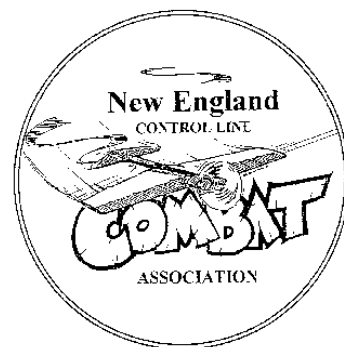


New England Combat News

VOLUME 24 NUMBER 1 JUNE 2012
THE CONTROL LINE COMBAT NEWSLETTER OF NEW ENGLAND



Now Celebrating our 24th year of Publication

107th R/C Flyers GX Icebreaker

**NEIL SIMPSON, KEN HARGREAVES
AND CHRIS SARNOWSKI
ARE TOP THREE**

April 29, 2012 - SAUGUS, MA - It was sunny, windy and seasonably cool for this year's running of the 107th R/C Flyer's Club GX Icebreaker, the 2012 New England combat season opener. There were six pilots in attendance ready to kick off the new season.

On this day the strong wind was an additional opponent and it combined with, perhaps some winter rust, served to hold down everyone's point totals all day long. This was certainly evident following the first round when Ken Hargreaves and Neil Simpson found themselves atop the leader board each posting 520 point wins, a point total that is respectable, but usually not substantial enough to lead the field. Chris Sarnowski and Brian Stas who flew to a 410 point round one draw were in close pursuit. In round two Neil got passed Ken with a one cut win, however, a line tangle crash late in the match cost both pilots some airtime points. In the next match Joe Fustolo and Chris flew to a one cut apiece draw. At the halfway point Neil had the lead followed very closely by Brian and Chris. Ken and Joe were certainly within striking distance, as well. In the first match of round three Brian got an airtime win over Neil, Neil crashing very early in the match. In the next match Chris and Ken flew to a one cut apiece draw. The final round three match saw Joe climb into contention with a two cut win over Paul Kubek. Going into the final round it was a virtual three way tie between Brian, Joe and Chris all with cumulative scores exceeding 1400 points. Ken was very close with 1330 points and Neil, a distant fifth, with 1140 points. Round four started with Ken and Paul flying to one cut apiece draw. In the semi-final Neil got a two cut win over Chris. In the final Brian and Joe faced off. Brian got a cut early followed, in short order, by a mid-air which hurt their cumulative scores and knocked both pilots out of contention. The top three, on this day, were Neil, Ken and Chris.

(continued on page two)

Granite State Invitational

**JEFF VADER, CHRIS SARNOWSKI
& NEIL SIMPSON
ARE TOP THREE**

JAKE VADER WINS SPORTSMAN

May 6, 2012 – FRANKLIN, NH – Eight contestants were on hand for this event hosted and cd'ed by Jeff Vader. Jeff, as always, had coffee and doughnuts waiting for everyone as we arrived. Weather conditions were seasonably warm and sunny with a light breeze. A great day for combat.

Round one saw Jeff Vader take the early lead both posting an 830 point win. In round two he squared off against Neil Simpson who had posted a 725 point round one win. Jeff got past Neil two cuts to one in a very well flown match. At the halfway point Jeff had the clear lead followed by Neil. Chris Sarnowski, who was flying steady and had put together two good scores, was just behind Neil. In round three Jeff squared off against Brian Stas in a match that ended in a mid-air. In the next match Neil and Chris flew to a one cut apiece draw. All this served to tighten the field.

Going into the final round it was Jeff with 1755 points, Neil with 1635 points followed by Chris at 1530 points. The final three matches would impact the outcome. In the first of these Chris got a one cut win over Paul Kubek to put pressure on Jeff and Neil. In the semi-final Brian Stas got past Neil two cuts to one in an action filled match. In the final Jeff and Jake Vader flew to a one cut apiece draw. When it all sorted out Jeff had the contest win followed by Chris, Neil, Brian and Jake. Jake Vader, in a day long battle with Richard Sherman, took home the Sportsman win.

Thank You to everyone who shared in the judging and thank you to Jeff Vader for a yet another good contest.

(stats on page two)

GX ICEBREAKER (continued from page one)

Thanks to 107th R/C Flyer's Club for the use of their facilities. Thank you to Chris Sarnowski for cd'ing the contest and for greeting us, on this cool morning, with coffee and doughnuts .

107th R/C Flyers GX Icebreaker
Formula GX Combat
6 contestants (all from MA)
12 matches (1 mid-air)

Neil Simpson-East Brookfield, MA	1865pts
Ken Hargreaves-Worcester, MA	1840pts
Chris Sarnowski-Bedford, MA	1730pts
Brian Stas-Kingston, MA	1650pts
Joe Fustolo-Stoughton, MA	1535pts
Paul Kubek-Brockton, MA	1110pts

Granite State Invitational

Formula GX Combat

8 Contestants (6 from MA) (2 from NH)

16 Matches-3 mid-airs

(E) Jeff Vader - Franklin, NH	2265pts
(A) Chris Sarnowski - Bedford, MA	2150pts
(E) Neil Simpson - E.Brookfield, MA	2035pts
(E) Brian Stas - Kingston, MA	1745pts
(S) Jake Vader - Franklin, NH	1630pts
(A) Ken Hargreaves - Worcester, MA	1430pts
(A) Paul Kubek- Brockton, MA	1120pts
(S) Richard Sherman - Andover, MA	1110pts



**The top three at the 107th RC Flyers GX Icebreaker were
Neil Simpson (1st), Ken Hargreaves (2nd) and Chris Sarnowski (3rd)**

FROM THE EDITOR: New England Combat News exists, not to make a profit, but rather, to promote control line combat in New England. It is distributed without charge to those readers who participate in New England combat contests or who support these contests through donations to the New England contest fund. The subscription rate is \$10.00/year for people who do not meet the above criterion. If you have information you would like to see in this newsletter please call or write:

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PHONE: 508-867-8702 (Home after 6:00pm) E-MAIL: podunk129@charter.net

If you make a donation or if you subscribe to this newsletter make the check payable to NEIL SIMPSONDonations go into the New England Contest Fund and are used to cover the cost of running New England control line combat contests. IF YOU WANT TO RUN A CONTROL LINE COMBAT CONTEST IN NEW ENGLAND AND YOU NEED HELP (FINANCIAL OR OTHERWISE) CALL OR WRITE NEW ENGLAND COMBAT NEWS. We want to continue to help make New England a "Hot Spot" for control line combat. New England Combat News is your newsletter-USE IT. Control line combat is your sport-PROMOTE IT.

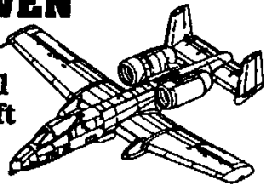
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Yankee Nipper full size plans

Plans show hopper hard tank but can easily be set up with bladder fuel system - \$12.00 ea

Yankee Nipper pine center ribs - as shown on plans (3/4" white pine) in case of broken wing cores, simply cut old ones off and re-core - \$5.00 ea

From time to time, I have other items in stock - needle valve assemblies, props, bellcranks etc.

Always include \$5.00 for priority mail

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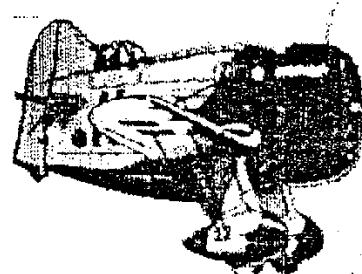
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F2D News - May 2012

Mark Rudner
rudner@mit.edu

For those of you who have been following along, you may recall that last fall I had a chance to go fly with Lothar and the Germans in the suburbs of Munich while over in Europe for work. During that flying session, I got to see (and try for myself) the setups they've been developing for a new class of electric F2D combat. In their country, there are very severe noise restrictions which have nearly wiped out all viable flying sites for internal combustion engine powered models. Developing something more neighbor-friendly is very important to them, for the survival of hobby.

The models that I saw performed better than I had imagined beforehand, though still not at a level comparable to a modern competitive F2D ship. Greg Wornell and I had been toying with the idea of making an electric combat plane for some time, and the results I saw in Germany were encouraging enough to motivate me to seriously start working on the project. It's interesting both because it's something new, offering a fresh platform for trying out all kinds of different ideas, and because having a quiet version of a high-performance model that could be flown in local parks/athletic fields would open up a whole new world of opportunities for more regular and frequent training.

As soon as I got back to the US just before Christmas, Alex Prokofiev and I started brainstorming, and produced a temporary plywood mount that could adapt an electric motor (which he had lying around) to a normal F2D model. I cut a slot in the bladder tube, popped in a LiPo (lithium-ion polymer) battery pack, and carved a trench in the wing for an electronic speed controller (ESC) and a 2.4 GHz spread-spectrum receiver (so that we could control the throttle by radio). After about 45 minutes of work (and another 20 for the CNC router to cut out the mount), the electric plane was ready to fly. The random assortment of components (motor, ESC, prop) that we found around the house were way off spec for what we would need for a combat model, but it was enough to get us in the air and launch the project into phase 2.

With that initial success under our belts, Greg and I started working on pinning down the kinds of specs we'd need to make a competitive model. In diving into electrics there are a lot of new parameters to think about. As combat fliers, the natural place to start is of course with horsepower. In an electric motor, power comes from the product of voltage (V) and current (I), $P = I \times V$. If you use voltage in volts and current in amps in this formula, you will get power in watts. One horsepower is equal to 746 watts (that's a lot of light bulbs!). If we decide that in order to match a Fora we're going to need nearly a horsepower's worth of watts, then our formula says that we can achieve this in a few ways: we can use a battery with a low voltage but pump out a ton of amps, or we can use a battery with a high voltage, and get away with fewer amps. The thing about current, as anyone who has ever cut out foam wing cores before knows, is that when you start pumping lots of amps through a wire, it heats up. Heat doesn't come for free, either. That heat is energy that you could have been using to spin the prop and make the airplane go around the circle. Our goal is to avoid heating as much as possible.

Taking into account this discussion, it seems that going for a higher voltage, lower current setup might be more efficient. When I met the guys in Germany, they were running "3S" LiPo battery packs, which means they consisted of 3 cells wired in series. When batteries are wired in series, their voltages just add up. For standard 3.7 V LiPo cells, this means that they were running on 11.1 V. To reach that target of just under a horsepower, they would therefore need to push something like $(700 \text{ W}/11.1 \text{ V}) = 63 \text{ A}$ of current. That's a lot, and they told me that they were even hitting up into the high 70s. With the hope of improving the efficiency of the system (by avoiding some of that nasty heating), and taking some advice from Pete Young, whom Greg and I met at MIT, we decided to up the voltage and go with 4 cell (14.8 V) batteries.

So far we're just playing with numbers, but we haven't said anything about the motor itself, which will eventually have to convert all of that electrical energy into some bone-crushing, streamer cutting, loop flying power. It turns out that electric motors come in all kinds of shapes, sizes, and specs. Two key parameters that we focused on were power rating (essentially how many hp the motor can generate from a battery without melting/flying apart) and "KV" which determines how many RPM you get for each volt that you supply it. There's a trade-off between torque and RPM, which in principle means that we could aim to swing a small prop at high RPM or a big prop at low RPM, and achieve similar speeds. Which one is better? It's hard to say. From a noise standpoint, a bigger prop at lower RPM will certainly be an improvement on the shrieking sounds of

today's F2D engines (which I do enjoy, responsibly with earplugs, but which neighbors and cops not surnamed Stas usually don't). How about speed through the turns and ability to tow a streamer? My guesses would also be that big props would help there too, though for some reason the RC electric pylon guys are spinning super tiny props at 48000 RPM, and it seems to work well for them.

The good news is that electric motors are dirt cheap (15-20 bucks cheap), so we found a spread of motors which should operate between 13000 and 30000 RPM (with similar power ratings) to experiment with. The bolt hole patterns for mounting them are only sort of standardized, so I ended up making two different mounts for the three motors that I picked up. After considering a few possible approaches, the one that I settled on is that shown in the pictures. I took a set of aluminum F2D engine mounts and sawed them off just ahead of where they stick out past the front of the leading edge (nearly flush). Then, coming in from the front on each mount, I drilled and tapped a pair of holes (one on each mount) that I could use for attaching a flat carbon plate. This plate provides a strong, flat surface for mounting the motor. It's essentially just making a radial-style mount that adapts to a conventional model via the beam-type mount bearers. The good thing about having the front plate bolt on, rather than machining the whole thing from one solid piece of aluminum, is that variations in block thickness from model to model can be compensated for with a little "wobble room" in the holes, whereas a solid mount would be held under stress on any model with a slightly over- or under-sized block.

As far as speed controllers are concerned, there are tons out there on the market. To be honest, apart from the maximum current rating, I don't know what distinguishes one from another. They all seem to have a pretty identical set of features. Expecting that we would need to pull about 45 amps, I went with the Phoenix-45 from Castle Creations. So far it's working well, but for the future it might be nice to have a little more headroom.

Now for the results. I've put a couple of videos up on YouTube showing how it looked with the two motors that we tried so far:

<http://www.youtube.com/watch?v=w99qXqiTf-Y>

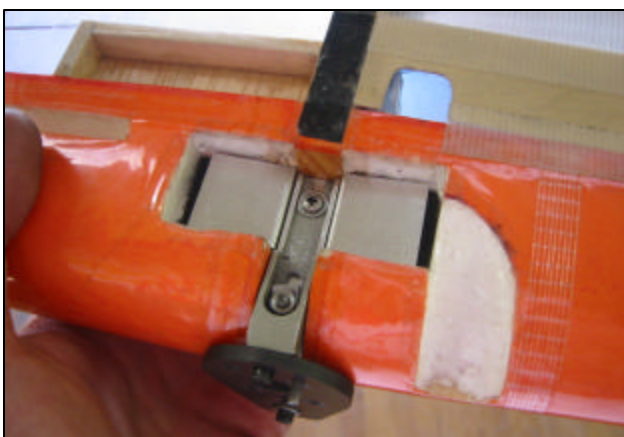
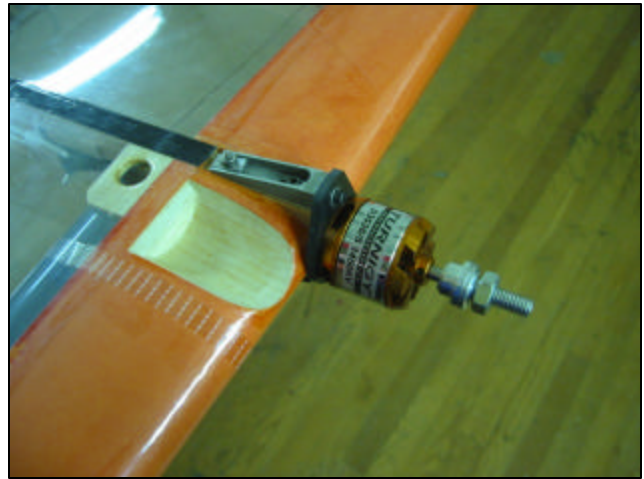
<http://www.youtube.com/watch?v=XY6AAVvxzDs>

The first was the 1450 KV Turnigy XP 3536 motor from Hobby King (see picture) with a 7.5" x 6.5" prop (an old fast combat prop). We clocked it at 24.6 seconds/10 laps (91 mph). The second was the NTM Prop Drive 28-36 motor, also from Hobby King, with a 6" x 4" Taipan prop. It was turning about 27800 RPM, and put in a very similar time of 24.7 s/10 laps. My aim is to get below 24.0 s, which will be quite respectable. Already, both setups are in the range where they are quite fun to fly. The speed through the turns feels good. The higher RPM setup is not-so-neighbor friendly on noise, but the 1450 KV motor sounded about like a vacuum cleaner. We could definitely get away with flying that one at many fields where our normal engines would get us kicked out.

The bad news is that I suffered some battery problems. On the next weekend, performance was heavily degraded. It turns out that you're not supposed to run these LiPo batteries all the way down (should always leave at least 20% charge left). Unknowingly, I violated this rule on those early flights. We also had a problem with the batteries heating up while buried inside the plastic bladder tubes. Currently I'm working on making a small air duct through the leading edge that will direct some additional cooling air onto the batteries to keep them from overheating. It's a little bump in the road, but I'm sure we can overcome it and keep progressing towards our target.

For now I'll leave it at that. Hopefully the pictures will tell the rest of the story. The summer's approaching, so it's about time for everyone to start getting tuned up for the NATS. Hope we get another good turnout this year!

Electric F2D Project-Mark Rudner Photos



2012 Granite State Invitational - May 6th - Jeff Vader Photos



**The trophy winners were Jeff Vader (1st), Chris Sarnowski (2nd), Neil Simpson (3rd)
And Jake Vader (1st Sportsman)**



Ken Hargreaves and Chris Sarnowski



Dick and Richard Sherman

2012 Granite State Invitational - May 6th - Jeff Vader Photos



Ken Hargreaves and Jeff Vader



Jake Vader and Paul Kubek



Paul Kubek and Chris Sarnowski



Brian Stas and Paul Kubek



Ken Hargreaves ready to launch Neil Simpson's machine.



Neil Simpson and Brian Stas



2012
***Len Minick Memorial
Combat Challenge***

**Salmon River State Forest
Located on Route 16 Approximately
halfway between Routes 149 and 196**

**East Hampton, CT
June 24th, 2012**

**Formula GX Combat Four Rounds
Prizes for 1st and 2nd plus first in Sportsman
First Match 10:00 am AMA Sanctioned**



Wingbuster Summer Sizzler

**Wingbuster Club Field
Middleboro, MA
July 1st, 2012**

**F2D Combat-Single Airplane Rules
Prizes for top three
First Match 10:00 am
AMA Sanctioned**

***2012
Granite State
Championships***

**Franklin Elks Lodge Field
South Main Street
Franklin, NH
June 3rd, 2012**

**Formula GX Combat Four Rounds
Prizes for 1st and 2nd
plus first in Sportsman**

**First Match 10:00 am
AMA Sanctioned**

***2012
Eastern Mass
Invitational***

**Wingbuster Club Field
Middleboro, MA
July 8th, 2012**

**Formula GX Combat Four Rounds
Prizes for 1st and 2nd
plus first in Sportsman**

**First Match 10:00 am
AMA Sanctioned**

***2012
Wingbuster
Spring Kick Off***

**Wingbuster Club Field Middleboro, MA
May 27th , 2012**

**F2D Combat-Mark's Single Airplane Rules
Prizes for top three**

First Match 10:00 am AMA Sanctioned

Try This

Once in a while a good idea pops up that might be useful to you. Here's one that might have some use to you.

Unclog your CA Tips: Those tips that come with your jar of CA clog much too easily, right? To keep them ready to use, get a small plastic bottle with a tight lid and fill it partway with acetone, available from the home center. Make sure that the bottle/container is impervious to the Acetone, just to be safe. Now, when you're done with your building/repair project for the day, drop that tip into the acetone until your next session. Any dried CA will be dissolved by then. When you need to retrieve one, use some needle nose pliers or a dental pick with a hook to extract it from the jar. Drain any leftover acetone from the tip and let it air dry for a few minutes before use. Remember to use a plastic jar to reduce breakage, and follow all the safety warnings on the container of acetone. After you've built up a supply of them from successive purchases of CA, you can swap them out midway through a building session to keep things moving.

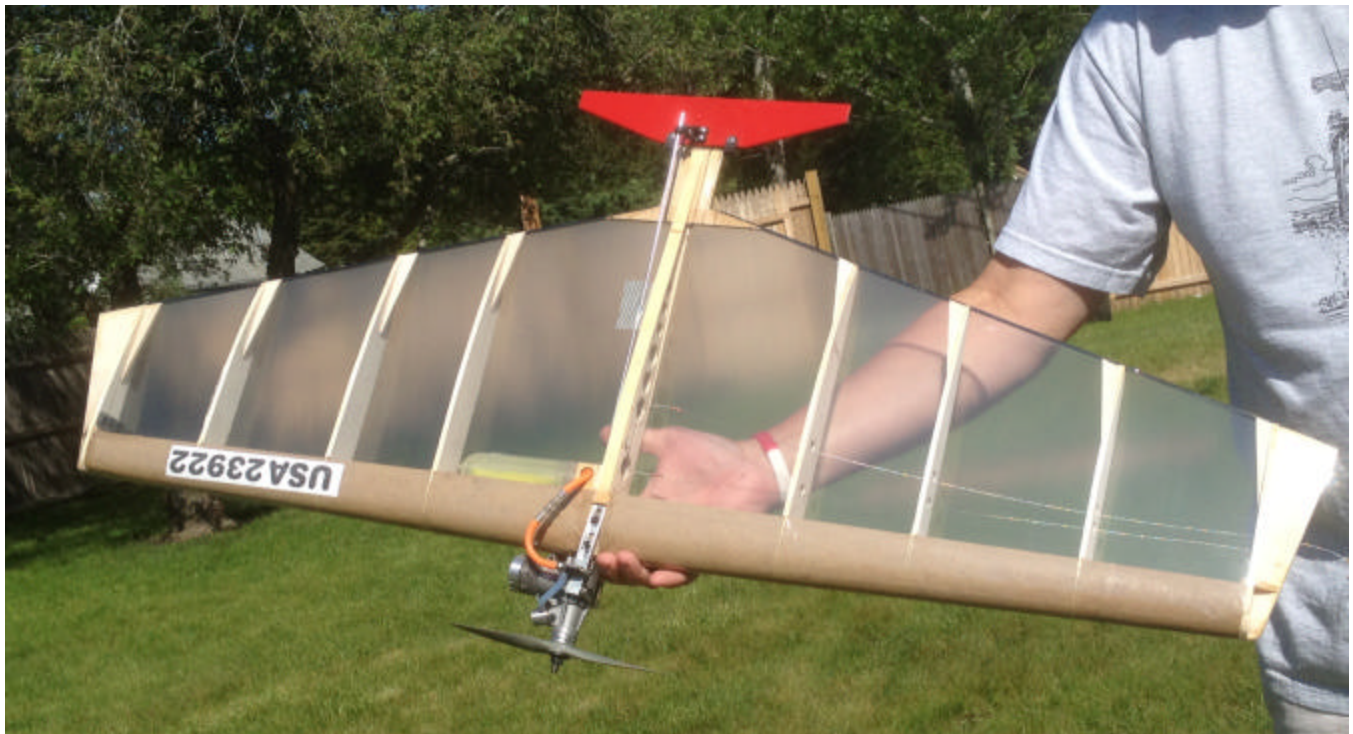
Editor's Note: Pirated from the Wing Buster's Club newsletter. This works really well.

Rumors Facts Etc

CONTEST FUND: This month we received generous contributions from Ken Hargreaves, Joe Fustolo, Chris Sarnowski, Brian Stas and Paul Kubek. Thank you Gentlemen.

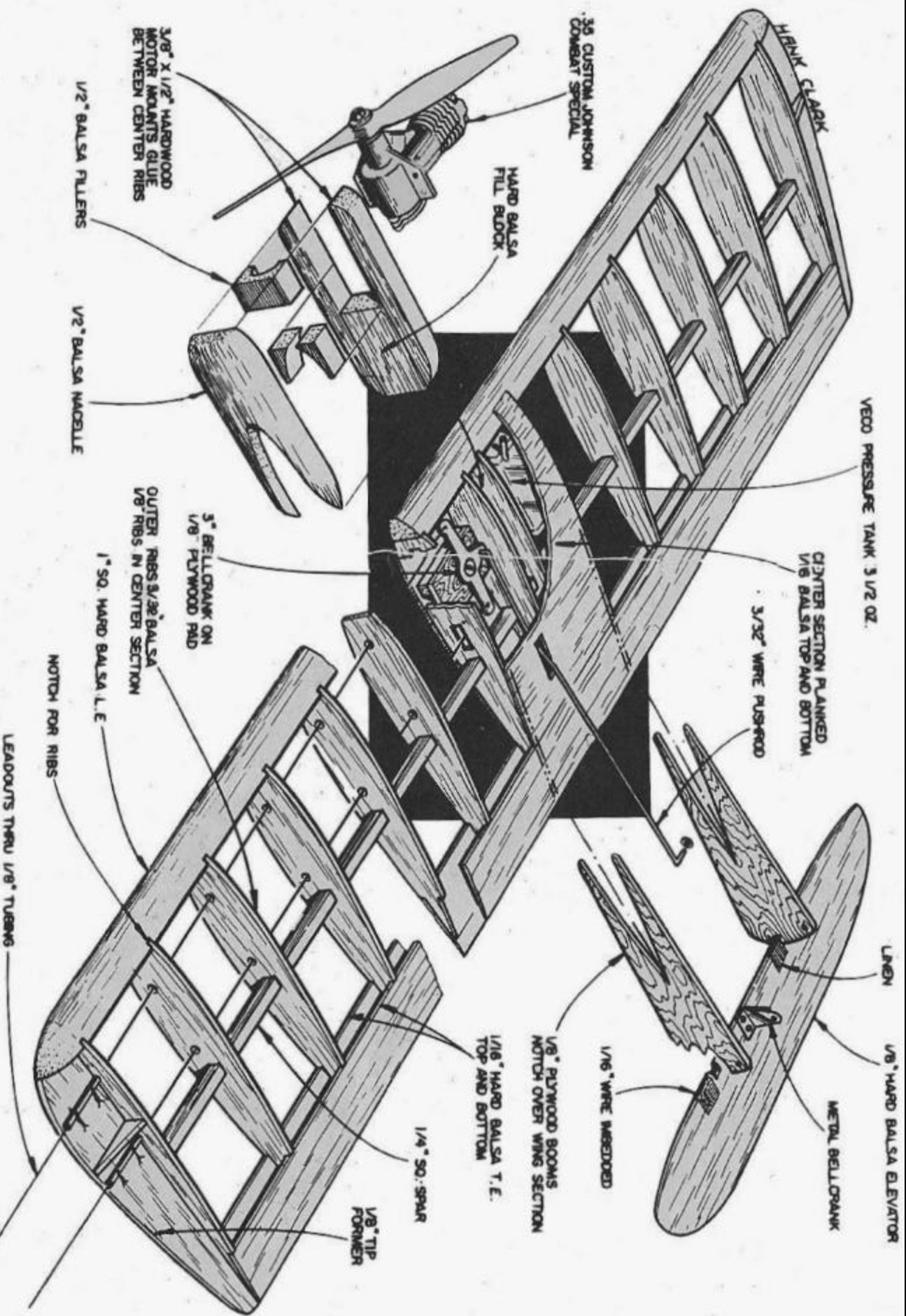
DONATION: Brian Stas contributed a digital camera as a permanent fixture in our contest box. We will put it to good use at the handful of contests that Jeff isn't able to attend. Thanks Brian on behalf of everyone.

ELECTRIC F2D: Be sure to check out Mark Rudner's column on electric F2D- great info.



Brian Stas sent us a photo of his latest GX ship-just off the workbench. Don't have the details yet, however, I believe it was inspired by Yaro's airplane with a slightly extended boom.

Riley Wooten's Voodoo - Circa 1960



Lone Star Shootout



Lubbock Texas June 9 and 10

Fast2d-No Kill

F2d Equipment, large mufflers ok, Fly for cuts, start your own, (jr. and senior citizen exception). No start time, 4 min match, Collision doesn't end match, fuel supplied, no F2D penalties, shutoff required.

\$75.00 Entry fee. Includes Lunch Saturday. \$1500.00

Cash prize = 1st 1000, 2nd 300, 3rd 200

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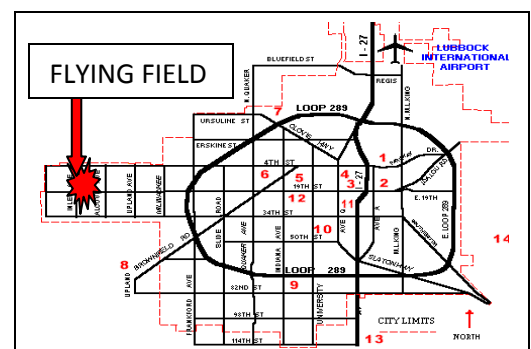
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Combat Party Saturday Nite. Food and Drink

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2012 Schedule

(some events and dates still tentative)

27-May	Wingbuster Spring Kick Off	F2D	Middleboro, MA
3-Jun	Granite State Championships	GX	Franklin, NH
10-Jun	Brodak Week - June 12th to 16th		
17-Jun	Brodak Week - June 12th to 16th		
24-Jun	Len Minick Memorial	GX	East Hampton, CT
1-Jul	Wingbuster Summer Sizzler	F2D	Middleboro, MA
8-Jul	Eastern Mass Invitational	GX	Middleboro, MA
15-Jul	Nats Week - July 16th to 21st		
22-Jul	Nats Week - July 16th to 21st		
29-Jul	Wingbuster Summer Fly Off	GX	Middleboro, MA
4&5-Aug	Lee Stunt Contest		Lee, MA
5-Aug	East Coast Championships		Hershey, PA
	Single elimination 1/2A and Speed Limit		
12-Aug			
19-Aug	Central Mass Championships	GX	E.Brookfield, MA
26-Aug	Salmon River Shootout	GX	East Hampton, CT
2-Sep			
7&8-Sep	Mass Cup Stunt Contest		Wrentham, MA
8-Sep -saturday	Maine Jet Rally	GX	Sanford, ME
16-Sep	Wingbuster Invitational	F2D	Middleboro, MA
16-Sep	Middlesex, NJ-1/2A and Speed Limit		Middlesex, NJ
23-Sep			
30-Sep	New England Championships	GX	Middleboro, MA
6-Oct -saturday	October Air War		Vincentown, NJ
	Single elimination 1/2A and Speed Limit		
7-Oct	North County Shootout	GX	Leominster, MA
14-Oct	Eastern Mass Championships	GX	Middleboro, MA
21-Oct	Fall Finale	GX	Middleboro, MA
28-Oct	Wingbuster Shootout	F2D	Middleboro, MA
4-Nov	Wingbuster Fall Fly Off	GX	Middleboro, MA

For more info contact:

Neil Simpson 129 Podunk Road East Brookfield, MA 01515
 Phone: 508-867-8702 E-mail: podunk129@charter.net

2012 Wingbuster Summer Fly Off

**Wingbuster Club Field - Middleboro, MA
 July 29th, 2012**

**Formula GX Combat Four Rounds
 Prizes for 1st and 2nd plus first in Sportsman**

First Match 10:00 am AMA Sanctioned



Presents A Non-Stop Air Show Extravaganza

RC Jet Pilots, RC Helicopter Pilots,
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Sunday (9AM-3PM)

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Saturday Evening

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and Special RC Pilot/Driver Benefits

Pre-Registration Available Soon

In Association With:

Ray & Robin's
Hobby Center



Maine Bay
Canvas

Maine Bureau
of Tourism

For more information, please contact:

Ray Labonte

65 Gray Road, Falmouth, ME 04105
Tel: 207-797-5196; Fax: 207-878-2936
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horizonhobby.com

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**Public Air Show • Fireworks • Interactive
Family Fun • Night Flying Ballet • And More!**

September 6-9
Sanford Municipal Airport
Sanford, Maine



Horizon Hobby Air Meet is an internationally recognized aviation event that's treated thousands of fans to inspiring radio control and full-size flight demonstrations. This year, Air Meet comes to Sanford, Maine and joins forces with the Maine Model Jet Rally to create an incredible four-day flying event. And we're inviting RC jet and helicopter pilots, as well as RC car drivers and control line pilots from around the globe for two days of fun at New England's pristine Sanford Municipal Airport. Then, on the weekend, the Horizon Hobby Air Meet soars even higher with passionate modelers from around the globe becoming the stars of an exciting non-stop show that will welcome thousands of spectators to an action packed hobby extravaganza.

As a registered RC pilot, attendance benefits include:

- 100x1,500-foot paved runway with 1,500-foot ceiling
- Private Flying Thursday and Friday
- Air Show Main Event Saturday and Sunday
- Saturday Night Flying and Fireworks
- Private Show Participant Party and Awards
- Access to Thousands of Aviation Fans
- Exhibits, Food and Vendors on site



RC Car Track



Control Line Flight



Micro Flight



RC Airplane Flight



Night Flying & Fireworks



Heli Flight

Participate In the Event of the Year:

Register Online:
Coming April 1, 2012

For More Information:
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- RC Airplane Demonstration Area
- RC Heli Demonstration Area
- RC Micro Flight Demonstration Area
- Control Line Flight Demonstration Area
- RC Car Track Area
- Demo Staging (Restricted)
- Spectator Areas
- Vendor/Food Areas
- Night Flight/Fireworks Area



2012 Regular Season Points Championship (thru 5/6)

<u>Name</u>	<u>Total Accum Points</u>	<u>Total Possible Points</u>	<u>Percent</u>
Vader, Jeff	10	10	1000
Simpson, Neil	18	20	900
Sarnowski, Chris	17	20	850
Hargreaves, Ken	14	20	700
Stas, Brian	14	20	700
Fustolo, Joe	6	10	600
Vader, Jake	6	10	600
Kubek, Paul	9	20	450
Sherman, R "Sherm"	3	10	300

Position in the season point standings is determined by the percentage column. The formula to determine percentage is total points accumulated divided by total possible points. Points are awarded in descending order for the first ten places in each contest (1st Place = 10pts, 2nd Place = 9pts etc.) Total possible points is the number of contests participated in multiplied by ten. Participation in no less than 50% of the New England regular season GX meets is the eligibility requirement for a season championship award.

Regular Season Formula GX Stats								
<u>2011 Meets</u>	<u>2011 Ave</u>	<u>2012 Meets</u>	<u>2012 Ave</u>	<u>% Imp</u>	<u>Mid #</u>	<u>Mid %</u>		
6	1778	1	2265	27.4%	1	25.0%		
9	1871	2	1950	4.2%	0	0.0%		
6	1637	2	1940	18.5%	0	0.0%		
		2	1635		0	0.0%		
9	1983	2	1698	-14.4%	3	37.5%		
3	1922	1	1535	-20.1%	1	25.0%		
6	1485	1	1630	9.8%	2	50.0%		
6	1591	2	1115	-29.9%	1	12.5%		
6	1576	1	1110	-29.6%	0	0.0%		

Eligibility for "Most Improved Pilot" awards rests with participation in 50% of both the prior and current year New England Formula GX contests. 20% improvement earns an award. If no pilots achieve 20% improvement a single award is presented to the pilot with the highest positive improvement.



MACA APPLICATION AND RENEWAL FORM
mail to : MACA, c/o GENE BERRY, 4610 89th Street, Lubbock, TX 79424
(Please write your AMA Number on your Check.)

Name _____ Date _____

AMA Number _____ AMA Category JR. [☐]; SR. [☐]; OP. [☐]; CD. [☐]; Other

Address _____ Telephone (____) _____

City _____ State _____ Zip Plus Four _____ - _____

E-Mail Address _____ Forum login name _____

Birth Date _____ Male [☐] Female [☐] Competition Flyer [☐] Sport Flyer [☐] Non Flyer [☐]

Club/ Clubs Affiliation _____

Please rate your preference of flying 1 through 10 with 1 being most preferred.

Combat: 1/2A [☐], Fast [☐], Slow [☐], Super Slow [☐], FAI [☐]; Stunt [☐]; Racing [☐]; Carrier [☐];
Speed [☐]; Free Flight [☐]; R/C [☐]; Other [☐]

ANNUAL DUES: \$ 15.00 U.S. - \$ 18.00 Canada & Mexico - \$ 25.00 Foreign (U.S. Funds Only)
\$ 3.00 for each additional family member at same address (No Newsletter)

DONATIONS **F2D**Pitman Fund \$ _____ **Other** (Specify) _____ \$ _____

Be sure to include your forum login name so that you can be granted access to the members section.