EL TORBELLINO

NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB

NOVEMBER 2013

The Prez's Corner *– Don Bartick*

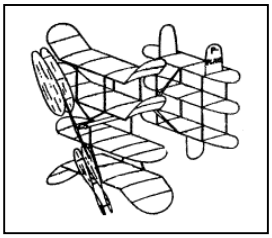
The Board finally got together at John Merrill's house for an evening of great food and intellectual discussions for the benefit of the Orbiteers. Minutes of the meeting should be found in this ET. Thank you John for hosting the Board Meeting.

The Southern CA contest season is pretty much wrapped up for the season. A couple more Orbiteers monthlies and that's it. With that said, it's now time to get the projects on the board for the coming contest season. In my case, the 64th Annual Southwest Regionals are coming up mid-January at Eloy, AZ. This is always a great contest with lots of events. Google: Southwest Regionals Model Airplane Contest for details.

The joint relationship between the Orbiteers and Scale Staffels is great. The monthly indoor venue at Grossmont College is working out very well. Some keen competition for indoor models is being had. Those of you in Orbiteer land that haven't tried indoor model flying should give it a try. Once you do, you're hooked. Also, FAC scale completion is growing like weeds. A definite challenge for your building and flying skills.

This is a wrap for now.

Remember: "When you reach the end of your rope, tie a knot in it and hang on."
Thomas Jefferson



2013 ORBITEER FLYING SCHEDULE

Nov 17 - Nos. Rubber, Power, & Glider

Dec 15 - Coupe, Power, & Glider

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

2013 INDOOR FLYING SCHEDULE

Nov 3 - A-6, Phantom Flash*, No-Cal*

Dec 1 - Phantom Flash, No-Cal*

Jan 5 - Penny Plane, Phn. Flsh*, No-Cal

Feb 2 - A-6, Phantom Flash*, No-Cal*

Mar 2 - Phantom Flash, No-Cal*

***Non-ORBITEER Points Event**

MONEY MATTERS - H.Haupt

10/16/13 thru 11/15/13

Income:
n.a.

Expenses:
August Newsletter 4.12

Current Balance ……. $ 1,375.38

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ORBITEERS MEMBERSHIP DUES

Annual Membership - $15
Lifetime Membership - $250
Non-Member Newsletter Subscription - $15

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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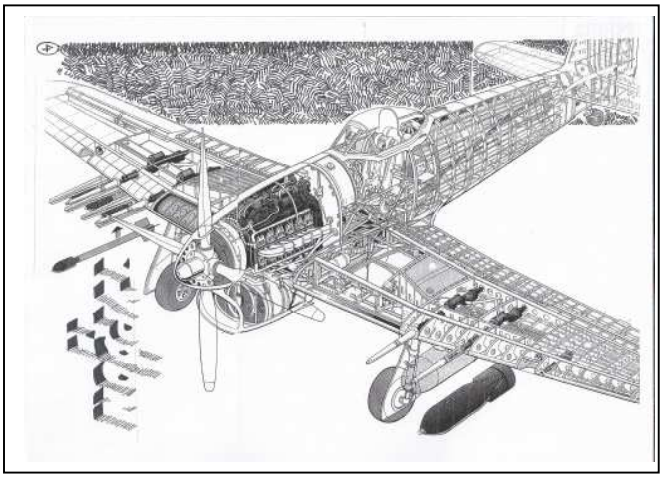


HAWKER TYPHOON - Catapult Glider

The retired editor of Vol Libre, Andre' Schandel, has sent a multi-page article for our enjoyment for a Hawker Typhoon catapult glider. With a littler effort, it could be converted to No-Cal Scale. It is attached to the email that delivered this newsletter to you as a separate article.

2013 Southwest FAI Challenge
October 26 & 27, 2013
Boulder City, Nevada

Bill Booth Jr.
Contest Director

Eldorado Dry Lake, Boulder City, Nevada. There is something about the place that just makes me smile. The beautiful sunrises, the spectacular sunsets over the jagged red peaks and 5 square miles of dead flat unobstructed free flight nirvana. It has a few quirks, all free flight fields do these days, but add extraordinary weather to the package and it just doesn't get much better. From Thursday afternoon when we arrived through the completion of flyoffs Sunday afternoon, the wind never gusted over 10 MPH and the 2013 edition of the Southwest FAI Challenge went off without a hitch. There were 39 registered contestants and 60 total entries spread over 10 events. Rubber and Glider events remain the mainstays.

Newly endowed professional sportsman, Jim Parker topped the field of 10 F1A flyers that took he, Brian Van Nest and Shlomi Rosenzweig to the 7 minute flyoff round. Charlie Jones and Blake Jensen waited until the end of the 5 minute F1B flyoff and snagged the top two spots, with only Charlie making the max. Regular SW FAI competitor John Clapp took home third place besting the other 6 flyers in the flyoff who launched in a gaggle about mid round. Henning Nyhegn picked up the blue glass for first in F1C for the third straight year. John Oldenkamp collected first place Americas Cup points with a clean score in F1Q with Bernie Crowe and Mike Pykelny on his heels. We are always glad to see Glenn Schneider who took first (and last!) place in both F1P and Vintage FAI Power.

Sunday saw the local Las Vegas contingent come out to join us and fill up the P-30 field. Regulars Bob Hodes and Gerald Antonucci were pushed down to 2nd & 3rd respectively by another local, Bill Ervin who has returned to the hobby and has some nice looking models in his box. With 12 entries, F1G had the second highest entry total of the meet. Somehow or another I managed to eek enough out of an ageing model to best Ryan Jones and his Mom, Geralyn who finished second and third. F1H was the only event that was not resolved by normal flyoff procedure. After Brian Van Nest, Jim Parker & Kyle Jones easily made their 4 minute rounds, the Espresso Flyoff Tiebreaker was invoked leaving Brian atop the list followed by Jim and then Kyle. E-36 continues to be well supported. This year, new Las Vegas resident Mike Richardson took home top honors followed by John Oldenkamp and new SW FAI attendee, Jack Murphy from Salt Lake City. The early morning Espresso Flyoffs were won by Brian Van Nest in F1H as noted above, Tiffaney O'Dell with an extraordinary flight of 5:13 in F1G and Glenn Schneider in Vintage FAI Power. Once again sadly, no F1J contestants.

As always, there is much more than the competition that make this contest special. Thanks to Linda Piazza for grilling the dogs for our lunchtime appreciation, and to Bob Beecroft for his management of the scoring table and flyoffs. Norm Smith is still not able to fly, but it was a special treat to have he and Merry come down from Ione just to visit and help out. Ziggy Limberger who we spent a lot of time with at the World Champs this summer in France stayed in the States long enough after son Rene's wedding, to take in his first SW FAI Challenge.

In keeping with tradition, when all the receipts are totaled up, the lion's share of the profit from the 2013 SW FAI Challenge will be contributed to the Junior Team Fund. One last note. The vote is complete and Boulder City will be the site for the 2014 FAI Team Selection Finals for the 2015 Team that will represent the USA in Mongolia in 2015. Plans are already underway for the 2014 SW FAI Challenge.

2013 SOUTHWEST FAI CHALLENGE **October 26 & 27, 2013**

F1A (10)

Jim Parker	210	180	180	180	180	180	180	300	396	1986	
Brian Van Nest		210	180	180	180	180	180	180	300	286	1876
Shlomi Rosenzweig	210	180	180	180	180	180	180	300	063	1653	
Kyle Jones	210	180	180	180	180	173	180			1283	
Don Zink	210	165	180	180	168	162	180			1245	
Lee Hines	150	180	180	180	120	180	141			1131	
Sigfried Limberger	000	180	180	180	180	180	180			1080	
Peter Brocks	127	180	180	121	180	117	175			1080	
Randy Secor	122	180	178	158	180	180	059			1057	
Rene Limberger		210	180	083	075	106	180	180			1014

F1B (16)

Charlie Jones		240	180	180	180	180	180	180	300		1620
Blake Jensen		240	180	180	180	180	180	180	266		1586
John Clapp	240	180	180	180	180	180	180	244		1564	
Bill Booth	240	180	180	180	180	180	180	202		1522	
George Batiuk		240	180	180	180	180	180	180	200		1520
Jack Emery	240	180	180	180	180	180	180	196		1516	
Bob Piserchio		240	180	180	180	180	180	180	159		1479
Tiffaney O'Dell		240	180	180	180	180	180	180	151		1471
Roger Morrell		240	180	180	180	169	174	180			1303
Rich Rohrke	208	180	180	166	180	180	180			1274	
Ryan Jones	240	180	180	180	115	180	180			1255	
Aram Schlosberg	182	170	180	180	180	180	178			1250	
Mike Richardson	163	157	130	135	180	180	150			1095	
Jace Pivonka (JR)	123	127	089	180	177	180	180			1056	
Tom Ioerger	162	180	180	180	180	162	000			1044	
Richard Wood		240	180	180	180	119	000	000			0899

F1C (2)

Henning Nyhegn	000	000	180	180	180	112	180			0832	
Chuck Etherington	DNF										

F1Q (4)

John Oldenkamp	180	180	180	180	180	180	180			1260	
Bernie Crowe		144	180	180	113	128	180	180			1105
Mike Pykelny	100	180	180	096	180	180	141			1057	
Jack Murphy	109	134	180	172	096	180	159			1030	

F1P (1)

Glenn Schneider	127	180	180	039	147	000	000			0673	

2013 SOUTHWEST FAI CHALLENGE (Continued, page two) October 26 & 27, 2013

F1G (12)

Bill Booth	120	120	120	120	120	180	240			1020	
Ryan Jones	120	120	120	120	120	180	234			1014	
Geralyn Jones		120	120	120	120	120	171				0771
Blake Jensen		120	120	120	120	120	168				0768
Peter Brocks	120	120	120	120	120	159				0759	
Tom Ioerger	120	120	120	120	120	145				0745	
Tiffaney O'Dell		120	120	120	120	120	140				0740
John Clapp	120	120	120	120	120	134				0734	
Mike Richardson	120	117	120	120	120					0597	
George Batiuk		120	103	120	021	116					0480
Bill Holt		120	027	000	000	000					0147
Jace Pivonka (JR)	DNF										

F1H (4)

Brian Van Nest		120	120	120	120	120	180	240	235		1255
Jim Parker	120	120	120	120	120	180	240	206		1226	
Kyle Jones	120	120	120	120	120	180	240	161		1181	
Lee Hines	000	000	067	058	057					0182	

E-36 (5)

Mike Richardson	120	120	120	120						0480	
John Oldenkamp	120	120	120	116						0476	
Jack Murphy	120	118	120							0358	
Bernie Crowe		120	120	096							0336
Mike Pykelny	082	085	120							0287	

P-30 (5)

Bill Ervin	120	120	120	143						0503	
Robert Hodes		117	110	118							0345
Gerald Antonucci	120	120	105							0345	
Larry Schwarz		120	094	058							0272
Mike Richardson	DNF										

VINTAGE FAI POWER (1)

Glenn Schneider	090	180	102	180	068					0620	

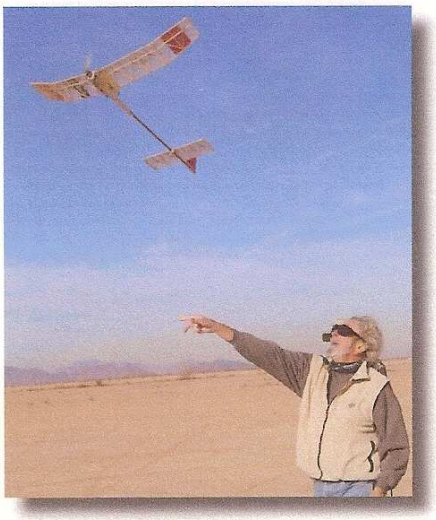
1st E-36 *World Open*

February 8-9, 2014

AMA sanctioned, AA, National Cup

At the Isaacson Winter Classic

Lost Hills, California



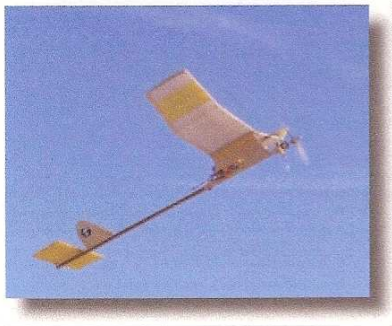
The *World Open* is a composite championship consisting of official flying over two flying days:

1. **Saturday, February 8th, 8 a.m. - 5 p.m.** The regular Isaacson E-36 event flown to AMA rules. No rounds.
2. **Sunday February 9th, ~8:45 a.m.** Single attempt for single unlimited "champagne flight" timed to the ground, 15-second (or 10s in case of sustained wind over 3 meters per second) motor run, to be held between the first and second rounds of F1G-H-J, location TBA. Launch window will be a 10-minute FAI-style round. No builder-of-model rule in effect. Models must meet all other AMA E-36 rules.

$450 cash prizes!

World Open Rules

1. E-36 World Open champion will be the flyer who has the highest composite placing in the two days' events. Each event counts equally, for half of your final score. Points allocation is based on percentage of the winning score in each event.
2. Tiebreaker one: champagne flight placing.
3. Tiebreaker two: additional flyoff.



Sample calculations

Say the two winning scores are: Saturday AMA E-36, 645 seconds; Sunday champagne flight, 185 seconds.

A. John's AMA E-36 score: 583s (90.4% of the first place time), champagne flight score: 157s (84.9%). John's World Open final score is 87.7%.

B. Steve's AMA E-36 score: 559s (86.7%), Champagne flight score: 167s (90.2%). Steve's World Open score is 88.4%...*Steve wins the World Open title.*

Awards

Awards to third place. Plus, $400 in prize money ($200 for first place, $125 second place, $75 third place). FLASH: $50 to highest placing Jr./Sr. (under age 19).

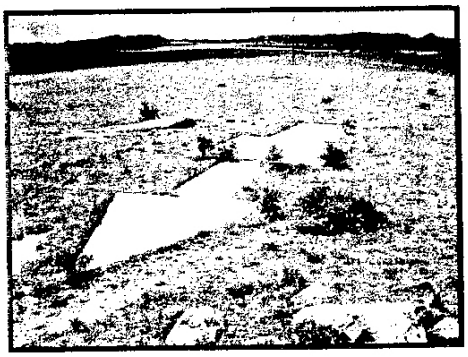
More information

Isaacson entry fees apply (no extra fees to enter the *World Open*). Norm Furutani (Isaacson CD) norgin@earthlink.net, Don DeLoach ddeloach@comcast.net

Big thanks to our sponsors: anonymous (via Ralph Ray), John Oldenkamp, and Starlink-Flitetech Models

Concrete GPS from the 1920's

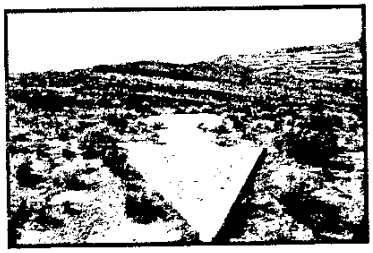
Every so often, usually in the vast deserts of the American Southwest, a hiker or a backpacker will run across something puzzling: a large concrete arrow, as much as seventy feet in length, sitting in the middle of scrub-covered nowhere. What are these giant arrows? Some kind of surveying mark? Landing beacons for flying saucers? Earth's turn signals?



No it's The Transcontinental Air Mail Route

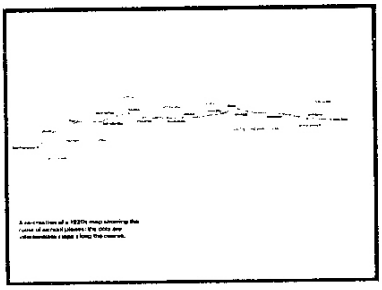
On August 20, 1920, the United States opened it's first coast-to-coast airmail delivery route, just 60 years after the Pony Express closed up shop.

There were no good aviation charts in those days, so pilots had to eyeball their way across the country using landmarks. This meant that flying in bad weather was difficult, and night flying was just about impossible.



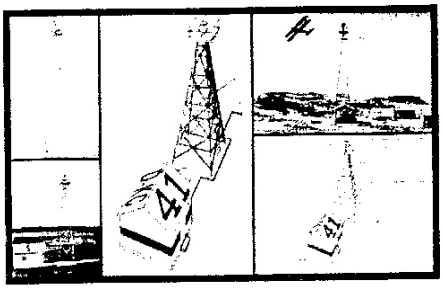
The postal service solved the problem with the world's first ground-based civilian navigation system: a series of lit beacons that would extend from New York to San Francisco. Every ten miles, pilots would pass a bright yellow concrete arrow. Each arrow would be surmounted by a 51 foot steel tower and lit by a million candle power rotating beacon. A generator shed at the tail of each arrow powered the beacon.

Now mail could get from the Atlantic to the Pacific not in a matter of weeks, but in just 30 hours or so.



Even the dumbest of air mail pilots, it seems, could follow a series of bright yellow arrows straight out of a Tex Avery cartoon. By 1924, just a year after Congress funded it, the line of giant concrete markers stretched from Rock Springs, Wyoming to Cleveland, Ohio. The next summer, it reached all the way to New York, and by 1929 it spanned the continent uninterrupted, the envy of postal systems worldwide.

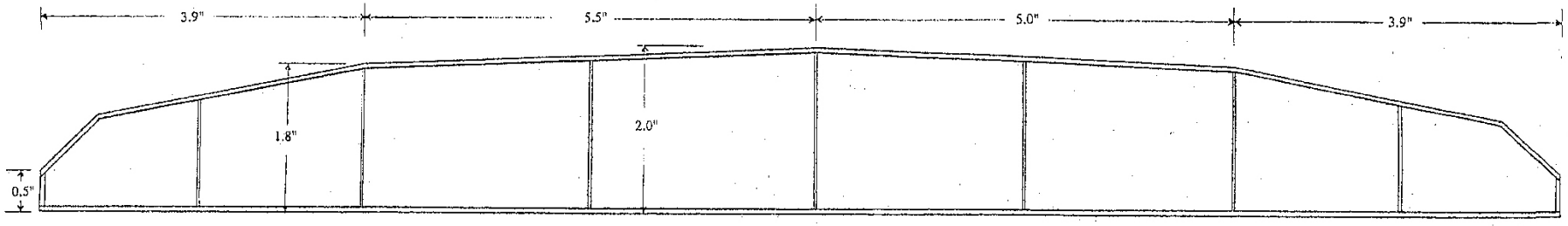
Radio and radar are, of course, infinitely less cool than a concrete Yellow Brick Road from sea to shining sea, but I think we all know how this story ends. New advances in communication and navigation technology made the big arrows obsolete, and the Commerce Department de-commissioned the beacons in the 1940s. The steel towers were torn down and went to the war effort.

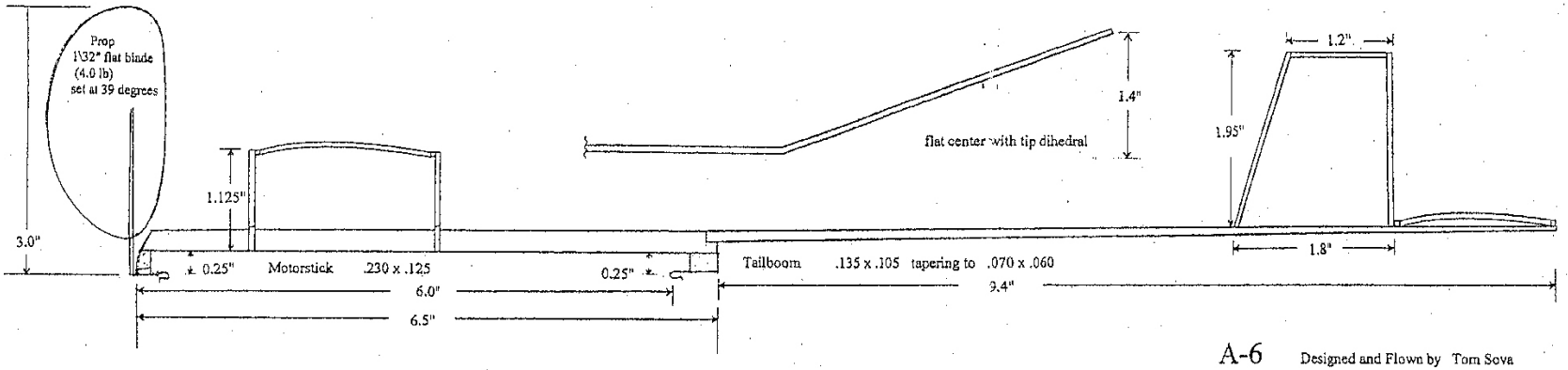


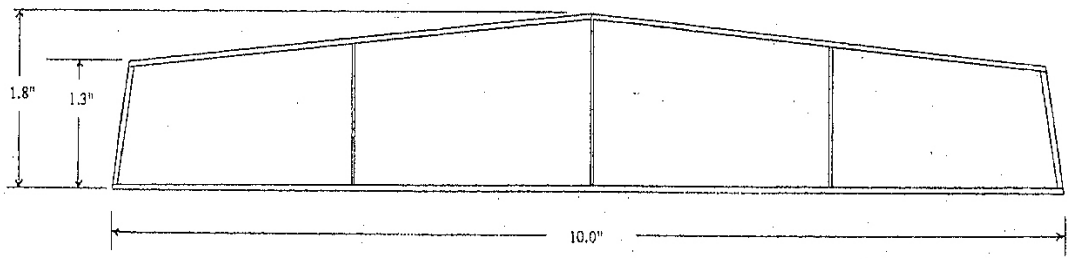
But the hundreds of arrows remain. Their yellow paint is gone, their concrete cracks a little more with every winter frost, and no one crosses their path much, except for coyotes and tumbleweeds.

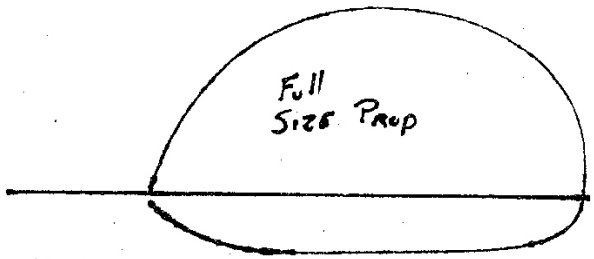
But they're still out there.

Paul Carothers









A-6

Designed and Flown by Tom Sova

Best Times 10:06 Kibbie Dome 2005
10:21 USIC 2006 (Motor .031 x 18 ½" .786 gm 4120 turns)

all outlines are 1/16" square (4-5 lb)
ribs are 1/32" x 1/16
prop shaft, rear hook, and pigtail bearing .012 music wire
covered with condenser paper

Weights (grams)

Wing.....0.380
Prop 0.212
Rest 0.668

Total 1.260

By Graham Warwick

Managing Editor-Technology
Graham Warwick blogs at:
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COMMENTARY

Just Getting Started

Additive manufacturing drives new revolution

Additive manufacturing has captured industry's imagination, but even as the first parts appear inside jet engines, the technology's possibilities are only just being realized. As researchers experiment with new materials and optimized designs made possible by 3-D printing, the potential scale of the revolution in manufacturing is becoming clearer.

EADS Innovation Works and EOS, a leader in direct metal laser-sintering, have shown that replacing a cast-steel nacelle hinge bracket on an Airbus A320 with an additively manufactured titanium part, optimized to place metal where there are loads (see photos), cuts raw-material consumption 75%, saves 10 kg per shipset and reduces energy and emissions in production, operation and end-of-life recycling.

EOS

The challenge is to think beyond current materials and designs. To that end, Oak Ridge National Laboratory (ORNL) in Tennessee is placing thousands of 3-D printers in U.S. schools to give future designers and engineers experience with the technology. Already the lab has helped local high schools in the First Robotics competition—including building the first all-additive robot. Beginning this year with 250 machines, the lab plans to place 3,000 printers next year, then 4,000 and finally 28,000 so every high school in First Robotics has one.

Available desktop 3-D printers are being tested at ORNL to assess their capabilities. The lab's goal is to move from prototyping to production and enable distributed, "democratized" manufacturing where 3-D printers are a source of revenue for everybody, says Lonnie Love, group leader for automation, robotics and manufacturing—a high-tech return to the cottage industries that predated the Industrial Revolution.

Looking beyond consumer machines, ORNL is pushing the capabilities of additive manufacturing in the materials, complexity and scale of components that can be printed. The lab is completing perhaps the most complex all-additive design yet: a two-armed, neutrally buoyant underwater robot for the Office of Naval Research. Channels for hydraulics and wiring, cylinders and cams for pistons actuating the joints are all integrated inside the printed metal arms. There are no external pipes or wires. "We are pushing the envelope in additive manufacturing and robotics with this," says Love.

ORNL, meanwhile, is working with additive-manufacturing equipment suppliers such as Arcam to expand the technology to new metals and larger parts, including laser-sintering of Inconel 718, a high-temperature superalloy used in turbine blades. But some of the most exciting work involves printing of reinforced plastics. Current 3-D-printed polymer parts are low-strength, and can be used for ducting but not load-carrying components. Now the lab has developed a way to infuse reinforcing carbon fibers into the raw material to print parts that can carry loads.

At 5-7 micrometers, conventional chopped carbon fibers are too thick to squeeze into the 0.25-in.-dia. thermoplastic filament that is fed into fusion-deposition molding (FDM) machines. ORNL has developed a way of producing fibers less than 500 nanometers in diameter.

When chopped, these nanofibers are small enough to mix into the FDM raw material, but have a length-to-diameter ratio high enough to achieve the reinforcing effect. Strengths on par with 6000-series aluminum are possible, says Chad Duty, group leader for deposition science and technology.

Infusing reinforcing fibers into raw material is a key to scaling up 3-D printing to large parts—60-100 ft. in size—for aerospace. ORNL calls this broad-area additive manufacturing, and the lab has been working with Lockheed Martin and an equipment manufacturer to develop the capability, initially to produce low-cost tooling but ultimately to print structures such as the wings of a large unmanned aircraft.

Large printed parts can warp because areas with different thicknesses cool at different rates—a core technical challenge with additive manufacturing. Adding 13% by volume of chopped carbon fiber to the thermoplastic-pellet feedstock provides twice the strength and four times the stiffness, and stops parts-warping as they cool, says Love.

As a next step, ORNL is working with an equipment supplier to build the prototype of a single machine that will print plastic parts, machine them to final shape and wrap them in reinforcing carbon-fiber tows to produce large structural components.

"We work with the equipment makers, because the OEMs want this technology throughout their supply base," says Craig Blue, director of ORNL's advanced manufacturing program.

SAN DIEGO ORBITEERS
Howard L. Haupt / Editor
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WHAT'S HAPPENING - NOVEMBER / DECEMBER 2013

Nov. 17 - **Orbiteer Outdoor Monthly**, Otay Mesa, 8:00 am.
Feature Event: Nos. Rubber Other Events: Power & Glider

Dec. 3 - Indoor Flying, Grossmont College (Upper Gym), 7:30 am to 11:30 am.
Feature events: Phantom Flash Other Events: Phantom Flash & No-Cal.

Dec. 15 - Orbiteer Outdoor Monthly, Otay Mesa, 8:00 am, Coupe / Power & Glider