

# EL TORBELLINO

NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB

OCTOBER 2019



## *Prez's Corner – Mark Chomyn*

Hello Flyers. We're into the second month of our outdoor schedule re-start. Don't forget to save the date for our next contest on October 27. If you've been keeping up with the El Torbellino you know that this contest was rescheduled from its original date of October 13 to the new date of October 27. Events will be Coupe, Glider and Power. For those flyers tracking their "Cup" points don't forget to enter the specific event type you are competing in on the contestant's flight scoring form. So, I'll repair the rips and tears in the Campbell (Old School) Super Coupe and see you on October 27.

Our September 15 event is already in the record books. We had a respectable turnout of 10 flyers for the Old Time/Nostalgia, Glider and power events. Air was tricky to pick but there were some flyers who had the climb and altitude necessary to get some maxes. Yours truly was quite surprised and happy with a third place in Old Time/Nostalgia. Conditions at the field remain the same with the mulch piles still in place with the footing being a little tricky in places. Unfortunately, we've heard from representatives of the SCAMPS who have been in contact with the field's owner that the tilling-in of the mulch is not on the radar. When we get a more upbeat report on the proposed soil tilling we will let our readers know.

As I mentioned in a previous Prez's Corner, Don Bartick was a participant at this year's AMA Nationals in Muncie, Ohio. If you are a NFFS member, the July-August edition of Free Flight is out and if you check page 15 for the AMA Nationals E-36 Senior/Adult results of August 7 you'll find Don's name listed as the third-place winner in that category. Congratulations Don and thanks for putting the Orbiteers in the spotlight.

As mentioned in a previous Prez's Corner, I've been become interested in building designs which are not the usually seen subjects (i.e. Gollywock etc). I've built a Billy Tea (unrepairable crash at last Scale Staffel contest) and was currently working on a Cleveland Flemish Defiance (totally framed and ready for covering). Then I got the Sept – Nov issue of Flying Aces Club News in the mail. When I got to page 14, I was hit by a plan that got my attention in the same way as the Billy Tea design. That is, a plane with a type of ugly factor that actually makes it look cute. That plan was for the 1933 Warbird design's Canary. So, I immediately put the Flemish Defiance on hold and started building the Canary. Have finished framing the fuselage, rudder and stabilizer. Estimate that another week or so of effort will finish the wing frame and covering. If it is a reasonable flyer it could make for an interesting entry in Old Time/ Nostalgia Rubber or Two-Bit Rubber. Hope to have it ready for November test flights in Perris.

As I write this, I am recently back from a trip down the Douro River in Portugal. Before arriving in Porto for the river cruise my wife and I spent two days in Lisbon. During that time, we visited the Maritime Museum in Belem. At the tail end of our visit we entered a large exhibit space filled with historical ships and royal barges. At the end of that exhibit was a biplane with floats. As I read information about the plane, I was surprised to find that the Fairey IIID Mk. II bi-plane/seaplane had flown the first crossing of the South Atlantic Sea from Lisbon to Rio De Janeiro in 1922, five years previous to the Lindberg flight. I would have never expected that the Portuguese were aeronautical pioneers! Wow, the things you learn on a vacation.

That's all. Over and out. - Mark

To invent an airplane is nothing. To build one is something. But to fly is everything

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Annual Membership - \$20  
Lifetime Membership - \$250  
Non-Member Newsletter Subscription - \$15  
Junior Members 16 years old or younger - Free

### Submit Dues to Club Treasurer:

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## THE FINE PRINT THE FINE PRINT

El Torbellino is the official newsletter of the San Diego Orbiteers, an Academy of Model Aeronautics (AMA) Charter Club (#1113) and a California not for Profit Corporation. This newsletter is sent monthly to all paid members, selected exchange and magazine editors. Non-Members may subscribe at \$15.00 per year within the U.S.A., offshore price will be adjusted to reflect the postage required. Materials from El Torbellino may be reproduced on an unlimited basis by other publications, but proper credit is requested.

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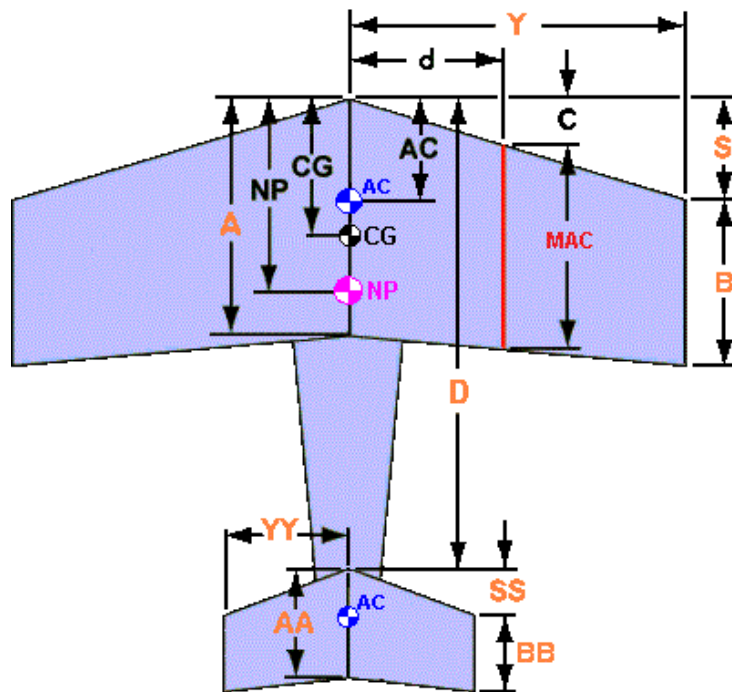


## Pitch Stability of Free Flight Rubber Powered Model Aircraft

By Mike Jester



Unlike a real airplane or a radio-controlled airplane, a free flight model airplane must maintain its stability without any pilot adjustment of control surfaces during a flight. Even more challenging, a rubber powered free flight model airplane must do this throughout the climb, cruise and glide phases of the flight as the torque of the rubber motor varies from high, and then to medium, to low, and finally to zero. A rubber powered free flight model airplane needs pitch stability so that it will automatically correct itself if the nose is too high (stall) or too low (dive). In addition, it must maintain lateral (roll) stability, which is beyond the scope of this article but generally requires adequate dihedral. Pitch stability is achieved by locating the center of gravity (CG) of the model (with the rubber motor installed) so that it is ahead of the neutral point (NP). How far the CG is ahead of the NP determines the so-called "static margin of stability" of a model airplane. Static margin calculators are available on the Internet. The NP and the corresponding static margin of stability are generally based on: 1) the area of the wing; 2) the area of the stab; and 3) the distance between the wing and stab. The static margin of stability is usually expressed as a percentage of the mean aerodynamic chord (MAC). The further the CG is ahead of the NP the higher the static margin will be and the more stable the flight will be, but at a cost. The difference in the angle of attack between the wing and the stab (decalage) will have to be increased as the CG is moved forward and this makes the flight less efficient. Excessive amounts of down thrust may be required to accommodate high launch torque and prevent the model from power stalling or looping if the CG is too far forward. However, if the CG is too far rearward, the model will become difficult to trim and may not recover from stalls and dives.



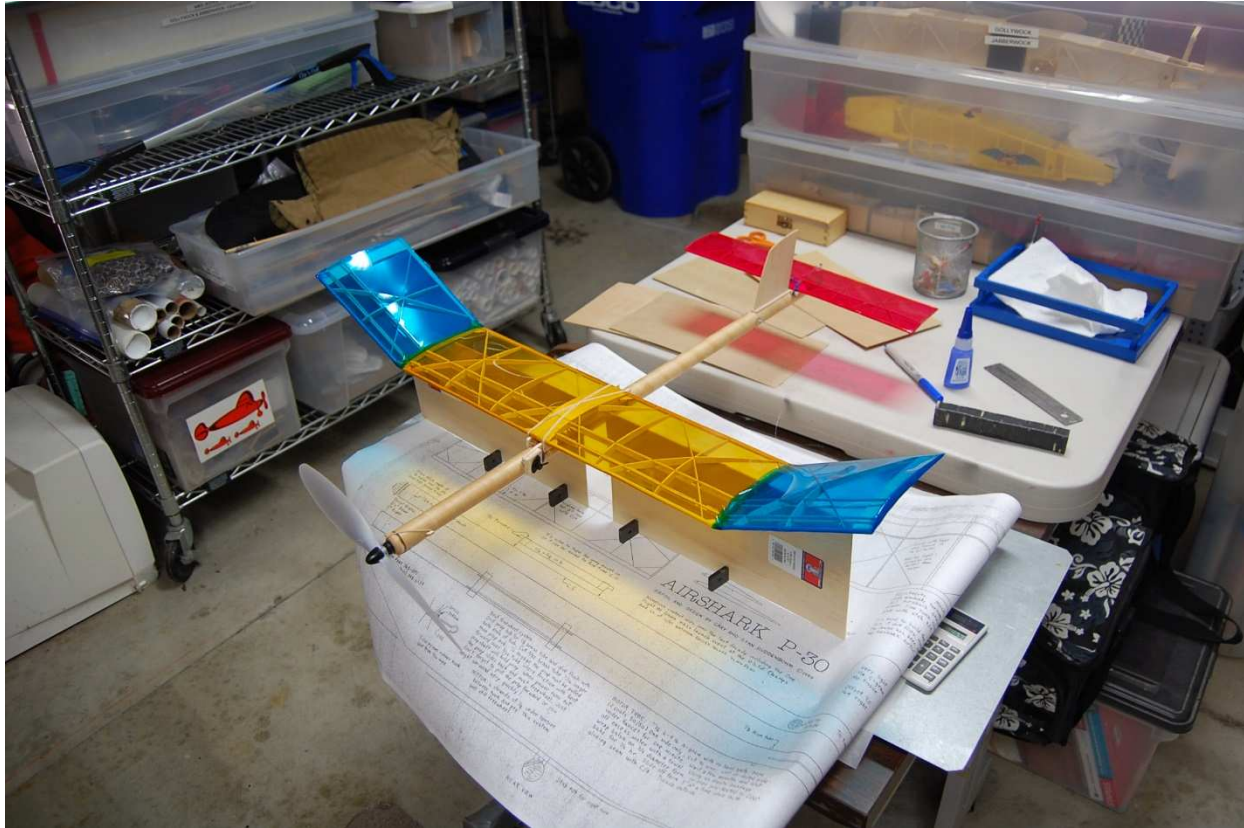
**Diagram from Aircraft Center of Gravity Calculator Available on the Internet**

The CG of a model airplane can be adjusted by moving the wing fore and aft on the fuselage. However, with scale rubber powered models the location of the wing is fixed so the only options available to change the location of the CG are to add or remove weight from the nose or tail of the model.

So where should you locate the CG of your rubber powered model airplane? If you are building from a published plan, either included in a kit, or obtained from another source, locate the CG per the plan.



Probably some very experienced modeler determined the optimum location for the CG for that air frame. The model should balance fore and aft at the indicated CG location with the rubber motor installed. To determine where an outdoor model balances you can support the inner sections of the wing on their underside with your fingertips, the eraser ends of pencils, or thin sheet balsa wood supports that extend spanwise for more precise measurement. If you are really serious about finding the precise location of the CG on an outdoor model rig up a device called the Vanessa CG Machine.



### **Locating the CG on the Author's Airshark P-30 designed by Stan Buddenbohm**

Indoor stick models like a Limited Penny Plane or an A-6 have delicate wing covering that will be damaged if you try to support the wings by engaging their undersides. This is how I locate the CG of an indoor stick duration model. Install a rubber motor of the desired length and weight but double it over before connecting it between the prop shaft hook and the rear hook. This takes out slack and ensures that the weight of the rubber motor is evenly distributed along the motor stick as would be the case during a flight. Then invert the model and suspend the motor stick with a relatively long loop of thread. Move the loop fore and aft until the motor stick is level. The location of the loop is the location of the CG.

If you are not building from a plan then you may want to use one of the static margin calculators. Be advised that a scale model may require a very different static margin of stability than a non-scale model. For a scale model the CG would typically be located about 30-40% of the wing chord aft of the leading edge of the wing. Master scale builder and flier Don DeLoach wrote an article originally published in the FAC newsletter in 2012 that describes how to calculate exactly where to locate the CG on a rubber powered scale model for ease of trimming and maximum flight duration. He dispenses with the myth that one should locate the CG at 33% on a scale model and call it a day. For a P-30 or a Coupe, the CG would typically be located 60-70% aft of the lead edge of the wing.

In this article I have purposely avoided any math or formulas. I apologize for any technical inaccuracies. I conclude with simple, and often repeated advice for scale models - "Nose weight is your friend."

## Orbiteers - Indoor Contest Results - October 6, 2019



### A-6

<u>Flier</u>	<u>Best 2 of 5 flights</u>		<u>Total</u>	<u>Rank</u>
Mike Jester	225	243	468	1
John Hutchison	213	212	425	2
Greg Hutchison	183	186	369	3
Don Bartick	81	112	193	4
Don Brent	12	DNF	12	5

### Catapult Launched Glider

<u>Flier</u>	<u>Best 2 of 9 flights</u>		<u>Total</u>	<u>Rank</u>
Don Bartick	22.5	22.9	45.4	1
Benji Pureco#	22.3	20.0	42.3	2
Jose Cetina#	19.8	19.8	39.6	3
Mike Jester	19.4	19.4	38.8	4

## Scale Staffel - Indoor Contest Results - October 6, 2019



### Phantom Flash

<u>Flier</u>	<u>best 3 of 6 flights</u>			<u>Total</u>	<u>Rank</u>
John Hutchison	43	71	64	178	1
Walter Ainsle	39	34	46	119	2
Don Bartick	17	41	20	78	3

# Junior SDO club member



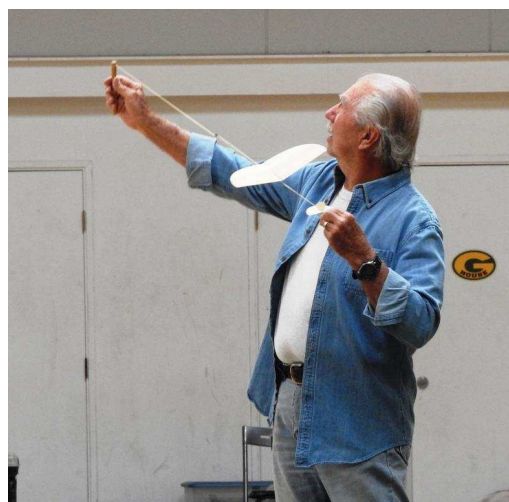
Photo by Arline Bartick



Orbiteers - Indoor Contest Results - October 6, 2019 (Photos by Arline Bartick)



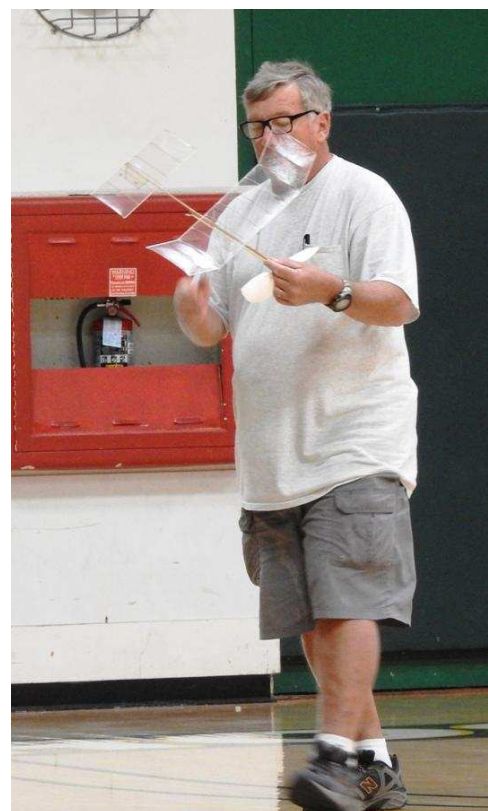
Mike Jester and John Swain discussing????



Don Bartick



Glider Traps: Double Doors and Grill Guards



John Swain

← Greg Hutchison





Fellow Flyers.....

Remember the SAM CHAMPS, October 28 - November 1, Boulder, CA (El Dorado Dry Lake)

There is NO altitude restriction, but we will be flying Cat III.....it's an old man's game anymore. We will be flying all events in the Old Time Rule Book, Nostalgia, Gas, Electric and Rubber also Classic including Towline and Vintage FAI. There will be a challenge match between FAC and OT Flyers. You can register on the field at the FF Table with no late fee. This is probably the last time this year to get more National Cup Points. Awards will be Friday. Banquet at the same place it was last year, it was great food.

Looking forward to a good time and hope to see you on the field.

Ted Firster  
951-830-0414

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## 2019 OUTDOOR FLYING SCHEDULE

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All are AMA Sanctioned & National Cup Events  
(Contests at Perris CA unless otherwise noted)  
(All Contests include E36, Power, & HLG/CLG)

Oct 27 - **Coupe**

Nov 17 - **P-30**

Dec 15 - **Old Time Nostalgia Rubber**

\* **Non-Club Points Event**

## 2019 INDOOR FLYING SCHEDULE

Nov 3 - Limited Penny Plane, No-Cal\* &  
Canard One-Design\* (Wrisley  
Zephyr)

Dec 1 - P-18 & Embryo\*

\***Scale Staffel Event**

## Orbiteers - Outdoor Contest Results - September 15, 2019



### Old Time/Nostalgia Rubber

<u>Flier</u>	<u>3 flights</u>			<u>Total</u>	<u>Rank</u>
Bernie Crowe*	120	120	120	360	1
Lance Powers	105	120	102	327	2
Mark Chomyn	105	82	98	285	3
David Wade*	85	71	86	242	4
Don Bartick	47	63	31	141	5

### Power

<u>Flier</u>	<u>5 flights</u>					<u>Total</u>	<u>Rank</u>
Clint Brooks*	120	120	120	120	120	600	1
Stan Buddenbohm*	120	120	120	120	108	588	2
Don Bartick	120	120	120	120	76	556	3
John Swain	120	120	99	DNF	DNF	339	4

### Glider

<u>Flier</u>	<u>Best 3 of 5 flights</u>			<u>Total</u>	<u>Rank</u>
Tim Batiuk*	120	120	97	337	1
Clint Brooks*	120	83	109	312	2
Stan Buddenbohm*	120	73	94	287	3
M. Rykeng*	58	76	72	206	4

\*not an SDO member

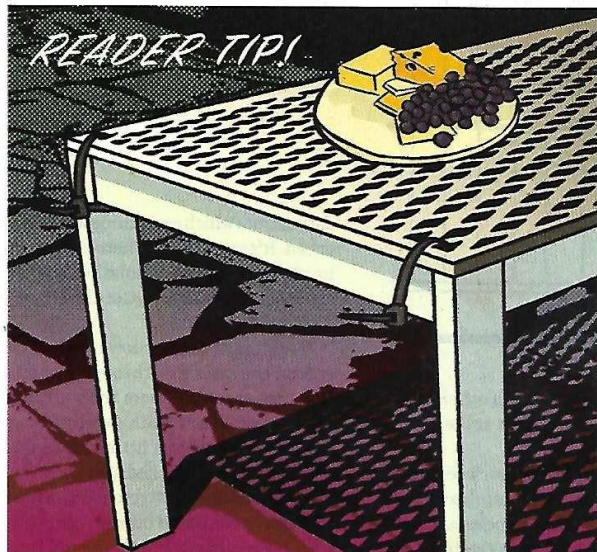


Otay Flying Site – Photo by Mike Jester – From ET Archive



# SHOP NOTES

EASY WAYS  
TO DO  
HARD THINGS



## A Patio Table Immune to Blustery Days

After losing three glass-and-plastic patio tabletops to storms—and having to pick glass shards out of his pool—reader Ray Williams of Simonton, Texas, devised a better outdoor surface. He got a sheet of vinyl lattice and cut it to the shape of his tabletop. Then he used cable ties to secure it to the frame (and scrap aluminum angle strips for reinforcement, where necessary). The holes in the lattice make it hard for wind to pick the tabletop up, and with the cable ties, it isn't sitting unsecured atop the frame the way the glass-and-plastic surfaces were.



## Your iPhone Has a Sleep Timer

If you like falling asleep to music or podcasts but don't want to drain your iPhone battery, open the Clock app and set a timer for the amount of time until you drift off. Then tap "When Timer Ends" to go to the menu for selecting the alarm tone and tap "Stop Playing" at the bottom of the list. Instead of playing a sound, the alarm turns off your audio.

## DUCT-TAPE PULL TAB



Instead of keeping rolls of duct tape with the end folded over, contributing editor Richard Romanski attaches a wood chip. It's a pull tab. When he uses the tape, he removes the chip, avoiding the waste of a fold-over.

## Sandpaper: A Guide to Grades

The number on sandpaper, indicating coarseness and what it's used for, may or may not be preceded by a *P*. That's because there are two grading scales—CAMI, traditional in the U.S., and FEPA, typically European. Sometimes they're the same. Not always. This chart sorts it out.

COARSE			MEDIUM				FINE				
CAMI	36	60	80	100	120	180	220	240	320	360	400
FEPA	P36	P60	P80	P100	P120	P180	P220	P280	P400	P600	P800
	Strip- ping away heavy finishes; floor sanding	Paint stripping/ level- ing; rust removal		General; leveling wood filler; easing cor- ners; first pass on raw wood		Final sand- ing before painting; deglossing a varnished surface			Leveling paint or clear finishes between coats		

ILLUSTRATION BY MORNING BREATH

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## WHAT'S HAPPENING - October / November 2019

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Oct. 27 - **Orbiteer Outdoor Monthly**

SCAMPS Field, Perris CA, 8:00 am.

Feature Event: **Coupe**

Other Events: **E36, Power & HLG/Catapult Launch Glider**

Nov. 3 - **Indoor Flying**

Grossmont College (Upper Gym), 7:30 am to 11:30 pm.

Feature Events: **Limited Penny Plane, No-Cal\* &  
Canard One-Design\* (Wrisley Zephyr)**

Nov. 17 - **Orbiteer Outdoor Monthly**

SCAMPS Field, Perris CA, 8:00 am.

Feature Event: **P-30**

Other Events: **E36, Power & HLG/Catapult Launch Glider**