

# EL TORBELLINO

NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB

SEPTEMBER 2018



## ***The Prez's Corner – Don Bartick***

We're done with the sale of Harry Steinmetz and Gus Castillo's model estates. Gus's CO2 engines were the last of his stuff sold.

It saddens me to report that Orbiteers' Larry Miller's Alzheimer disease is very far advanced to the point that he can no longer participate in his Free Flight hobby that he enjoyed for so many years. Larry was an extraordinary builder. Mainly outdoor Gas Free Flight. He also enjoyed Indoor Free Flight. His A-6 and Limited Penny Plane designs were innovative and very competitive. Please keep him and his wife Karen in your prayers.

We finally got back to Outdoor FF competition. The September 16<sup>th</sup> event at Perris was well attended. Unfortunately, I had to miss it because we attended my business partner and wife's 50<sup>th</sup> Wedding Anniversary celebration. Now that's a milestone that not many reach. Look for the contest results in this ET.

Indoor competition is getting very competitive. P-18 was the main event for the Orbiteers at the September 2<sup>nd</sup> event. The Scale Staffel's hosted the Embryo competition. Both were very well participated. Look for results in this ET.

Last month, I mentioned that I completed a Gollywock for small OT Rubber Stick. Even pictures were shown in the ET. Well, I had a chance to test fly it at the Alfalfa fields in Perris. With just a few adjustments to the CG and thrust line, the plane flew beautifully, if I do say so. Unfortunately, I didn't realize that the field was recently sheared which left lots of stubble. The tissue on the belly of the

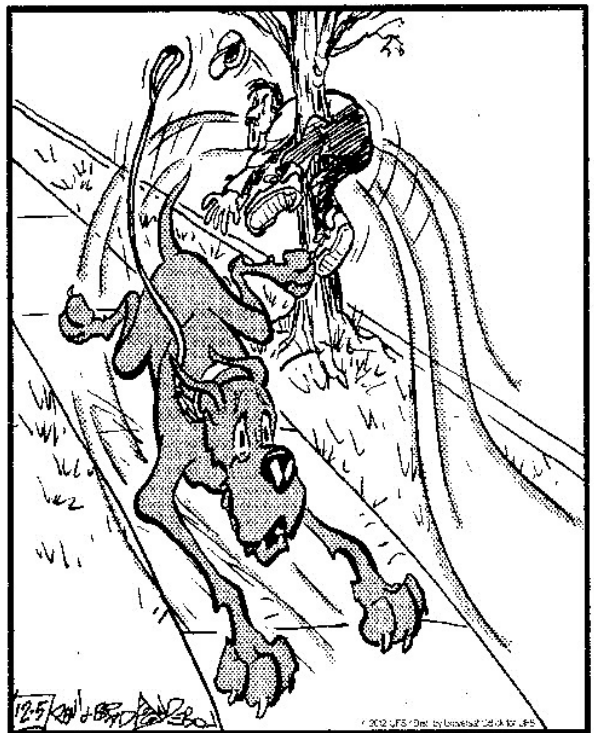
plane was lacerated from front to rear after glide landing a few times. Such as life.

The Board of Directors met at the Pykelny's this month. Look for the Minutes in the ET.

That's a wrap for now.

Remember: "High expectations are the key to everything." -Sam Walton

## **Marmaduke** by Brad & Paul Anderson



"Oh yeah! I'll bet you enjoyed that snappy U-turn."

## BOARD OF TRUSTEES



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## ORBITEERS MEMBERSHIP DUES

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.

## ORBITEER WEB SITE

[www.SanDiegoOrbiteers.com](http://www.SanDiegoOrbiteers.com)

**Webmaster: Kathy McLaughlin**



April 2017 Lee Hines A.Bartick/Photo



## **Buddenbohm Free-Wheeler Clutch**

*By Mike Jester*

I recently built a Korda Class C Tractor using a short kit and plans that I purchased from Bob Holman Plans. This is a 1937 classic design that can be flown in the Old Time Rubber event at the outdoor Orbiteers' contests. The model has a very large 17-inch fixed balsa wood prop, i.e. one that does not fold. Therefore, I can fly it in the Old Time Rubber Stick event at Flying Aces Club contests.



**Korda C Tractor by Mike Jester**

A rubber powered model that employs a fixed prop needs a mechanism to ensure that it free-wheels at the end of the motor run. In our hobby we refer this kind of mechanism as a "clutch." I reviewed the most popular types of clutches used in rubber powered models in my article that was published in the October 2017 edition of this newsletter. In that article I described the Struck clutch that is used with P-30 props. It incorporates a tube-in-tube bushing that ensures that the dog on the prop shaft cannot engage the spiral ramp of a plastic prop after the rubber motor run has finished. I erroneously inferred the origination of this design to Henry Struck, based on a somewhat misleading article published in the September 2007 journal of the DC Maxecuters. It turns out that this clutch was conceived by Stan Buddenbohm decades ago. It can be seen on his 1999 plan for his Air Shark P-30. I have apologized to Stan.

I usually use a Garami clutch on my Old Time Rubber models. However, I asked Stan about what kind of clutch I should use on my Korda C and he suggested a variation of his P-30 clutch. The clutch incorporated into the front-end assembly of my Korda C utilizes the tube-in-tube bushing of his P-30 version.

Stan always comes up with clever designs for his free flight models. Like all free wheeler clutches, the Buddenbohm clutch allows the prop to reliably free-wheel after the motor run is complete, i.e. nearly all of the turns on the rubber motor have been used and the model is entering its glide phase. Free-wheeling of a fixed, i.e. non-folding, prop is essential to a good glide. A fixed prop that won't free-wheel acts as a dethermalizer (DT) and kills the glide, or worse, can cause the model to crash.



As is the case with many relatively simple mechanical devices, it takes a lot of words to accurately describe the construction and operation of the Buddenbohm clutch. It's really not that complicated. Hopefully the pictures that are part of this article will help you to better understand the following detailed written description.

The hub of my Korda C prop has an axial length of  $\frac{3}{4}$ -inch. It is bushed with three segments of tubing. An intermediate segment is  $\frac{1}{2}$ -inch long,  $\frac{1}{8}$ -inch OD Aluminum tubing while the segments on each end are  $\frac{1}{8}$ -inch long,  $\frac{1}{8}$ -inch OD Brass tubing. The three segments of tubing are held in place with thin CA that weeps all around the outer surface of the tubing segments and bonds them securely to the balsa wood hub. A  $\frac{3}{4}$ -inch long segment of  $\frac{1}{8}$ -inch OD Brass tubing is too heavy. A  $\frac{3}{4}$ -inch long segment of  $\frac{1}{8}$ -inch OD Aluminum might experience excessive wear and produce subsequent prop wobble.



### **Three Segments of Brass and Aluminum Tubing Used to Bush the Prop Hub**

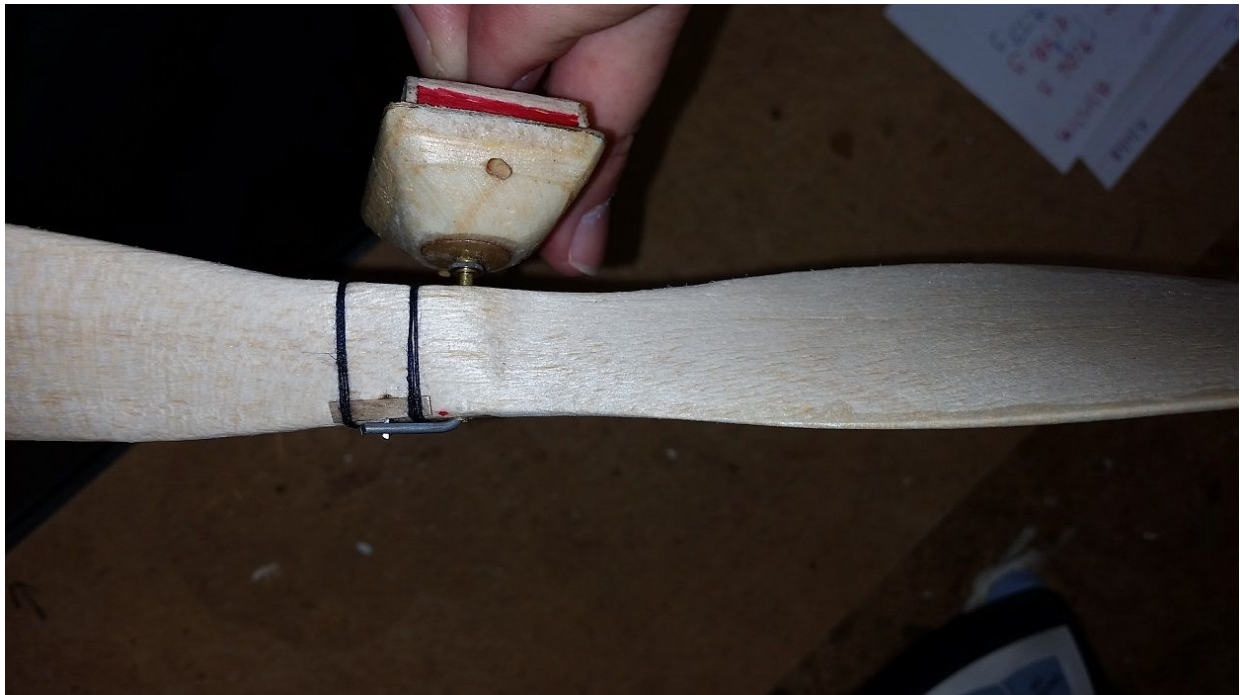
An inner segment of  $\frac{3}{32}$ -inch OD Brass tubing slides freely back and forth axially inside the three outer segments of  $\frac{1}{8}$ -inch OD tubing. The OD of the  $\frac{3}{32}$ -inch tubing is slightly less than the ID of the  $\frac{1}{8}$ -inch OD tubing segments. The inner segment can rotate freely, and slide back and forth, within the outer segments, without any wobble. The  $\frac{1}{8}$ -inch long segments of  $\frac{1}{8}$ -inch OD Brass tubing form journals or bearings. The inner segment of  $\frac{3}{32}$ -inch tubing is approximately  $\frac{1}{16}$ -inch longer than the combined length of the outer segments of  $\frac{1}{8}$ -inch tubing. The intermediate segment of  $\frac{1}{8}$ -inch OD Aluminum tubing is needed to ensure that the forward end of the  $\frac{3}{32}$ -inch Brass tubing does not hang up on the rear end of the forward  $\frac{1}{8}$ -inch long segment of  $\frac{1}{8}$ -inch OD Brass tubing. A pair of Brass washers and a Teflon washer sandwiched between the same are positioned on the  $\frac{1}{16}$ -inch prop shaft between the hub of the prop and the thrust bearing in the nose block. The ID of the  $\frac{3}{32}$ -inch Brass tubing is slightly larger than the  $.062$ -inch OD of the  $\frac{1}{16}$ -inch prop shaft. There is no wobble when the prop shaft rotates inside the segment of  $\frac{3}{32}$ -inch Brass tubing.

A small, generally triangular-shaped catch made of  $.027$ -inch galvanized steel sheet metal is glued with thin CA in a groove sawed into the hub that is spaced  $\frac{3}{8}$ -inch from the prop shaft. You can see the catch in the picture reproduced immediately hereafter. I may have trimmed it down a bit after taking that picture. The plane of the catch extends perpendicular to the axis of one of the blades.



**Sheet Metal Catch That is Glued in a Groove That is Sawed in the Hub of the Prop**

The forward end of the prop shaft is bent at ninety degrees to form a drive dog. The outer end of the drive dog engages the rear straight edge of the catch when the clutch is in its drive mode (see next picture). A small flat is ground into the drive dog and the rear straight edge of the catch is shaped with a file to the optimum angle in order to increase their area of contact. Small strips of 1/64-inch plywood are glued to opposite sides of the hub and straddle the leading and trailing edges of the catch. These strips are wrapped with thread and glued with CA to securely anchor the catch in the groove in the hub. A great deal of force will be exerted on the catch.



**Buddenbohm Clutch in Drive Mode**

After the rubber motor is connected to the prop hook, the nose block is installed into the fuselage while pulling out on the prop to ensure full engagement between the drive dog and the rear edge of the catch. The torque exerted by the wound rubber motor presses the drive dog tightly against the rear edge of the catch and prevents relative axial movement between the drive dog and the catch. The rearward thrust produced by the prop during the motor run presses the prop forward on the prop shaft. Along with friction, the thrust helps maintain engagement between the drive dog and the catch during the motor run. Inadvertent decoupling of the drive dog and the catch would result in a very undesirable super high-speed unwind of the rubber motor.

Here is how the clutch works during a flight. At the end of the motor run, the torque of the rubber motor is insufficient to drive the prop. The catch disengages from the drive dog as the prop begins to free-wheel, in part due to its rotational momentum. At the same time the prop slides rearward on the 3/32 Brass tubing segment due to the oncoming airflow. On the first rotation of the prop after disengaging from the drive dog the sloped upper edge of the catch may engage the drive dog and facilitate rearward axial movement of the prop. Thereafter the catch no longer engages the drive dog and the prop spins freely during the glide portion of the flight. The forward end of the inner segment of 3/32-inch Brass tubing engages the curved inner portion of the drive dog and prevents it from pressing down on the hub and inhibiting free-wheeling of the prop (see next picture).



**Buddenbohm Clutch in Free-Wheel Mode**



In conclusion, I prefer the Buddenbohm clutch over the Garami clutch. The latter requires the bending of a U-shaped latch that pivots inside a segment of Brass tubing. It is a tricky business to get the Brass tubing segment just the right length and bend the latch so that it does not flop around and is not too tight. The Brass tubing segment must then be secured to the hub with thread and epoxy. Invariably some epoxy creeps into the segment of Brass tubing and threatens to inhibit free swinging of the latch. And yes, I carved and sanded the 17-inch balsa wood prop. I used a prop blank I purchased from Volare Products. I am getting better and better at carving and sanding a balsa wood prop! As many have said, it is a lot easier than it sounds.

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## BALSA WOOD GIVE-A-WAY

Free - for your next project

Balsa wood - from Larry Millers collection, we have many boxes of wood.

Come get what you need.

Mike Pykelny

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Nov/2017 John Alling A.Bartick/Photo

## 2018 INDOOR FLYING SCHEDULE

Oct 7 - A-6 & Phantom Flash\*

Nov 4 - Lmt. Penny Plane, No-Cal\* &  
Canard One-Design\*  
(Wrisley Zephyr)

Dec 2 - P-18 & Embryo\*

## 2018 OUTDOOR FLYING SCHEDULE

- - - - -

All are AMA Sanctioned & National Cup Events

Sept 21/23 **US FF Champs, Lost Hills\***

Oct 14 - **P-30**  
E36/Power & HL/Catapult Glider  
(Oct 28<sup>TH</sup> rain date)

Nov 11 - **Old Time Nostalgia Rubber**  
E36/Power & HL/Catapult Glider  
(Nov 25<sup>TH</sup> rain date)

Nov 17/18 **Scale Staffel FAC Scale Contest\***  
(3 of 3)

Dec 9 - **Coupe**  
E36/Power & HL/Catapult Glider  
(Dec 16<sup>TH</sup> rain date)

**\* Non-Club Points Event**



## Orbiteers - Indoor Contest Results - September 2, 2018

### P-18

<u>Flier</u>	<u>Best 2 of 5 flights</u>		<u>Total</u>	<u>Rank</u>
John Hutchison	141	132	273	1
Stan Buddenbohm	125	133	258	2
Steve Shepersky	125	129	254	3
Don Brent	116	106	222	4
Don Bartick	89	121	210	5
Mike Jester	95	114	209	6
Nick Panousis	98	109	207	7
Richard Wood	103	83	186	8



## Scale Staffel - Indoor Contest Results - September 2, 2018

### Embryo

<u>Flier</u>	<u>model</u>	<u>3 flights</u>	<u>Total</u>	<u>Rank</u>
Stan Buddenbohm	custom	85 78 79	242	1
Richard Wood	Prairie Bird	64 69 52	185	2
John Hutchison	Prairie Bird	36 38 36	110	3
Walter Ainslie	Prairie Bird	48 36 20	104	4
Nick Panousis	Big Cat	10 16 22	48	5
Don Brent	not recorded	DNF	N/A	N/A



John Hutchison



Stan Buddenbohm



← Don Brent

**Photos by Arline Bartick**



## Orbiteers - Indoor Contest Results - September 2, 2018 - Photo Page



Don Bartick



John and Greg Hutchison



Mike Jester



Niesmith Cougar



Richard Wood



Photos by Arline Bartick

Steve Shepersky >>>

## Orbiteers - Outdoor Contest Results - September 16, 2018



### Coupe

Flier	Total of 3 flights			Total	Rank
John Hutchison	120	120	118	358	1
Mike Jester	120	86	120	326	2
Mike Pykelny	55	108	41	204	3

### Glider

Flier	Best 3 of 6 flights			Total	Rank
Mike Pykelny	29	46	26	101	1
Mike Jester	47	24	23	94	2

### Power

No Orbiteers members flew in the Power event



September 2017



July 4<sup>TH</sup> 2017



Nov 2017 Mark Chomyn



Photos by Arline Bartick



**FOR IMMEDIATE RELEASE September 10, 2018**

Contact: Don DeLoach, 719-964-7117, [ddeloach@comcast.net](mailto:ddeloach@comcast.net)

For the first time ever, the AMA Indoor FF Nats/USIC are coming to Arizona in 2019.

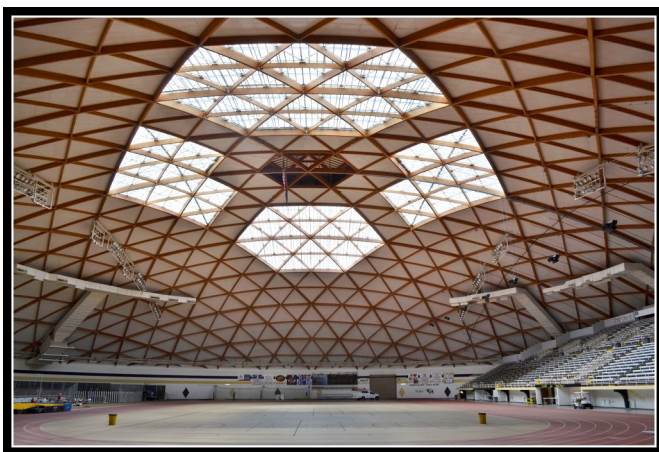
The flying site will be the Round Valley Dome, Eagar/Springerville, Arizona. RVD is an excellent geodesic Cat. III at 99' feet with solid wood truss ceiling and a massive floor area of 189,00 square feet. The Dome has been the site of the Phoenix Model Airplane Club's annual indoor contest for about 10 years. Contest dates are Thursday, May 30 through Sunday, June 2 (four days of official flying). The Contest Director will be Tom Gaylor of PMAC. A full lineup of events is planned, including AMA, FAI and FAC events.

Eagar/Springerville is a small community of about 7,000 in the White Mountains of eastern Arizona. It has a high desert climate with early summer temperatures in the 50s-80s, and low humidity. Nearest major airports are Phoenix Sky Harbor (PHX) and Albuquerque (ABQ). Both are about 3-1/2 hours drive time from the site.

The White Mountain region is nationally known for trout fishing, hunting, historic/cultural sites and vast public lands. There are four hotels, numerous campgrounds, and five restaurants within 5 minutes drive of the Dome.

NFFS is a excited to bring the Indoor Nats to Round Valley. Please support it with your attendance!

For more information visit the NFFS website at [freeflight.org](http://freeflight.org) and the Eagar/Springerville Chamber of Commerce at [www.springervilleeagarchamber.com](http://www.springervilleeagarchamber.com).



**Round Valley Dome  
Eagar/Springerville, Arizona**



## San Diego Orbiteers Board of Trustees meeting

September 12, 2018

Held at the home of Mike and Linda Pykelny, who provided a fantastic barbecue dinner. Seven in attendance, including our gracious hosts, Don and Arline Bartick, John and Kathy Hutchison, Mike and Dorothy Jester, and John Merrill.

**The meeting was called to order** at 7:43 p.m.

**Minutes of the previous board meeting:** a motion was made by John H. to accept the minutes as published in the E.T. The motion was seconded by Mike J. The motion passed unanimously.

**Treasurer's Report:** Two reports were provided to the board members by our great treasurer Howard Haupt (also known as our fantastic editor). Mike J. made the motion to accept both reports as provided to the board. Mike P. seconded the motion, and it passed unanimously.

**Membership Report:** no changes.

### Old Business:

**Membership Campaign:** it was reported that both Discount Hobbies stores have a supply of our fliers. Many thanks to Linda for her distribution efforts. She also said she would look into distributing our fliers to a few other locations.

**Potential soccer field for Free Flight:** for a few months there has been some discussion of a fairly large field in the Oceanside area. It remains completely fenced off, and the owner is somewhat elusive. Efforts are ongoing to contact the owner.

**Recommendations for one additional board member:** none this month. Any volunteers?

### New Business:

**Harry Steinmetz:** there was discussion about how to properly recognize and thank Harry, our long-time member and mentor. He has been a true inspiration and innovator in our club, as well as for free flight in general. No longer physically able to participate in the hobby, he very graciously donated many of his models, supplies, and modeling items to the club.

**New venue for the annual awards banquet:** as some of our members may know, the restaurant that the club has used for its annual awards banquet is closed, and as of this week, still remains vacant. A few suggestions for a replacement was discussed, and will be explored in the next few days. The next awards banquet will be held on Saturday, January 12<sup>th</sup>, 2019. Location shall be announced.

**Perris field:** some discussion of the current field condition. Field is flyable.

**Revisit catapult glider for rotation in the monthly indoor contests:** it was suggested that some indoor participants may enjoy occasionally flying indoor catapult glider. It was also mentioned that there are currently several kits available for that category. After considerable discussions, no decisions were made.

**Open for new business:** Larry Miller's wife called Mike Jester, who then went to pick up much of his model and supply collection. Most of that has been distributed. Thank you Mike for handling that sensitive issue with grace and dignity. Unfortunately, due to health issues, Larry is no longer capable of continuing with the hobby.

John H. said that he spotted a fairly large, flat field in the Lakeside area that may or may not be suitable for flying. He will investigate further.

**Schedule the next board meeting:** the next meeting will be in Ramona at the Bartick's home on December 12<sup>th</sup>, 2018 at 6 p.m.

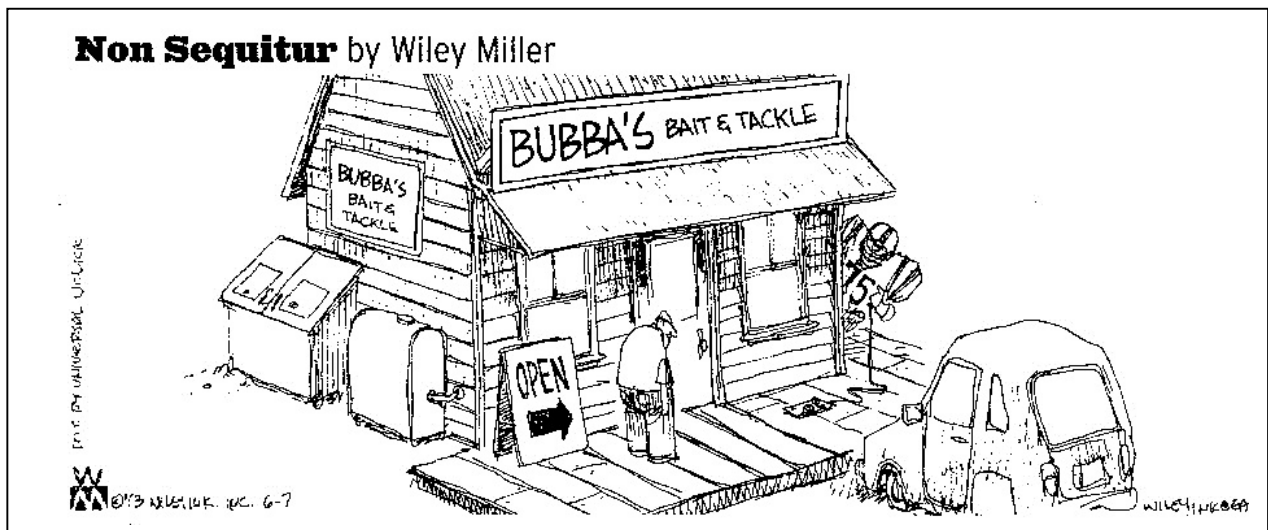
**Contest Reports:** AMA's website has been experiencing some technical issues, therefore we've had problems obtaining the sanctions we use during our monthly record trials. Not to worry, contests will continue as scheduled.

Mike J. said there was a great turnout for the last indoor contest, with 10 entrants flying the P-18 event. John H. won the event.

**Open Discussion:** Mike J. Recently gave a talk at USD on the Science Olympiad and Wright Stuff events. Mike P. Brought out a modified Sky Bunny, a former Peck kit. It's reasonably simple for a beginner, although maybe not as a 1<sup>st</sup> kit.

**Good of the Order:** Kathy has a play that got an honorable mention recently, and she has a photograph displayed at a contest put on by the City of San Diego that won 2<sup>nd</sup> place. Congratulations on both! Don B. Reported that two of his wines won Silver in a recent wine contest. They were also featured in San Diego East County Magazine, which is found online only.

**Call for adjournment:** the meeting was officially adjourned at 9:26 p.m.  
Respectfully submitted by John R. Merrill, Secretary, San Diego Orbiteers



SAN DIEGO ORBITEERS  
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## WHAT'S HAPPENING -

September / October 2018

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Sept 21/23 **48<sup>TH</sup> Annual US Free Flight Championships**  
Lost Hills, CA

Oct. 7 - **Indoor Flying**  
Grossmont College (Upper Gym), 7:30 am to 11:30 am.  
Feature Events: **A-6 & Phantom Flash\***

Oct. 14 - **Orbiteer Outdoor Monthly** (Rain date: Oct. 28, 2018)  
SCAMPS Field, Perris CA, 8:00 am.  
Feature Event: **P-30**      Other Events: **E36/Power & HL/Catapult Glider**