EL TORBELLINO

NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB

MAY 2015

The Prez's Corner *– Don Bartick*

The weekend for the Dual-club Free Flight Bonanza is upon us. The last minute preparations are always mind boggling. Can't believe how many small details there are to run a contest. Been doing this for so many years, you would think it's a cake walk. Anyway, everything is packed and ready to go. All I need to do is get this article written and off to Howard who has been waiting patiently.

Appears we'll have a fair turnout of Orbiteers at the Dual-club. It will be great to get some help running this dude. The weather should be good to great if we can believe the Weather Underground reports. Sure hope so. I'm looking for a better turnout then the last couple years. If for no other reason, folks come for the ice cream social.

The John Oldenkamp Tribute to his Hot Box P-30 design at the April monthly went off very well. I was the CD. The weather was beautiful with the best air early on. Four of the six P-30 entries flew the Hot Box design for the cash prizes. Bob Langdon had his Hot Box there, but unfortunately broke it during test flying and didn't enter the contest. The Hot Box is very competitive, but was beat out by John and Greg Hutchison's modern design P-30's for club points. Stan Buddenbohn was the top Hot Box flyer beating me by 1 second and collecting the top cash prize of $60. There was a consensus by the group to continue having an annual JO Tribute to the Hot Box P-30. This design was the first published in a national magazine and was responsible for kicking off the P-30 interest. For those that didn't know or have forgotten, the P-30 event is the creation of the SD Orbiteers. The main contributors were John Oldenkamp and Harry Steinmetz. Look for more results of the April Monthly elsewhere in this ET.

Got to get going to Lost Hills.

That's a wrap for now.*Remember: "Things do not happen. Things are made to happen" -John F. Kennedy*

April Monthly. Don Bartick, CD

Five Hot Boxes were on the field, 4 flew. Bob Langdon broke a stringer during test and did not enter. The weather was great. Those who flew early were rewarded with good air. The drift early on was to the west. When the wind shifted to the east, thermals were harder to find. Downdrafts were easier as in the case of Stan and myself during our 3rd flights. We were both in good enough air then kibosh.

Results:

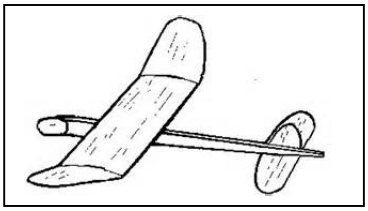
<u>P-30</u>
1 John Hutchison 360 sec
(Tied with Greg, but Greg's plane was broken and couldn't continue.)

2 Greg Hutchison 360
3 Stan Buddenbohm 328 (Hot Box)
4 Don Bartick 327 (Hot Box)
5 Mike Jester 275 (Hot Box)
6 Mike Pykelny 272 (Hot Box)

<u>Power</u>
1 Mike Pykelny 160
2 Larry Miller 65
3 Don Bartick 4 (Crashed)

<u>Glider</u>
1 Stan Buddenbolm 326
2 Mike Jester 293
3 Greg Hutchison 189
4 Larry Miller 38

Don



Picture Page: April 2015 Outdoor Contest

(**Photos by Arline Bartick**)

Picture Page: April 2015 Outdoor Contest

(**Photos by Arline Bartick**)

Participants in the P-30 John Oldenkamp Hot Box design contest.

Stan Buddenbohm, winner of the John Oldenkamp P-30 Hot Box design event.

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ORBITEERS MEMBERSHIP DUES

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

Submit Dues to Club Treasurer:
Howard Haupt
3860 Ecochee Avenue
San Diego, CA 92117-4622

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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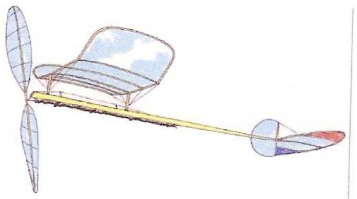
www.SanDiegoOrbiteers.com
Webmaster: Kathy McLaughlin



2015 INDOOR FLYING SCHEDULE

June 7 - Catapult Glider, Embryo*

July 5 - A-6, Phantom Flash*

Aug 2 - Penny Plane, No-Cal*

Sept 6 - Catapult Glider, Embryo*

Oct 4 - A-6, Phantom Flash*

Nov 1 - Penny Plane, No-Cal*

Dec 6 - Catapult Glider, Embryo*

***Non-ORBITEER Points Event**

2015 ORBITEER FLYING SCHEDULE

May 16/17 **Dual Club FF Bonanza**, Lost Hills CA

May Rotation Skipped: (Old Time Nostalgia Rubber)

June 14 - **Coupe**
Power & Glider
(June 28TH rain date)

July 4 - Walt Mooney Annual Scale Contest*

July 19 - **P-30**
Power & Glider
(July 26TH rain date)

Aug 16 - **Old Time Nostalgia Rubber**
Power & Glider
(Aug. 30TH rain date)

Aug 22/23 Scale Staffel FAC Scale Contest*
(2 of 3)

Sept 21 - **Coupe**
Power & Glider
(No rain date)

Sept US FF Championships, Lost Hills*

Oct 18 - **P-30**
Power & Glider
(Oct. 25TH rain date)

Oct 21/25 WESTFAC V, Buckeye Az.*
Scale Staffel FAC Scale Contest*
(3 of 3)

Oct ??/?? SW FAI Champs, Boulder City, NV*

Nov 16 - **Old Time Nostalgia Rubber**
Power & Glider
(No rain date)

Dec 13 - Coupe
Power & Glider
(No rain date)

*** Non-Club Points Event**
Otay Field Weather (619) 661-8297

FROM THE WORKSHOP - H.Haupt

This month we have some input showing two Twice Peanut scale models being prepared for the July 4TH Scale Contest.

From Frank Allen, a Wright WP-1 (Mooney design):

FROM THE WORKSHOP – H.Haupt
(Continued)

From David Scigliano, a SE5 (Mooney design)

2015 AMA INDOOR NATS, June 8-12 - J.Murphy

This year the AMA is offering the indoor community an opportunity to fly in the Nationals in a site much like we all experience at the local level. We all know that flying in a really big site takes different skills and trimming than we have at home in our local gyms. The 2015 Nats are being held in the Colorado Springs Auditorium. This is a smooth 37 foot ceiling located in the center of one of America's most scenic cities. Colorado Springs located at the foot of Pikes Peak is a very popular vacation destination.

In addition to the regular events, there is a student's event where they will build P-18 models on Wednesday morning and then fly them on Thursday morning.

Additional detail of the venue is available on the AMA web site.

Nationals entry forms are also available on the AMA web site. The deadline for entry is May 15. Entries received after that date will be charged a late fee.

The Antlers Hilton Hotel in downtown Colorado Springs has offered AMA contestants a very special room rate that includes free parking and discounted breakfasts. As Colorado Springs is a popular vacation destination this special offer expires May 7. (ED: Call to try to get the good rate anyway.)

Hope we can see a lot of Happy San Diego faces on the flight line.

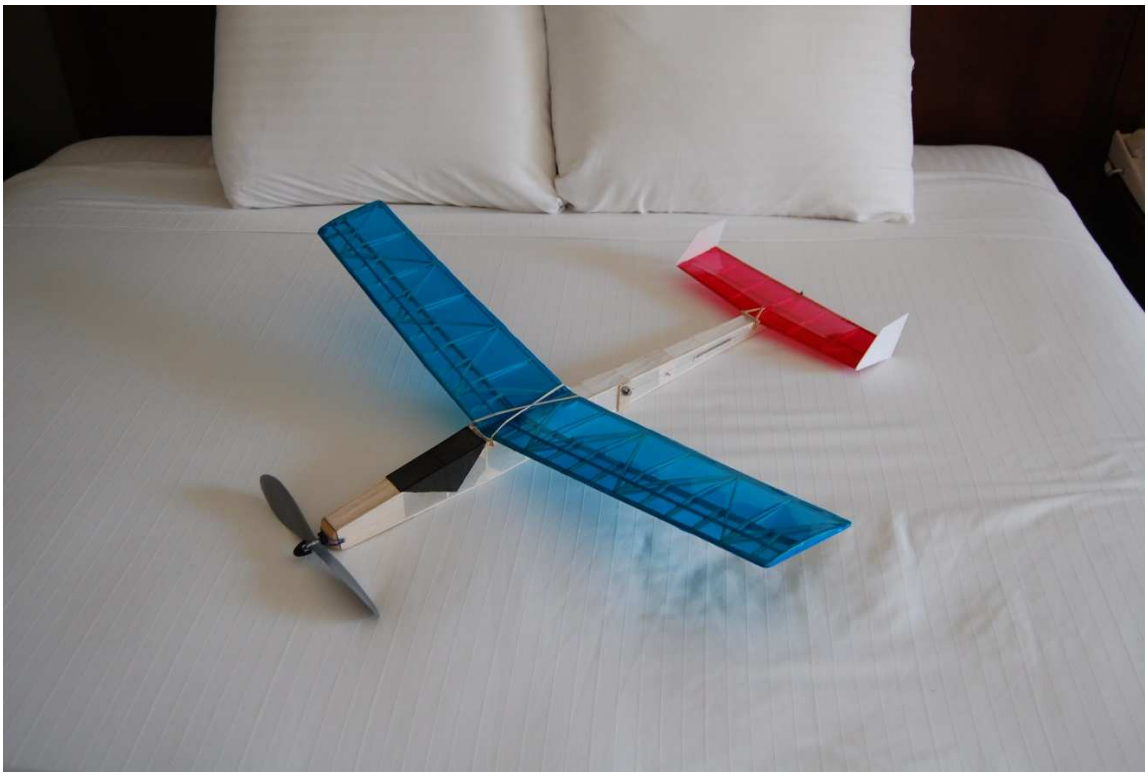
Regards,

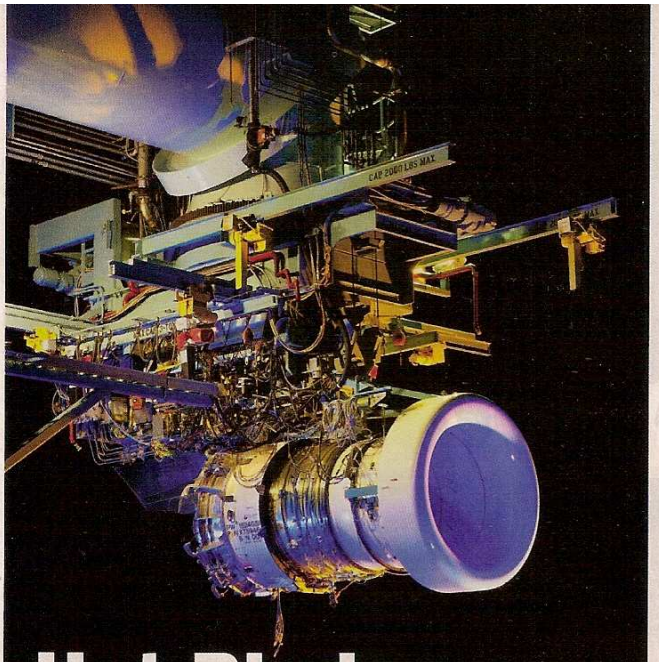
Jerry Murphy
9 Via Escondido Valle
Manitou Springs, CO 80829

HOT BOX P-30 by Mike Jester

Here is a picture of the HOT BOX P-30 that I built and flew in the John Oldenkamp memorial contest held at Otay Mesa on April 26, 2015. The fuselage of my HOT BOX is covered in Polyspan, the wings and stab are covered in MicroLite plastic film and the twin fins are made of Depron foam (to avoid warping). I used a 9 1/2" GizmoGeezer prop assembly. In the DT I used a viscous timer button. All up weight is 49 grams without the Walston RF transmitter and batteries that I install (3 grams) before flying. I was not careful with wood selection and accidentally added extra ribs to the wing as a result of misreading the plan.

On one of my official flights during the contest, my HOT BOX caught a thermal, and due to inaccuracies in the viscous timer button, the DT did not activate until over three minutes had elapsed. I almost lost the airplane as it was way high when the DT finally triggered.





Hot Blades

Engine architectures and advanced alloys push Pratt's CMC focus from static to spinning parts

PRATT & WHITNEY

Guy Norris East Hartford, Connecticut

Pratt & Whitney is focusing on development of very-high-temperature ceramic matrix composites (CMC) in rotating structures for its future commercial and military engines. The company says it is "not convinced" of the utility of the lightweight material for static parts.

The approach, which Pratt says is partially driven by the low stage-count configuration of its newer engines, and partly by a growing preference for thermally conductive advanced alloys, appears to be sharply at odds with that of CMC pioneer and arch-rival General Electric.

Pratt & Whitney materials and systems chief engineer Frank Preli says, "We are focusing on the 2,700-deg. class of CMCs mostly because we have very few stages in our engines. We don't have big low-pressure turbines with 5-7 stages. We only have three, so low-temperature CMCs don't have as much of an advantage in our architectures." Instead, Pratt is focusing on using higher-temperature CMCs in the rotating blades of future high-pressure turbines. "That's where we see we will get the biggest benefit. That's the real payoff for CMCs because of their low densities," he explains.

In contrast, Pratt does not see the material being used for static parts such as those in GE's latest engines. "We are not convinced CMCs are the best material for static parts," says Preli. "There are a couple of issues with CMCs beyond the cost of manufacturing and one is thermal conductivity. It is relatively low, so in a static part where weight is not as important as in a rotating part, you find there are materials with far superior thermal conductivity, like some of the advanced alloys.

"In non-rotating parts, you can take advantage of that very-high-thermal conductivity and get parts that are more effective and which require less cooling air than would be required by CMCs. So that's why you have to look at the exact system architecture and the exact part."

Pratt is also looking at monolithic ceramics for air seals, as well as classes of advanced alloys of niobium, cobalt and molybdenum. "These are alloys that can give you very-high-temperature capability in the parts that don't rotate and, combined with high thermal conductivity, you get huge improvements in performance," says Preli.

GE, which introduced turbine shrouds made from first-generation CMCs into ground-based power engines in the 2000s, is pushing for its wider use for jet engines, initially in static parts. CMCs will make their commercial engine debut in 2016 when the GE-Snecma CFM Leap-1 enters service with turbine shrouds made from the material. Its commercial use will greatly expand from 2020, when GE's GE9X for the Boeing 777X will enter service with CMCs used in the combustor liner, first-stage high-pressure (HP) turbine nozzle and shroud, and the second-stage nozzle. Earlier this year, a modified GEnx-1B 787 engine began tests of the first full GE9X suite of CMC components.

Pratt says the low-stage count of engines like the PW1524G, seen here on test, makes CMCs less cost-effective for static parts.

CMCs are generally divided into non-oxide or oxide-based materials. The non-oxide material systems used or studied for high-temperature propulsion applications include carbon fibers in a carbon matrix (C/C), carbon fibers with a silicon carbide matrix (C/SiC), as well as silicon-carbide fibers in a silicon-carbide matrix (SiC/SiC). Oxide-based materials are made up of an oxide fiber and oxide matrix (Ox-Ox).

GE has also introduced Ox-Ox CMC structures into the Passport business jet engine, where it is used for the exhaust, centerbody and core cowls. Late in 2014, the engine maker also validated the temperature capabilities and durability of CMC-made low-pressure (LP) turbine blades in an F414 turbofan. The tests of the material, used in the second LP turbine stage, represented the first successful application of CMCs in a rotating stage. GE has spent over $1 billion in developing SiC ceramic fiber and ceramic resin material for engine applications.

Rolls-Royce also wants to introduce CMCs into its commercial and military engine lineups, and has outlined plans for an advanced shroudless HP turbine with a rub-in CMC liner for smaller members of its Advance family, as well as CMC nozzles in its UltraFan concept. Together with Orbital ATK company COI Ceramics, Rolls recently joined forces with Boeing on its 787 ecoDemonstrator program to test a ceramic nozzle on a Trent 1000 as part of the FAA's Cleen program. Results indicated the CMC material system exceeds the temperature capability of superalloys at a weight 20% lighter than titanium, reducing fuel consumption. Rolls also recently acquired California-based CMC specialist Hyper-Therm, a manufacturer that also worked with NASA on development of the first actively cooled, continuous fiber-reinforced SiC-matrix composite thrust chamber for a liquid-fuel rocket propulsion system.

Pratt meanwhile remains confident that it is on the right track to develop the capability for the highly demanding HP turbine. "We have what we believe are clear pathways to doing matrix consolidation; matrices that are capable of 2,700 deg.," says Preli. "We have a clear path toward coating systems, though one of the things we are concerned about is the fiber. High-temp fibers sort of exist today and there are some development fibers showing promise, but our focus has to be on getting fiber capabilities," he adds.

With Joseph C. Anselmo and Jen DiMascio in Washington

SAN DIEGO ORBITEERS AND SCALE STAFFEL

Fourth of July Contest

Event
Otay Mesa Flying Field
July 4, 2015
8 a.m. – 11:30 a.m. (Prompt!)
Hot dogs and associated goodies to follow! (Watermelon, too!)

Fee
$5 for all 3 events.

Awards Presentation
Noon on July 4th
Must be present to receive award

Events
Peanut Scale
Bostonian/Embryo Endurance
2x Peanut Scale Walter Mooney Plan

Contest Director
John Hutchison
(619) 303-0785

Judging and Rules
General rules apply to all contestants and airplanes
All contestants MUST wear a real tie! (no paper, fake, clip on ties) No exceptions!
All models MUST have an American flag attached! No exceptions!
Awards to third place in all categories
Contest director to determine categories

Peanut Scale Rules, $100 for first place
Peanut Scale is open to any design
Peanut plans must be presented with model
Walter Mooney style judging
Total of three flights, flight => 20 seconds

Bostonian Rules
Hand launch flights
Total of three flights, flight => 20 seconds

Embryo Endurance Rules
Walt Mooney style judging
FAC bonus points: 1 point for 3-dimensional exhaust, 3 points for 3-dimensional wheel pants, 5 points for windshield or windscreen. Maximum of 9 points.
Total of three flights, flight => 20 seconds

2x Peanut Scale Rules, $100 for first place
2x Peanut Scale must be a Walter Mooney design only
Wing span must be twice the published wing span
Plans must be presented with the model
Rubber power only
Walt Mooney style judging
Ineligible models: Found Centennial, Found FBA-2A, and Aeronca Defender

Scale Judging
"Mooney" judging rules will be used. Considering all factors including FAC bonus points, judge will rank all planes in each category from first to last, scoring them as 1 for first place, 2 for second place and so on.

Flight Scoring
Flight scoring will be the combined time from the three official flights (=> 20 seconds) hand launched attempts. Max individual flight time: 120 seconds.
Flyers will be placed in rank order (1,2, etc) from first to last place based on decreasing average flight scores, from max to min.

Total Scoring
Total scoring for each entry will be the sum of it's "scale" and "flight" places. The lowest total wins first place, second lowest wins second place and so on.

SAN DIEGO ORBITEERS

SCALE STAFFEL SAN DIEGO

SAN DIEGO ORBITEERS
Howard L. Haupt / Editor
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San Diego, California 92117-4266

EL TORBELLINO

WHAT'S HAPPENING - JUNE / JULY 2015

June 7 - **Indoor Flying,** Grossmont College (Upper Gym), 7:30 am to 11:30 am.
Feature Event: **Catapult Glider** Other Events: **Embryo***

June 14 **Orbiteer Outdoor Monthly,** Otay Mesa, 8:00 am.
Feature Event: **Coupe** Other Events: **Power & Glider**

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July 4 - Walt Mooney Memorial Annual Scale Contest, Otay Mesa, 8:00 am.
(See enclosed contest flyer for details)

July 5 - **Indoor Flying,** Grossmont College (Upper Gym), 7:30 am to 11:30 am.
Feature Event: **A-6** Other Events: **Phantom Flash***

July 19 **Orbiteer Outdoor Monthly,** Otay Mesa, 8:00 am.
Feature Event: **P-30** Other Events: **Power & Glider**