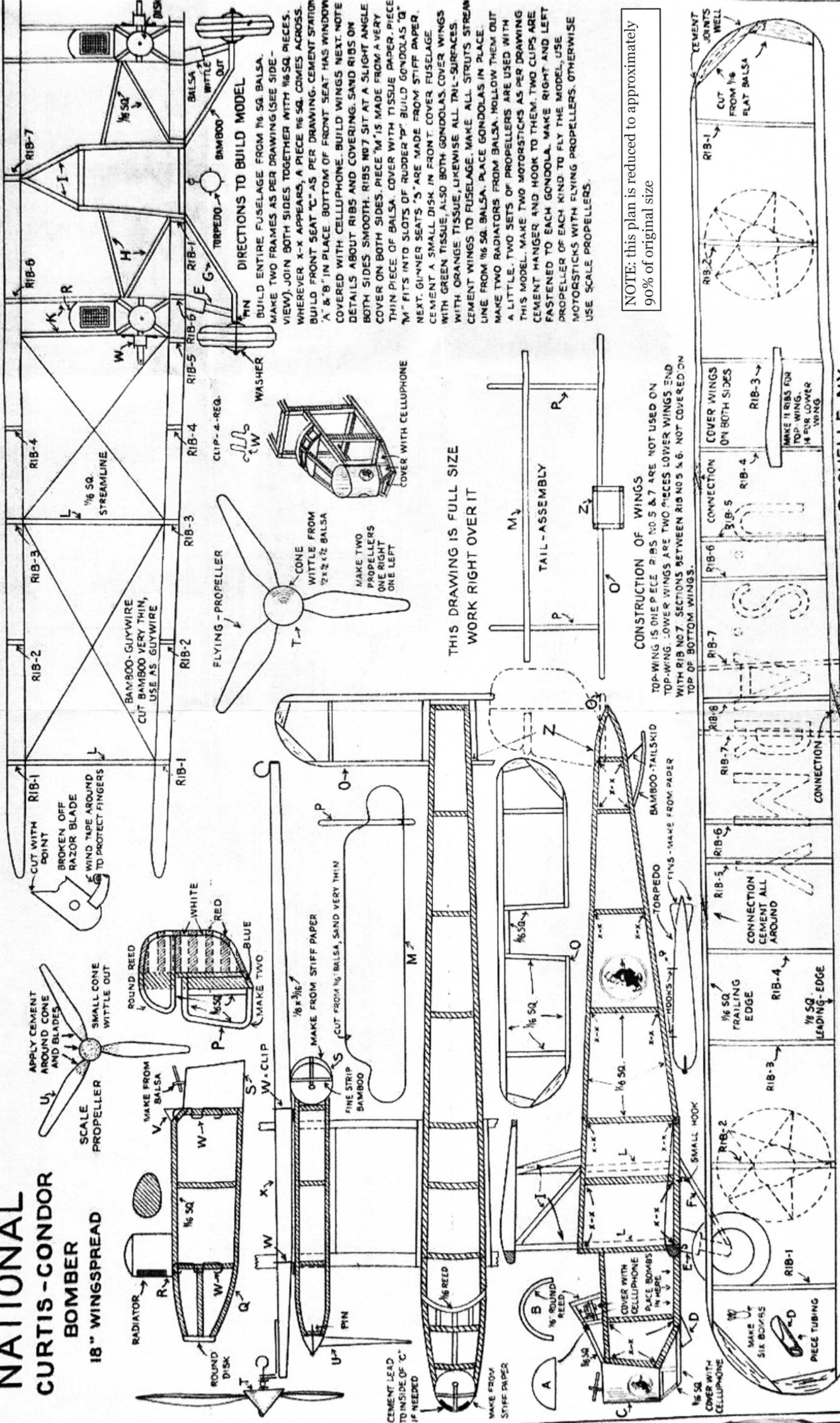
Interplane struts (x2) true length

LG struts (x2) hard 1/16" balsa true length

Windshield pattern

Fill fuselage wing root area w/ thin balsa or paper between f4b-f5b

# NATIONAL CURTIS-CONDOR BOMBER 18" WINGSPREAD



### DIRECTIONS TO BUILD MODEL

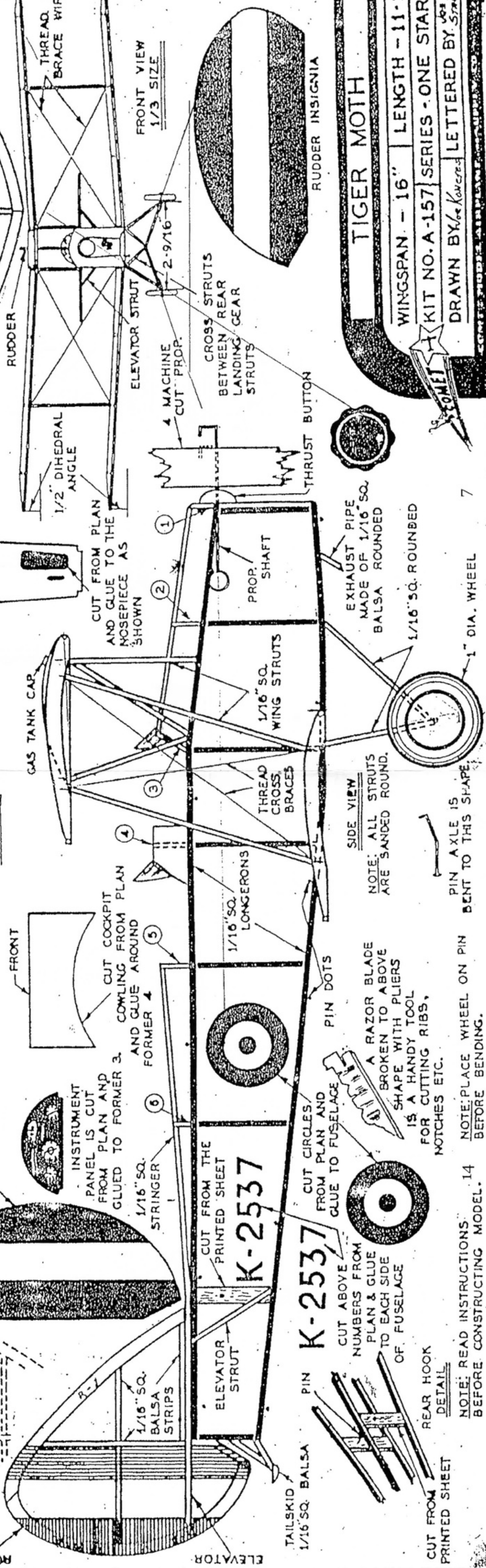
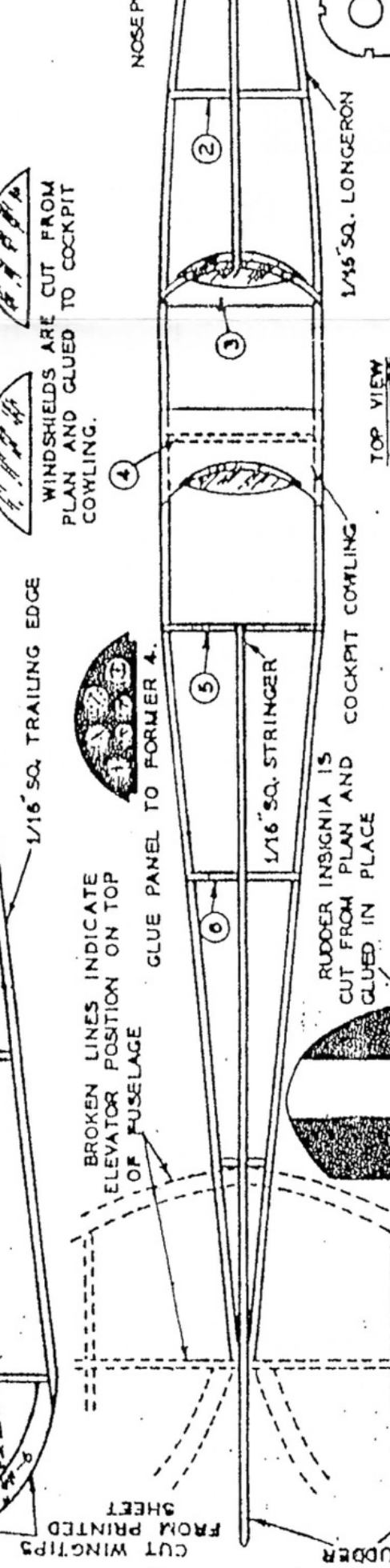
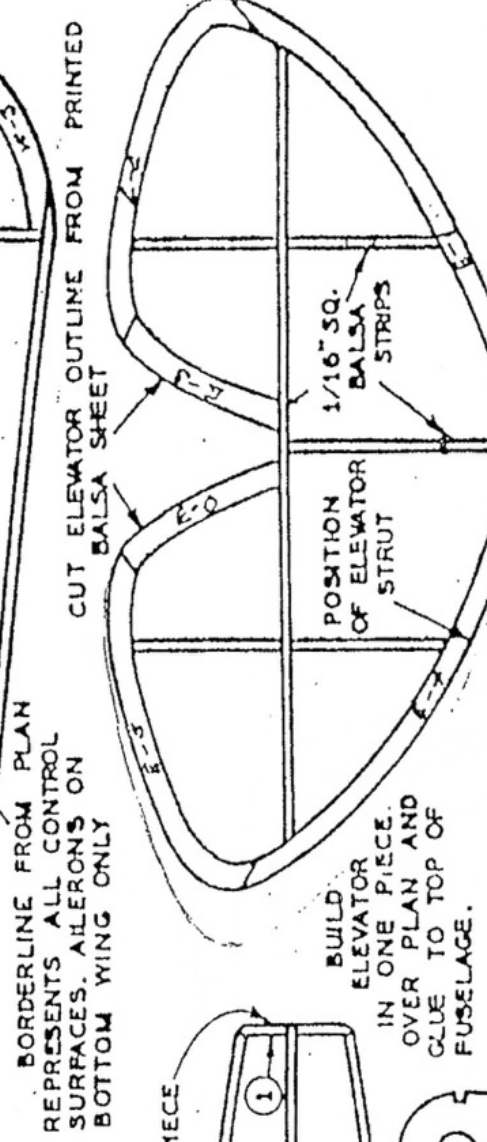
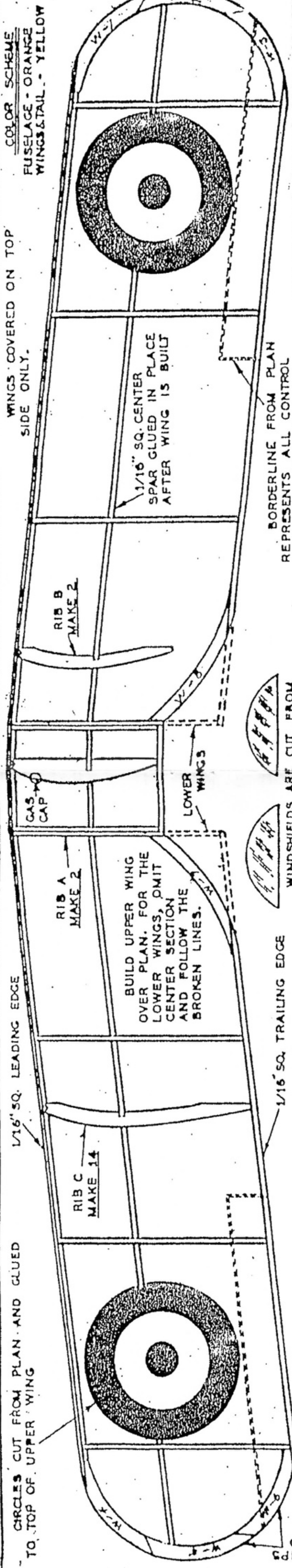
BUILD ENTIRE FUSELAGE FROM 1/16 SQ. BALSA. MAKE TWO FRAMES AS PER DRAWING (SEE SIDE-VIEW). JOIN BOTH SIDES TOGETHER WITH 1/16 SQ. PIECES. WHEREVER X-X APPEARS, A PIECE 1/16 SQ. COMES ACROSS. BUILD FRONT SEAT 'C' AS PER DRAWING. CEMENT STATION 'A' & 'B' IN PLACE. BOTTOM OF FRONT SEAT HAS WINDOW COVERED WITH CELLULOSE. BUILD WINGS NEXT. NOTE DETAILS ABOUT RIBS AND COVERING. SAND RIBS ON BOTH SIDES SMOOTH. RIBS NO 7 SIT AT A SLIGHT ANGLE COVER ON BOTH SIDES. PIECE 'M' IS MADE FROM A VERY THIN PIECE OF BALSA. COVER WITH TISSUE PAPER. PIECE 'M' FITS INTO SLOTS OF RUDDER 'P'. BUILD GONDOLAS 'Q' NEXT. GUNNER SEAT 'S' ARE MADE FROM STIFF PAPER. CEMENT A SMALL DISK IN FRONT. COVER FUSELAGE WITH GREEN TISSUE, ALSO BOTH GONDOLAS. COVER WINGS WITH ORANGE TISSUE, LIKEWISE ALL TRAIL-SURFACES. CEMENT WINGS TO FUSELAGE. MAKE ALL STRUTS STRAIGHT LINE FROM 1/16 SQ. BALSA. PLACE GONDOLAS IN PLACE. MAKE TWO RADIATORS FROM BALSA. HOLLOW THEM OUT A LITTLE. TWO SETS OF PROPELLERS ARE USED WITH THIS MODEL. MAKE TWO MOTORSTICKS AS PER DRAWING. CEMENT HANGER AND HOOK TO THEM. TWO CLIPS ARE FASTENED TO EACH GONDOLA. MAKE RIGHT AND LEFT PROPELLER OF EACH KIND TO FLY THE MODEL. USE MOTORSTICKS WITH FLYING PROPELLERS. OTHERWISE USE SCALE PROPELLERS.

THIS DRAWING IS FULL SIZE  
WORK RIGHT OVER IT

NOTE: this plan is reduced to approximately  
90% of original size

COLOR SCHEME  
 FUSELAGE - ORANGE  
 WINGS & TAIL - YELLOW

WINGS COVERED ON TOP  
 SIDE ONLY.



TIGER MOTH

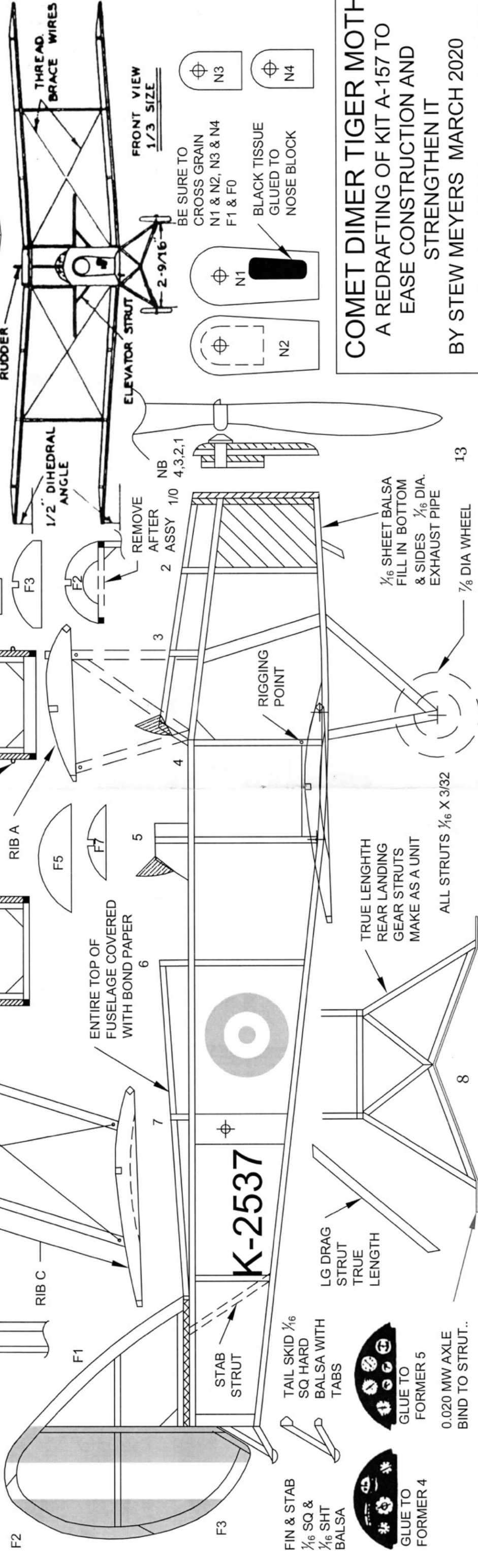
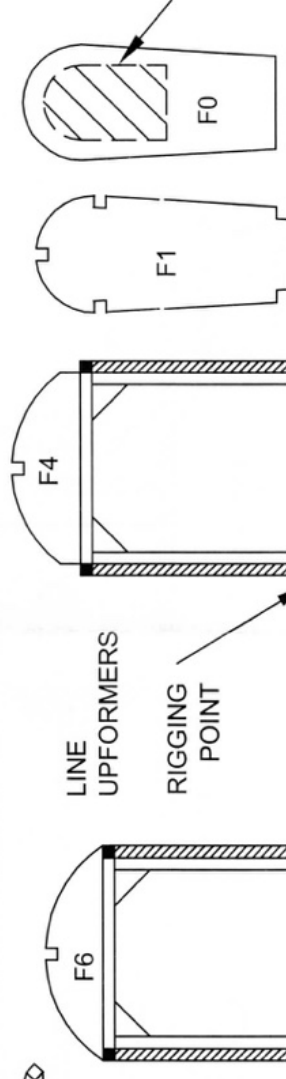
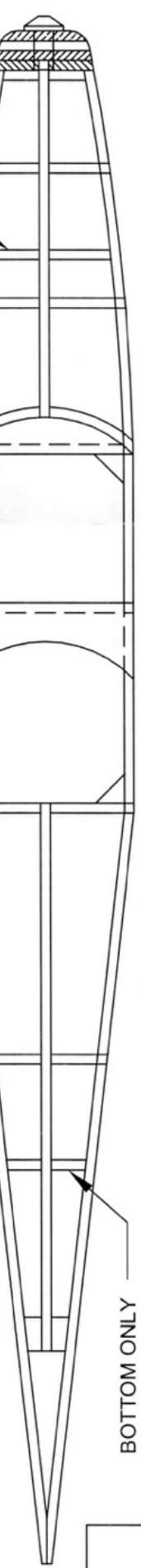
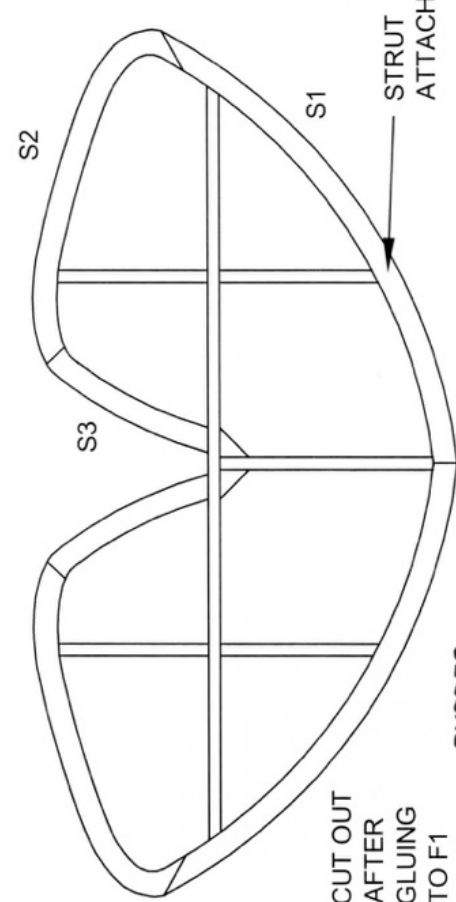
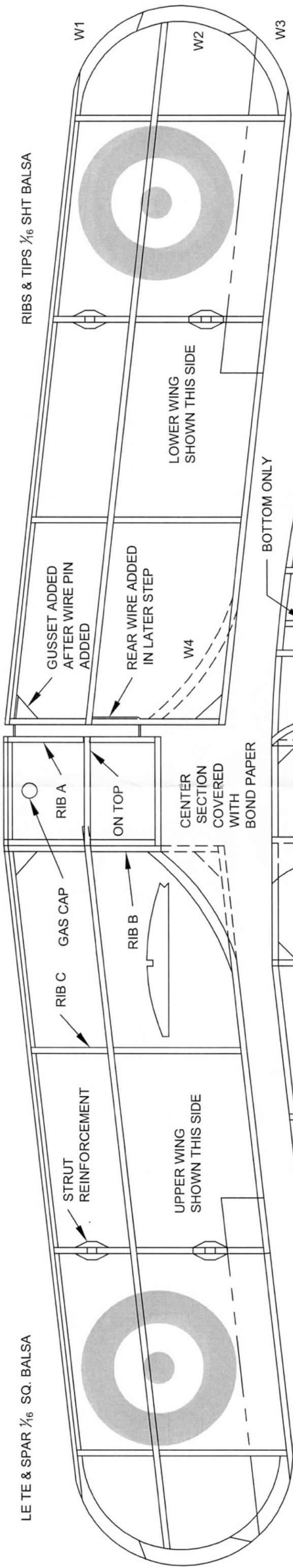
WINGSPAN - 16" | LENGTH - 11-1/2"

KIT NO. A-157 | SERIES - ONE STAR

DRAWN BY *George Kover* | LETTERED BY *Strain*

LE TE & SPAR 1/16 SQ. Balsa

RIBS & TIPS 1/16 SHT Balsa



**COMET DIMER TIGER MOTH**  
 A REDRAFTING OF KIT A-157 TO  
 EASE CONSTRUCTION AND  
 STRENGTHEN IT  
 BY STEW MEYERS MARCH 2020