EL TORBELLINO

NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB

AUGUST 2025

Chairman's Corner – Mark Chomyn

This month's column opens with items on opposite sides of the emotional spectrum. In July our club was the recipient of news regarding both unfortunate and fortunate events.

The unfortunate event, the passing of Orbiteer Tim Batiuk on July 16, 2025, was documented in photos and text on page 2 of the July El Torbellino. Tim was no stranger to serious national competitors in hand launch, catapult, tip launch and classic towline glider events. Just check the NFFS National Cup Champions list. You'll find Tim's name listed as the national champ in AMA/NFFS Glider from 2003 to 2023. That's a 20-year in-a-row run. You won't find any other competitor on the National Cup Champions list with a record of that length or consistency. The closest competitor to Tim's record is Bob Hanford's run of 14 years as the AMA Classic Gas champion.

Tim was not only a great flyer and competitor he was also a dedicated teacher and mentor. Even when busy flying in our monthly contests he took time to assist other glider flyers with their trimming and launching techniques. As assistant team manager for the US Junior FIA-B-P team Tim coached the junior entrants in the F1A event in Krusevo, North Macedonia. The F1A team placed 7th among the field of 16 countries that entered. Tim's smile, energy, mentoring skills and competitive energy will be missed at our club events. Though he will no longer be able to help our glider flyers with their launch, transition and glide trimming techniques his enthusiasm and love for the sport of free flight will remain in the memories of all that knew and flew with him.

On the other side of the emotional scale, we got news of the results for FAI F1ABCQ World Championship held in Salonta, Romania from July 20-28. The US F1Q team finished in third place behind Ukraine and Finland with 3,821 points. There were 44 entrants from 15 countries competing in F1Q. The US team as individuals took 1st, 12th, 28th and 39th place finishes to take the third-place team finish honors. As noted in my July column our own Mike Pykelny was a member of the USA Free Flight Team F1Q team. Congratulations Mike! Mike's making the USA team took a lot of hard work, determination and preparation. Getting all his gear ready for the trip was no easy task but it's all worth it when you come home a winner. I bet Mike has some interesting stories to tell about his travel and the competition. Maybe he'll be kind enough to share that with us in a future El Torbellino article.

As for our outdoor contests, same old story. The negotiations with the Tabi Field landowner continue. As soon as we get word of any movement, we'll get the word out. Our indoor events keep moving along on a monthly schedule, with our latest event being held on Sunday, August 9. Unfortunately, I was unable to attend so I missed the fun. Hope those of you who made it to the event had fun and flew well.

That's all that I have for this month. Hope you are all enjoying your summer.

Mark

"It should be interesting to see how or "Q" team measures up to the international competition in the first World Champs that include this event."

U.S. Team Selection F1A-B-C-Q, by Mike McKeever, NFFS Free Flight Digest, Sept – Oct 2024

SDO Indoor Contest Results – July 13, 2025 – Los Coches Creek Middle School Gym

P-18 (total of best 3 of 6 official flights)

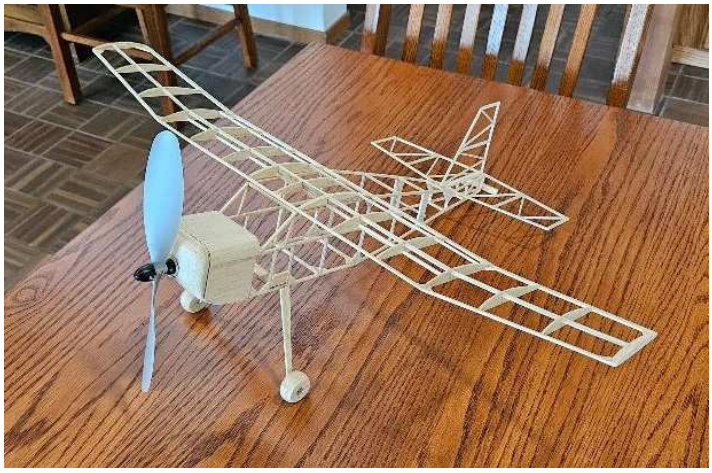
Mike Jester	431
Greg Hutchison	417
Mike Pykelny	277
Don Bartick	267
Walter Ainslie	238
Mark Chomyn	150

Limited Penny Plane (total of best 3 of 6 official flights)

John Alling	1015
Don Bartick	823
Mike Jester	706

WESTFAC 2025 - M.Jester

Attached is a picture of the bones of my 2X Walt Mooney FounPeanut d Centennial 100 model that I am building for the WESTFAC 2025 contest that takes place in Arizona on October 23 - 26, 2025. The 2X Walt Mooney mass launch event at that contest is in honor of John Hutchison, who came up with the 2X Walt Mooney Peanut event for FAC contests many years ago. Registration is still open for the WESTFAC 2025 contest. Copies of the schedule of events and the registration form are included at the end of this edition of the El Torbellino newsletter.



History of P-30 Front Ends

By Mike Jester

The concept of the P-30 event as it was originally developed by our club in the late 1970s was to keep it as simple as possible for beginners but to make it challenging for experienced fliers as well. One of the biggest obstacles to new free flight modelers was the complexity of carving a balsa wood prop. Sometime in the mid-to-late 1970's Bob Peck, the proprietor of Peck-Polymers, began importing a grey plastic prop from Japan that was 9 1/2-inches in diameter. It was injection molded and was reasonably efficient. This prop has a spiral ramp molded into the front end of the hub so that a ninety-degree bend (aka "dog") on the front end of the prop shaft can drive the prop during the unwinding of the rubber motor. The ramp will (hopefully) allow the prop to free wheel after the turns in the rubber motor are expended. This type of free wheel mechanism had been included in smaller injection molded plastic props that had preceded the 9 1/2-inch so-called "Peck" prop. One example was the red plastic prop found on the ubiquitous SLEEK STREEK slide together rubber powered model airplane.

Free wheeling is critical in an outdoor free flight rubber powered model airplane. If the prop locks up after the rubber motor has unwound, the glide is effectively destroyed and the airplane quickly lands, eliminating any chance of a two-minute max flight. The originators of the P-30 event wanted to avoid the urge to make intricate modifications to a commercially available plastic prop to insure free-wheeling that would yield an advantage over beginners. Thus, the final P-30 rules require a commercially available plastic prop (within a range of diameter roughly centered around 9 1/2 inches) and prohibit modifications to the prop except for bushing the hub, removing flashing, and adding weight to one blade to dynamically balance the prop.

It turns out that the simple spiral ramp often does not work to allow the prop to free wheel. This is because the weight of the slack rubber motor pulls the dog rearwardly against the hub and the friction prevents the prop from rotating freely. Accordingly, over the years many new free-wheeling mechanisms (aka "clutches) have been developed that are more reliable but still meet the P-30 rules. I will now describe the most common P-30 front ends with clutches.

Peck Polymers Propeller with Spiral Ramp Clutch

The picture above shows an example of a blue Peck prop with the free-wheeling mechanism being the molded spiral ramp on the front end of the prop hub. Most of the Peck props that were sold and used in P-30 were grey. When the rubber motor is wound and under tension, the dog engages the flat surface of the ramp that is parallel to the axis of the prop shaft and drives the propeller to generate thrust. When the turns on the rubber motor are mostly gone, the tension in the rubber motor that formerly pulled the prop shaft rearwardly vanishes. At this time, the dog is supposed to rotate over the spiral inclined surface of the ramp allowing the prop to free wheel. In actual practice, the prop often locks up due to the friction described above.

Igra (“Czech”) Prop with Buddenbohm Tube-in-Tube Clutch

Probably sometime not long after the P-30 event was introduced Stan Buddenbohm developed a clutch that requires the hub to be drilled out to accept a 3/32-inch OD Brass tube segment (aka "bushing"). Then a 1/16-inch OD Brass tube segment that is about 1/16-inch longer is incorporated that slides back and forth inside the larger bushing. When the prop hook is attached to the wound rubber motor, the prop is manually pulled forward with one hand so that the dog engages the flat surface of the ramp and is held in place by the torque on the rubber motor which presses the dog hard against the flat surface. When the turns are gone (or nearly gone), the dog is no longer pressed against the flat surface. As a result, the prop slides rearwardly due to the oncoming air flow. The longer inner tube segment ensures that the dog clears the ramp and the prop rotates freely during the glide. Usually, a small flat is ground into the side of the dog to increase the frictional engagement between the dog and the flat surface.

Chinese Prop with Spring-Loaded Clutch

This simple spring-loaded clutch pictured above with the orange Chinese prop relies on the compression of the spring by the wound rubber motor to allow the U-shaped dog to drive one of the blades. When the turns on the rubber motor are almost expended, the lack of tension on the rubber motor allows the coil spring to push the dog clear of the blade, allowing the prop to free wheel. This use of a coil spring to achieve free-wheeling was first probably used in the late 1930's with carved balsa wood props, and was probably adopted in P-30 front ends during the late 1970's. The orange 9 1/2-inch Chinese plastic prop was first introduced to the market sometime between 2015 and 2020 by Volare Products as I recall. Each flier seems to develop his or her own opinion regarding which of the three P-30 props performs the best, out of the Peck, Igra and Chinese props.

Continued Next Page

Igra Prop with Bail-Type Clutch

The bail-type clutch pictured above includes a stiff segment of wire with one end pivotally mounted to a collar that is rigidly secured to the prop shaft. The free end of the wire pushes on one blade during the motor run, but swings clear of the blades to allow free-wheeling when the turns are expended. The bail type clutch is difficult to construct because you need to be an expert at soldering or have a collar with a tiny Allen screw. I have no idea when the bail type clutch was first adopted for P-30. It was probably sometime in the late 1970's. Up until recently Volare Products used to sell this type of clutch.

Gizmo Geezer Prop Assembly

The Gizmo Geezer prop assembly was a revolutionary invention developed and successfully marketed by Orv Olm (a Canadian) probably starting around 1999 - 2000. It is sold in several prop diameters, including 9 1/2-inches making it legal for the P-30 event. This device has three valuable attributes. First, it allows for precise thrust line adjustments. Second, it eliminates any need for braiding rubber motors on scale models. Third, it achieves free-wheeling 100% of the time. A tiny coil spring pushes the slotted spinner clear of the prop blades when only about fifty turns remain on the P-30 motor at which time its tension has diminished sufficiently. A large percentage of the P-30 models that are presently flown include the 9 1/2-inch Gizmo Geezer prop assembly. It is included in many kits, including the Three Nite P-30 kit (as an option) sold by Volare Products which embodies my own P-30 design.

Shortly after the 9 1/2-inch Gizmo Geezer prop assembly was introduced a controversy arose because the incorporated Peck prop was re-pitched by Orv's company, to ensure that each blade had equal pitch. I think he also increased the pitch to improve performance. This controversy was eventually settled by the powers that be who ruled that the Gizmo Geezer prop assembly was "commercially available" and therefore not in violation of the P-30 rules.

Most P-30 models flown today either rely on the simple ramp for free-wheeling if they are built by a beginner. They often incorporate a Gizmo Geezer prop assembly when built by an experienced flier. I have used all five of the front ends described above. Nowadays I almost always use the Gizmo Geezer prop assembly in my P-30 models because of it lets me quickly make precise thrust line adjustments. I occasionally use the Buddenbohm tube-in-tube clutch. It is highly reliable, but just do not let the drive dog come free of the prop hub before you launch!

Three Nite P-30 with Gizmo Geezer Front End

Mike Jester with Three Nite P-30 at his home field in Northern California

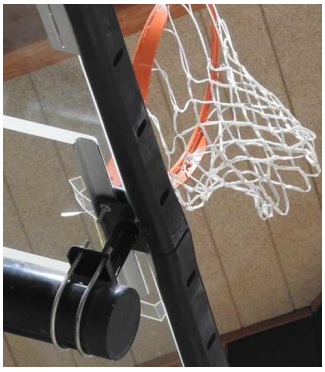
Return to Indoor Flying---Don Bartick

August 10th marked the 3rd time that we have flown Indoors at the Los Coches Creek Middle School gym. The 2 competitions were Embryo and A-6.

Five flyers registered and 3 entered the events. 3 in A-6 and 2 in Embryo. The best of 6 official attempts was scored and added together. The results were:

A-6
1st Greg Hutchison 550 seconds
2nd Don Bartick 335 seconds
3rd John Alling 329 seconds

Spot the A-6? →



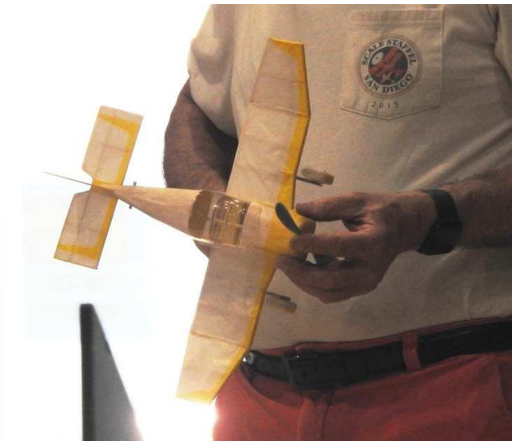
Embryo
1st Greg Hutchison 122 seconds
Don Bartick DNF

Having only 5 participants did not come close to the rental fee. WE NEED MORE PARTICPANTS. The gym is the best venue we have ever had. With a 27-foot ceiling to the center girder, higher if you fly above the wooden girders. Some successfully did, but also had a couple hang ups. It makes indoor flying a joy. So, everyone reading this report please try indoor or return to indoor. The weather is great and the chases are very, very short.

Because of the small participation, we decided to return in 2 months instead of monthly until participation increases.

Next Indoor is scheduled for October 5th for 4 hours-8am to noon. The cost to participate is $30. Competition events are $3 each. Events will be Catapult Glider and Phantom Flash.
Indoor Catapult Glider Rules are in the AMA Indoor rules book. Many designs can be googled.
Phantom Flash rules are in the Flying Aces rules book. Look online for plans.

Up-up and away Indoors
Don



Can you identify this scale model?

John Alling, Don Bartic (Background) & Greg Hutchison

Return to Indoor Flying---Photos by Arline Bartick

William Scott

John Swain

John Alling

Don Bartick

Greg Hutchison →

FAI F1 A-B-C-Q World Championship Pictures and F1 Challenge Results

USA Contingent

USA F1Q Team →

FAI World Championship class F1 Challenge 2025

Held at Salonta, Romania from July 20 to 28, 2025

Order determined by total score in all events.

Place	Country	Total time	F1A time	F1B time	F1C time	F1Q time
1	Germany	15591	3920	3986	3890	3795
2	USA	15526	3840	3972	3893	3821
3	Poland	15504	3934	3976	3813	3781
4	France	15444	3924	4048	3807	3665
5	Israel	15256	3662	4140	3733	3721
6	Ukraine	15172	3523	4069	3717	3863
7	Mongolia	15131	3830	3947	3624	3730
8	Finland	12931	3835	3958	1280	3858
9	China	11727	3734	4033	3960	0
10	Serbia	11684	3780	4140	3764	0

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NASA Unfurls and Tests Its Newest Solar Sail

> NOAA IS INTERESTED IN A "SPACE WEATHER BUOY"

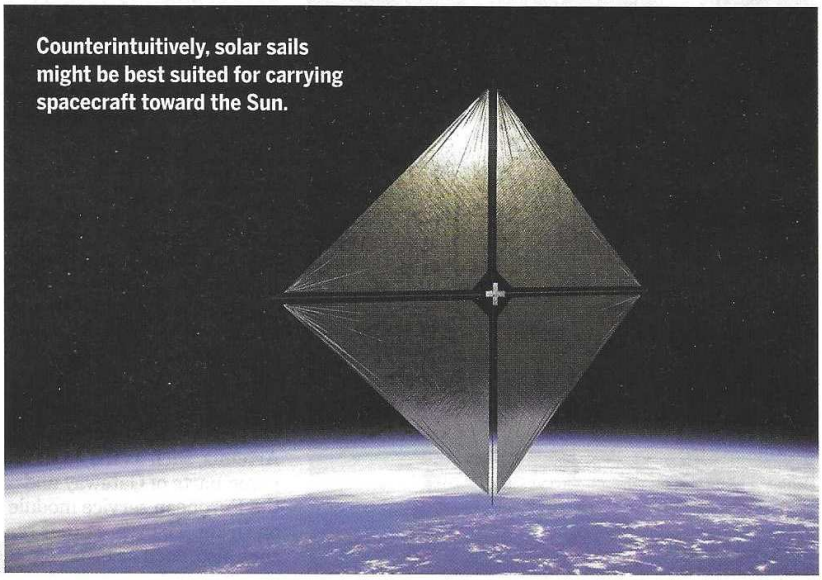
> THE PROPULSION TYPE OFFERS ACCELERATION THAT IS CONTINUOUS BUT INITIALLY SLOW

Garrett Reim Seattle

Sailing across the known universe on beams of light is about as romantic as the space industry gets.

But while the whimsical dream of harnessing the Sun's photons with solar sails has existed for more than 100 years, the concept has been limited mostly to science fiction by the level of engineers' ability to pack metallic booms into spacecraft that could unfurl and control a sailing canvas.

To overcome that obstacle, NASA has developed a novel expanding tubular boom system made of flexible polymer and carbon-fiber materials that can be rolled up inside a cubesat for launch and then unrolled when deployed. NASA's Advanced Composite Solar Sail System (ACS3) was launched in April and fully deployed in August. The agency has started testing it as part of a 6-9-month demonstration.



Counterintuitively, solar sails might be best suited for carrying spacecraft toward the Sun.

NASA

The ACS3 solar-sail-equipped 12U cubesat was made by NanoAvionics. Its fully deployed sails—there are four arrayed around the spacecraft—cover 860 ft.^{2} (80 m^2), about half of a tennis court.

"The composite boom architecture that we're demonstrating can support up to a 2,000-m^2 sail. It has a lot of range," Justin Treptow-Miller, deputy program executive of small spacecraft technology and flight opportunities programs at NASA Ames Research Center in Mountain View, California, tells Aviation Week. "It makes the overall structure very stiff. You both have a lot of flexion stability, and you have a lot of torsional stability utilizing this composite structure."

The ACS3's solar sails are made of reflective polymer sheets and harness the energy of photons emitted from the Sun to propel the spacecraft in the opposite direction. When light particles hit the sails, they impart momentum; the photons redshift as they reflect and lose some of their energy. The spacecraft maneuvers by angling the solar sail, using reaction wheels, for example.

Solar sails could be particularly useful for non-Keplerian orbits that would otherwise require large, expensive and impractical propulsion systems. NASA sees the type as useful for long-duration, deep space travel. Although solar sails are an initially slow form of propulsion, the systems promise to accumulate momentum over time.

"You don't have to burn propellant, you don't have to have a high-voltage power system, and you don't run out of propellant," Treptow-Miller says. "It enables a very high-reliability, continuous propulsion system."

Counterintuitively, solar sails may be best suited for carrying spacecraft toward the Sun rather than away from it. Solar sails can be used as a sort of drag chute for spacecraft by angling the system so that photons hit the sail and decelerate the vehicle's orbital velocity, allowing the Sun's gravity to pull the spacecraft toward it.

Spacecraft pulled along by solar sails could journey on heliophysics missions for NASA. The National Oceanic and Atmospheric Administration has pondered using a solar sail to maintain a "space weather buoy" between the Earth and the Sun for space weather missions of 3-5 years, Treptow-Miller says.

"Think of it as a propulsion system to pace along with the Earth," he explains. "The sensor could be between the Sun and the Earth and provide that early warning system for coronal mass ejections that would be coming at the Earth."

The ends of a solar sail's composite booms would also offer a place, far away from the electromagnetic interference of a spacecraft's electronics, for a highly sensitive magnetometer to detect incoming geomagnetic storms—a phenomenon that can disrupt Earth-based communications systems and power grids as well as orbiting satellites.

Although solar sails have been theorized by physicists and imagined by science fiction authors for decades, the first solar sail system, the Ikaros (Interplanetary Kitecraft Accelerated by Radiation of the Sun), was launched by the Japan Aerospace Exploration Agency in 2010. In the years since, only a handful of solar sail spacecraft have been launched.

Treptow-Miller says advances in carbon-fiber manufacturing may make the type more practical. A NASA Ames Research Center team is currently observing how the ACS3's carbon-fiber booms and reflective polymer solar sails behave in space, and the team plans to attempt orbit-raising and -lowering maneuvers before year-end.

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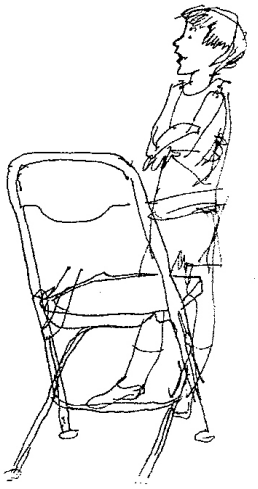

WHAT'S HAPPENING -

Flying field currently closed for environmental assessment and study.

October 05 - Indoor Flying, 8am to 12pm

Los Coches Creek Middle School, 9669 Dunbar Lane, El Cajon CA

Fun flying, plus Catapult Glider & Phantom Flash

Participation fee $30, and Event fee of $3