

March 2013 October 2012

SAN DIEGO

Scale Staffel





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.

Club Officers

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Annual Dues: None

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Fee: None, except we need your
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(Layout graciously supplied by my
wife, Ann Hoff Scott)

**FLYING
ACES**
SQUADRON 41

— P R E S I D E N T ’ S L A N D I N G S T R I P —

"It's Not Us vs Them..."

by John Hutchison

It seems like there is always drama. I must apologize for the date change for our fall Scale Staffel Contest. We thought we had everything all set, then along comes a conflict in scheduling. We graciously stepped aside for the FAI Glider Team Trials. But we now have it all set (again). The new date is November 17-18, 2012. Hope we didn't cause anyone any problems. Hope to see you all there.

LET'S TALK ABOUT POWER SCALE. Take a look at the Power Scale rules in the FAC rule book. They penalize electric power. You don't get any bonus points for multi-engine when the aircraft is electric. Since I believe that electric power is the future, it should be judged the same as any diesel, CO₂, gas or any other fuel powered. It seems that the FAC is discouraging participation in this event. The pros and cons about electric is that it is cleaner and more reliable. The downside is that they are heavier. I would like to hear your opinion, ideas and thoughts on this. Please email at johnhutchison1@cox.net.

The attendance at our indoor flying has been minimal. Come on you guys! You are missing out on a magnificent fun-filled morning. Our next flying is November 4, 2012 from 7:30 a.m. to 11:30 a.m. at the Grossmont College upper gym. There is a possibility that we will not be able to continue using the facility if attendance does not improve. ***Build! Fly! And have fun!***

LLFF! (Long Live Free Flight!)

— C A L E N D A R O F R E G U L A R E V E N T S —

EVENTS FOR THE SAN DIEGO AREA

- Scale Staffel www.scalestaffel.org
Indoor contest, First Sunday of every month Grossmont college gym
Coupe, Power, Glider, Mar 10
SCAMPS Contest, Mar 17
P-30, Power, Glider, Apr 21
- San Diego Orbiteers www.sandiegoorbiteers.com

EVENTS FOR THE WESTERN UNITED STATES

- WestFAC www.westernFAC.com
WESTFAC MK IV, April 24, 25, 26, 27 2013 Perris, CA
- Dual FF Bonanza
Dual Club FF Bonanza, May 18-19, 2013 Lost Hills, CA

— FROM THE EDITOR —

Welcome to the first ever triple issue. We have the results from the August Scale Staffel event, the November Scale Staffel event. If you missed any of the contest now is your chance to see what happened. And I would like to say a big congratulations to John Merril for being Modeler of the Year.

Watch your e-mail for the March 2013 plans document that contains four sets of plans.

Our January indoor location was booked so the first Sunday of February was our first indoor flying of the year. We had a wonderful turn out, many members had been out of free flight for a while for various reason, but they were back and a couple of members brought their Science Olympiad students. The gym was packed. At one time there was as many as eight airplanes in the air.

The plan for the newsletter is to get back on track this year with more consistent publishing. I look forward to see you at our next indoor events or out in the nice soft tall grass.

Here is wishing you all flights worth remembering.



William Scott

MARCH 3, 2013
INDOOR CONTEST

Grossmont college

8800 Grossmont College Drive

In the big gym park in lot "C"

Gym opens at 7:30 am

Limited Penny plane and/or
Phantom Flash.

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Cover Photo

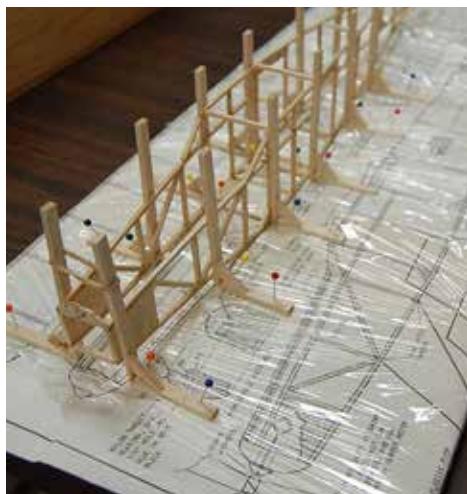
"Jeep" by Mark Chomyn at Scale Staffel August 25-26 Contest in Perris, CA. Photo by William Scott.



The Building of a FAC Moth

Many of the principles of building, trimming, and flying outdoor free-flight rubber-powered airplanes can best be learned with a simple stick and tissue cabin model, such as the Flying Aces Moth. Building such a model avoids the time, complexity, and sometimes tricky trimming involved in building and flying many scale models like WWII fighters. The Moth is a high wing monoplane with a 24" wing span. You can purchase a Moth kit from A2Z, buy plans with laser cut parts from Bob Holman Plans, or download free plans on the Internet for scratch building.

The original Moth plans, first published in 1937, call for 1/16" square bracing between the 3/32" longerons. I suggest that you follow the Peck-Polymers plans that show 3/32" square bracing instead. In the following picture of my Moth fuselage under construction, note the use of temporary L-shaped external balsa braces to make sure that the fuselage turns out square.

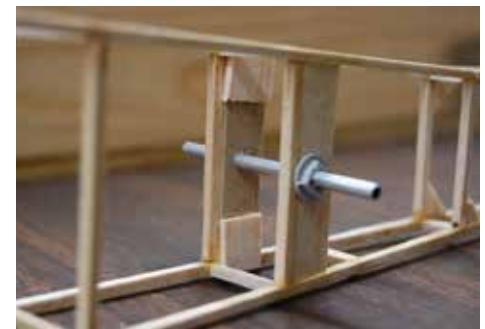


I chose to use a 9½" Gizmo Geezer plastic propeller with a spinner cut down to 8½." I like the ease of winding that a Gizmo Geezer propeller affords. This propeller free-wheels when a limited number of turns are left on the rubber motor to avoid changes in the center of gravity (CG) due to motor bunching. Key thrust line adjustments can also be readily made with a tiny tool that turns one of three adjustment screws in the Gizmo Geezer thrust bearing.

Use of a plastic propeller in the Moth will shift the CG way forward because the airplane has a very long nose. Shortening the nose of the Moth will make it ineligible in FAC contests and alter its classic appearance. I added structure to the tail, hoping to minimize the amount of clay that would otherwise have to be added to the rear end of the fuselage. As shown below, I added diagonal bracing in the horizontal stabilizer and rudder to inhibit warping. After covering the stabilizer and rudder with yellow Esaki tissue, previously pre-shrunk three times, I sprayed the tissue with clear Krylon.



Unless the motor peg is moved forward in the Moth, it will be very difficult to install the rubber motor, and a standard size blast tube will not fit. Therefore, I moved the motor peg one bay forward, as seen in the next picture. This modification to the original Moth design is legal under the rules for the two applicable FAC classes. I used .025" music wire for the landing gear instead of the heavier 1/32" wire from the Peck-Polymers kit. The plastic wheels supplied with the Peck-Polymers kit are only 1" in diameter. To make my Moth legal I made two 13/8" diameter balsa wheels using cross-laminated 1/16" balsa sheet, and short segments of 1/16" Aluminum tubing for the hubs. Thread and cyanoacrylate (CA) glue failed to hold the landing gear together, so I polished the wire struts where they overlapped with Emory paper, wrapped them with segments of small gauge un-coated Copper wire, and then soldered the joints.



I covered the completed fuselage with red Esaki tissue that had not been pre-shrunk and sprayed it twice with clear Krylon. The framework around the cabin was painted with flat black paint to give some detail to the model. I made a windshield from .003" Mylar sheet attached to the fuselage with Formula 560 canopy glue from PACER.

I pre-shrank yellow Esaki tissue once before using it to cover the main wing frame. As shown in the following picture, I clamped each half of the wing to a jig after raising the trailing edge with a 1/8" thick balsa shim under the outermost rib. This ensures the correct washout of about 2 degrees during the final water shrink and subsequent clear Krylon application. Washout on the wingtips helps prevent tip stall which could cause the airplane to spiral into the ground.

It is advisable to glue a 1/16" balsa wood shim under the center portion of the leading edge of the main wing to get the correct decalage of about 3 degrees when the wing is secured to the fuselage with cross-cross rubber bands.

The best way to implement a de-thermalizer (DT) in the Moth is to allow the entire horizontal stabilizer and rudder to pivot upwardly forty-five degrees after your airplane achieves a two minute "max" flight. I fitted the underside of the stabilizer of my Moth with a triangular key made of 1/16" balsa sheet that fit snugly, but still somewhat loosely, between the 3/32" balsa longerons to keep the stabilizer and rudder in proper alignment during flight. The hooks, rubber bands, and posts I added to get the stabilizer and rudder to pivot are shown below.



I mounted a grey colored viscous timer button on the underside of the fuselage, as seen in the following picture. A rubber band and a mono-filament line are connected between a hook segment on one end of a pivoting .025" music wire trigger arm and a tiny hook on the lower end of the rudder (not visible). The other end of the trigger arm has a C-shaped segment that extends around the hub of the viscous timer button. The intermediate segment of the trigger arm passes through a segment of 1/16" Aluminum tube that serves as a hinge sleeve. A long coil spring from A2Z is connected at one end to a longeron, and at the other end to a second short segment of mono-filament line. This second mono-filament line has a loop that is slipped over the rotating lever arm of the viscous timer button to supply the required pulling force.

When the DT is initially "armed" the rotating lever arm of the viscous timer button holds down the C-shaped segment of the trigger arm. Once the lever arm spins past the 6:00 location in the picture above, the C-shaped segment pops up. The rubber band then slips off of the hook segment, allowing the stabilizer to pivot upwards.

On the morning of August 21, 2012, I conducted several powered trim flights at the Scale Staffel flying field in Otay, California. The trim flights were done with a 10.3 gram braided motor made from three loops of September 2009, 1/8" Tan Super Sport (TSS) rubber. It was necessary to add down thrust and right thrust to the Gizmo Geezer thrust bearing. After removing a 1/16" balsa shim under the stabilizer, my Moth was flying reasonably well. My best time on the final test flight of the day with 900 winds was 42 seconds.

On Friday morning, August 24, 2012, I visited the SCAMPS flying field in Perris, California, to do some more test flights before the joint SCAMPS/ Scale Staffel contest being held there over the next two days. To lessen the chance of damage during a crash, I flew my Moth over a large area covered by soft green tumble weed. For the second flight I set the DT for 1½ minutes and launched into a west wind of 2 mph with 500 winds on a fatigued rubber motor. When my Moth was roughly 25 feet high and 100 yards away, I looked down for two seconds to start the stopwatch feature on my wristwatch. When I looked up, my Moth was gone! Five hours of searching by six people over three days failed to locate my Moth. The hard lesson that I learned is that one should never lose the line of sight on his aircraft or else he may not be able to recover it. I plan to build a new and improved Moth for the next outdoor Scale Staffel contest in October!

I want to express my sincere appreciation to my mentor, and recent FAC Hall of Fame inductee, John Hutchison, for all his guidance in building and flight trimming my first Moth. No one could ever have a better teacher in the hobby of free-flight rubber-powered aircraft.



Here We Fly Again!

By William Scott

SCALE STAFFEL AUGUST FLYING contest in Perris California, was hot and dry. Boy do we know how to pick a weekend. It started off with some sad news from Mike Jester. He had been out testing his Moth Friday night (the exact model you see in the pages ## of this newsletter) and it flew away, even though it had a set DT on it. I understand a search party was formed. They spent four hours looking for it. During that weekend anyone who went for a walk was on the look out for it, but by the end of the contest on Sunday, Mike's Moth was still MIA. If you are ever at the Perris field and find a plane with a red fuselage and yellow wings, let me or Mike know.

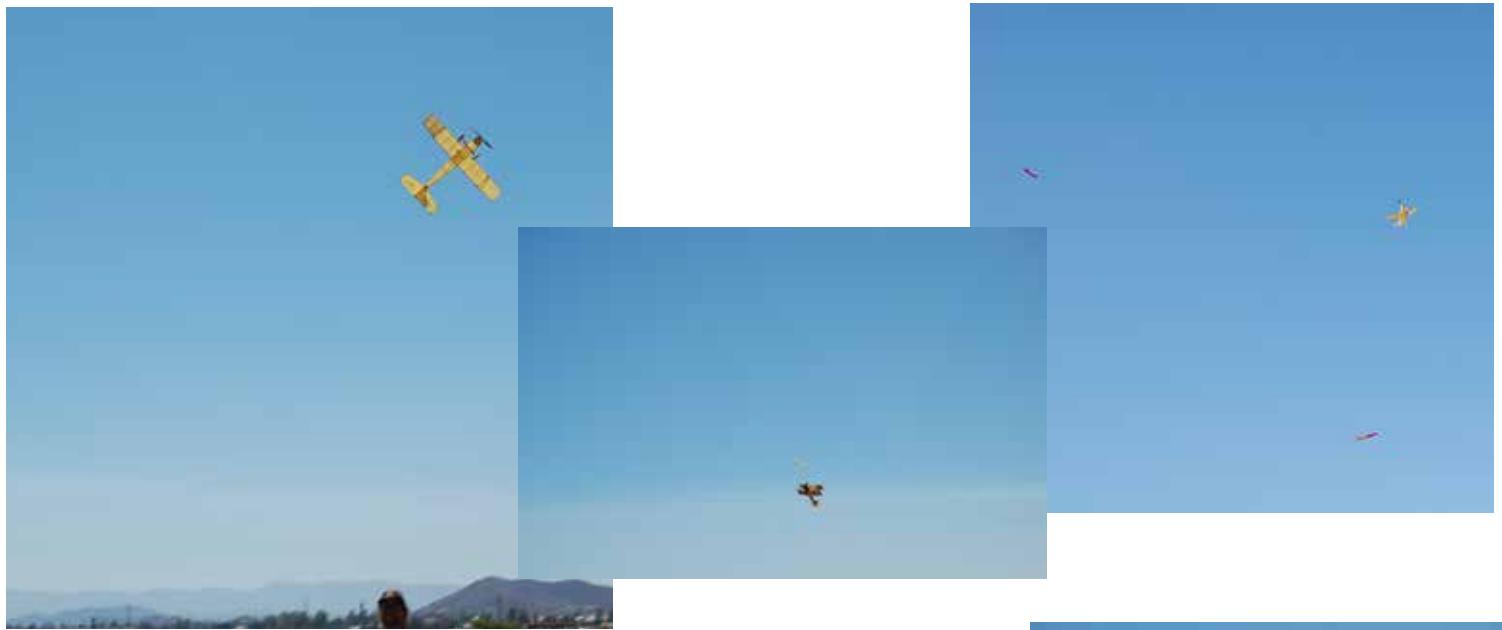
The contest started with the dog fight of the WW1 mass launch. Five were entered and it was a real battle with two Fokker D7s chasing down an SE5, but in the end, Robert Hodes' SE5 won the war. Congratulations, Robert!

Next was the WWII mass launch and I had a Wildcat to fly. I was having lots of trouble getting it trimmed. I would fly, then make an adjustment. The plane would fly better but needed a different adjustment. I would fly again and it would fly better, but I wanted the plane to climb. Another adjustment. I'm running out of time and the ten minutes before the call for winding I did one last test flight...and ripped off the whole right wing. I was not happy. All the guys nearby looked at the damage. "You have C. A. Glue don't you?" "Yes." "Well, get it glued, you have eight minutes to get it ready!" I repaired my plane and I am now proud to say I have launched in my first WWII mass launch. I finished eight out of eight and my plane now has a broken nose, but add a few sticks and some glue and I'll be back out there. The winner of the WWII was Jim Seamster with a Reggiani RE 2005. By the way, there are plans of a Reggiani in the back so we can give Jim some competition at the next event.



Sunday morning started out foggy. As I drove toward the flying field, the top of the hills were clear, and the valleys were foggy. It was clear less than a mile from the field according to my car's odometer. If you take a close look at the photo on the cover you can see how thick and close the fog was in the morning. That grey is not photoshopped in. That is what the weather was like until about 8 a.m. In the late morning, the ground started to heat up and we had some outstanding thermals. Some people were able to catch them, others like myself, only seemed to find the back side of them.

We did have some exciting flybys and some interesting results. On the first flyby, I was standing next to Roger Willis as he was winding one of his planes. For those of you who know Roger, he winds a long motor. Roger is typically two or three times farther away from his plane than anyone else I have seen. As Roger wound, we watched a gorgious mono-coupe fly up, level off and start to make slow circles. The



first circle was nice, the second circle became a little bit bigger and the plane was getting closer to the pits. The third circle was bigger yet and with the motor running you could hear it coming. At the fourth ever widening circle, I stepped between Roger and the plane and assured him I would not let the plane hit him or crash into his pit. The plane passed probably within 15 or 20 feet of where we were standing and landed before it was able to come around again.

Another flight of the same mono-coupe actually did a touch and go between two of the cars. The pilots started the motor, but about a quarter of the way around the circle the engine coughed and the plane ducked between two cars at the end of the flight line, then the engine caught and you could hear it going up. And up it went, right over the canopies in place for the contest directors and registration. It's a good thing the canopies have a slanted covering because that was almost the exact angle the plane was climbing at.

Our most interesting result was in the Battle of Midway Mass Launch. Jim Sprenger had a peanut-sized Brewster Buffalo. In the first heat, six people launched, three came down rather quickly in ten seconds or less. The next two came down in 14 seconds and 17 seconds. And then there was the Brewster Buffalo still doing circles and landing at 30 seconds. Unfortunately John's 17-seconds Wildcat did not land very nicely and he was out. It was then down to two Zeros versus the Brewster Buffalo. Both Zeros landed very quickly, with the final fly off between John Merrill's Zero and Jim Sprenger's Buffalo. The Zero put up a good flight with a time of 27 seconds but the little peanut Buffalo just flew, and flew, and flew.

I look forward to seeing you all at the next contest and I would not be surprised to see a whole bunch of peanut Brewster Buffalo's at our next Battle of Midway Mass Launch. The next Scale Staffel Contest is on November 17 and 18 in Perris, CA. Please see the announcement in this newsletter.



August 25-26, 2012 FAC Scale Staffel Contest

Photographed by Mike Jester and William Scott



Chuck Michalovic



Jim Sprenger



John Hutchison



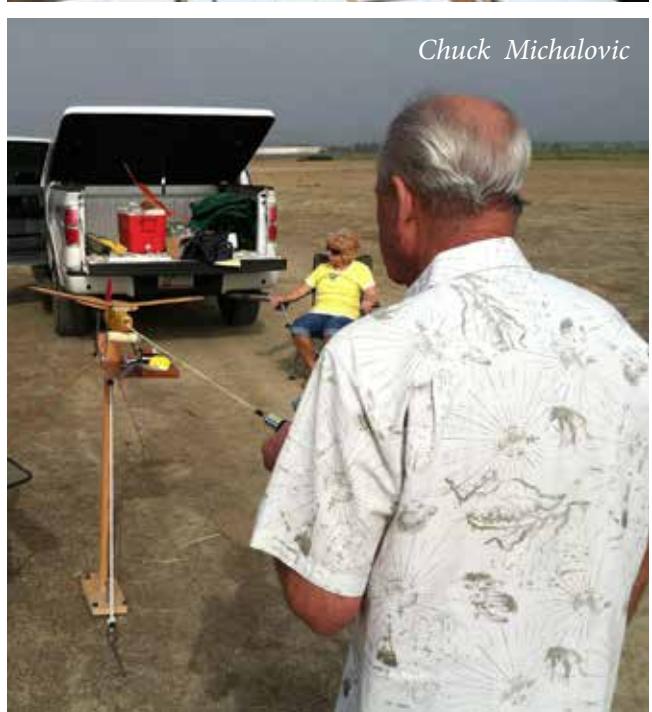
Kathy McLaughlin and John Hutchison



George Mansfield







— REPORTS —

August 25-26, 2012 FAC Kanone Report

Compiled by George Mansfield

EVENTS: 11

FLYERS: 18

ENTRIES: 63

FAC KANONE REPORT	FAC CLUB NAME: Scale Staffel Model Airplane Club	CONTEST DATE: 8/25-26/2012
CONTEST DIRECTOR: John Hutchison	Email address: gmansfield75@gmail.com	SQUADRON # 41

TOTAL NUMBER OF FLYERS IN EACH EVENT INDICATED IN PARENTHESES

EVENT: Rubber Scale (7 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS	TOTAL FLIGHT SECONDS OR BEST		FAC MEMBER? Y N
			1	2	3				TOTAL	PLACE	
Mike Mulligan	Hein	72	87	87	73.5	10	56.1	139.6	1	Y	
Roger Willis	Empanema	37	45	82	71.0	10	48.1	129.1	2	Y	
George Mansfield	Miles M5 Sparrowhawk	37	63	75	67.5	10	44.6	122.1	3	Y	
Clint Brooks	Tiger Moth DH -82A	48	48	38	48.0	15	58.9	121.9	4	Y	
John Alling	Neuport II	45	34	65	62.5	15	41.2	118.7	5	Y	
Robert Hodes	SE5A	28	37		37.0	15	51	103.0	6	Y	
John Hutchison	Fokker D7	34	37	38	38.0	15	48.9	101.9	7	Y	

EVENT: Power Scale (1 entry)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS	TOTAL FLIGHT SECONDS OR BEST		FAC MEMBER? Y N
			1	2	3				TOTAL	PLACE	
Bob Wetherel	Monocoupe	84	120		90	0	60	150	1	Y	

EVENT: WW I Combat (5 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS	TOTAL FLIGHT SECONDS OR BEST		FAC MEMBER? Y N
			1	2	3				TOTAL	PLACE	
Robert Hodes	SE5	31	34	46						1	Y
John Hutchison	Fokker D7	34	37	38						2	Y
John Merrill	Fokker D7	7	5	-						3	Y
John Alling	Neuport II	4	-							4	Y
Jim Seamster	Bristol M1	1	-							5	Y

EVENT: WW II Combat (8 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS	TOTAL FLIGHT SECONDS OR BEST		FAC MEMBER? Y N
			1	2	3				TOTAL	PLACE	
Jim Seamster	Reggiani Re 2005	39	78	90						1	Y
John Donelson	Kawasaki Hein	62	65	68						2	Y
Clint Brooks	XP-40Q	45	47	60						3	Y
John Alling	Grumman F4F Wildcat	24	37	2						4	Y
Mike Mulligan	Kawasaki "Hein"	58	6	-						5	Y
John Merrill	North American P-51B	10	-	-						6	Y
Robert Hodes	Grumman F6F Hellcat	56	scratch							7	Y
William Scott	Grumman F4F Wildcat	4	-							8	Y

EVENT: Embryo Endurance (10)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS	TOTAL FLIGHT SECONDS OR BEST		FAC MEMBER? Y N
			1	2	3				TOTAL	PLACE	
John Donelson	Embryo-matic	120	120	86	326	9			335	1	Y
George Mansfield	De' But	120	120	84	324	9			333	2	Y
Jim Sprenger	Prairie bird	65	120	104	289	9			298	3	Y
David Lofthouse	Miss Peach	94	66	120	280	9			289	4	Y
Roger Willis	De' But	60	91	65	216	6			222	5	Y
Jim Seamster	Honey Bee	61	57	90	208	9			217	6	Y
Mark Chomyn	Hornet	31	39	110	180	9			189	7	Y
John Merrill	"Peck Pup Parts"	66	61	42	169	6			175	8	Y
Don Smith	Miss Worlds Fair	8	5	90	103	9			112	9	Y
William Scott	Prairie Bird	39			39	9			48	10	Y

EVENT:	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS	SCALE POINTS	TOTAL	PLACE	N	FAC MEMBER?	
			1	2	3		Y								
George Mansfield	Blue Flash	120	116	120							356	1	Y		
Roger Willis	BA Cabin	120	120	108							348	2	Y		
Robert Hodes	Skokie	64	120	45							229	3	Y		
Jim Seamster	BA Cabin	82	80	49							211	4	Y		
John Merrill	Jimmie Allen Special	120	34	36							190	5	Y		
EVENT: 2-bit + 1 (5 entries)		FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT			TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS		SCALE POINTS		FAC MEMBER?	
John Donelson	Miss Canada Junior	85	120	120							325	1	Y		
Roger Willis	F.A. Moth	75	75	120							270	2	Y		
Don Smith	"Orange Plane"	48	58	90							196	3	Y		
Robert Hodes	F.A. Moth	96	51	36							183	4	Y		
William Scott	F.A. Moth	32	41	42							115	5	Y		
EVENT: Phantom Flash (6)		FLIGHT TIMES			SCALE FLT			TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS		SCALE POINTS		FAC MEMBER?	
Robert Hodes	Phantom Flash	119	120	6							360	1	Y		
Mike Jester	Phantom Flash	42	98	43							339	2	Y		
Mark Chomyn	Phantom Flash	23	106	34							275	3	Y		
William Scott	Phantom Flash	41	46	15							236	4	Y		
Bob Overcash	Phantom Flash	57	53	54							227	5	Y		
Jim Seamster	Phantom Flash	46	38	13							139	6	Y		
EVENT: Greve / Thompson (7)		FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT			TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS		SCALE POINTS		FAC MEMBER?	
Jim Seamster	Chambermaid	77	81	102										1	Y
Bernie Crowe	Mr Smoothie	69	94	65										2	Y
John Donelson	Mr. Smoothie	68	11	64										3	Y
Clint Brooks	XP-40Q	45	48	43										4	Y
Mike Mulligan	Firecracker	70	5	-										5	Y
Don Smith	Chambermaid	40	-	-										6	Y
Robert Hodes	Chambermaid	27	-	-										7	Y
EVENT: Golden Age Civ/Mil (3)		FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT			TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS		SCALE POINTS		FAC MEMBER?	
Mike Jester	Fairchild 24	47	57	68							172	2	Y		
Don Smith	Taylor Cub	37	57	52							146	1	Y		
Mark Chomyn	Aeronca Champ	32	43	47							122	3	Y		
EVENT: Battle of Midway (6)		FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT			TOTAL FLIGHT SECONDS OR BEST		BONUS POINTS		SCALE POINTS		FAC MEMBER?	
Jim Sprenger	Brewster Buffalo	30	43	48										1	Y
John Merrill	Mitsubishi A6M Zero	10	8	27										2	Y
Don Smith	Mitsubishi A6M Zero	14	5	-										3	Y
John Alling	Grumman F4F Wildcat	17	scratch	-										4	Y
Mark Chomyn	SBD Dauntless	9	-	-										5	Y
Jim Seamster	Grumman Avenger	3	-	-										6	Y

Roster of Flyers

- 1. Bob Overcash 5. Dave Lofthouse 9. Jim Sprenger 13. John Merrill 17. Robert Hodes
- 2. Bob Wetherel 6. Gene Drake 10. John Alling 14. Mark Chomyn 18. Roger Willis
- 3. Chuck Michalovic* 7. George Mansfield 11. John Donelson 15. Mike Jester 19. William Scott
- 4. Clint Brooks 8. Jim Seamster 12. John Hutchison 16. Mike Mulligan

*Retired due to mechanical problems

November 17 & 18, 2012 FAC Scale Staffel Contest

Photographed by Mike Jester





— REPORTS —

November 17 & 18, 2012 FAC Kanone Report

Compiled by George Mansfield

EVENTS: 11

FLYERS: 16

ENTRIES: 55

FAC KANONE REPORT	FAC CLUB NAME: Scale Staffel Model Airplane Club	CONTEST DATE: 11/17-18/2012
CONTEST DIRECTOR: George Mansfield	Email address: gmansfield75@gmail.com	SQUADRON # 41

Red type font indicates the lower score for a flyer with more than one entry									FAC MEMBER?	
EVENT: Rubber Scale (9 entries)	CONTESTANT'S FULL NAME	MODEL	TOTAL FLIGHT SECONDS OR BEST			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS		
			1	2	3				TOTAL	PLACE
George Mansfield	Miles M5 Sparrowhawk	73	42	53	66.5	10	46.3	122.8	1	Y
Herb Kothe	YAK	82	98	120	82.5	10	30.0	122.5	2	Y
John Hutchison	Fokker D7	46	48	48	48	15	56.8	119.8	3	Y
Clint Brooks	Stampe	49	26	34	49	15	54.0	118.0	4	Y
Robert Hodes	Grumman F6F Hellcat	57	44	39	57	10	47.3	114.3	5	Y
Roger Willis	Empanema	48			48	10	41.0	99.0	6	Y
John Alling	Neuport II	23	39	37	39	15	43.5	97.5	7	Y
John Merrill	Turbo Porter	11	10		11	0	36.2	47.2	8	Y
Herb Kothe	Fokker D7	65	68		64	15	42.7	121.7		Y
Robert Hodes	Voisin Hydro	13	28	15	28	35	49.0	112.0		Y
Clint Brooks	DH Tiger Moth	33	30	31	33	15	54.1	102.1		Y

TOTAL FLIGHT SECONDS OR BEST									FAC MEMBER?		
EVENT: Power Scale (2 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS			
			1	2	3				TOTAL	PLACE	
Bob Wetherel	Hornet Moth	120				120	15	61	196	1	Y
Robert Hodes	WACO WG-2	89	78			89	25	45.1	159.1	2	Y
Bob Wetherel	Puss Moth	118				118	15	61	194		Y

TOTAL FLIGHT SECONDS OR BEST									FAC MEMBER?		
EVENT: WW I Combat (5 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS			
			1	2	3				TOTAL	PLACE	
Clint Brooks	Rumpler C5	39	36	33						1	Y
Herb Kothe	Fokker D7	65	68	scratch						2	Y
John Hutchison	Fokker D7	28	12							3	Y
Mark Chomyn	Fokker D7	13								4	Y
John Alling	Neuport II	3								5	Y

TOTAL FLIGHT SECONDS OR BEST									FAC MEMBER?		
EVENT: WW II Combat (5 entries)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS			
			1	2	3				TOTAL	PLACE	
Herb Kothe	Yak 3	82	98	120						1	Y
Clint Brooks	P40	50	53	42						2	Y
Mark Chomyn	F6 Hellcat	24	36							3	Y
Robert Hodes	Yak 3	23								4	Y
John Alling	F4F Wildcat	8								5	Y

TOTAL FLIGHT SECONDS OR BEST									FAC MEMBER?		
EVENT: Embryo Endurance (4)	CONTESTANT'S FULL NAME	MODEL	FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS			SCALE FLT FACTORED	BONUS POINTS	SCALE POINTS			
			1	2	3				TOTAL	PLACE	
Dave Lofthouse	Miss Peach	88	69	78			9		244	1	Y
Robert Hodes	GR Special	43	120	48			9		220	2	Y
Mark Chomyn	Hornet	57	48	103			9		217	3	Y
Herb Kothe	Go Devil	120					9		129	4	Y

TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: Jimmie Allen (6 entries)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Herb Kothe		BA Cabin	120	120	120					360	1	Y	
Dave Lofthouse		BA Cabin	118	91	120					329	2	Y	
Roger Willis		BA Cabin	100	120	73					293	3	Y	
Mark Chomyn		JA Special	41	43	26					110	4	Y	
John Merrill		Skokie	32	34	44					110	4	Y	
George Mansfield		Blue Flash	27							27	6	Y	
TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: 2-bit + 1 (5 entries)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Roger Willis		F.A. Moth	90	96	70					256	1	Y	
Robert Hodes		F.A. Moth	96	63	58					217	2	Y	
Ted Firster		Flying Cloud Jr.	52	74	48					174	3	Y	
Don Smith		RFC Fighter	36	38	82					156	4	Y	
Mike Jester		F.A. Moth	40	41	59					140	5	Y	
TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: Phantom Flash (4)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Linda Wrisley		Phantom Flash	120	120	120	360				360	2	Y	
* Robert Hodes		Phantom Flash	120	120	120	360				360	1	Y	
Mike Jester		Phantom Flash	57	46	55	158				158	3	Y	
Mark Chomyn		Phantom Flash	49	65	34	148				148	4	Y	
* Winner in Sunday flyoff													
TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: Greve / Thompson (5)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Herb Kothe		Chambermaid	108	84	129						1	Y	
Robert Hodes		Cessna CR3	59	59	5						2	Y	
Don Smith		Chambermaid	41	54							3	Y	
Mark Chomyn		Art Chester	22								4	Y	
John Merrill		Hughes Racer	5								5	Y	
TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: Golden Age Civ/Mil (3)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Herb Kothe		Taylorcraft	120	120	120					360	1	Y	
Mike Jester		Fairchild 24	80	120	65					265	2	Y	
Mark Chomyn		Aeronca	47	40	34					121	3	Y	
TOTAL FLIGHT SECONDS OR BEST										FAC MEMBER?			
FLIGHT TIMES OR HEAT ROUNDS FOR ML EVENTS										SCALE FLT	BONUS	SCALE	
EVENT: Battle of Midway (4)		CONTESTANT'S FULL NAME	MODEL	1	2	3	FACTORED	POINTS	POINTS	TOTAL	PLACE	N	
Jim Sprenger		Brewster Buffalo	35	41	38						1	Y	
Don Smith		Zero	32	28	35						2	Y	
Mark Chomyn		Dauntless	6	23							3	Y	
John Merrill		Zero	3								4	Y	

Roster of Flyers

- 1. Bob Wetherel
- 3. Dave Lofthouse
- 5. George Mansfield
- 2. Clint Brooks
- 4. Don Smith
- 6. Herb Kothe

Weight Saving and Duration

By G. Mansfield

Republished from the August 2008 Issue of Scale Staffel, Gerry Sullivan, Editor



Photo by Karin Wilson

George Mansfield, Perris CA, April 2012

We've all heard the old weight saving dictum for our often tail-heavy models: "Saving a gram at the tail, means saving two grams of ballast, for a net benefit of three grams overa!!" Here's a closer look at the increase in flight duration that you can expect by reducing weight in any component, anywhere from nose to tail. First some math. Start with the theoretical "Still-Air Duration" formula:

(1)

$$T = \frac{K * Wr * \sqrt{Aw}}{(W_{gross})^{1.5}}$$

Where: T = duration (seconds), K = constant = 285 for scale rubber,
Wr = rubber wt (gm),

Aw = wing area (sq.in), W gross = total model wt, including rubber (gm)

Next, after a bit of moment balancing, we do some calculus on equation (I) to get an approximate linear expression for "%change in duration" — *versus* — "change in component weight as a % change in gross weight":

$$\%change\ in\ T = -1.5 * (\%change\ in\ W_{gross}) * (1 + L_{component}/L_{ballast}) \quad (2)$$

Where: Lcomponent = distance from model cg aft to cg of the component
(use negative number for component cg forward of model cg)

Lballast = distance forward from model cg to nose weight.cg .

Here is an example:

60 gram model, 20 gram motor: $W_{gross} = 80$ gram, $A_w = 140$ sq. inches,

Component for weight reduction: Tail: $L_{component} = 11.5"$, $L_{ballast} = 6.2"$

Thus: $L_{component}/L_{ballast} = 1.85$

Assume a Tail weight savings = -2.0 gm; or: -2.5 % of W_{gross} :

Now, substituting given values in equation I, $T_{initial} = 94.3$ sec

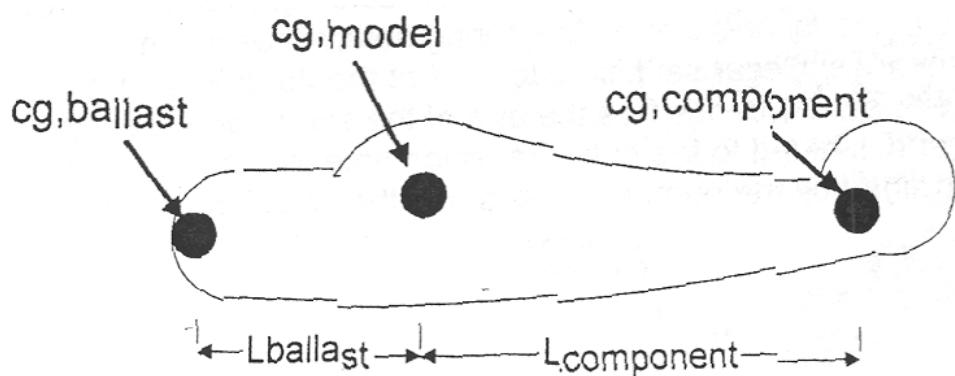
Substituting above data in equation (2):

% change in duration = $-1.5 \times (-2.5) \times (1 + 11.5/6.2) = +10.7\%$

Then, Change in duration = $0.107 \times T_{initial} = 0.107 \times 94.3 = +10.1$ seconds

Adding change in duration to initial duration, $T_{final} = 104.4$ seconds

Try equations (I) and (2) out on one of your models. The graph on the next page eliminates some of the number crunching. Our example is shown as dotted lines on the graph. A hidden side benefit of saving weight is a reduction in glide speed and kinetic energy when your plane crashes, whoops, lands softly after a glorious flight. Thermals!

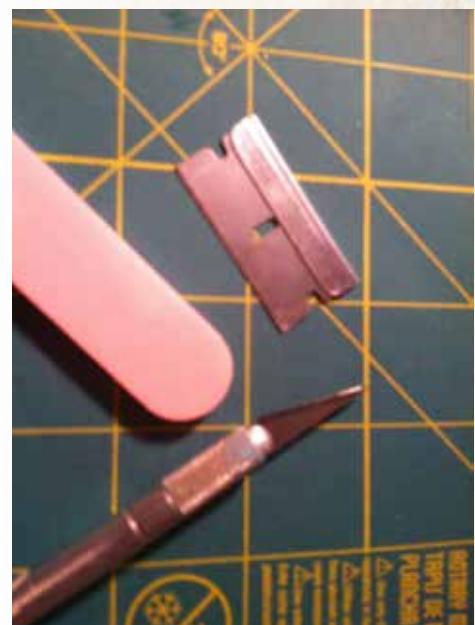


The Tools I Use

Here is a list of the tools that I most often use in the building my models.

- X-acto blade
- Straight razor blade
- Emory board/sand paper
- Self-healing cutting board
- My brain

I have found that each one of the tools listed above has its limitations. My brain only knows what it knows. The first time I made a cracked rib airfoil, I did not understand the concept, but now I know. Blades get dull and more sanding is necessary, or better yet, switch to new/sharpened blades. Sanding: is it better to move the wood or the sandpaper? If you have a favorite tool, tell me about it.





I started with what I thought was the simplest part of the plane, the fuselage. I thought it was the simplest part until I could not find any 1/8" stock 1/4" wide and 14" long. But I did have a 1/4" x 1/4"

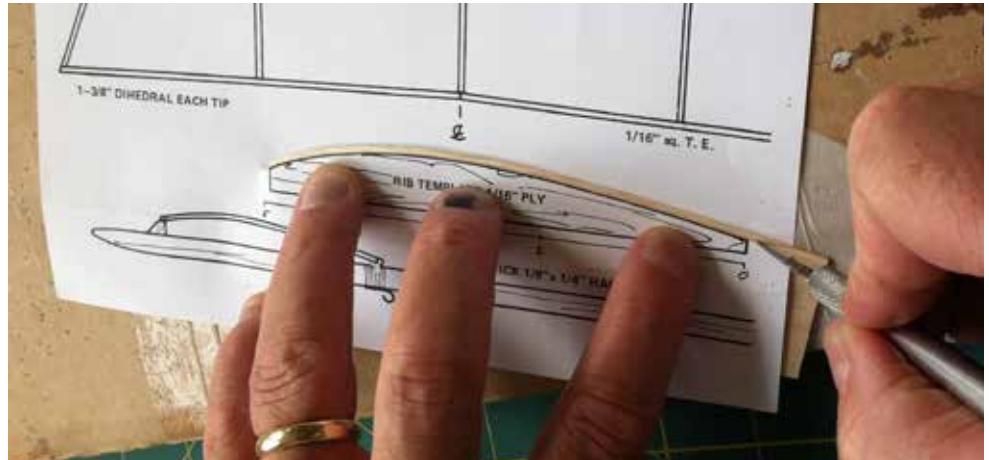
stick that was 24" inches long. I started by cutting the stick to the correct length. Next, I cut the stick in half the long way and finally I glued on the canard and the main wing's incidence blocks.

Next, I worked on the three parts of the main wing. I began by cutting out the ribs. You can see them on the right. I then worked on the wing tips, then the center section. I glued the wing tips on, but I needed to lift the trailing edge of the center section in order to get the trailing edge to line up with the rib of both wing tips. For the canard, I glued in all of the ribs, accept the center. I nicked the trailing edge and broke it. Now, I could bend it to the correct dihedral and glue in the center rib. The canard was done, the center wing glued up and the fuselage glued but not sanded.

Now for the hard part. The propeller. I dug out the heaviest 1/8" square stick I could find, cut it to 1 1/4" long and then drilled a hole through it from corner to corner. I found my saw and cut a slot in

Building My Zephyr

By William Scott



each end. After inserting a wood blade in each end, I thought, "Wow, that went together much quicker then I thought." Setting down the newly constructed propeller, I noticed that my propeller was 8 1/2 inches long. I did some quick calculations and found out my addition was off when I wrote the rules for the zephyr in the previous newsletter.

RULE CHANGE: As the contest director for the November Zephyr contest, I will be more than happy to accept a propeller that matches the construction details in the newsletter and measures 8.5" or less. I have also updated the rules in this month's newsletter.

Time for the weighing. The final weight of my plane, without a motor, is 5.0 grams. I'm not sure if that is good or bad. I have no one else to compare it to.

At the October indoor meeting, four of us showed up with our Zephyrs and we had a great time. They took about an hour to trim (repair) but they all flew great. Note: the incidence block under



the main wing should be 1/16 taller than is on the plan. This update is according to Randy Wrisley, who noted the shortened incidence block was a mistake on the original plan. I would test fly your model before making the change. Randy and I were putting up pretty comparable times when we got an opportunity to both fly at the same time.

We decided to have a two-plane mass launch. It was exciting to watch. Randy's orange Zephyr flew clean from the release, it was making small circles and climbing smoothly. My multi-colored zephyr prop stalled and stood

Zephyr Contest

Contest Date: TBA

The Updated Zephyr Rules:

All Classes: Wood must be 1/16" square or greater.

Class 1: A wooden propeller using the building instructions included in the article: 1/32" thick propeller, maximum diameter 8 1/2" flat or twisted. 1/8" square balsa hub, 1 1/4" long, sanded round

Class 2: A plastic single piece molded propeller, maximum diameter 8"

Three winners announced:

Class 1 Competition:

"Best three flights out of six"

Class 2 Competition:

"Best three flights out of six"

Mass Launch Competition:

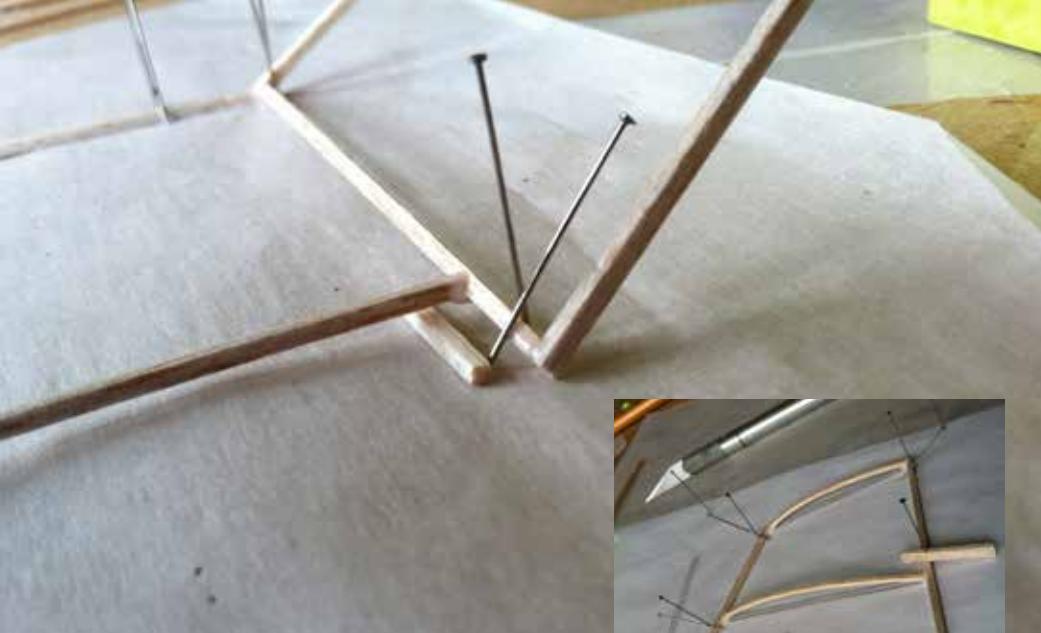
All competing planes welcome in the mass launch. One flight.

Contest Director

William Scott

wscott127@mac.com

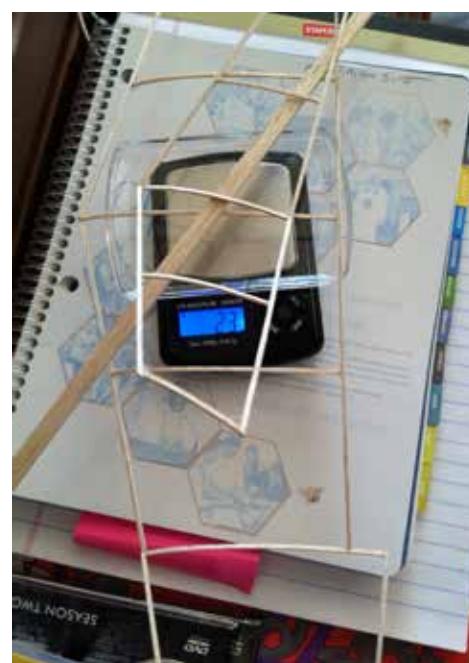
phone (619) 701-2457



straight up about four feet off the ground. It was not going up or down, just kind of dancing there looking like it was going to fall over and crash. Then my plane got it's act together, the nose came down and it began to climb. Randy beat me to the ceiling by a good four or five seconds, I got to the ceiling and did a circle or two. By this time, Randy's plane was off the ceiling and making nice slow circle heading for the floor. My plane came off the ceiling and also headed to the floor.

On the descent, our planes were turning similar-sized circles. Interestingly, on the first circle, I was on top by maybe six feet. The second circle I was on top by four feet. The third circle I was just over Randy's Zephyr. The fourth circle we were even. It was now just a matter of who had more winds and torque to keep their plane in the air. By the fifth circle, my plane had dropped below Randy's. If he ran out of winds, his plane would drop faster than mine (which I knew would land with winds left on it.) On the seventh circle my plane touched the floor and Randy's was still up by a good two feet. Randy's plane took a victory lap before touch-

ing down. All told, about two minutes of good clean head-to-head competition. It didn't matter that I lost, I had a great time and learned something new. I learned that if I used a smaller rubber and more winds, I would have a longer flight time. Learning from each other makes this hobby that much more rewarding and I hope I can pass my enthusiasm on to others.



The Winding of a Rubber Motor for Indoor Flying, Part II

by William Scott

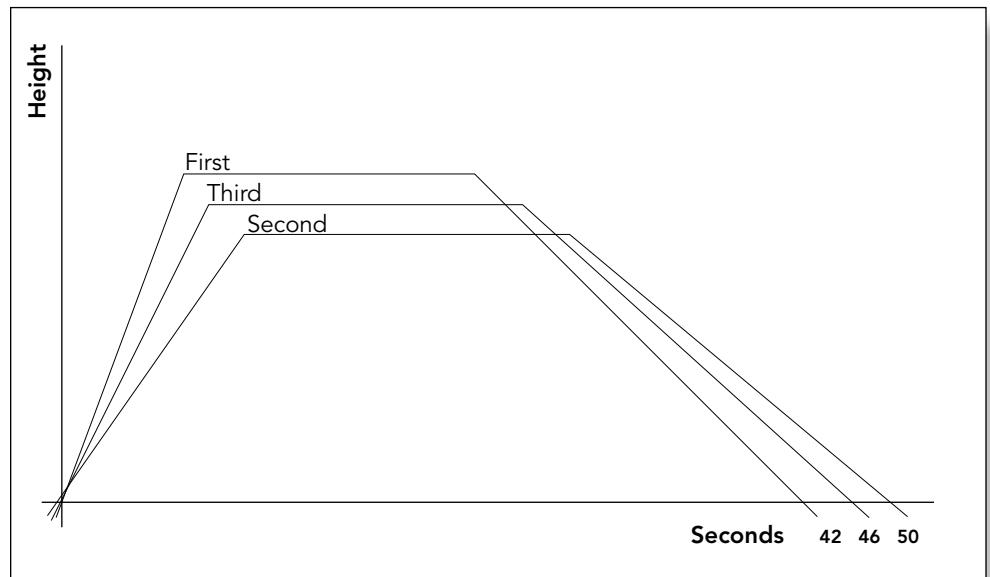
IT IS THE FIRST SUNDAY in August and it is time to test my theory that a thinner motor of the same length gives a better flight than a longer motor of the original thickness. But all of my motors broke in the winding process; okay, one came un-tide and after re-tying the motor it was too short to give me comparable data. The good thing was the plane still flew well, even though it was flying on a motor that was 10% smaller than my planned test size.

Fast forward to the first Sunday of September and another chance to test my theory. Winding up a motor of the original width and length, $1/8 \times 12"$ the plane flies very nicely, it had a good climb, a few cruising laps and then a good glide back down that looked a little slower than the climb up. Total flight time 42 seconds. I then switch to the thinner motor of the same length, winding to the same torque, there were about 400 to 450 more winds on the motor than the original motor. The plane doesn't climb as fast as before nor as high, the cruise was hard to see because the decent was very slow and content. Total flight time 50 seconds. I next switch to the motor that is the original width but longer. I wind up the motor, this motor also has 400 to 450 more winds on it than the original mo-

tor. The climb on the longer motor was slower and just a little bit lower than the original but faster and higher than the thin motor. The real difference was at the end of the flight when the plane was gliding. The additional weight of the motor made the glide much steeper giving a flight of 46 seconds. So far the theory works. I made a graph of my observation to make it easier to follow. The sec-

onds are not exact; they are relative to what was observed.

My daughter gave me my next story idea, when she was tossing a wadded up paper into a trash can, she said, "she turns, she shoots, wow look at that ball fly, Scores!" Aha! "What classifies flying versus falling?" Till next time, when I'll let you know what else I uncover as I learn something new everyday.

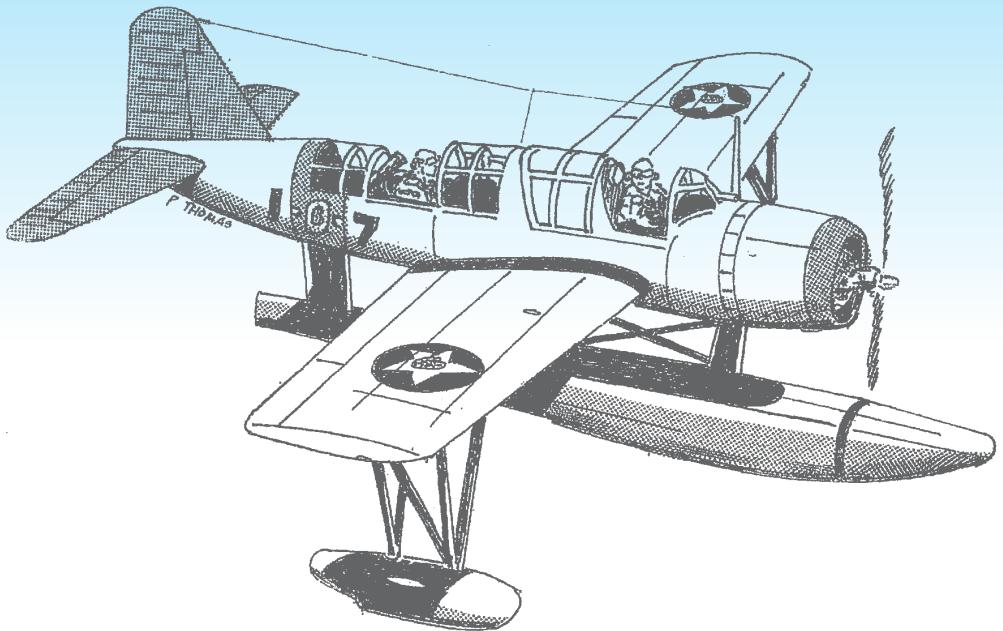




— UPCOMING EVENT —

April 24-27, 2013 WESTFAC MK IV Schedule of Events

SCAMPS Field, Perris, California



Contest Director

John Hutchison

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

Awards Presentation

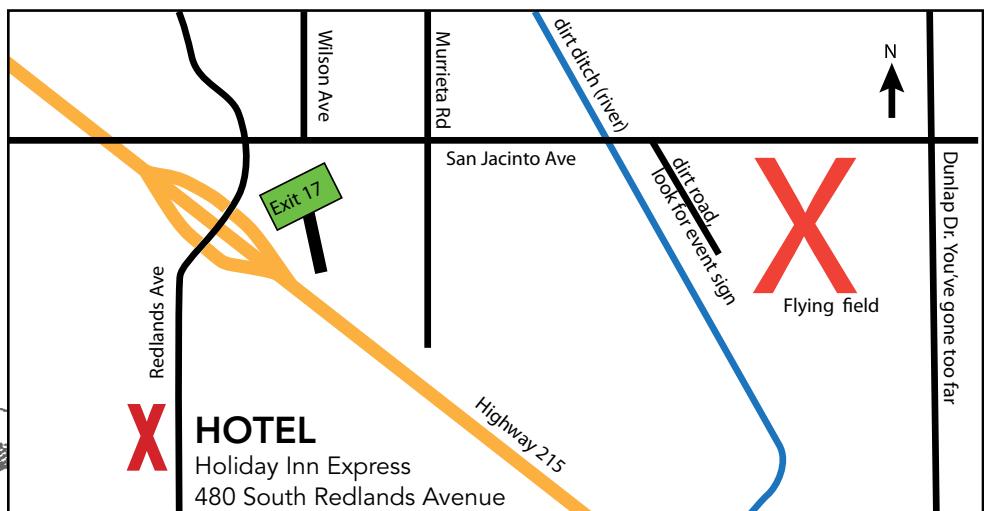
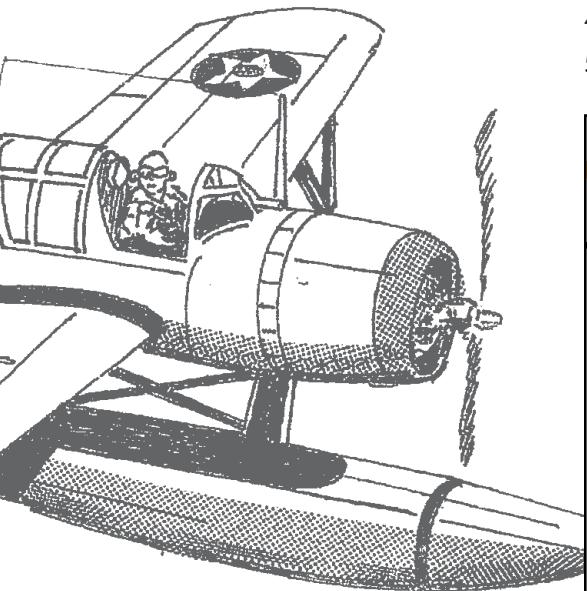
8 p.m. Saturday night

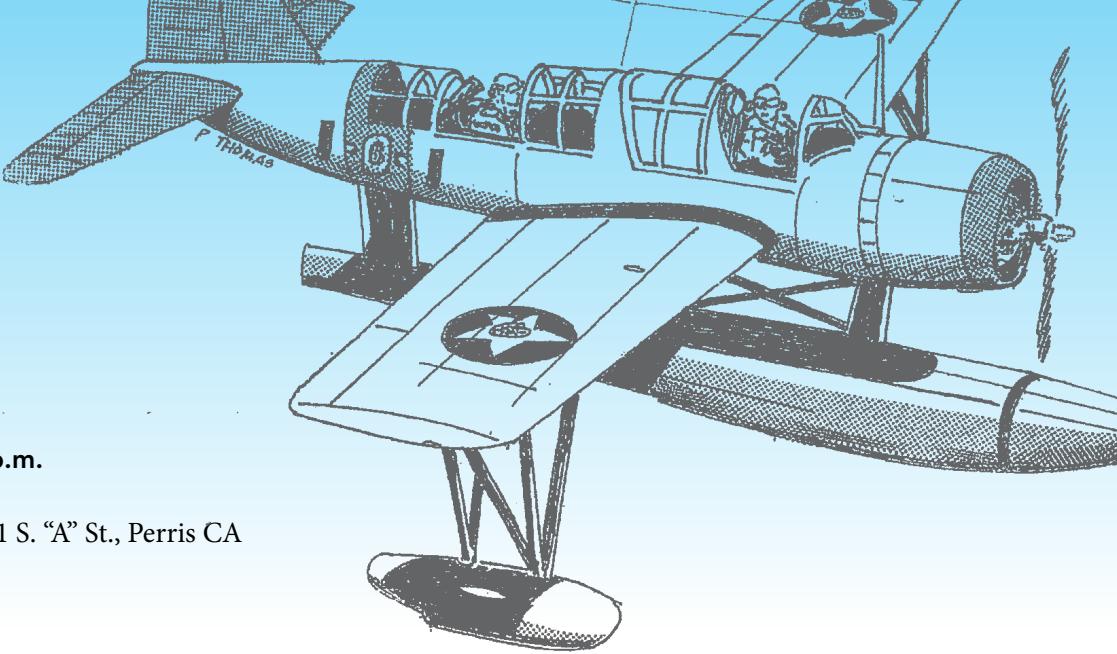
Pilot's Meeting: 8 a.m. on all days

FAC Single Model Events

Fly any event on Thursday, Friday or Saturday but all flights for a given event must be flown on the same day.

1. FAC Rubber Scale
2. Hi-Wing Peanut Scale
3. FAC Peanut Scale
4. FAC Jumbo Rubber Scale
5. FAC Power Scale





WEDNESDAY, April 24 Noon – 6 p.m.

Scale Judging will be conducted at the
Orange Empire Railway Museum 2201 S. "A" St., Perris CA
(951) 943-3020
[Click here](#) to link to museum

THURSDAY, April 25 8 a.m. – 5 p.m.

Mass Launches

- 8:30 a.m. WWI Mass Launch
- 10:30 a.m. Thompson Race Mass Launch
- 12:30 p.m. Low Wing Military Trainer Mass Launch

Additional contests (fly any time on Thursday)

Golden Age Combined
Old Time Rubber Stick
Jimmie Allen (ROG)

FRIDAY, April 26 8 a.m. – 5 p.m.

Mass Launches

- 8:30 a.m. WWII Mass Launch
- 10:30 a.m. Greve Race Mass Launch
- 12:30 p.m. WWII Mediterranean Mass Launch (click for rules/plans)

Additional contests (fly any time on Friday)

Modern Military Scale
Old Time Rubber Fuselage (ROG)
Embryo (ROG)

SATURDAY, April 27 8 a.m. – 5 p.m.

Mass Launches

- 8:30 a.m. Twin Engine Scale Mass Launch
- 10:30 a.m. Battle of Midway/Grumman Combined Mass Launch
- 3:30 p.m. Flying Horde Mass Launch (click for rules)

Additional contests (fly any time on Saturday)

Dime Scale
2 Bit +1 (ROG)

Awards presentation

- 8 p.m. Awards Ceremony Saturday Night
Orange Empire Railway Museum Banquet Room

[Click here](#) to see our website at
www.westernFAC.com

Fees

Entry: \$25 (flies all events)
T-Shirt \$15 per shirt

Awards Presentation

\$25 per person

Registration

There is no on-line registration
please click the link below for the
mail-in registration form.

[Click here](#) for form

Hotel Accommodations

The Holiday Inn Express is five
minutes from the field.

[Click here](#) to link to hotel