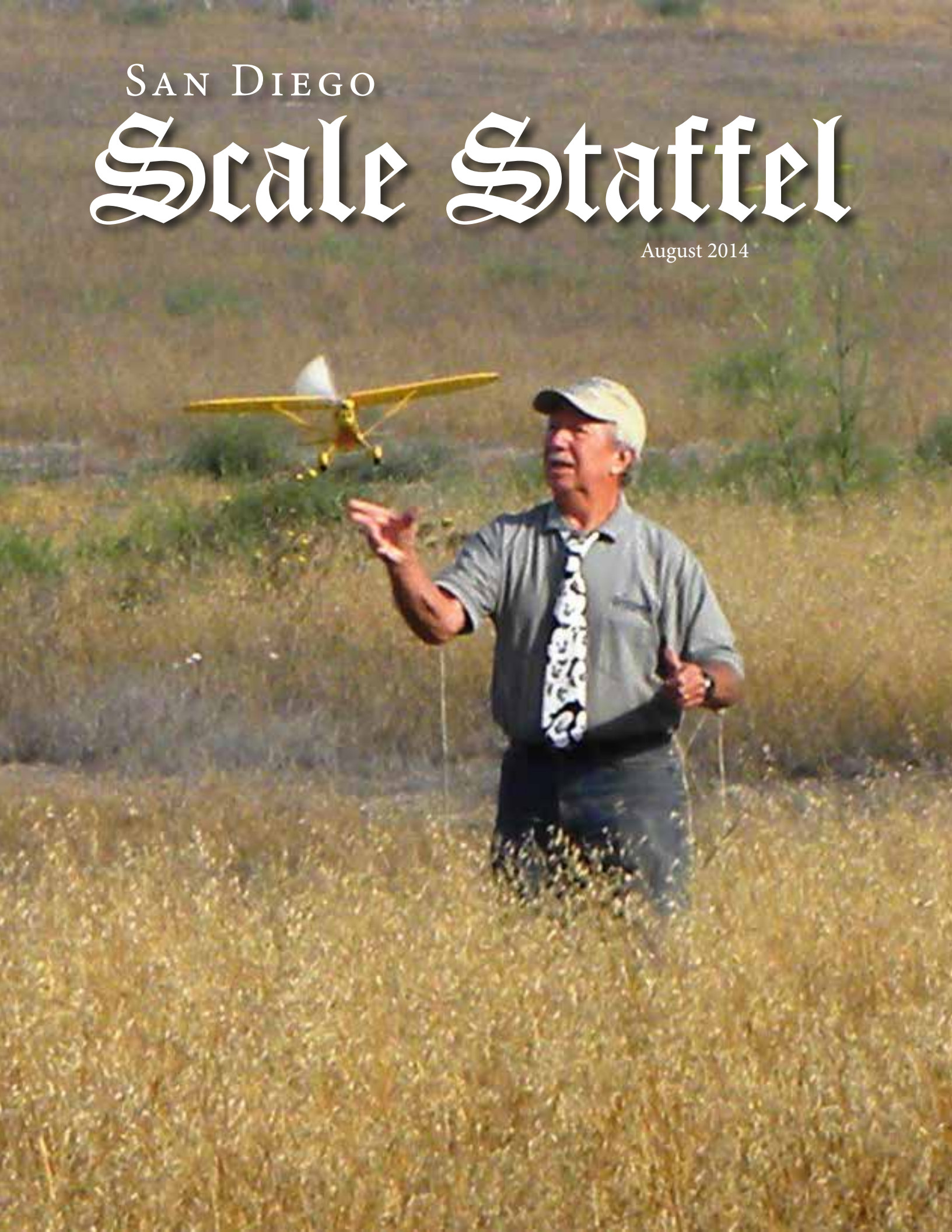


SAN DIEGO

Scale Staffel

August 2014





Scale Staffel
FAC Squadron #41
AMA chapter 915

Founded to encourage and advance
the hobby of building and flying
free-flight scale and sport airplanes.

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**FLYING
ACES**
SQUADRON 41

——— PRESIDENT'S LANDING STRIP ———

A Wonderful Turn-Out

by John Hutchison

Entries for the July 4th, 2014 were four times previous years. The prize money for 2XPeanut and Peanut Scale was donated by Scale Staffel and Orbiters. Linda graciously prepared the annual hot dogs, cupcakes and other yummy goodies.

Our guest judge was Michael Broskowski, a long-time friend of Kathy McLaughlin. The judging was "Walt Mooney" style: simple and to the point. Michael, not being familiar with the "pilots," judged the planes without partiality. The planes were listed according to the judge's interest and opinion. Also, attending as guest "judge emeritus" was Thorpe DeVoid, a former WWII pilot and trainer with over 10,000 hours. Thorpe began flying at age 17. When WWII began, he was quickly grabbed up to train our countries pilots. He also flew transports, bombers and cargo planes. Michael and Thorpe have attended several indoor flying meets at Grossmont College.

Results are listed in the newsletter. Start building your 2XPeanut and Peanut for next year. Remember there is real prize money.

The Indoor Flying at Grossmont College continues to grow in participants. Come join us on the first Sunday of every month and enjoy the comradery and the fun.

Wipe the dust off your planes and clear a space on your workbench to get ready for the August 23-24, Scale meet at Perris. This is the second of the three competitions for 2014. Check out the flier in this newsletter and on the website.

Mark your calendars for WESTFAC V. It will be held in Buckeye, AZ on October 21-24, 2015. This should be a great event. Start working on your favorite project now. In 14 months (+ or -) you should have it ready to fly. For more information check out the website: www.westernfac.com.

Build! Fly! And have fun!

LLFF! (Long Live Free Flight!)

John Hutchison

A Good Day

by William Scott

What does a good day, in our hobby, look like? We each probably have our own definition of what a good day looks like and it most likely varies each day; ranging from reading an informative article in a new magazine or book; all the way to having that difficult to trim plane fly well and win a contest.

Here are a few “good day” examples. There are a couple of friends we know, every time we get together, we do an activity. Several times we made clay pots on a potters wheel; another time was to go dancing and recently we built Delta Darts and flew them in the backyard. We were all thrown back to our youth, clapping and jumping up and down with excitement as our planes flew around the yard.

There is a new member in our club, who has built a Prairie Bird, and he has gotten it to fly great in the gym. When he flies, he has a huge smile on his face, a blend of joy, contentment, and relief as he stands back enjoying the moment watching the plane that he built all by himself, as it made nice, big, slow circles all the way up to the ceiling and then back down, gliding gently in for a perfect landing.

At the most recent contest there was a very nice Huntington 2x-Peanut built by a FAC Hall of Famer. The model builder never seemed to be in a rush, he went about his business getting the plane ready to fly. When he and the plane were ready, he walked out to the launch area, checked the wind, waited for a calm moment and then let it go. That Huntington took off, it went twice as fast and twice as high as any of the other previously launched models. You could hear a collective, “w-o-a-h” escape the surprised audience, two minutes and a max later it landed.

We hope this newsletter is able to bring you a good day or two of your own.



William Scott
Editor

Corrections and Omissions:

Please note the address for Diels Engineering, Inc was inadvertently left off their ad. Their ad should now be correct. Please see it on page 18.

The previous newsletter had a flier for the August Scale Staffel Contest in Perris with the wrong dates. The correct dates are August 23 and 24, Saturday and Sunday. The flier on page 15 has been corrected. We hope to see you there!

INDOOR CONTEST

The first Sunday of every month

Big Gym at Grossmont college

8800 Grossmont College Drive

Park in lot “C”

Gym opens at 7:30 a.m.

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Cover Photo

William Scott’s DH 6

Photo by William Scott

Building a “First” Propeller

by William Scott

This will not be the “first” propeller ever made, but it is the first time following specific instructions.

Turns out, maple syrup bottle had best diameter for molding the propeller.

The propeller is intended for the front of a recently built No-Cal called Rare Bear. The plans for the No-Cal are included later in this newsletter. The plans do not call out a specific propeller size, but the word around the club is, you should start with about 1/3 of the wing span. The plan calls for the maximum wing span for a No-Cal, 16 inches, which puts the propeller length at just over five inches. Starting with a six inch plastic prop. It flies fast and in the space available in the gym, it flies for about 30 seconds.

Is that a good flight time? Not in our club. Closer to two minutes is needed if you want to be in the top three places.

There are three simple solutions to elongating your flight time. Choice #1 – Put on a bigger propeller. Choice #2 – Put on a longer motor or thinner motor. Choice #3 – Build a better propeller. All are good choices; but it seems that everyone finishing in the top three places had built their own propeller, a major factor in deciding to jump directly to the third option.

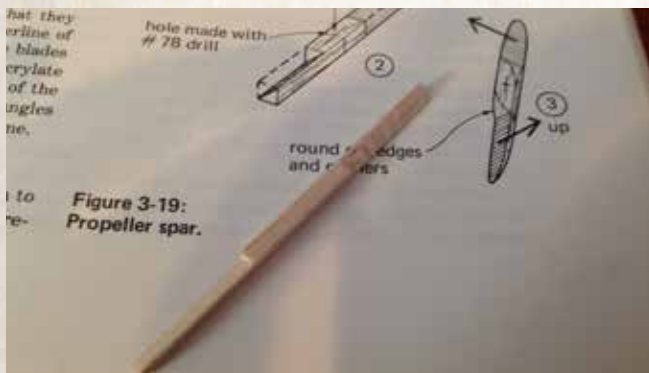
Opening up Ron Williams’ book, *Building and Flying Indoor Models Airplanes*, the instructions were found in chapter three titled *The First Step Toward Serious Building and Flying* a propeller with step-by-step instructions.

There are ten steps explained in detail, over six pages: Cut the propeller blanks, soak and bend, cut the spar, drill the spar, glue on blades, and balance.

Once it was built and installed, nose weight was added to put the CG back in the correct place. The process of trimming began.

The first thing that is noticed is the eight inch propeller turns much slower than the previous six inch propeller. With the first toss, the plane floated to the ground like a leaf falling in late Fall. The second toss, with more nose weight and more winds, floated forward for three or four feet when the plane rolled over to the left, then headed nose down to the ground, hitting the only rock in the yard, breaking the propeller spar.

After gluing the propeller spar, and adding weight to the right wing tip. It was time for another try. With a few more winds, the third toss was much closer to a flying airplane. The plane was still floaty; it flew in a gentle right hand turn hitting a porch post and breaking the propeller spar again, but this time the other end. Note to self: cut spars from basswood or other hard material. Also try laminating the propeller blades to add stiffness. Next month look for an update on the Rare Bear’s propeller saga and possibly an article on the “second” propeller.



My Approach to Rubber Scale Flying

by Don Delaach first published in August 2012 FAC

Editor's Note: In Geneseo, New York in 2012, Don Delaach entered eleven contests and finished in the top three in at least nine of them, was awarded Scale and Non Scale Grand Champion for that year.

In free flight as in most sports the competitor wins the event—not the tennis racquet, skis, or race car. The model is just a tool to that end. In our hobby, (especially mass launches) the “best” or lightest model seldom wins. That said, I’m not going to try to convince you that building light isn’t generally a good thing. If you’re good at it and your models are strong enough to survive the rigors of contest flying, keep doing it. Lighter models generally have more duration capability, especially in ideal, light/no-wind conditions. But I believe that the mantra of “adding lightness” is ultimately a crutch. What most modelers should focus on first is improving foundational skills such as their understanding of trim/stability, and mastering their winding techniques.

My Models

All of the mass launch models I took to Geneseo, New York, in 2012 are near the middle of the pack in terms of wing loading. Some are actually a bit heavier than the “big guns”. I consider them “all-weather” airplanes. Here is the data:

F4U Corsair 39g with a 22.5 inch wing span, original except enlarged Drela Peanut fuselage (TVo = 0.65). Dihedral up to the bottom of the canopy, seems adequate. Very stable. 12g x 4 strands 3/32 inch and two strands 1/8 inch.

Cessna CR-2 49g with a 22 inch wing span, reduced from 24 inch Rees plan. The wing is original with a slightly enlarged stab, 10 inch prop. A spectacular,



Don DeLoach at Geneseo, New York, 2012 with his winning F4U Corsair. Photo by Peter Kateris.

forgiving design. 16g x 6 strands x 1/8 inch. Will take eight inch-per-ounce safely.

Bristol Scout 53g with a 21 inch wing span, enlarged from 1970s Micro-X peanut plan. 35% center-of-gravity. Very stable, but also heavy! 11.5g x 4 strands 3/32 inch and two strands 1/8 inch. 8.5 inch prop, carved. TVo = 0.46.

DH.94 27g with a 23-7/8 inch wing span. Enlarged from the great Mike Nassise plan, stab enlarged 10 percent. Eight inch plastic prop cut down from nine inches. 7.5g x 2 strands 1/8 inch plus two strands 3/32 inches.

F4F Wildcat 48g with a 22-3/4 inch wing span. Enlarged (121%) from the 19" Stahl plan (TVo = 0.62). A real pig at nearly two ounces! But it somehow does 80 seconds. 14 g x 4 strands 1/8 inch plus two strands 3/32 inches.

Props and Rubber

For my 21-24 inch birds, I aim for a prop diameter of 40% of the wingspan. This is a bit arbitrary but seems to work. All but one of my models have carved props in the pitch/diameter (P/D) range of 1.15 to 1.30. The less drag on the ship, the higher P/D you can safely use, but I never exceed 1.3. The DH.94 is the only scale model I currently fly with a plastic prop, a nine inch blue Peck prop cut down to about eight inches.

Too many guys obsess about prop P/D or rubber motor length/cross sections without remembering that the two are integrated. That is, for a given airplane, every prop has an ideal rubber motor and every rubber motor has an ideal prop. Finding the right combination is the first step toward optimizing your flight times.

Some guys (Wally Farrell and Tom Nallen II come to mind) get spectacular results with plastic props, which I consider generally inferior to carved props. They are able to do this because they optimize their motors to their props. Conversely, Wally or Tom could probably not put one of my carved props on one of his airplanes and expect to not have to change the rubber motor to match it. The prop and the rubber have to be matched.

Dispelling the Myths

"Set CG at 25-30%." We've all heard that one, but it is often a trap for mediocre performance in FF scale. There's a simple antidote to this: the Bill McCombs Tail Volume Coefficient/Starting C.G. formula. As soon as I started calculating TVo and C.G. position my understanding of FF trim and stability was changed forever. My models were easier to trim, held their trim better, were less prone to crash, and were able to handle more power. All these factors lead to better (longer) flying models, and more contest success.

$TVo = \text{stab area} / \text{wing area} \times \text{tail moment arm} / \text{wing average chord}$

$$C.G. (\%) = 16 + [TVo \times 36]$$

Bill was one of my early mentors and a Princeton-educated Senior engineer for Vought Aircraft. What is TVo? Put simply it is the measure of a horizontal tail's effectiveness as a function of its tail moment arm (length from wing LE to stab LE) and wing average chord. TVo is hugely important, because it explains why a "scale model with a 25% stab" is too vague. A 25% stab on a P-51 Mustang...or a Pilatus Porter? The two airplanes have vastly different moments that result in very different tail effectiveness. One may need a C.G. at 29% while the other needs to balance at 47%. This C.G. difference greatly affects flight trim and behavior.

The *magic* TVo number I have found (through much trial and error) for FF scale monoplanes is 0.65. When plugged into the McCombs C.G. formula this results in a C.G. of 38%—well aft of the clichéd one-quarter to one-third point. For biplanes the magic number seems to be about 0.45. Refer to the McCombs book about C.G. placement for biplanes.

With sufficient TVo almost any scale model can be made to fly well with not a lot of fuss (assuming good fundamentals like warp-free and well-aligned surfaces, adequate dihedral, adequate fin area and methodical trimming in calm weather). With TVo less than 0.65/0.45 most scale models become quite harder to trim for stable and competitive flights.

Some scale subjects with longish tail moments and/or larger stabs can have even larger TVos, which is a very good thing. If you can achieve TVo of 0.70 or 0.75 without making the stab look excessively large (remember, these are scale models!) by all means, do it. TVo of 0.75 yields a C.G. of 43%, meaning you can put in a very long motor often with little or no nose ballast. You'll also have a model with less need for down thrust and decalage.

Can a Model Have Too Much Stability?

Yes! The most common example in FAC circles is too much longitudinal (pitch) stability. This model is going

require a lot of nose weight to balance, will need more decalage, and as a result will need much more down thrust to control the power burst than a properly-C.G.ed model. I see lots of these models at FAC contests. They fly fine in cruise mode but they can't take advantage of the last 30-50% of the available torque without looping or requiring gross amounts of cruise-killing down thrust. Many of these models could be rebalanced at 35-40% of root chord, and they'd require less nose weight, less down thrust, and they'd fly significantly longer because they'd be able to handle more power and climb more steeply.

How Much Decalage/Incidence?

Forget about measuring this. Just calculate the TVo and starting C.G., balance on the bench with a motor installed, then start your trimming. Test glides over tall grass will reveal what is needed. Once the model is gliding safely over a short distance I take it to a steeper hill and let it glide longer. Some type of easily adjustable stab LE or TE is a big time-saver. I use 0-80 nylon screws under each TE on a "split" stab rotating on .040 carbon rod.

Positive Incidence in the Wing or Negative in the Stab?

This is a rabbit trail that just leads to confusion. I have models with 0 degrees of wing incidence that fly as good as models with 3 degrees wing incidence. All that matters is the relative angles of the wing and stab—known as decalage. In a typical FF scale model with TVo between 0.65 and 0.75 decalage is going to be about 2-3 degrees, but that's trivial because you're not ever going to actually measure it. Just set the C.G. per the TVo, start your test glides, and tweak the stab or wing angle until you get a floating glide. That's it. From this point you know you have a model with adequate pitch stability with C.G. in the right place that is safe to start power-trimming. You should not need to trim anything but the thrust angles from this point on.

Rubber and Torque

Every rubber motor of a given cross-section has a failure torque. Let's call it Tfail. That's the point at which a motor is going to break, regardless of the number of turns or whether or not the motor is broken-in.

FIGURE 1

Torque Chart post-2008 Tan Super Sport (total width expressed in eighths of an inch)

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

T.85 is the highest torque you should ever expect to wind a given motor without about a 30% chance of failure. Note: this does not assume your model can safely fly at T.85, though. This does assume the motor is well lubed, properly stretch wound and free of nicks or imperfections.

T.75 is an even more conservative number you may want to keep in mind, since we are talking about scale models with fragile fuselages.

The most important number for FF scale is the maximum torque that a given model can safely fly with, called Tsafe. Note that with scale models (marginal wing dihedral, relatively small stability margins in all axes) Tsafe is only found through trial and error flight testing (and diligent record-keeping). Every model I fly has a Tsafe that I'm careful to never exceed. Obviously, do your Tsafe testing over tall grass in calm weather. See Figure 1 Torque Chart on previous page.

Flight Trim

Unlike the experts I have never been able to make my low-wingers fly safely to the right under high power. I find it safer to use the traditional trim scheme of Left-Straight-Right using just enough down thrust to prevent a power stall, 0-1 degree of right thrust, and the use of prop torque to turn the model left under high power. As the launch torque bleeds off the left circle widens, then the model straightens for a few seconds, then reverses to a right circle at the end of the cruise. When the rubber unwinds completely the gyroscopic forces of the freewheeling prop keep the model circling right. I've found this trim scheme to be very safe if some basic guidelines are followed:

- Wing washout must be equal. This is especially important on low-wings with high taper ratios like Yaks, P-40s, etc. They seem especially sensitive to slight washout differential.
- Rudder trim also seems critical. Rudder is a very speed-sensitive adjustment (it increases its effectiveness with the square of airspeed) so it is best to not use any rudder trim if possible. Keep your rudders dead straight and I believe you'll avoid a lot of trimming problems.

- A common trim problem on L-S-R low wingers is that they will do a shallow right spiral dive at the end of the motor run. In such cases I've usually found that my wingtip washout was not quite equal, or my rudder not completely straight, or both. It might also be that your propeller has too much blade area or diameter, either of which can increase the right gyroscopic forces enough to create a spiral. Once on a 23" model I was getting a spiral dive in the glide with a 10" prop. I cut the prop down to 9.5" and the glide spiral disappeared.

Winding to Torque

One of the biggest fallacies in rubber-powered free flight is winding to a particular turns count and expecting the same relative power from flight to flight. A real-world example: wind a brand new motor to 1500 turns and note the reading on your torque meter—let's say it is 4.0 inch ounces. Now unwind the motor and let it rest for a few minutes before rewinding. On the second winding to 1500 turns that motor is going to reach only about 3.5 inch-ounces, and this torque yield will only worsen (to perhaps to 3.2-3.4) on the third and subsequent windings. Why? There are volumes of technical articles on this subject in NFFS Symposium books and other sources but the non-technical gist is this: As rubber is repeatedly wound it elongates and softens. This softening is a double-edged sword. It enables us to pack more turns in, but it also can mislead us into believing turns equals power. This is not the case. On this second winding motors need about 110% of the turns of the first winding to equal the torque of the first winding. On third and subsequent windings, as the rubber softens further, motors need 10-15% more turns to equal the first-winding torque.

The Torque Meter

For 21-24" scale models I use a home made torque meter in with a range of 0-12 inch-ounces. One can be made in about an hour and will become an indispensable part of your winding equipment. Go to the Pensacola Free Flight Team's website (www.pensacolafreeflight.org) and search for the article on Herb Kothe's torque meter. Calibrate it to inch-ounces per Herb's instructions or to another meter.

There are also commercially available meters. Dennis Tyson in Michigan is planning to manufacture a new meter

CONTINUED ON NEXT PAGE

for the FAC market in the near future. Contact Dennis at dennis.tyson@familychristian.com.

The value of a torque meter should be evident now. When I wind for a mass launch I seldom even count my turns. It much easier and more valuable to have torque targets for each of the three rounds. For example at Geneseo 2012 my torque targets in for the three rounds in WWI combat were: 2.0, 3.0, and 4.5 inch-ounces respectively. My notes indicate that the first round was a squeaker—I underwound, did only 61 seconds, and nearly got eliminated. Next time my round one target on that model will be 2.5 in.-oz.

Another example from last year: originally I was flying my 23" Wildcat on 6 strands 1/8" at 5.5 inch ounces. This was the highest I could wind it without looping or power stalling severely. Since this motor will take 11.0 inch-ounces safely without breaking it was clear that I was under-winding the model and it was still overpowered. So, I dropped the cross section to 5-1/2 eighths (two loops 1/8" plus one loop of 3/32") keeping the motor weight the same. The result is a just-right climb pattern and excellent cruise with more total turns, and duration in the 80-90 second range—not bad for this heavy and draggy fighter.

How Torque Affects the Flight of Our Models

With a typical rubber scale model (especially low wing racers and fighters) there's not enough wing dihedral to allow all-out flying at near-maximum motor torque without substantial danger. By danger, I mean a model that can't sustain a fast, steep helical climb without precariously rolling left due to propeller torque. With my 23" Corsair this is easy to spot: at 5.5 inch-ounces the model is perfectly safe in the climb and will do about 80 seconds in neutral air. But at 6.0 I discovered that it will do a partial left torque roll/wingover, losing a bunch of altitude on the climb-out. The cure, I found, is to launch it in a slight (20-degree) right bank when I wind it above 5.5. Still, it doesn't get appreciably higher on 6.0 flights versus 5.5, so I'll probably just stick to launching at 5.5.

Contrast this typical scale low-winger with an average non-scale duration ship like a Gollywock (C.G. at 90%, huge 45% stab, TVo of 1.80, ample dihedral). Gollywocks (and most other duration ships) have at least twice the dihedral of most scale ships, so they are much better equipped for steep

climbs. Take out half of the dihedral on a Gollywock and I believe you'll have a very hard time trimming it for anything but a modest climb angle.

How to Wind

Again, there are yawn-inducing volumes written on this subject. Better to avoid the boredom and follow these simple rules:

1. Don't bother with motor break-in for FF scale, especially mass launches. The first two windings prior to the final launch serve as a perfect break-in for the last round, which should be right at Tsafe.
2. Stretch that rubber way out before putting in a single turn! This is essential, and is something I see too few FACers doing. Tan Super Sport fails at about 10x of its relaxed length. You should pull out to four to five times the relaxed length before putting in a single turn.
3. Once you've stretched out, begin winding. Fast winding is not bad early in the turns count. Put in about 50% of the anticipated final turns before progressively moving in. Again, this process is critical. Too many guys start moving in too early and too quickly. Start checking the torque meter after every few handle cranks when you're above about 50% turns. Ideally the torque should not be dropping at all as you move in; if it is you are moving in too fast. Let the rubber pull you in.
4. Your last few handle cranks should occur just as your motor hook or O-ring reaches the nose area. Watch your final torque here carefully and slow down a bit more. Sometimes one more handle crank can mean the difference between 5.0 and 5.5 inch-ounces, which can mean the difference between a safe flight and a dangerous one.
5. Studies have shown that wound rubber loses 15% of its total energy in the first five minutes after winding. In mass launches this means you shouldn't try to be the first to finish winding.
6. 10:1 winder is essential.

CONTINUED ON NEXT PAGE

Summary: Dos and Don'ts

DO – Use a digital 0.1 (or 0.01) gram scale to make up your motors by weight well before a contest. Lubricate, braid and label and bag them by length per weight. Example: I use 6 strand 1/8" motors for multiple airplanes. All are 16 grams un-lubed, but some strand out to 34" while others strand to as short as 31" that's a significant difference in cross section (and resultant torque output).

DON'T – Make up motors solely to length! This is especially true when switching rubber batches. Some batches are thicker than others, which can result in overweight/underweight motors.

DO – Test fly to find the absolute highest torque level your model can safely take. Do this over tall grass when it is calm!

DON'T – Ever wind to a new, uncharted torque number in a mass launch final round, expecting stellar results. If you're close enough to Tmax you might rekit your aircraft in a torque roll/wingover.

DO – Discard old motors often. Rubber is cheap! A typical FAC motor costs 75 cents or less. After 3-4 windings I trash them. As a result I almost never break motors, especially with the great new post-2008 Tan Super Sport.

DON'T – Leave an old motor in your plane for a month or two and expect to not break it quickly at the next contest. Again, rubber is cheap; time spent rebuilding fuselages is not!

DO – Have total confidence that there is no bad rubber anymore! Ever since the switch to a new chemical additive in early 2009, all the Tan Super Sport batches have been consistently excellent. They have high energy return (within 5-10% of the best Tan II), but most importantly for scale flying they are extremely durable. At Geneseo 2012 I used

May 2009, June 2009 and January 2011 exclusively, not broken-in, and I didn't break a single motor all week (I flew eleven events).

DON'T – Use Tan II anymore in mass launches. It is getting too old and brittle, and this is exacerbated by the warm temperatures (above 80 degrees F) at which we typically fly in summertime. I learned this the hard way at FAC Nats 2010, where I suffered broken Tan II motors in two mass launches on the first day. That was enough to convince me to make the switch to Super Sport permanently.

DO – Use pure silicone oil for lube. It is available at hobby shops as R/C car shock oil. Get the 100-125 weight stuff—about the viscosity of honey. Work it in really well with latex-gloved hands (it is very difficult to wash off). One light application is all you need for the life (3-4 windings) of a typical contest motor. Since switching to this stuff I don't relube anymore, period. Even a motor that has been wound a couple times and looks dry is not. Try it and see for yourself.

DON'T – Use Son of a Gun or Armor-All for rubber lube. It splatters easily and ruins fuselage covering, but most importantly it evaporates readily and is too thin to stay on the rubber without frequent reapplication.

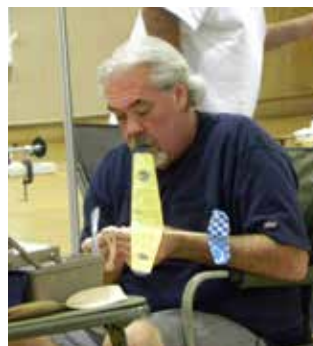
I am no master rubber scale flyer (I enjoy building much more) but I do possess a solid knowledge base when it comes to the fundamentals of rubber power, props and trimming. That said when it comes to mass launches I'm keenly aware that there is a lot of luck involved, namely avoiding mid-air's (I survived two at Geneseo 2012), staying out of crops/trees, and numerous other screw-ups that can and often do arise at the worst possible moments.

I hope this information will help you in your quest to become a better rubber scale flyer.



First Sunday of Every Month: June 2014

Photographed by Arline Bartick



INDOOR REPORT

Contest Results: June 1

Tabulated by CD of the Month

June 1, 2014

Event: Limited Penny Plane (7 entries)						FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS (best 2 of 5)		SCALE FLT	BONUS	SCALE	TOTAL	PLACE
CONTESTANT'S FULL NAME	1	2	3	4	5	6	FACTORED	POINTS	POINTS			
Mike Jester	209	178	74	132	261						470	1
Greg Hutchison	236	75	74	218	8						454	2
John Hutchison	93	208	164	65	72						372	3
Mark Chomyn	53	79	43	108	154						262	4
Don Bartick	30	155	37	49	98						253	5
Richard Wood	6	114	86								200	6
Larry Miller	107	3									110	7

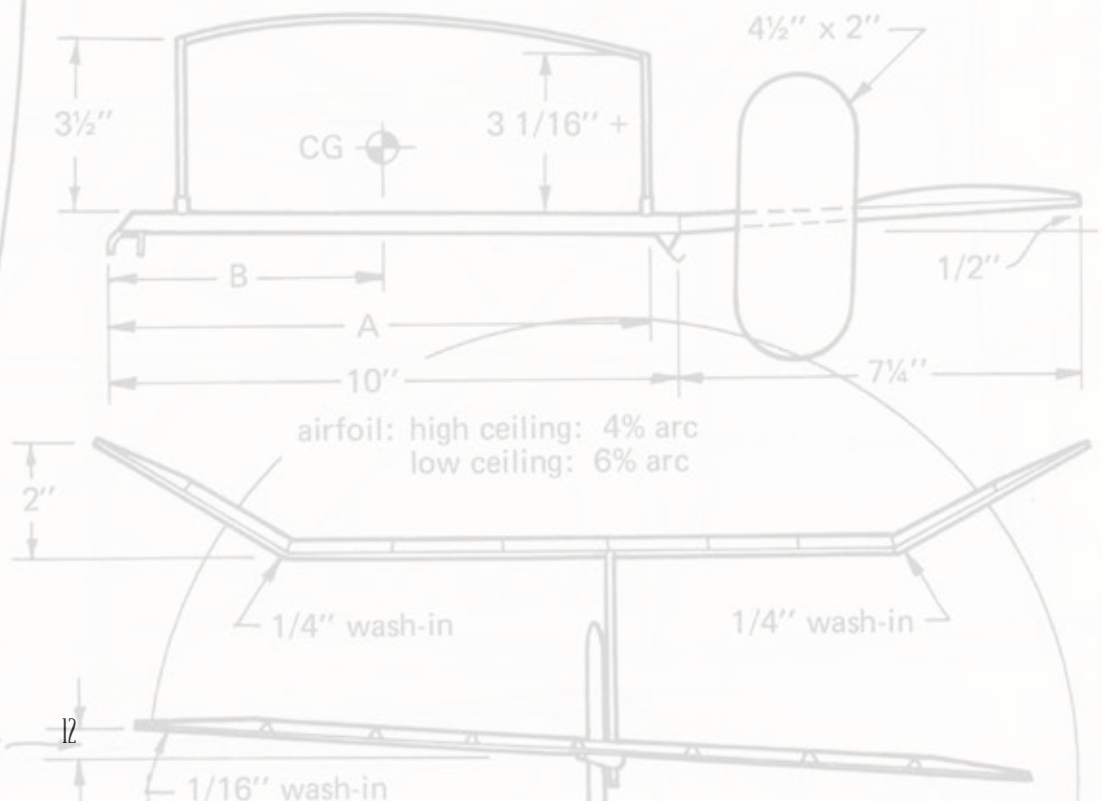
Event: Phantom Flash (5 entries)							FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS (best 3 of 6)		SCALE FLT	BONUS	SCALE	TOTAL	PLACE
CONTESTANT'S FULL NAME	1	2	3	4	5	6	FACTORED	POINTS	POINTS	POINTS	POINTS		
Richard Wood	26	67	58	68	80							215	1
Don Bartick	17	30	35	27	46	56						137	2
Greg Hutchison	56	29	34	45	36	13						137	3
Mike Jester	14	46	47	25	22	28						121	4
William Scott	39	22	27	43	25	23						109	5
Mark Chomyn	32	35	31	39	33	30						107	6
Nick Panousis	3	10	3	6	31	4						41	7

Weights:
 body + tail: 1.05 gm.
 wing: 1.12
 propeller: 0.78
 nose weight: 0.15
 3.10 gm.

17" dia. x 27" pitch
 propeller
 .025" "C"-grain balsa

Outlines:
 rudder: .040 x .040
 stab: .040 x .050
 L.E. + T.E.: .055 x .080
 tips: .040 x .055

$$A = (B \times 1.2) + 2.5$$



First Sunday of Every Month: July 2014

Photographed by Arline Bartick



Walt Mooney 4th of July Contest



At the end of contest last year in 2013, there was a meeting of the minds and it was decided that next year, 2014, there would be \$100 given to first place in two of the contests, Peanut and 2x-Peanut, Walt Mooney design. The offer of money seems to have spurred on most of our local members. We had a record eleven 2x-Peanut and seven Peanuts entered this year.

As usual on the 4th of July, the weather was pretty good. Around 7 a.m. when most of the contestants arrived, it was in the high 70s, no wind and just a little bit more moisture in the air than typical. As the day progressed, the heat increased and by 10 a.m. it was in the high 80s or low 90s, with a slight breeze. Everyone was wishing it was cooler and calmer. The wind gave no relief to the heat; and by midday the heat and the wind created a natural stopping point for the contest. Those that flew early seem to anticipate the weather and planned their launches accordingly.

John Hutchison launched his 2x Peanut late in the morning right at the tail end of calm, sending his airplane into a thermal. We were wondering if he would get his plane back. He did get the plane back, finishing off his total of three flights with a max.

The Peanut and 2x-Peanut were two part contests, with the scores of flight times and craftsmanship added together to determine the winner of the money.

The 2x- Peanut contest champions included:

- Third place with a total of nine points was Mike Jester, he finished sixth in the judging and third in longest flight time.
- Second place was Dave Scigliano with a total of seven points, fifth in judging and second in flying time.
- First place was John Hutchison with a total three points, second place in judging and first place in flight time.

Congratulations to all.

In craftsmanship, William Scott finished first in craftsmanship judging, but could not get his plane to fly, so he did not receive a score in flying, John Oldenkamp finished third in judging and eighth in flying, just missing being one of the top finishers.

The champion Peanut contest results, were as follows:

- Third place John Merrill with a total of eight points
- Second place was Mark Chomyn with four points
- First place was David Scigliano with three points.

In craftsmanship, David Scigliano won with two aircraft second and third places. First place went to Mark Chomyn. Congratulations to all of our winners.

Don't forget to start building or trimming for the next contest, occurring less than a month away. August 23 and 24 in Perris, CA. See the flier later in this newsletter.

— PHOTO REPORT —

Walt Mooney 4th of July Contest

Photographed by Arline Bartick, Mike Jester and William Scott





4th of July 2014 Contest

Tabulated by CD of the Month

July 4, 2014

Event: Walt Moony 2 x Peanut	Airplane	FLIGHT TIMES				(Total of three)		SCALE FLT	BONUS	SCALE		
CONTESTANT'S FULL NAME		1	2	3	Sub Total	Flying plac	ending plac	FACTORED	POINTS	POINTS	TOTAL	PLACE
John Hutchison	Huntiongton	69	50	112	231	1	2				3	1
David Scigliano	Quail	37	120	34	191	2	5				7	2
Mike Jester	Rearwin Speedster	48	66	56	170	3	6				9	3
John Oldenkamp	Druine Turbulant	19	28	28	75	8	3				11	4
Mark Chomyn	Embraer	31	94	38	163	5	7				12	5
Don Bartick	Rewwin Speedster	74	47	43	164	4	9				13	6
Mike Pykelny	Curtis	28	45	49	122	6	10				16	7
Greg Hutchison	Stahlwerk	DNF										
Frank Allen	Saiman 200	DNF										
William Scott	DH 6	DNF										
Mark Chomyn	JN-1	22	29	31	82	7	8					2nd airplane

Event: Peanut (7 entries)		FLIGHT TIMES				(Total of three)		SCALE FLT	BONUS	SCALE		
CONTESTANT'S FULL NAME		1	2	3	Sub Total	Flying plac	ending plac	FACTORED	POINTS	POINTS	TOTAL	PLACE
David Scigliano	Ord-Hume	32	25	28	85	2	1				3	1
Mark Chomyn	Old Ironsides	19	41	29	89	1	3				4	2
John Merrill	P-51 Mustang	12	21	DNF	33	4	4				8	3
Mike Jester	Vari Vigen	8	8	5	21	5	6				11	4
Nice Panouso	Parire Birt	11	DNF	DNF	11	6						
David Scigliano	Waco	19	23	25	67	3						2nd Airplane
John Merrill	Nesmith Cougar	2	DNF	DNF	2	7						2nd Airplane

Event: Embryo (10 entries)		FLIGHT TIMES				(Total of three)		SCALE FLT	BONUS	SCALE		
CONTESTANT'S FULL NAME		1	2	3	4	5	6	FACTORED	POINTS	POINTS	TOTAL	PLACE
David Scigliano	Prairie Bird	49	40	48							137	1
Frank Allen	Allen Special	59	39	36							134	2
Mark Chomyn	Bean Box	27	71	33							131	3
Mike Pykelny	Schk	53	34	33							120	4
Mike Jester	Prairie Bird	35	30	25							90	5
Don Bartick	Orig	22	36	28							86	6
John Merrill	Peck Parts	37	DNF								37	7
Nice Panouso	Bostonia Puy	4	11	7							11	8
William Scott	Prairie Bird	DNF										
David Scigliano	Found	47	45	31								2nd Airplane



Eze Dope

by Dave Scigliano

In two days, I put together a Mooney Ord Hume Peanut scale so I could try Eze Dope. Now I am happy with 50/50 water/white glue and nitrate dope but my structures do warp overtime. I hear this Eze Dope is great for preventing warps so that's why I want to give it a try. I am going to use Esaki straight with no preshrinking, attached with tissue paste, shrink and two coats of Eze Dope thinned with water. Well, when I received my bottle, it did not look right. The stuff was too thick and did not mix well in water so now I am waiting on a new bottle.

Deluxe Materials sent me a replacement and I gave it a try. First you must thin it out or it looks horrible on the plane. I think this product is ok, but does not provide a smooth finish like dope. It came out smoother on Esaki but left a

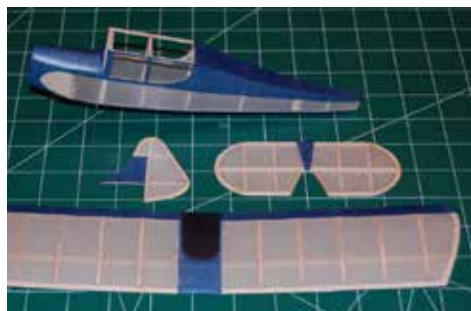
rough finish on domestic tissue. I love the fact it prevents warps and great for adding trim tissue over tissue. My experiments showed it added no extra weight, which is awesome. I'm thinking of doping first, then adding Eze Dope to prevent warps, I will let you know how that works. Also works great for attaching tissue to the frame. It's an ok alternative for regular dope but does not provide the same smooth finish.

I finished my first experiment with Eze Dope. All and all a nice product and good replacement for dope if one wants a less smelly alternative. For me, I like the smell of the dope, so that is not an issue for me. The problem I have is dope does not prevent warps no matter what you use or do. I normally have to pre shrink Esaki and sometimes dope it on the picture frame before attaching it to my fragile structure. This time I just slapped the tissue on and let it go. So if



my peanut does not turn into a twisted mess, then I will be using Eze Dope for my fragile builds.

I first tried attaching the tissue with the tissue paste from Deluxe, but could not get it to stick. I then tried attaching the tissue with full strength Eze Dope and it worked great, both dry and wet tissue. After the dope was dried, I trimmed the excess and sealed the edges with more Eze Dope. I then shrank the tissue with water, pinning down the fragile structures. Once tight, I sprayed a five percent Eze Dope water mixture on the tissue again letting it get tight. This prevented the tissue from sticking to the other side when you brush on Eze Dope. Once dried, I brushed on a light coat of thinned 70/30 Eze Dope with a 1/4 inch brush. Once dried I added my trim tissue. First



brushing on the thinned Eze Dope, adding trim and brushing thinned Eze Dope onto the trim piece. Once this was dried I brushed on my second coat of thinned Eze Dope. All this added very little weight since the Eze Dope is super thinned with water, also making for a cost effective replacement. The Eze Dope went on smooth and made for a shiny finish. I also brushed on the thinned Eze Dope where the waterslide decals attached, and liked how they snugged down nice and tight. I will fly

my plane this Sunday and I will let you know how well it holds up. My next experiment with the Eze Dope will be with domestic tissue.

Eze Dope is expensive but what isn't? Also you are thinning the dope with 70 percent water so it will last a long time. Only time will tell if Eze Dope worth the cost. I have tried Future, Acrylic spray, and waterborne finish products all with sub par results compared to regular dope. So far, Eze Dope is the best out of all the ones I've tried.

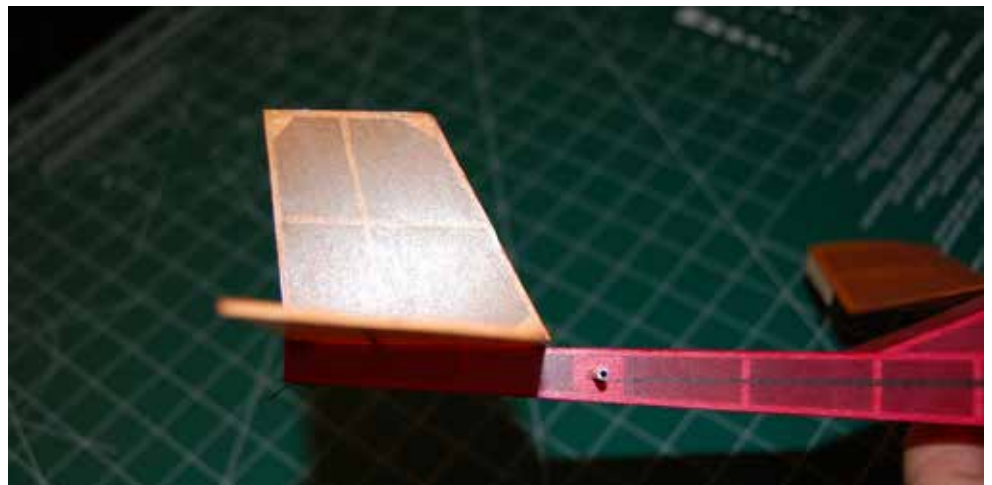


I took the Ord Hume to the club weekly get together and she flew great, everyone was impressed. She flew on a strand of 3/32 rubber lubed with green soap. The club members were even more impressed with Eze Dope. The first thing I noticed was the morning dew caused my models tissue to slack up, but the Ord Hume had very little effect from the morning dew. When I made it home, guess what? No warps.

I was told by fellow club members that the hobby store in town carried Eze Dope, so I drove over after I was done flying. Sure enough the hobby store had two bottles of Eze Dope. I opened one up and it was thick and clumpy, the second bottle was just fine. I gave the bad bottle to the store owner and told him it was bad. I don't know what is going on with the Ezedope stock, but there are a lot of bad bottles of this stuff out there. (Editor's note: The scuttlebutt is that there was a batch that froze on its way across the pond to the United States, resulting in some bad bottles.) If you order a bottle, have the company you are buying from either shake the bottle or open it to ensure it is liquid vs clumpy before shipping. My next experiment will be a Guillows 600 series Piper Cub covered with domestic tissue and Eze Dope. Then I have one more fragile build with Esaki as my final test subject. If all goes well, I have about 1/2 dozen stabs that are warped and will need to be recovered and topped with Eze Dope.

Pictured is my Guillows 600 series Piper Cub covered with domestic tissue from Peck Polymers. Attaching tissue to

the frame is personal choice, I normally use thinned white tissue. This time I used full strength Eze Dope, but any method would work. Remember using liquid to attach domestic tissue takes a lot of practice because the tissue will fall apart. I advise new builders to use a glue stick. You could use the glue stick and seal the edges with 70/30 water/Eze Dope for a permanent fixture. After tissue is attached, I spray with water to shrink the tissue and pin down the fragile parts. After drying, I spray with five percent Eze Dope water solution to prevent excessive slacking when brushing on Eze Dope. After the parts have dried, I lightly brush on the first coat of Eze Dope. Then I brush on a second coat after the parts are dry unless I am adding trim tissue. In that case, after the first coat I add the trim piece. For thin trim, I place trim dry on the fuselage and then brush on Eze Dope to attach the trim. For larger pieces of trim, I brush on Eze Dope then apply the trim piece and brush more Eze Dope through the trim. It looks bad at first but dries nice and tight. Remember this is domestic tissue so don't mess with it when wet or it will fall apart. After it is dry, I brush on the second coat of Eze Dope, this time a heavier coat. Let pinned parts dry for 24 hours. I am happy with this product. Unless something bad happens in the next month or so with my builds, I will use Eze Dope on my more fragile builds. All done as shown, this Guillow Cub weighs 22 grams, not bad for old kit wood. On the bare balsa struts I used a red marker, which is much lighter than paint. I then brushed on Eze Dope to give it a



nice gloss finish. Normally waterslide decals do not stick to tissue, but if you brush Eze Dope underneath the decal, it sticks just fine. I tried adding the red and green lights on the wingtips, I'm not too happy about that but all and all a fun build. I took her to the clubs Mooney contest on July 4th.

She is a great flyer, with 3/16 rubber and some clay up front and she is now consistently getting one minute flights. Everyone at the club was impressed, and could not believe this is a Guillows.

I decided on a final trial: a Prairie Bird. My Prairie Bird was covered with pre shrunk Esaki and as you can see with regular non-taunting nitrate dope has a warp in the stab, that is after one day of flying. I stripped off the covering and recovered with non pre shrunk Esaki and used Eze Dope. If this works I have about five other warped stabs I will redo. I used full strength Eze Dope to attach the tissue. I shrank the tissue and will allow the stab to dry 24 hours pinned down then I will put it back on the plane and let you know how it goes.

**FLYING
ACES**
SQUADRON 41



SAN DIEGO

Scale Staffel

August 2014: Outdoor Flying Contest

Saturday and Sunday, AUGUST 23 and 24, 2014, 7 a.m. to 12:30 p.m.

Scamps Flying Field, Perris CA

Events Prizes

Awards for first to third place.
First place trophies for WWI
and WWII Combat. *

Fees

\$8 for contest including
entry for one event, \$3 for each
additional event, \$20 maximum
to cover contest entry and 5 to
11 events

Contest Directors

John Hutchison
johnhutchison1@cox.net
phone (619) 303-0785

Awards Presentation

Immediately following the
contest's final gun on Sunday

Hotel Accommodations

Red Lion
480 S. Redlands Ave, 92570
(Less than 2 miles from the
flying field)
(951) 943-5577

Hampton Inn & Suites
12611 Memorial Way,
Moreno Valley, CA 92154
(Less than 12 miles from the
flying field)
(951) 571-7788

Pilot's Meeting: 8 a.m. on both days

Lunch is at the flier option for both days

FAC Single Model Events

Fly any event on either day, but all flights for a
given event must be flown on the same day

1. FAC Rubber Scale
2. FAC Power Scale (90 second max)
3. FAC Embryo Endurance (ROG)
4. FAC Jimmie Allen (ROG)
5. FAC 2-Bit(+1) Rubber, 1/2 Wakefield(ROG)
6. FAC Phantom Flash (ROG)
7. FAC Golden Age Civil Scale
8. FAC Jumbo Scale

Mass Launch Events

Saturday

9. FAC World War 1 Combat:
Wind at 8:20 a.m., Launch at 8:30 a.m.
10. FAC World War II Combat:
Wind at 9:20 a.m., Launch at 9:30 a.m.

Sunday

11. Double Trouble (Twins)
Wind at 8:20 a.m., Launch at 8:30 a.m.
12. FAC Greve/Thompson Race:
Wind at 9:20 a.m., Launch at 9:30 a.m.

*Earn points towards your GRAND CHAMPIONSHIP. This contest's scores coupled with those of the later Scale Staffel contest held in 2014 will determine our annual Grand Champion. The trophy will be presented after the last event of 2014 to the flier who garners the most 1st to 3rd place points in all of the 2014 Scale Staffel contests.



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——— UPCOMING EVENT ———

WESTFAC V

in Buckeye AZ

Hosted by Arizona CONDOR Squadron



October 21 - 24, 2015

Celebrating the 75th Anniversary of the battle of Britain and France

Check our website for more details in the coming months www.westernfac.com



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(weekdays after 5pm – anytime on weekends)



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23rd Annual Worldwide Postal Competition 2014/2015

by Carly Ann Hand



Welcome to another year of non-stressing, friendly, and laid-back competition. This year will see some major changes in the categories available. We will continue to include the past categories, as many still are familiar with those, and wish to continue flying in those categories.

I have been asked to take over the "Tiny Glider Postal", so it looks like we will have 6" and 8" wingspan flying in catapult and hand launched gliders.

I have had requests to have FAC type events, and will now include those, with the exception of the mass launch varieties. We will continue to have the KK Senator and Cloud Tramp events, also. Those are just too traditional to see them going away.

The Postal time frame remains the same, 1st of July 2014 through 30th of June 2015.



I will be emailing, or using snail mail to send the final results to all of the participants. Please pass on that this event needs more participants of all ages. Pass along my email address, so that those people you contact can let me know they are interested, and so I can email an announcement to them. The

Postal can only continue if those participating spread the word.



When you report your results, please don't wait until the absolute last day to send them in. Do send them in when you get full results on a particular model/category. Please include the following information: times, model name, wingspan (measured as per plan), and anything else you might want to add about your flights. I would love to see pictures of either your models, of your preparing for flight, or flying them. Photos are great to include in the results. One thing to remember about our Postal, is that you don't have to complete all your flights on a particular model on the same day. We all know the hazards of flying our light and fragile models. Models can get damaged or just plain broken, and need repair to fly again. Weather can intrude very quickly. Or the dreaded airplane eater, otherwise known as a tree, can ruin your day.

Vintage/Oldtimer classes are for designs authenticated to have been flying outdoors prior to December 31,



1950, even though plan publication may be of a later date in any kit, commercial magazine, SAM publication, club newsletter, etc. Multiple entries with different models may be made in all events but flights in one event may not be "doubled up" with any other class for which a given model is eligible — separate flights, please.



To maximize flying opportunities there is ample scope for rubber models and gliders to be flown in multiple events and you are encouraged to take a stopwatch, pencil and notepad with you each time you go to your local field, or to a contest, as an added incentive to your flying enjoyment. Bear in mind, also, that any number of individual models may be flown in any event for which they are eligible.

Please send entries/scores/reports/results to me via email, as this helps to reduce overall costs, eases communication and enables wider distribution of submitted photos.

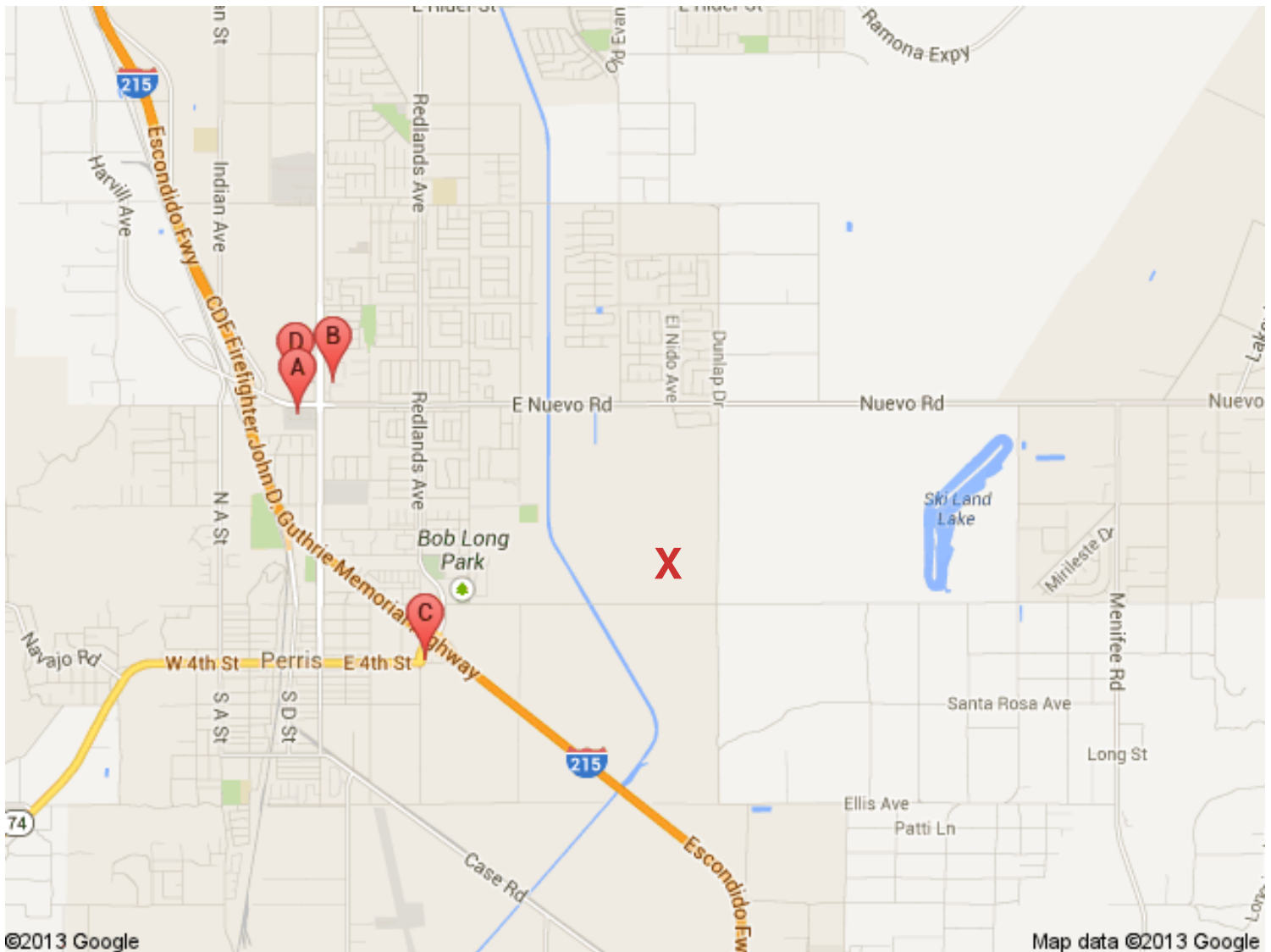
Please return your entries to:

Caley Ann Hand
6639 Datura Avenue,
Twentynine Palms, CA 92277 USA
or caleyannhand@yahoo.com

Perris CA - Possible Places for lunch

Nov 9 and 10, 2013

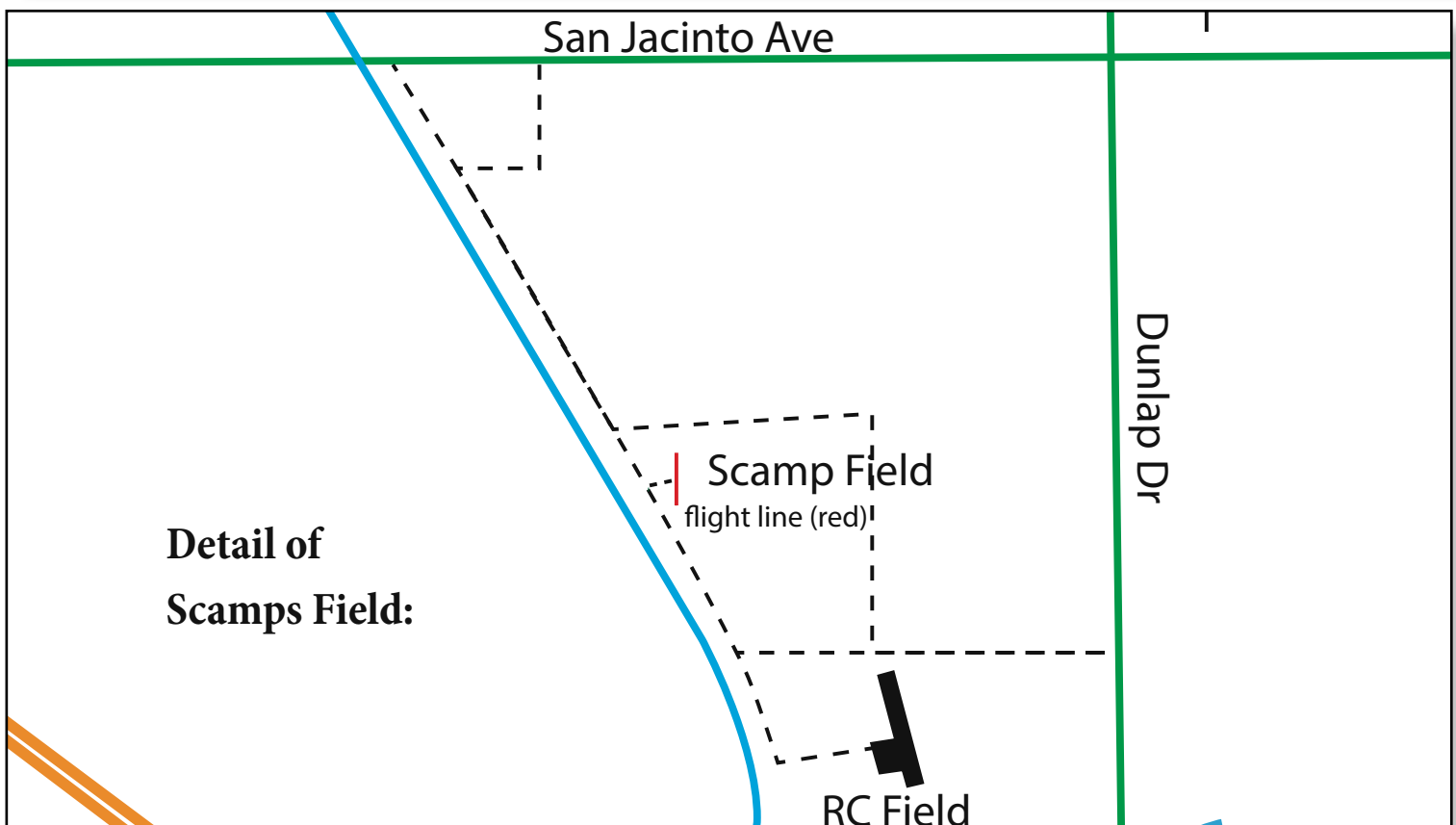
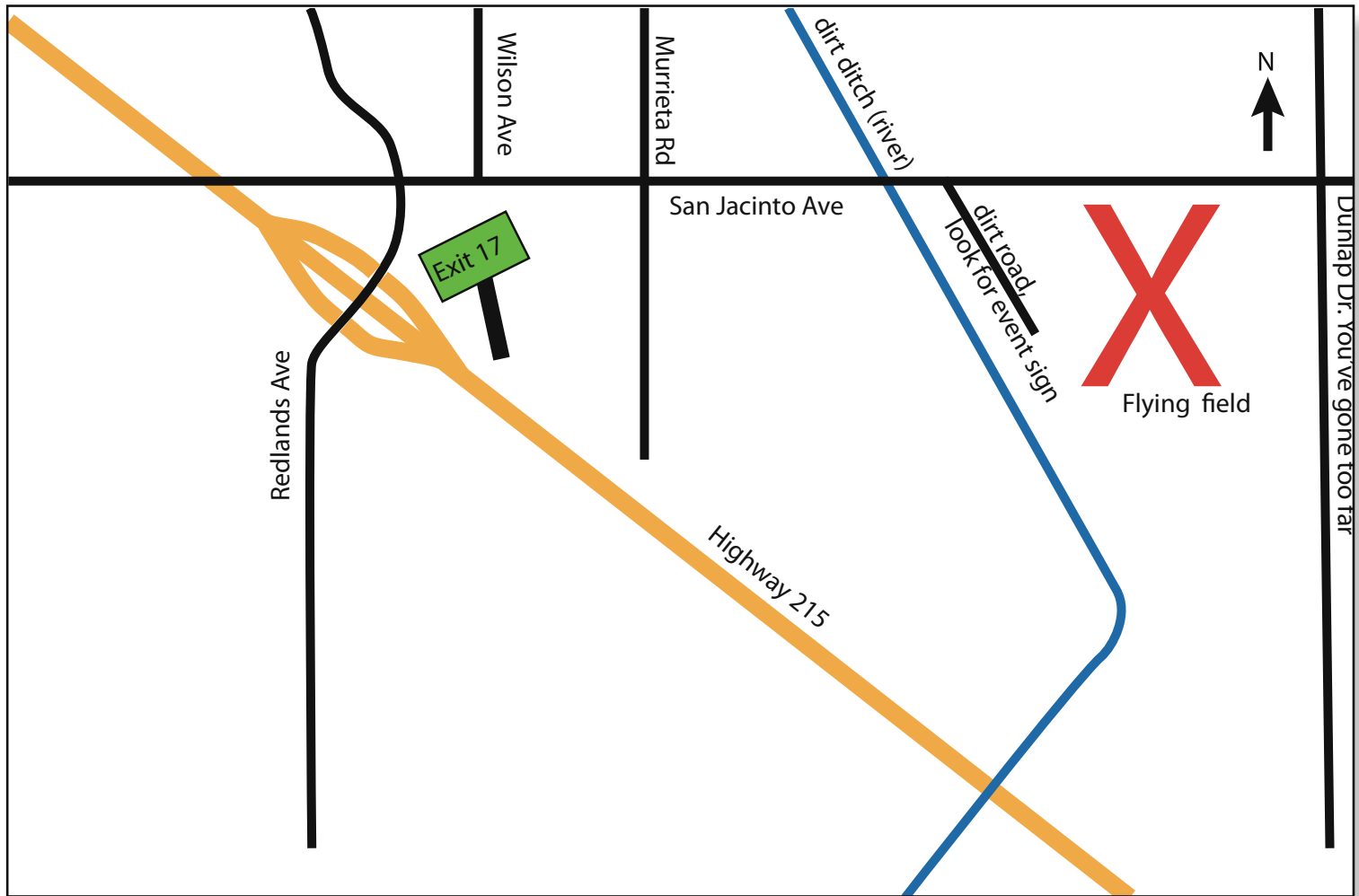
- | | | |
|--|---|---|
| <p>A. Sizzler
91 W Nuevo Rd, Perris, CA
(951) 940-4021
3.7 ★★★★★ 12 reviews \$</p> | <p>B. Jenny's Family Restaurant
1675 N Perris Blvd, Perris, CA
(951) 657-2945
3.9 ★★★★★ 21 reviews \$\$</p> | <p>C. Denny's
570 E 4th St, Perris, CA
(951) 657-1123
2.9 ★★★★★ 13 reviews \$</p> |
| <p>D. IHOP
1688 N Perris Blvd, Perris, CA
(951) 943-1844
3.7 ★★★★★ 15 reviews \$</p> | <p>A. Subway
15 Nuevo Rd, Perris, CA
(951) 943-4943
2.7 ★★★★★ 4 reviews \$</p> | |

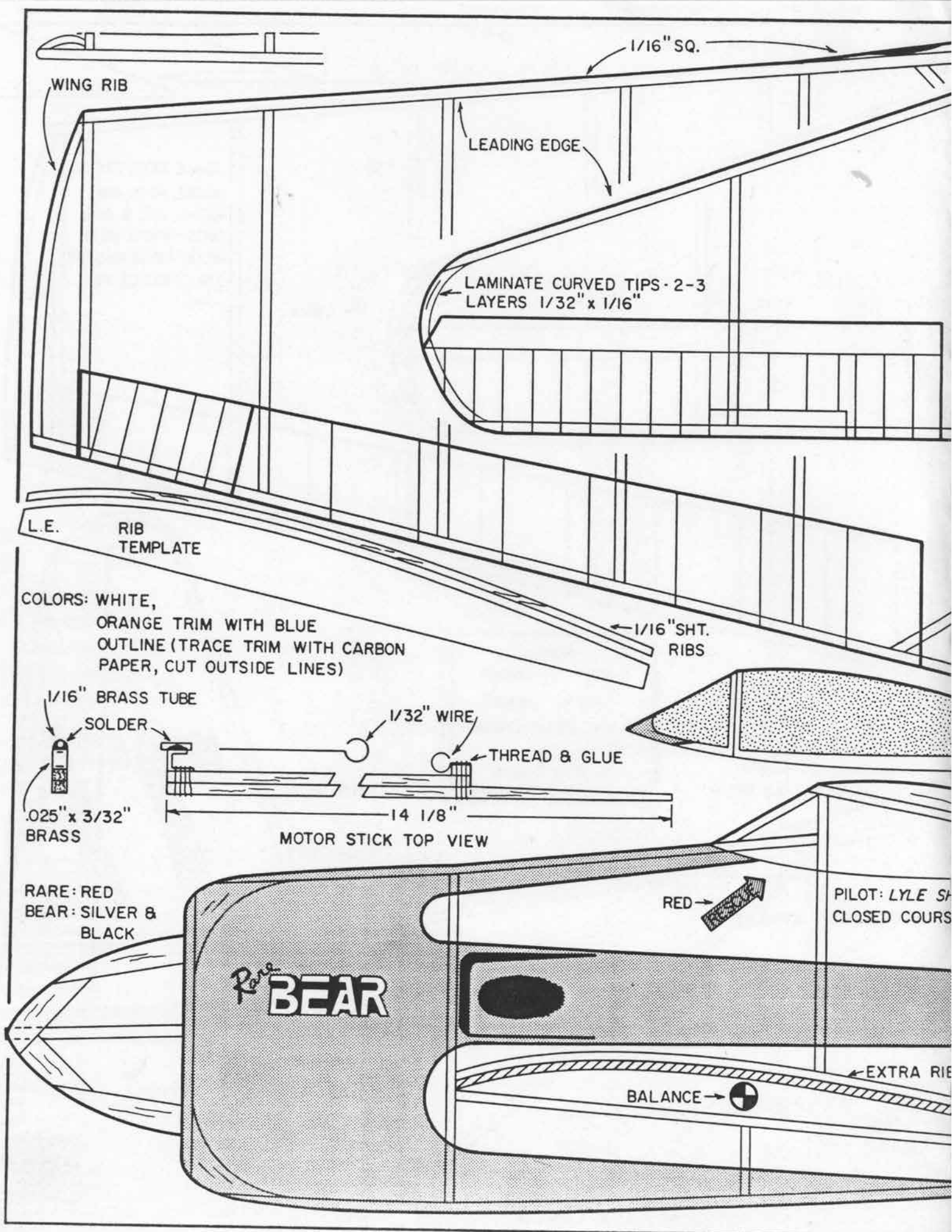


X = Scamps Flying field

Scamps Flying Field, Perris CA

Nov 9 and 10, 2013





BLACK (AIR SCOOPS)

DIHEDRAL JIG

SCALE REFS: F8F 3V
MODEL AIRPLANE
NEWS, JUL. & AUG.
1960+ RARE BEAR
MODS FROM PHOTOS
AIR CLASSICS, FEB.
1989

INK LINES

NOCAL
F8F BEARCAT
"RARE BEAR"
1988 RENO CHAMP.
by
A. A. LIDBERG

1/16" SHT. AS REQ'D.

77: BLUE

MOTOR STICK ON RT. SIDE

ELTON
RECORD RENO 474.622



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