



MAX FAX

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

Editors: Wally Farrell and Dave Mitchell

2023-1



MIG-9 JET CAT

MIDWING MUSINGS

MAXFAX 2023-1

This issue was *supposed* to be the 2022-4 issue, but was moved back to allow for the issue dedicated to Don Srull and Dan Driscoll. Back then, Wally gamely offered to take up co-editing duties and this edition is the happy result. What's more, he seemed to actually *enjoy* the process, even with all my earnest lecturing on digital formatting, the finer points of object placement, and of course invisibles—that's desktop publishing geek speak, ya'll—and so with any luck you can expect us to continue this partnership. It's a win-win: Wally adds more tools to his already estimable bag of tricks, you get the benefit of expanded perspectives in the MaxFax, and I get a bit of a break from the grind.

Contents for this issue:

We have a review of the October Hurricane meet in Raeford (results on pg.17). Wally and Dave take a squint at the old Comet P-59 plan; Jonathan Nunez shares an approach to mid-wing construction on his Aichi Grace (cover photo), while Wally provides a review of some other midwing construction approaches you might want to try. Claude Powell gives us his secrets for trimming, we get a neat jet cat plan and build article by Kit Bays, and we round out the issue with some advice for FAC fliers by James Martin and a glue resource from Bob Hodes.

Check out the upcoming events, below. That's a lot of flying opportunities! It feels like it has been a while since this box felt so full. Note in particular that we have been able to regain access to the CCBC dome in Catonsville, MD. It's the same deal as before, Free Flight fun flying and only at night. If you like indoor FF, it's a fine space to do it in—as is the Highland Springs HS gym. Make plans to get to one of the remaining events! And we have three scheduled outdoor meets as well. Whoo hoo! Get building!

Cheers, WF and DM

UPCOMING EVENTS

Maxcuters ZOOM meetings Every other Tuesday at 11:30am, hosted by Carl Hampton. Check your e-mail for notices. To receive an invitation, E-mail Carl at:

champton3@cox.net

Highland Springs HS Indoor Flying

200 S Airport Dr, Highland Springs, VA 23075
9:00AM - 5:00PM. Spring dates: 4/16, 5/4, 4/25

Nighthawks in the Dome: Indoor Flying at CCBC

Yes, it's back! Jack Manley Wellness and Athletic Center,
360 Campus Dr, Catonsville, MD 21228.
9:00 PM -12:00+ AM Spring dates: 4/21, 5/5

April 15-16, 2023 - South Jersey Flying Circus

Tuckahoe Turf Farm, 401 Myrtle Ave. Hammonton NJ

August 5-6, 2023 - Don Meyers Memorial

Tuckahoe Turf Farm

Contest information for both of the Tuckahoe meets at:
www.oldwakefields.com/113221.html

May 20-21 2023 Kudzu Classic

Carolina Turf Farm, 204 Ratley St. Raeford, NC 28376
Flier in this issue

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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.

PUBLISHING DATES - Four issues of MaxFax are sent each year, one each quarter, but since this is a volunteer publication nothing is guaranteed except that four issues will be sent to all members.

Congratulations to Dave Beazley, recognized as Brainbuster of the Year! Dave was presented with the trophy by Brainbusters President Dean Giacompassi at one of the recent Highland Springs indoor meets.



The Comet P-59 Airacomet

By Wally Farrell

So, I need a new modern military since my Mike Nassise designed Nomad flew away at Muncie during the Ted Dock Contest in September. Well, I don't *really*...but I'm telling myself that, and that gives me license to hunt for some good subjects.

My flying buddy Claude Powell pointed out that Comet did some Jetex Jets back in the day, so I downloaded the P-59 Bell Airacomet from the web (freeflightarchive.com). In addition I saw plans for the Douglas Skystreak, Lockheed P-80, Lockheed Starfire, North American Sabre Dog and Super Sabre, Douglas Skyray and the Grumman Cougar and Panther. I picked the Airacomet since I thought it had a good layout for rubber. I think most of the comments below could be generalized to the 7 other Comet jet ships.

There would need to be some serious re-engineering to turn this into a rubber ship. Let's review the task at hand:

1. The formers would need to be hollowed out for rubber installation. Since this was a Jetex model, room for rubber was not a consideration.

2. Nose block- this needs to be adapted to accept a prop.

3. I think it is a bit small—I would want to enlarge the plane to a 24" span. That would probably require the addition of 1 or 2 wing ribs. A larger plane would also increase the size of the nose and allow you to load the rubber more easily, and use a reasonably sized blast tube.

4. I don't really like the airfoil and would switch that to a Clark Y.

5. Those top and bottom keels are too thick. I worry about rubber getting caught on those, especially from the canopy forward, where downthrust is going to tend to throw the rubber up toward that keel. I would probably sheet the nose at the top front and do away with that section of the keel.

6. I would check the stab area. The right way to do this of course would be to calculate the tail volume, but I would at least look for the stab area to be 25% of the wing area.

7. MIDWINGS- I think midwings have some advantages. Although I don't have any actual science knowledge to back it up, it seems to my eye that having the wing right in the airflow of the prop can produce some nice flying ships. However, the perennial question is do you build the wing on to the side or build it through. We will opine on this topic, beginning with Jonathan Nunez's approach to his Aichi Grace, on the following page.

8. Decalage- The stab slot needs to be widened to allow for some stab adjustment, preferably using a small screw.

So, after reviewing all the modifications needed, you might be asking "why bother?" Well, the P-59 seems like a good layout. It has nice moments, and a good amount of wing area. I think it might make a good flier. I think it would be easier to trim than the swept wing ships.

DAVE WEIGHS IN

Being a good dog, I know when a stick has been thrown that wants fetching. So when I read Wally's article above, I opened up the Comet plan and got to work. Well, sorta got to work. In atypical fashion, I decided not to go whole hog into a redrafting of the plan. It's a LOT of work, and I didn't have the time. Instead, I took Wally's ideas and just did a rough exploration of how feasible the plan was for a

rubber conversion, WITHOUT getting into "serious re-engineering". The results are on page 9:12. Mostly, I focused on the fuselage—I figure y'all are experienced enough to figure out things like stab size, nose blocks, etc. I've left the plan at 18"; as Wally suggests, bigger would probably be better. Bigger might want more stringers, methinks.

So—is it a good choice for a rubber subject? With some attention to details, I think it could be very good. The fuselage is narrow. I reduced the top and bottom keels to 1/8", and took the side keels all the way down to 1/16". The major pinch point is right up front at F1. I think if you left this former whole when framing everything up, faced it with well-glued 1/64" ply *after* all the stringers had been run, *then* cut your opening out as large as you dared, you could get a reasonably sized mouth. Even better would be to do the same thing but move F1 back 1/4". You'll have to draft that yourself. Above all, see that your nose block is well-seated, Skyster....you want to make sure that sucker is tight as ticks, with no wobbling about in flight!!

I left the wing / fuselage joint engineering as is, allowing for flattening out the airfoil. I'm not sure exactly what's going on at F5 in the original design, but I think the underslung nacelles provide enough structure that you could forego all the internal complications there and just make a nice oval cut out for the rubber—sort of like what was originally drawn for F4, but avoid those squared out corners. Run a couple of 1/16" sq. stiffeners across the top and bottom of F4, F5 and F6 and you should be good to go.

A new glue resource

by Bob Hodes

A few years ago, I developed an allergy to CA glues, so have had to resort to using adhesives such as Siment, Ambroid, or Duco. I have mainly been using Duco, as it is readily available in hardware stores.

During a recent telephone conversation with Tom Arnold, (WESTFAC Honcho), Tom told me about an adhesive he had found called "fletching glue". This adhesive is used by archers to glue the feathers on to their arrows. For me, this was a game-changer.

Being a nitrocellulose adhesive, it the same as Duco, and the others. The big difference is that it is readily available and a lot cheaper. For instance, I recently purchased a pint of the adhesive online. It cost \$16.99. A pint is 16 ounces, so including shipping, the cost came out to \$1.56/ounce. By comparison, I have recently been paying \$4.00 to \$6.00 for a one-ounce tube of Duco. I imagine that the prices would be similar for Siment or Ambroid, if you could find them.

I also purchased a couple of two-ounce squeeze bottles with screw-on metal tips from the same company. These metal-tipped applicators are really great at putting down a very thin line of cement. It is very handy, for example, for putting down just the right amount of cement for gluing stringers into former notches. I use a straight pin to seal the tip when it is not in use. Should the metal tip get clogged, just soak it in acetone for a few seconds to clear it. I paid \$11.99 for a squeeze bottle with two metal tips.

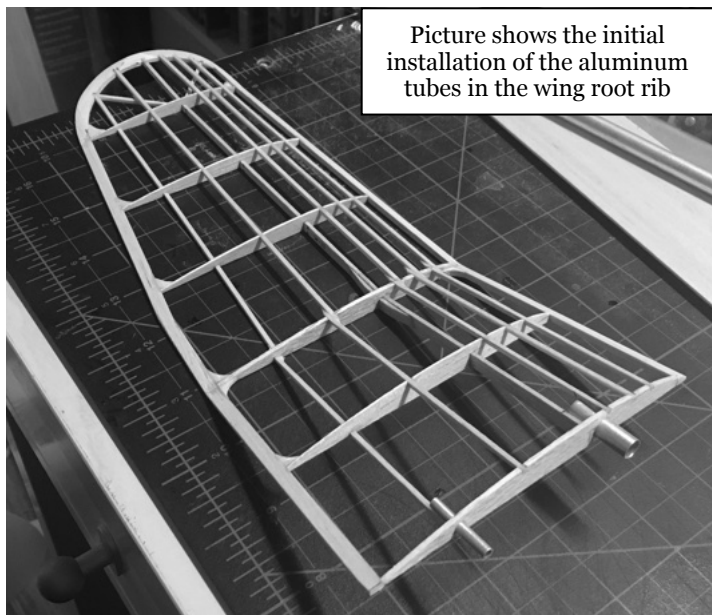
The adhesive dries rapidly, and makes a very strong joint. This is now my glue of preference. If you are interested, contact [3 Rivers Archery](http://www.3riversarchery.com) in Indiana. [https://www.3riversarchery.com](http://www.3riversarchery.com)

Aichi Grace-

An approach to building a mid-wing airplane

by Jonathan Nunez

With the "carrier aircraft" theme for the 2019 WESTFAC outdoor meet on the horizon, I decided to build the Diels 24" span Aichi Grace kit that had been in our model kit stash for as long as I can remember. The Grace has excellent proportions for a free-flight model with very long



Picture shows the initial installation of the aluminum tubes in the wing root rib

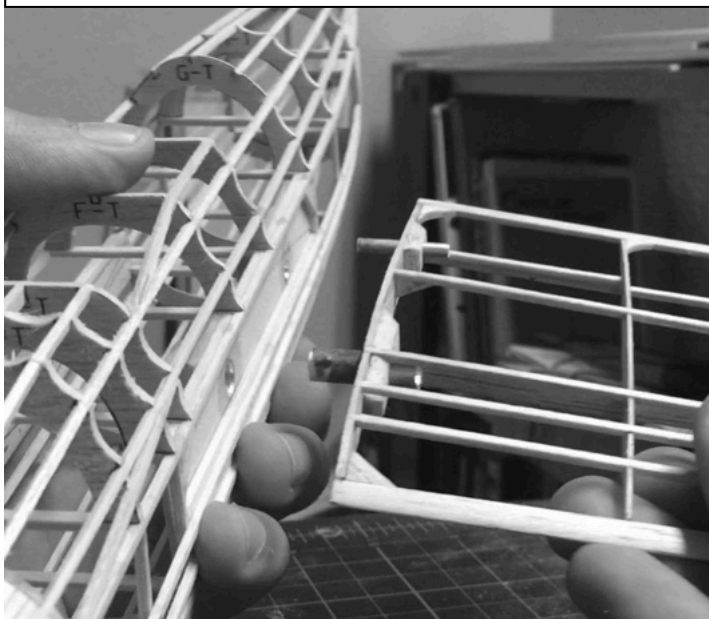
nose and tail moments, simple outlines, and a mid-mounted inverted gull wing which would provide excellent stability with scale dihedral. Adding plug-in gear and a 4-bladed prop would make it a formidable plane for the "deck-launch" event. The only snag for the Grace is the kit is designed for a single-piece wing which slides through the fuselage with the motor running under the "crotch" of the raised center section. A plug-in wing solution would be ideal here, to provide more room for the rubber motor and allow the wings to be removable for transport.

I had done a plug-in wing on my Polikarpov I-16 and learned a hard lesson that plug/socket structure needs to be robust enough to handle the crashes and rough landings that are part of the trimming process (at least for me!). The Grace is an outdoor-only model so a small amount of extra weight here is acceptable. I used short lengths of aluminum tube for both the plugs and sockets and selected the largest diameters I could reasonably fit in the root rib to best react the bending moment. The root rib of the wing panel is made of hard 1/16" balsa but with 1/8" balsa doublers, installed cross-grain, to locally strengthen the rib around each aluminum tube. The sockets on the fuselage are the same construction, with a flat 1/16" sheet panel for the wing rib to butt-up against and 3/16" cross-grain balsa doublers on the inside of the fuselage to reinforce each tube mounting and distribute the loads. The sockets stick about 1/4" into the fuselage on each side but still provide plenty of room for rubber. Stringers and light 1/16" balsa is used to fill in around the wing saddle to match the curvature of the fuselage. I set up the wing incidence and dihedral on the bench with all the plug/socket hardware loose or lightly

tacked and then glue permanently once everything is aligned, before covering. A couple wraps of tissue around the plug tubes ensure a snug fit in the sockets and friction alone prevents the wings falling off in flight. The final weight of the model was ~38g and needed no nose ballast.

The "box-and-formers" constructions of the Diels Kit and flat-ish sides of the Aichi Grace makes converting from a single-piece wing to a plug-in (or butt joint) design relatively easy. On something more rotund (Grumman Wildcat) or without the box and formers construction, it could be a challenge! The usual advice for building light and strong models applies here more than ever: invest the good, hard balsa for the critical areas and use gussets/doublers/etc. to distribute loads to the strong parts of the airframe. Simply butt-gluing the plug & sockets in-between a couple flimsy stringers won't suffice!

The wing root rib tubing has been reinforced, and is being fitted to the aluminum sockets mounted in the fuselage.



- JN

More thoughts on building midwing ships: Build the wing on to the side, or build it through?

By Wally Farrell

I've done both. As is so often the case, there multiple approaches, and advantages and disadvantages to each...

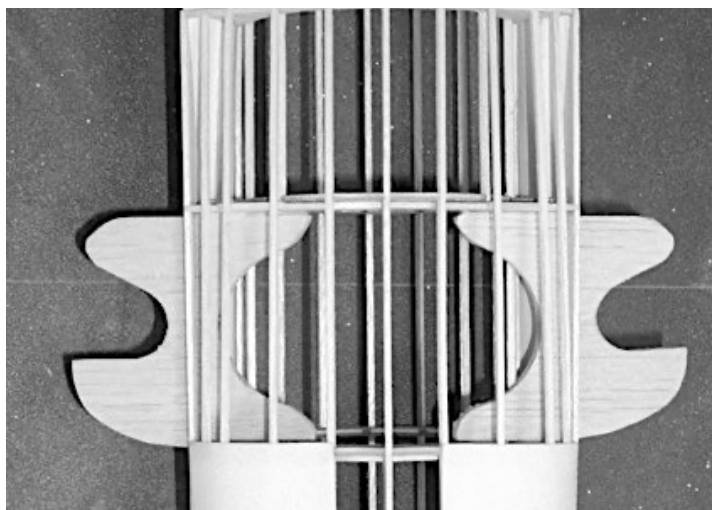
1. Butt joint on to fuselage. My relatively new Stahl Wildcat and Wittman VW Goodyear racers each bear the scars of the wings being knocked off or shoved into the side of the fuselage during the trimming process over grass that wasn't quite high enough. Now, that they are trimmed, they are both "good fliers" (*ed. note: we need to quantify what that actually means*). The main advantage of this or approaches 3+4 noted below, is that you have more room for rubber. However wing alignment for dihedral and decalage will probably require setting up a jig. Both of these are small planes and the side plate on the fuselage and/or the uprights supporting the plates were not strong enough to survive much of an impact.

cont. next page

2. Through wings. I have a 24" span Goon (Hummingbird kit) and a 24" Hellcat (built from Paul Bradley's revision of the Comet kit, using his beautiful printed tissue templates) built with through wings. The rubber motors have both completely ripped up the tissue that covered the wing center section inside the fuselage. On the Goon, the rubber got enmeshed with the ripped tissue and ruined the flight in a mass launch. The Hellcat's motor has snapped the top spars. So, if I build another through wing, I will probably cover the top with Tyvek or sheet it with balsa. If you went with the center sheet balsa route, you could dope it well, so the lubricated motor would be more likely to slide. One of the big advantages of the through wing is that it is easier to set your dihedral and ensure that the wings are at the same angle of attack. The other possibility would be to laminate the spars in the center section into a downward curve to give the rubber more room.

3. Hoops. Bill Henn did a construction article for his Jupiter racer in *Flying Models*, September 2000. In addition to laminated formers, he made hoops for the interior of his "Jupiter" racer (Folkerts SK-3). The hoops were spaced to attach to the LE, main spar and TE (thanks to **Mike Escalante** for a copy of this article). This allowed for plenty of room for the rubber motor. Bill reports this approach was strong enough for the Jumbo sized ship.

4. "H" Tongue and slot. Dave Mitchell used a blade and slot approach on his P80 and his Avenger. It worked well, though he eventually wound up gluing the blades in on the Avenger rather than having the wing sections knock off. He said it flew better once the wings were more secure. The P80, in contrast, being a touchy subject to trim, benefitted greatly from the knock off wings! In this approach, you glue a strong, roughly "H" shaped tongue of balsa into the well-reinforced side of the fuselage, which then fits into a balsa slot or box built into the wing. You want a close friction fit. The front of the balsa tongue is slanted back so that the wing can pivot back and slide off if it comes in on a wingtip. Don DeLoach has used a similar approach, but using a pair of rigid carbon fiber spars rather than a balsa tongue.



"H" tongues on Dave's 24" Lockheed P80. Tongues extend into the fuselage interior and are glue into place between two well-reinforced formers.



Left side shows the "H" tongue, in place in the wing box, which is built up between the spars and two ribs. Note the additional tab at the left side of the wing box, which is glued to the top and bottom of the box for reinforcement. On the right side, the box has been closed up.

5. Misc. There are 2 nice articles in the PFFT archives (the articles there are listed alphabetically and I have included how they are indexed), which are located on the FAC website. One article is by Gene Smith and George White titled *WING ATTACHMENTS FOR MID WING MODELS*, but listed under: *Mid-Wing Attachment, More*. This approach uses aluminum tubing and music wire. The other article on mid wings is by Mike Isermann, titled *ONE MAN'S APPROACH TO BUILDING PLUG-IN WINGS*, but listed under: *Wings, Plug In, by Isermann*. He favors using carbon fiber rods and magnets for construction. Both of these articles have photos to accompany the text.

Although not a mid-wing, my new Hughes Racer has a very tall root rib, that I thought would be a scuffing point for the long motor I plan to run. I cut out the top spars in the center section and inserted some balsa sheet in the bottom of the wing, then added supporting gussets as shown below. It was done on the fly - I kept adding wood until it seemed "stiff enough" - but you get the idea.

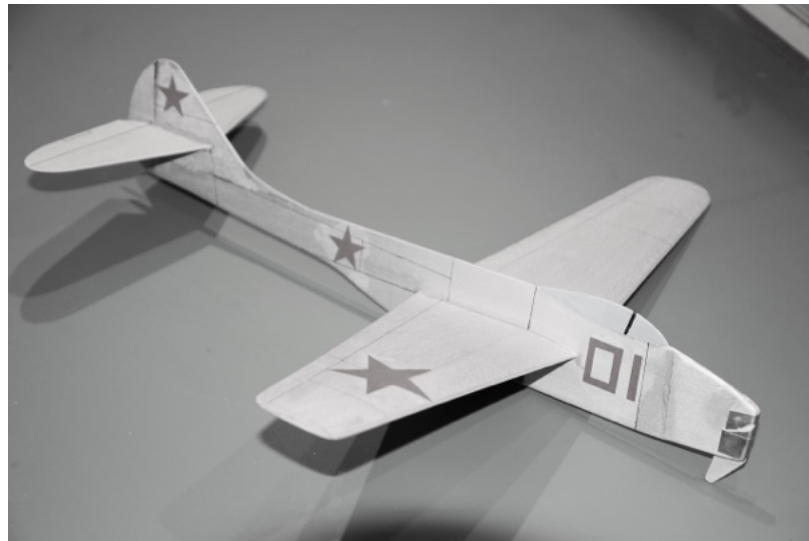
-WF



MIG 9 Jet Catapult

by Kit Bays

The Mikoyan-Gurevich MIG-9 was the first turbojet powered fighter produced by the firm. It was created in 1945 and served with the Soviet Airforces starting in 1948 and in China in 1950. The simple design has several attractive features for the FAC jet cat event. The most important advantage is the unswept wing design which was a feature among a few early jets. Swept wings are good for speed but not for duration. A second advantage is the relatively small side area behind the center of gravity, at least in comparison to many other designs. Large side area in the rear complicates the goal of getting a stable glide circle. My version of the model sacrifices some potential bonus points by avoiding simulated gun or engine placements. A friend also pointed out that the canopy representation could be easily improved by adding a few silver stripes to simulate the braces. When I finished the model I thought it was butt-ugly, but after a few contests I decided it's crude simplicity had become attractive.

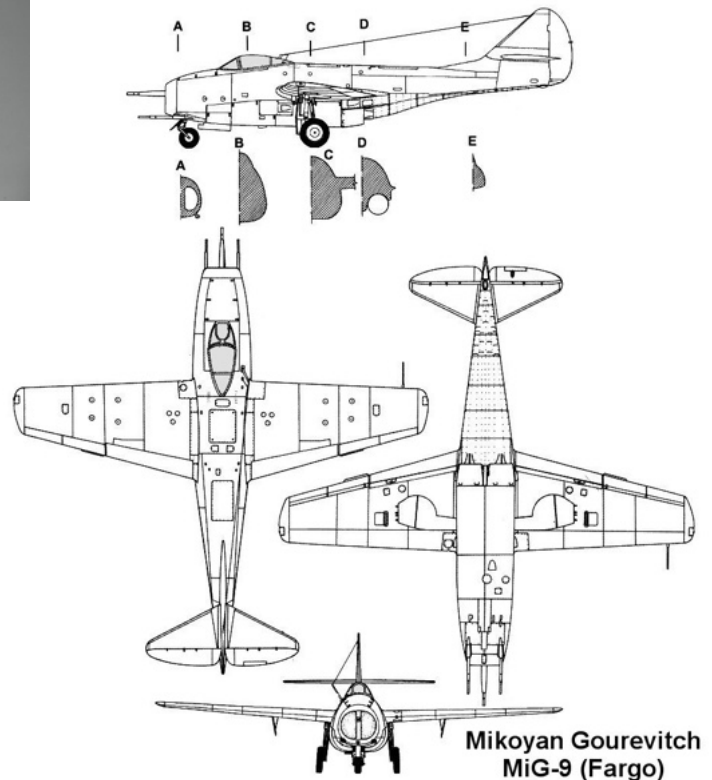


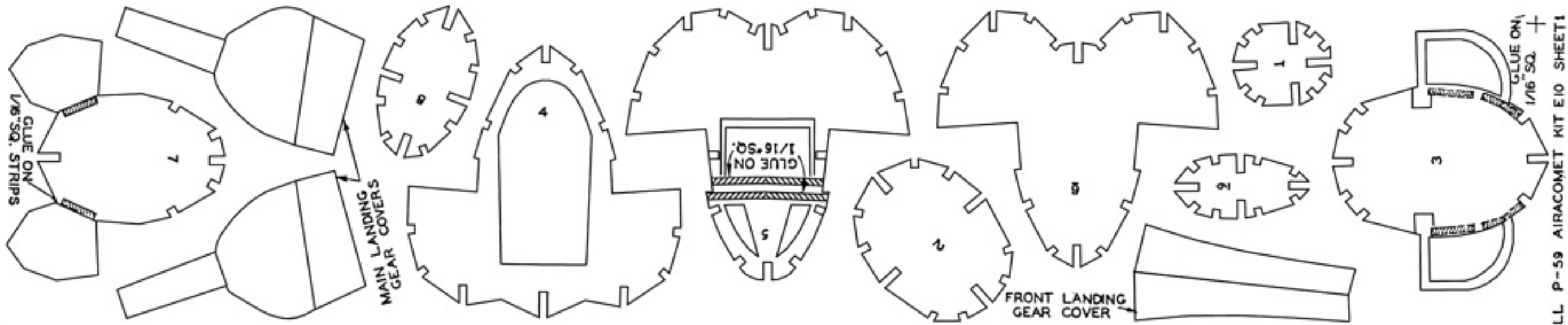
The construction is fairly straightforward. The only wrinkle is the 5/64" carbon tube embedded in the fuselage below the wing along the length of the fuselage. All the wood is quarter-sawn balsa of light density, so the carbon reinforcement is essential. The wing is shaped from 3/16" balsa after gluing the basswood leading edge. I use a relatively sharp leading edge with the highpoint at 30% of the cord. The fin, stab, and canopy are each made from light 1/16" balsa. I had problems with my first few jet cat models because various parts of the tail assembly frequently broke after a lawn-dart maneuver. Keeping things light helps. The tail-volume coefficient predicts the **center of gravity at 44%**. After trimming I moved it back slightly from that position.

Trimming a jet cat is always a challenge. Jet designs are typically short-coupled with relatively small stabs, and many have huge fins. I rely mainly on stab tilt for glide turn and use rudder sparingly only for the climb trim. Too much rudder offset can easily cause a spiral spin. I occasionally

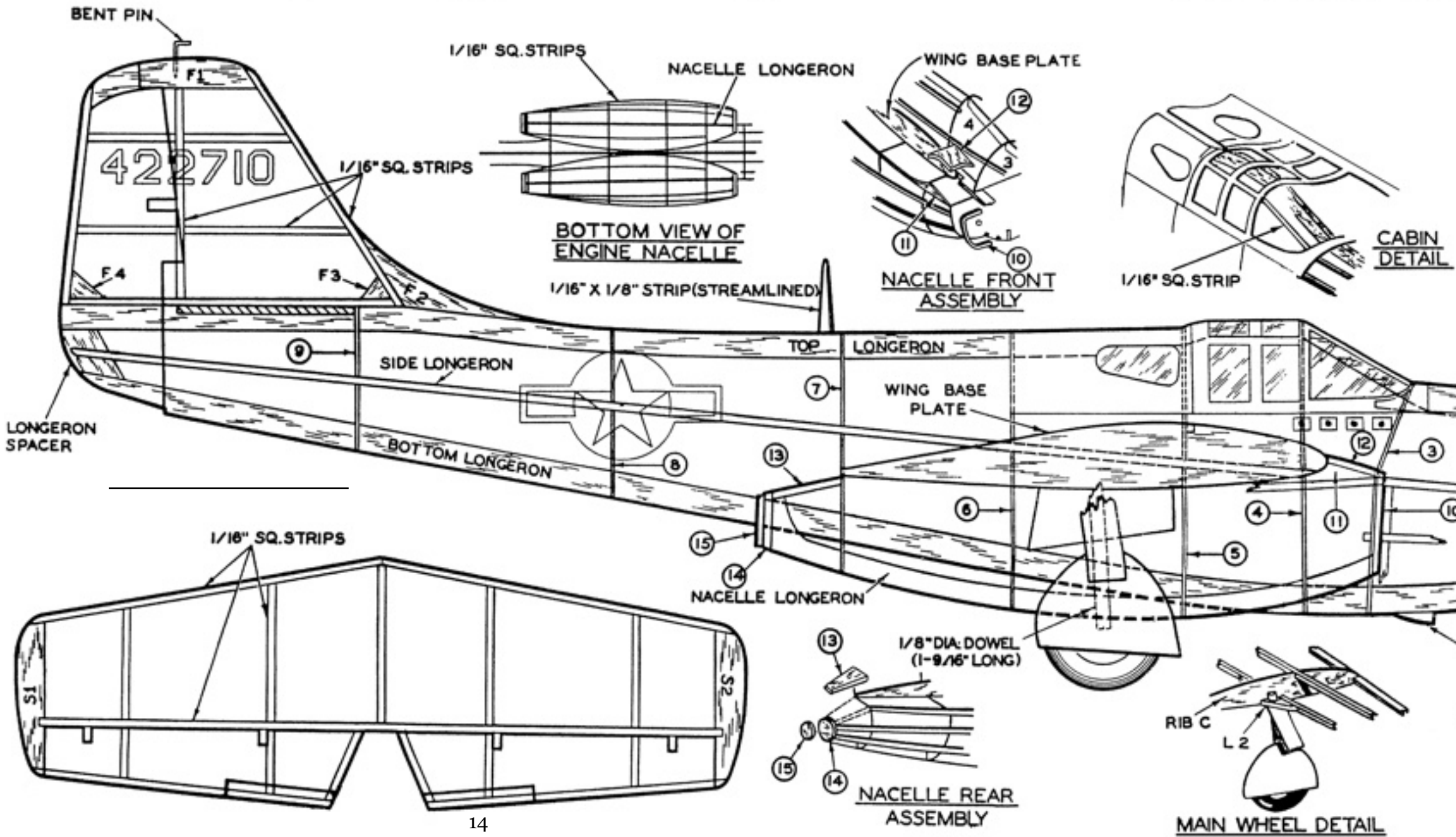
add a small piece of clay to the left wing tip to encourage the turn. Another adjustment for stability is to install wing wash-out. The trailing edge of the last 3 1/2 inches of each wing is tapered upward so the tips are displaced higher by 3/16." Finally, I usually use a trailing edge wedge about 1" long on the left wing to keep the wing up in turbulence. Use this carefully; too much will create more drag than lift.

Color can add lots of weight, so I try to be conservative when finishing a model. After initial sanding I dusted on a thin coat of Valspar urethane varnish and after it dried thoroughly I sanded it smooth. On the original I chose the Russian silver color and the dull red stars. Design Master silver spray added only .88 grams but is nearly invisible at a distance, either in the air or on the ground. If I build another one I will use the olive drab Chinese version. The final weight of this plane is 24.65 grams.





BELL P-59 AIRACOMET KIT E10 SHEET 1



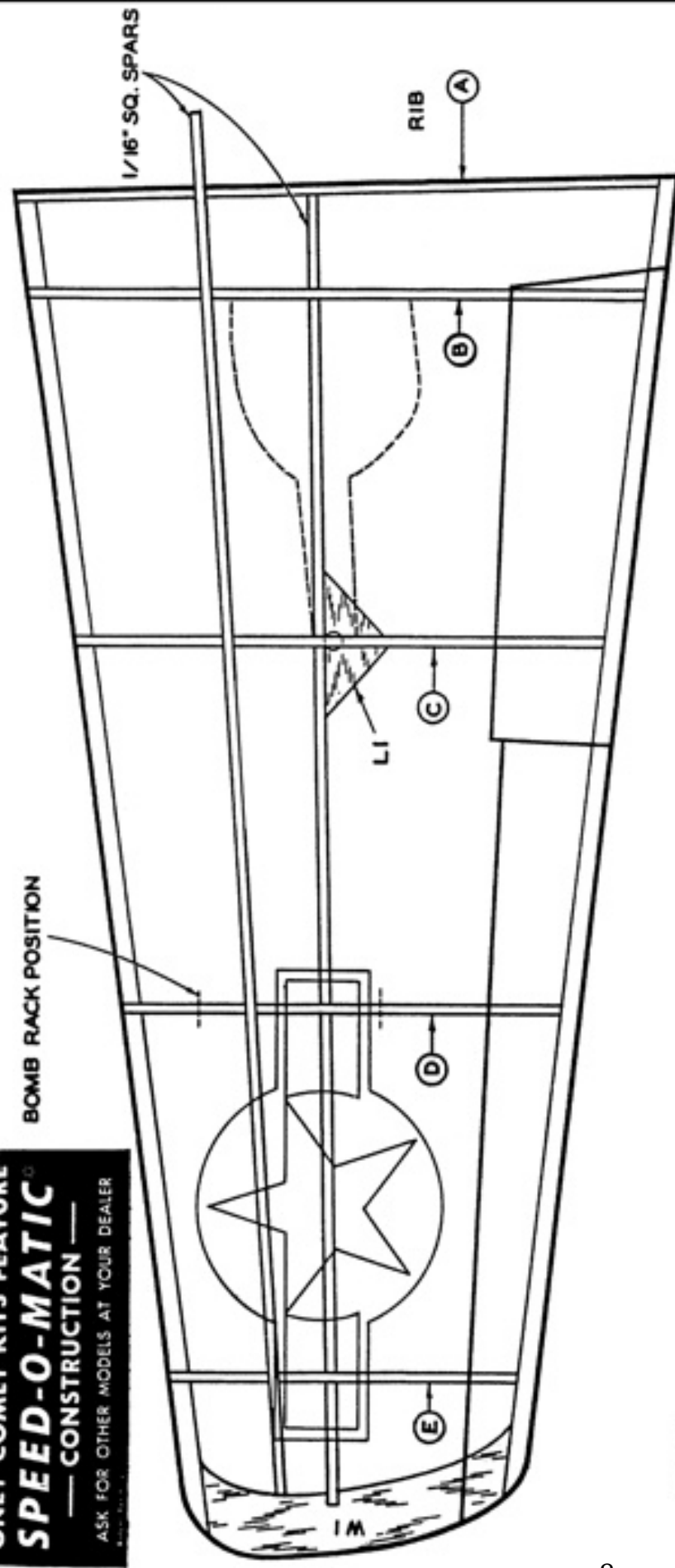
"PLANE FACTS"

24. JET PROPULSION

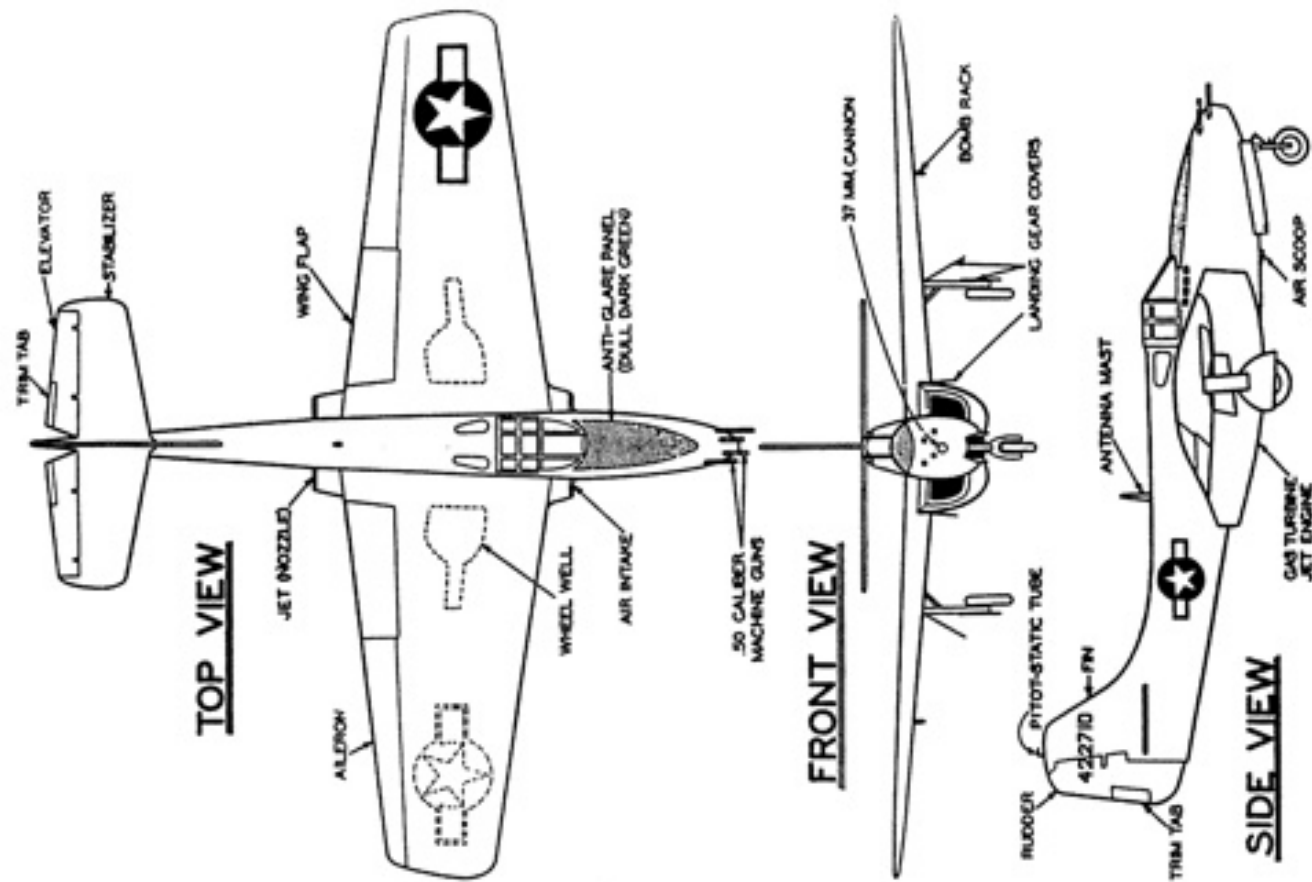
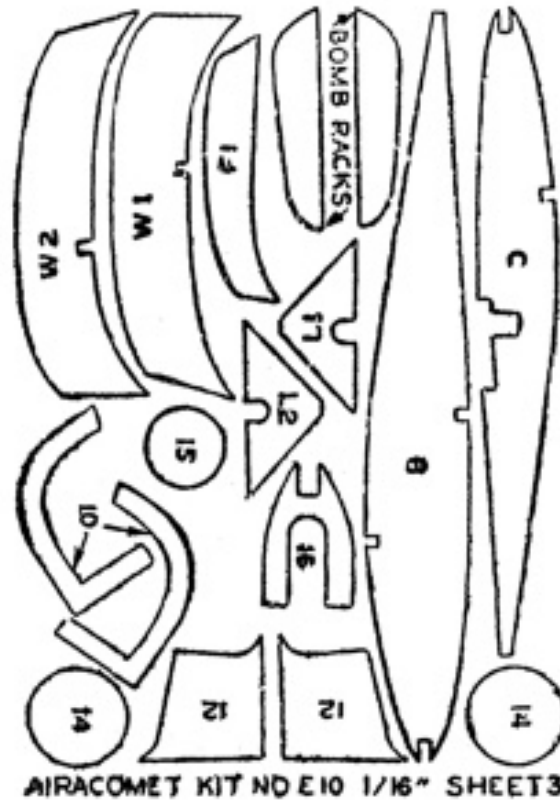
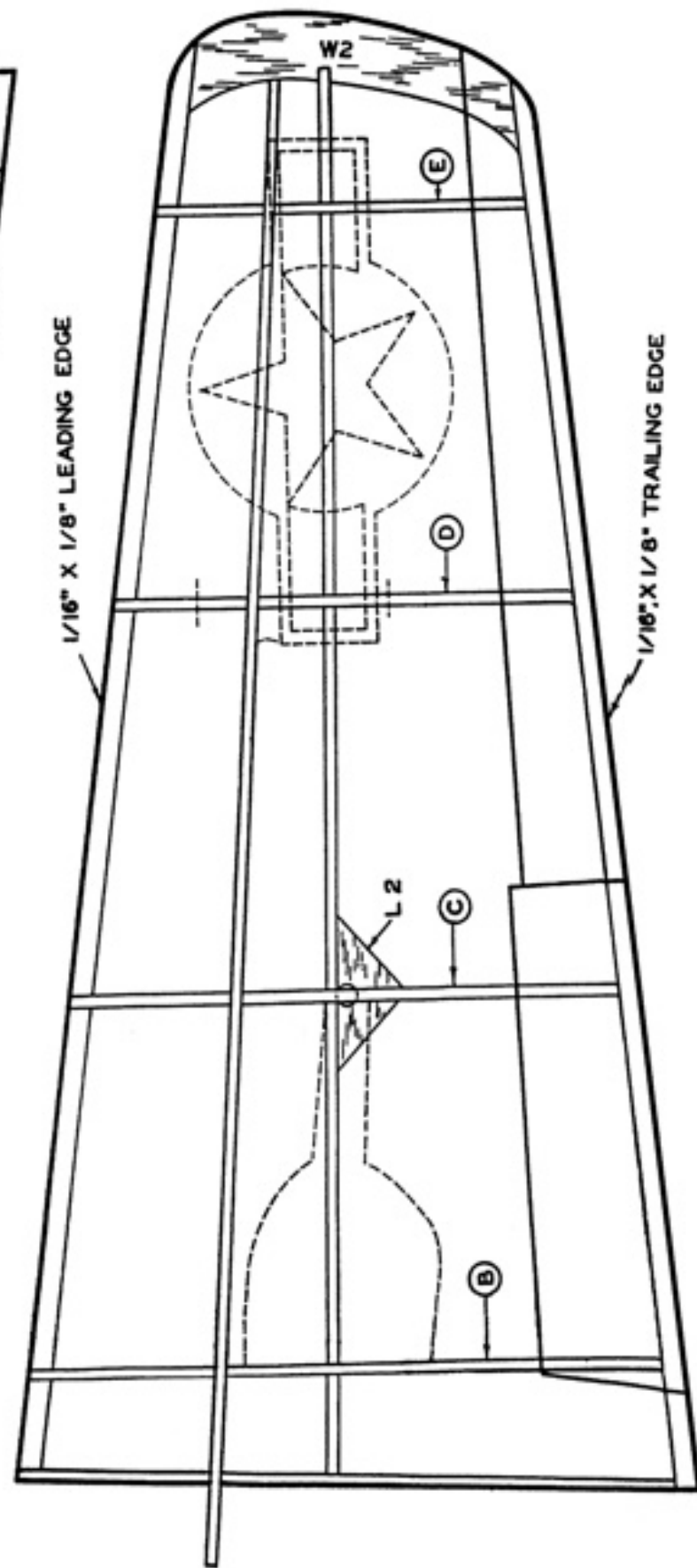
There are two types of jet engines now in operation. The most important of these is the gas turbine type since it is the one used to power aircraft. The other type is used in robot bombs. The illustration shows how the gas turbine jet engine functions.

Air flows from "A" through compressor "B" into combustion chamber "C", where it is heated and expanded by burning fuel. Part of this hot gas turns turbine "D", which operates compressor "B". From here, the gas rushes through nozzle "E" driving plane forward.

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8



BELL P-59 AIRACOMET

Because of its speed, its high rate of climb and the unusual nature of its power source, it has been called the "Airacomet." It is the first U. S. plane to be flown by jet propulsion.

Powered by twin gas turbine jet engines and using kerosene for fuel, this single seat fighter has a speed of over 400 M.P.H., with new altitude limits.

Its jet engines do not require any warm up, permitting almost immediate take-offs. Armament consists of 4-.50 cal. machine guns and a 37 mm. cannon. The plane has a wingspan of 49 ft. and weighs a little more than 5 tons.

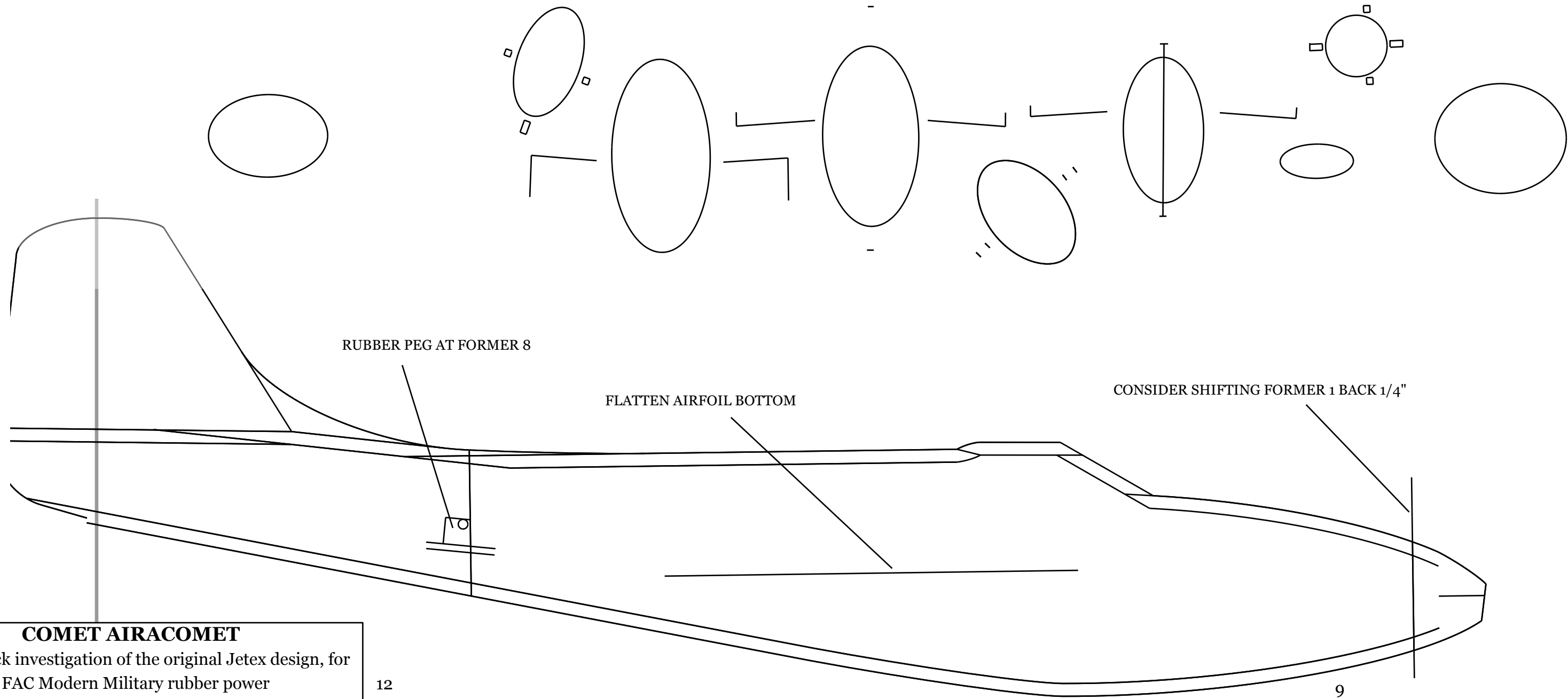
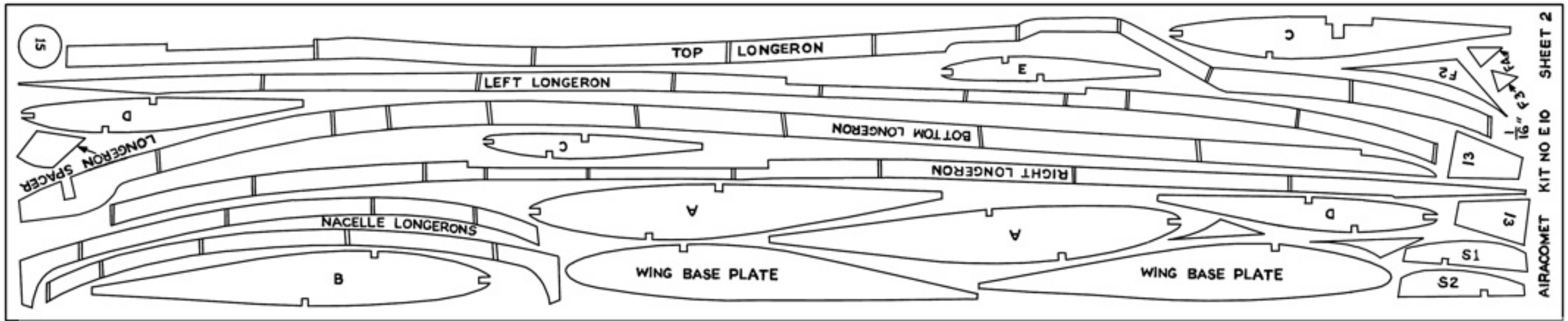
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BELL P-59 "AIRACOMET"

WINGSPAN-18 INCHES | LENGTH-14-7/32 IN.

KIT NO E 10 | DRAWN BY *George Underley*

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COMET AIRACOMET
 A quick investigation of the original Jetex design, for
 FAC Modern Military rubber power

WING 3/16" Balsa, 5/32" at Tip

RUDDER
1/16" Balsa

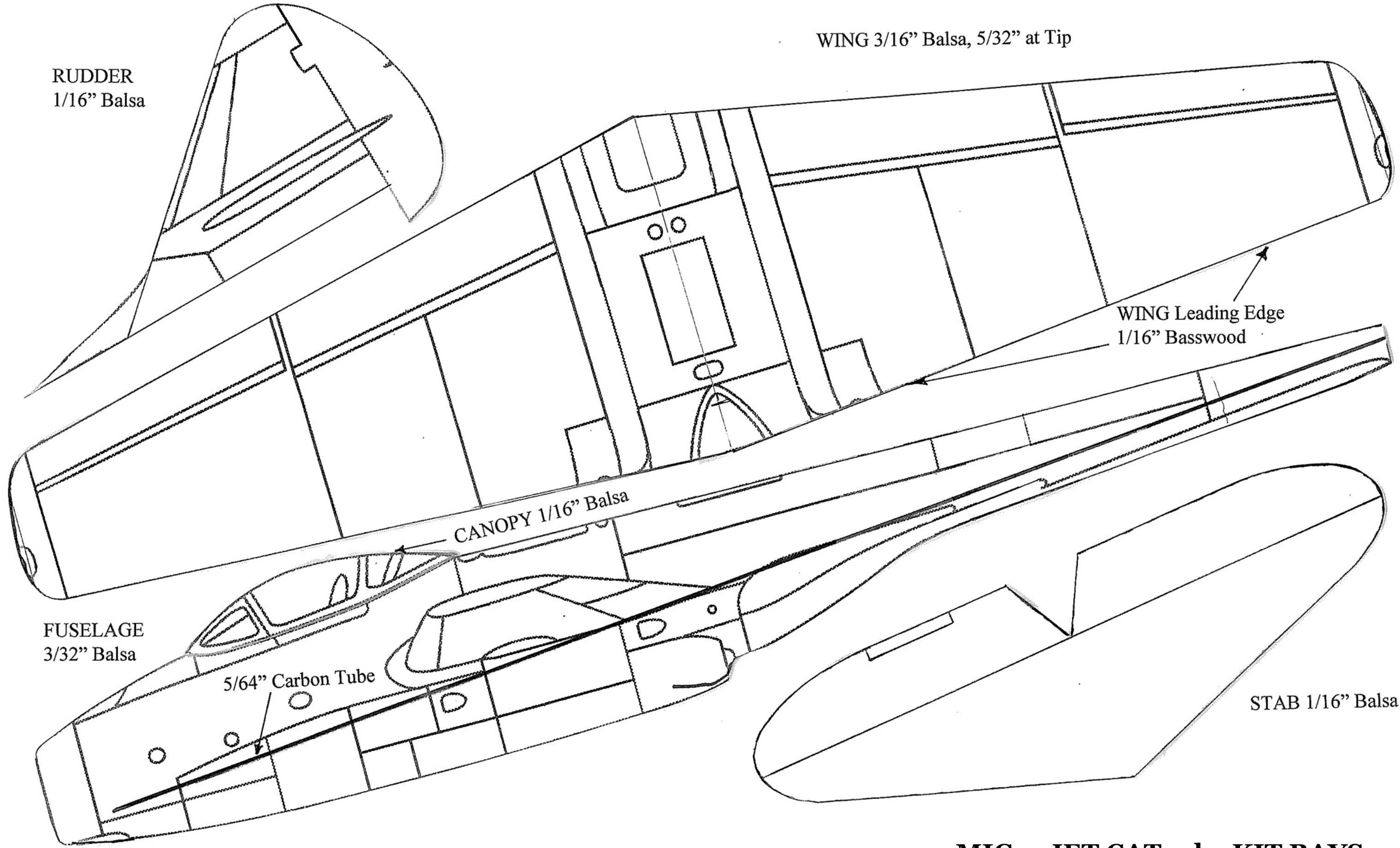
WING Leading Edge
1/16" Basswood

CANOPY 1/16" Balsa

FUSELAGE
3/32" Balsa

5/64" Carbon Tube

STAB 1/16" Balsa



GUARANTEED (99%) Basic Trimming Techniques that Work for Me

By Claude Powell (powellchp@md.metrocast.net)

My main objective is personal satisfaction, not to be king of the hill. If I'm not having fun I don't do it. I use the KISS principle anytime I can and simplify any problem as much as I can. I'm a fan of **John Koptonak's 10 Point Guide to Trimming** and I carry it in my model box for reference. (editor's note: John's excellent guide was re-published in the Flying Aces Club Newsletter, Number 236, Jul-Aug 2022, beginning on page 23). It's dead on and you might consider it also. I don't try to build museum quality models or build a model to win an event or to outdo anyone else. I build the model I want to build, the way I want to build it and get it to fly. Anything beyond that, such as long flights, contest potential, etc., is a BONUS. I can help my model meet my goal by reducing/eliminating potential problems during the construction and trimming stages. These are the conditions I set for meeting my objective, and not destroy my model in the process, and it works (99%).

WEIGHT: I mostly scratch build and the ONLY consideration I give to weight is to use 7-8 lb balsa. I have no problem adding stringers, gussets, planking or any additional framework to the plan. For example, many of the "dimers" use 1/16"sq wing leading and trailing edges. I replace these with 3/32"sq leading edge and 1/16" x 1/8" trailing edge and then sand to shape. I only use colored tissue unless I have no other choice. Silver or camouflage color requires paint. My wing loading is typically 0.5-0.7 gms/sq in", without the motor, and that's acceptable to me.

DIHEDRAL: Many years ago I read an Earl Stahl article where he gave his parameters for designing models. I apply these automatically regardless of what is shown on the plan. He used 1"/ft of wing span under each wing for a low winger and 1/2"/ft under each wing for a high winger. It works.

DECALAGE: Although not usually necessary to add, I always check the plan for decalage; I only add it if there is none. I can do this during the construction phase. When it's necessary, raising the wing leading edge is preferred to raising the trailing edge of the stab. Raising the wing leading edge automatically lowers the thrust line. Raising the stab trailing edge automatically raises the thrust line.

PROPELLER: Use smaller prop than shown on plan because it reduces torque problems.

MOTOR: Use weak and short test motors. I start with a weak motor and increase the power until I determine the necessary strength. The short motor eliminates the need to braid, eliminates long retrievals, makes changing the rubber loops easy, and still allows me to easily identify the motor strength the model needs.

BASICS: Model must be built with NO warps, wing, stab and rudder properly aligned and secure so they can't move. This is important!

CHECK POINT: I've eliminated the worry about weight, I have insured the model has adequate dihedral, adequate decalage and no warps and all flying surfaces are secure and accurately aligned to proceed to the gliding phase. I've pre-

determined the propeller and motor sizes I'll use when I start the flying phase to eliminate model damage and unwanted problems.

SET THE INITIAL CG: I know this won't be the optimum CG but only a safe starting point. Remove propeller, nose assembly and rubber motor if installed. Use the plan CG if one exists. If not, set approximately 25%-30% of the wing chord. Closer to 25% result in a more stable CG than 30%. Quite often I'll simply use the wing spar because it's usually about right and because it's a good reference point. Don't cheat, remember we aren't worried about weight. Use enough clay, on the nose or tail, to balance the model at the selected CG. If in doubt, slightly nose heavy is better than slightly tail heavy.

GLIDING: Each model is an individual so treat it that way regardless of what someone else's did. No Gurney flaps, tabs, etc. Use only clay to control glide. Try for the longest, straightest glide you can obtain using only clay to control it. As the glide improves, speed it up until it gets pretty fast but will still recovers to a flat glide. Each model has a limit so regardless of whether the glides are long or short, if it's stable, repeatable and the best you can do, ACCEPT IT. If the model won't glide straight and continues to roll off to one side or the other simply add clay to the other side until it stops rolling off. Nothing else!

FLYING: Small prop, weak and short test motors, make notes/status, results in my "safe flying model". My objective is still, ONLY, to make the model fly without damaging it in the process. I can help the trimming process by reducing/eliminating potential problems. I do this by sneaking up on the prop/rubber combination that will be required to make the model fly. Example; if the plan calls for an 8" prop and I might expect to use two loops of 1/8" rubber for power, I won't. Instead, I'll use the next smaller size prop, a 7", and two loops of 3/32" rubber for power. I won't be fighting torque and the smaller rubber size won't overpower the model. For this example I make three 1/8" test motors approximately 1"-2" longer than the distance from the rear motor peg to the model nose. I also make three 3/32" motors the same length. I install the prop/nose assembly and two 3/32" motor loops. I rebalance to my established CG and wind 300-400 turns into the motor. Any unwanted turns from a straight line are controlled ONLY with the thrust line (down thrust, side thrust). Adding more power will eventually make me add down thrust to control it. I can replace one of the 3/32" loops with a loop of 1/8", rebalance the model, and wind 300-400 turns. When this extra power starts to cause stalling I add down thrust to control it. Now I wind to 500-600 turns and repeat the down thrust adjustment as needed. I continue adding power/more turns as long as I can control them. Don't skip rebalancing after any motor change. I've reached my objective.

CHECK POINT: I document the model status at this point. The propeller, motor, turns and CG are recorded for future reference. This is my "safe flying model". It's important because it gives me a return path to a safe flying model regardless of what happens during my future improvement efforts. If I do get lost in these efforts I simply remove all Gurney flaps, modifications, changes, etc. and return to my safe flying model for a restart. I know this is not the optimum CG but it's a safe starting point to keep

the model under control and stable. Now I can retry to improve the performance again, and again, and again until I give up and accept what I have.

WRAP UP: Go to John K's 10 step trimming list as soon as you can. By now you can tell I've pretty much followed it because it's dead on target. I've added slightly more detail in some areas for my personal needs and to stay within my capabilities. All models are individual as are all trimmers and we have our limitations. Simply do the best we can with what we have and accept it. If this helps anyone clear out those "won't fly" models drop me an e-mail.

-CP

7 Habits of Successful Freeflyters By James Martin

Driving back from a contest, I had what fancy people call an ezeophany: I was sitting on a wealth of free flight knowledge, over 40 years of it, and it was time to help my fellow airmen experience the degree of success I've attained. My illustrious career has included the United Kingdom's DFS (Distinguished Flying Splat); Moldova's Order of Birdmen, 9th Class; France's Canard de Canard; and many others. So, let's get to the habits that have made my success soar.

1. Torque fear is real, so respect it. I once heard someone say you could wind 4 30" strands of 3/16 to 6 torque inches if you were using a blast tube. Insanity. When a motor wound like this blows it will flatten every car, truck, house, barn, and silo in a 2-mile radius. Do you want that kind of devastation on your hands? But why carry such a motor if you're not going to wind that far? Simple: rainy days. I mean this alegorophically of course. I know I will need that torque sometime in the future, and always make sure I'll have it ready when that time comes.

2. Braiding is not nearly as good as just twisting rubber together. Sure, some people can braid motors that look like cordage in a fine carpet. I prefer to respect the freedom of my rubber and gently twist the strands. I believe giving rubber space to flop around is as necessary as letting a fine wine breathe.

3. Creating the conditions to allow your motor to climb the prop shaft is not bad. This happened to me at a recent contest, when the little wire doodad I used to hook the rubber to the prop shaft climbed to the tippy top in my Aeronca Chief. What a symphony. It was as if there was Packard Merlin in that lightplane. And who wouldn't want that?

4. All props are equal, so don't discriminate. I choose my props based on what I have collected over the years from garage sales, and on color. I trust that the manufacturer knew what he was doing, and who am I to question his motives or integrity or whether a prop has any pitch molded into it? A corollary to this is that all plastic props have been granted eternal life—their clutches will never disintegrate while you are holding a fully wound plane. Bottom line: use what you have.

5. Documentation is for sissies, so don't bring it. I have a neatly organized binder that contains all the documentation for every scale plane I have. The binder has neat plastic pouches that store my 3-view, color documentation and such. It's a thing of organizational and artistic beauty. If you think I'm going to risk it getting

soaked by some rogue sod field watering system, think again. I find it much more manly to have to dig up some documentation on my phone at the contest and use my rhetmoronical skills to convince the judges. Think of yourself as Plato writing a dialogue in real time.

6. Bringing extras to a contest is a waste of time. Think about how packed your flight boxes are with prop shafts, pliers, props, springs, stuffing tools, wire, balsa, glue, basswood, extra motors, washers, tubing, shimming material—the list can go on and on. First, lifting that stuff can very easily throw out your back, and, let me tell you, trying to retrieve with a slipped disc is nearly impossible. Second, how often do you use that stuff? Better to go into battle free of that weight—we all know the maxim: the lighter the flyer, the higher the plane climb, so rid yourself of any excess baggage and reap the results.

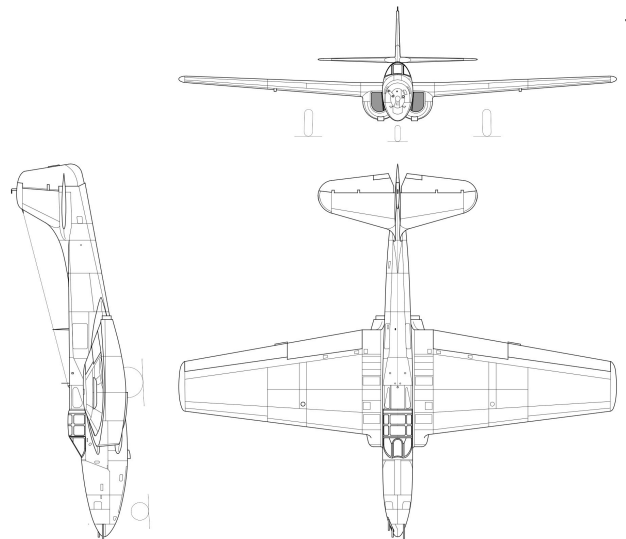
7. If you want to read the rules, go work for the IRS. At one contest, the Blue Ridge Special event allowed the best 3 of 6 flights. This nugget apparently was printed in a tiny font at the bottom of the contest flyer. I say apparently because it will be a cold day in Siberia when I turn into a CPA or a lawyer. I began flying at 3 pm and then was told flying would end at 4 so I couldn't get all 6 flights in. Injustice like this happens all the time. As a result, I have a legal team on retainer, and I assure you that once my lawsuit makes its way to the Supreme Court, I will be redeemed.

8. If you're not first, you're last. I have this gem from *Talladega Nights* tattooed on my left forearm so I see it every time I launch. Let's be honest, there's a ton at stake in scale free flight—huge purses, giant endorsement contracts, the adoration of fans, many of whom are women, so it's important to develop a killer mindset. To get into the game, I recite passages from the Art of War before each contest.

One specific example: during a recent mass launch, I used my patented Taran® approach, using my heavily armored Il-2, with razor blades in the leading edges, to take out one of my competitors. If you can't be first, make sure no else is, is my philosophy.

There you have it. Practice these habits until they're second nature, and you too will feel the thrill of defeat and the agony of fellow flyers. Finally, you may be wondering why the title says 7 habits, but there are actually 8. No title ever fenced me out. I break trails rather than follow them. I am a man who drums to a different march.

-JM



Comb. Racers ML			FAC No-Cal		
James Martin		Buster	Mark Fineman	Extra 400	295
Wally Farrell		Simplex	John Diebolt	Cardinal	198
Mark Fineman		Matilda	James Martin	Folkerts	174
FAC Embryo			FAC Simplified Scale		
Wally Farrell	180	Embryomatic	James Martin	Aeronca Chief	224
James Martin	179	Bad Ax	Mark Fineman	Helio Courier	173
Ray Bridges	67	Prairie Bird	Jim Coffin	Aeronca Champ	57
FAC Two Bit + 1			NFFS E-20		
Wally Farrell	348	Supreme Traveler	Kit Bays		145
James Martin	180	Flying Cloud Jr	FAC World War Two Mass Launch		
Mark Fineman	149	Skokie	Wally Farrell	Corsair	
AMA Hand Held Catapult			Mark Fineman	P-63	
Carl Dowdy	192	Org Design	James Martin	YAK-3	
Kit Bays	142		Scale Flying Horde Mass Launch		
Wally Farrell	122	Pathfinder	Wally Farrell	Hellcat	
AMA P-30			James Martin	Aeronca Chief	
Mark Fineman	251	Hot Box	Mark Fineman	Helio Courier	
James Martin	120	U-Crane			
Carl Dowdy	39	Square Eagle			
Non-Scale Flying Horde Mass Launch			FAC Blue Ridge Special		
Mark Fineman		Zephyr	Mark Fineman		
John Diebolt			Carl Dowdy		
James Martin		Flying Cloud Jr	Jimmy Jordan		
Wally Farrell		Supreme Traveler	Ray Bridges		
Carl Dowdy			Julie Farrell		
Ray Bridges			James Martin		
FAC Jet Catapult			FAC Dime Scale		
Kit Bays	246	Mig 9	Wally Farrell	Mauboussin	259
Wally Farrell	198	P-59	Mark Fineman	Bristol Brownie	138
Carl Dowdy	82	SAAB	James Martin	Caudron	58

Results are reported in rank order. Many thanks to Jimmy Jordan for this information!



Carolina Area Free
Flight Association



*Kudzu
Squadron 13*

Kudzu Classic

May 20 – 21, 2023 Raeford, N. C.

Saturday, May 20

FAC Mass Launch

WWI
Navy Scale Pat Daily Memorial @
Mod Civil / Mod Mil Comb
NIT Embryo Don Srull Memorial @@

FAC Judged / Timed

Embryo
Jet Catapult
Dime Scale
FAC Peanut Scale

Other

AMA Catapult Glider
AMA P-30
Timed Target

@ Any Naval Aircraft (including Marine and USCG); any era; any nationality; must be in Navy colors and markings

@@ Any published variant of Don's NIT Embryo. NIT II plans published in Flying Aces Club News Jan-Feb 2023.

Motorized chase vehicles allowed on roadways only

Water and soft drinks provided

On field comfort facility

Field MapQuest/Google Maps/GPS:
204 Ratley St, Raeford, NC 28376

Sunday, May 21

FAC Mass Launch

WWII
Air Racers Comb.
GA Multi-wing / GA Monoplane Comb.
Miss Production Dan Driscoll Memorial #

FAC Judged / Timed

2 Bit + 1
Scale Glider
Blue Ridge Special
No-Cal Profile

Other

NFFS E-20
SAM Twin Pusher
Flying Hoard Mass Launch ##

Dan Driscoll resurrected this 1941 OT Rubber Stick. Plans published in Max Fax issue 2022-4.

Any rubber powered non-scale - max 26" wing span

FAC Events CD:

Dave Mitchell davedge@me.com

Other Events CD:

John Diebolt jdiebolt@mindspring.com

CAFFA Contact:

Jimmy Jordan jjordan18@ec.rr.com

**Entry Fee: \$10.00 Covers both days
Juniors Free**

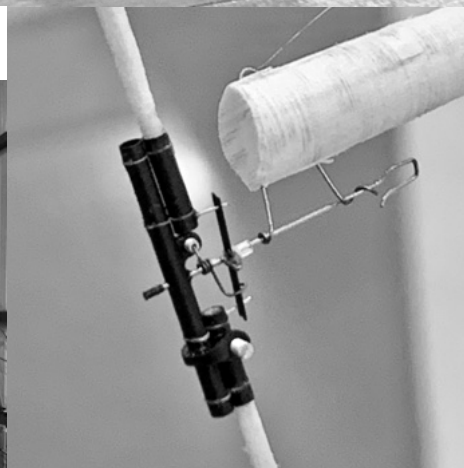
Stefan Prosky's smart rendition of Dave's Koolhoven FK40 Dimer. It putters about serenely indoors.



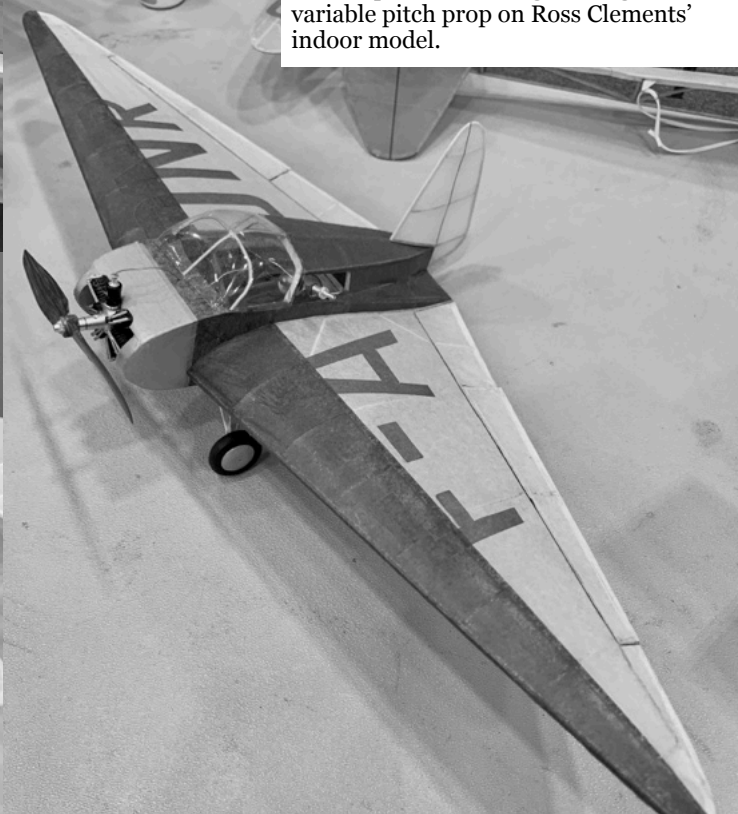
Stefan also built this nickel scale Culver Dart. Cute as a button! The flight profile is...interesting. Sorta like a button.



From micro to macro—Mike Dale, Bill Hadden and Tom Woodburn hosted the gang for the annual viewing of the full-scale N.28 project, in February. Covering is imminent. Gorgeous!!!



This exquisite bit of engineering is the variable pitch prop on Ross Clements' indoor model.



Eric Holmes is a fine modeler. He had a table full of sharp builds at the last CCBC indoor fun fly, among them this super clean Waco SRE.

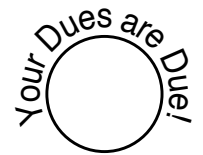
Eric is also apparently fearless. Or is it mad? Here's his wonderful Fauvel AV-10, Co2 power. It behaved rather badly at the CCBC, but Eric has great patience. He'll need it.

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Washington, DC 20012

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SUBURBAN MD



Uh Oh! "X" in the
circle?



RENEW ONLINE!

Go to **www.dcmmaxecuter.org** and
click on **MaxFax** at the top of the page.

Willa Beatrice Brown was born in Glasgow, Kentucky in 1906. While enrolled at Northwestern University (where she was awarded her M.B.A in 1937), she decided to learn to fly. She earned an aircraft mechanic's license from Curtiss-Wright Aeronautical University in 1935; in 1938 she earned her pilot's license in the United States, and in 1939 she earned her commercial license, becoming the first African American woman to earn either type of license in the U.S.

Together with Cornelius Coffey, Brown co-founded the Coffey School of Aeronautics at the Harlem Airport in Chicago, where they trained black pilots and aviation mechanics. Also in 1939 she helped form the National Airmen's Association of America, becoming a lobbyist for the integration of black pilots into a segregated Army Air Corps, as well as the Civilian Pilot Training Program. That same year the Coffey School was selected to provide a pool of black trainees for the U.S. Army Air Forces' pilot training program at Tuskegee Institute. As the school's director, Brown was instrumental in training more than 200 students who went on to become the famed Tuskegee airmen.



In 1976 she became a member of the FAA's Women's Advisory Board, in recognition of her contributions to aviation in the United States, and in 2002 Brown was named one of the Women in Aviation's 100 Most Influential Women in Aviation and aeronautics. Brown was posthumously inducted into the National Aviation Hall of Fame in Dayton, Ohio on September 24, 2022.