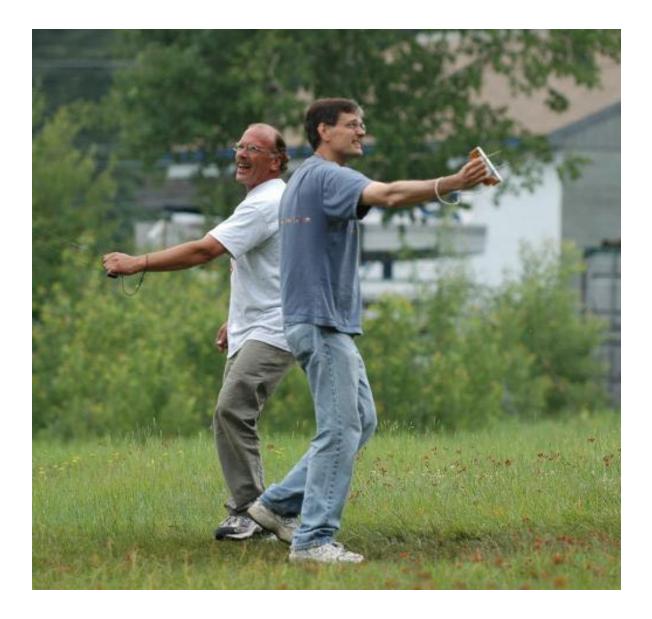
# New England Combat News VOLUME 20 NUMBER 11 APRIL 2009



THE CONTROL LINE COMBAT NEWSLETTER OF NEW ENGLAND



**Rick Clark and Chris Sarnowski 2008** Granite State Championships

	2009 CONTEST SCHEDULE All GX Combat unless noted otherwise This is a work in progress -All dates are tentative		
4/19	Middlesex, NJ-CD Paul Brill Speed Limit and 1/2A Combat		
4/26	······································		
5/2&3	Wingbuster Spring Kick Off-Middleboro, MA GX Saturday-F2D Sunday		
5/10	Mother's Day		
5/17	Granite State Invitational-Franklin, NH		
5/24			
5/31			
6/6&7	Eastern Mass Invitational-Middleboro, MA GX Saturday-F2D Sunday		
6/14	Granite State Championships - Franklin, NH		
6/16-20	Brodak Fly-In		
6/28	Len Minick Memorial Combat Challenge-East Hampton, CT		
7/4&5	Wingbuster Fun Fly-Middleboro, MA		
7/5-10	U.S Nats F2D/Speed Limit/1/2A/Fast		
7/12	Ron Connors Memorial		
7/19			
7/26			
8/1&2	Eastern Mass Championships - Middleboro, MA GX Saturday - F2D Sunday		
8/9	East Coast Championships -Hershey, PA-CD:Phil Cartier (single elimination Sport 1/2A and Speed Limit Combat)		
8/16			
8/23	Salmon River Shootout -East Hampton, CT		
8/30	<b>*</b> /		
9/6	New England Championships-Worcester, MA		
9/13			
9/20	District I Championships -Middleboro, MA F2D Combat		
9/20	Middlesex, NJ-CD George Connors Speed Limit and 1/2A Combat		
9/27	•		
10/3	October Air War-Vincentown, NJ-CD Roy Glenn (single elimination 1/2A and Speed Limit Combat)		
10/11	North County Shootout-Leominster, MA		
10/18	Fall Finale-Worcester, MA		
10/25	Wingbuster Shootout - Middleboro, MA F2D Combat		
11/1	Wingbuster Fall Fly-Off / Post Season Contest - Middleboro, MA		
For more i	info contact: Neil Simpson Phone: 508-867-8702 E-Mail: podunk129@charter.net		

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 or help promote New England combat contests or who support these contests through donations to the New England contest fund. If you have information you would like to see in this newsletter please callor write:

NEIL SIMPSON 129 PODUNK ROAD EAST BROOKFIELD, MA 01515 PHONE: 508-867-8702 (Home after 6:00pm) EMAIL: podunk129@charter.net

If you make a donation or if you subscribe to this newsletter make the check payable to NEIL SIMPSON ......Donations 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.

> New England Combat News Website www.homestead.com/necn

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#### F2D News - March 2009 Mark Rudner rudner@mit.edu

It's time for another shutoff update. I've just returned from a trip to the American Physical Society March Meeting in Pittsburgh, PA, and while nobody there reported any new results on shutoff technology, I did get a chance to see Alex Prokofiev's new electronic shutoff close-up when I stopped by Philadelphia on my way to the conference. In short, I was very impressed with this little device. It's not just the device itself that impressed me, actually, but also the feat of home electronics engineering that Alex has pulled off with his creation. Not only did he design the conceptual underpinnings of the device and the circuits to implement it, but he has even taken to printing his own custom circuit boards to keep the device as small and light as possible.

The shutoff consists of 3 parts: an RF signal generator mounted in the handle, a circuit board with RF receiver and processing circuitry, and a valve to stop the fuel when the flyaway condition is detected. He also has a switch mounted on the handle that is used to "arm" the shutoff, and can be used to trip the shutoff for tests. Two batteries are needed, one in the handle, and one on the model. Encouragingly, even at this early stage of development the parts mounted on the model only weigh in at a few grams and contribute negligible additional drag.

The transmitter generates a high frequency signal, with its amplitude modulated at a much lower frequency. The frequency of the slow modulation amounts to the ID tag for the shutoff. The shutoff remains open while the low frequency signal is present, and shuts off once it does not detect anything at this frequency. This amplitude modulation (AM) technique is much more robust against noise and interference than techniques based on frequency modulation (FM). In particular, there is no problem if two pilots use this system simultaneously. During a line twist, both pilot IDs will be received by both shutoffs. This does not create any problem, however, because each shutoff only looks for its own ID: as long the receiver gets a signal at its own ID frequency it will remain open irrespective of the presence of the other pilot's ID. Even if both pilots use the same ID frequency there is no problem with interference. This realization is probably the key idea that will pave the way for the success of this design relative to other possible implementations.

The signal is transmitted through the lines to the model, and then picked up by the receiver board. At the moment, the receiver board is housed in a notch cut out of the foam in the leading edge. Finding a more secure/permanent mounting solution is a direction of current active research. Inside the model, there is a wire connected to the leadouts that brings the signal through a small hole in the leading edge to the notch where the receiver board lives. Somewhat surprisingly, Alex found that it is not necessary to solder any extra wires to the lines themselves: the contact between the metal loops on the handle, the leadout connectors, and the lines are sufficiently good under tension (flying conditions) that no further action needs to be taken.

Currently the signal is sent only through the down line, but it looks like during "full-control" inside loops where the model hangs on the up-line, the down line can become slack and lead to a loss of signal. The fix that Alex is using right now is to include a delay in the system so that the device will not shut-down until the pilot ID signal is absent for 2-3 seconds. The next version will send the signal through both lines so that as long as either one has a connection the receiver will get a positive signal. This will allow the delay time to be reduced, thus speeding up the action of the device in a real flyaway situation.

The valve that finally controls the flow of fuel is operated by a piece of "muscle-wire." This is a small piece of shape -memory alloy that contracts when heated. By passing a high current through the wire, it can be quickly heated to induce the shrinkage which closes the valve. This heating stage is where the battery gets used up. With the current battery, there is enough energy stored for about 10-12 shut-downs on a single charge. A convenient LED indicator flashes when the power gets low. To improve the longevity, Alex is considering switching to a higher capacity battery. Additionally, he is also working on schemes to improve the efficiency of the heating process which will allow a single charge to go a longer way.

All-in-all, I find these results to be very promising. What Alex has now is a working prototype system that in principle could be used as-is, but will become even better as further (already planned) improvements are made. The main problem now seems to be the cost and effort associated with building these devices. If, once the design is settled, we can find a way to put them into semi-mass production, perhaps the cost will come down and make the system widely accessible.



#### **Dear Control-Line Fliers:**

Pacific Northwest control-line model aviation clubs would like to invite you to attend the 38th annual Northwest Control-Line Regionals on Memorial Day Weekend, May 22-23-24, 2009.

The Regionals this year offers 35 separate competition events. Trophies and/or merchandise prizes are offered in all events, along with special event championship trophies and best junior/senior trophies in three events.

The contest will be held at Eugene Airport in Eugene, Oregon. Camping, rest rooms and food concessions will be available on site. Motels, restaurants and RV camping are within a short driving distance.

This AMA AA-sanctioned contest features four PAMPA classes of Precision Aerobatics, Old-Time Stunt, Classic Stunt, sportsman and expert classes of Profile Stunt; high-performance 1/2-A, 80-mph and Vintage Diesel Combat; Profile, Class I, Class II, .15 and Nostalgia (profile and Class I/II) Navy Carrier; Mouse I, Northwest Sport, Northwest Super Sport, and Northwest Flying Clown Racing; Precision, Sport and Profile Scale; and 1/2-A, 1/2-A Proto, A, B, D, FAI, Jet, Sport .21, .21 Proto, Formula 40 F2D Proto and Northwest Sport Jet Speed.

Information and copies of the contest flyer, advance entry forms and a listing of local accommodations can be downloaded from the flyinglines.org web site. Rules for Northwest competition events also can be found on flyinglines.org.

Further information on the Regionals can be obtained from the contest director, John Thompson, 2456 Quince St., Eugene, OR 97404, e-mail JohnT4051@aol.com, or phone (541) 689-5553.

For further Regionals information and updates, visit the Northwest's control-line Web site, flyinglines.org.

Sincerely, John Thompson Contest Director Northwest Regionals Management Association

> The 38th annual Northwest Control-Line Regionals Contest Director: John Thompson, 2456 Quince St., Eugene, OR 97404 — johnt4051@aol.com Sponsored by the Northwest Regionals Management Association

### Editor's Note: Here's some thoughts on rules and such from Chris Sarnowski

### New Season, Fresh Outlook

Here we are at the end of March / beginning of April with a new combat season upon us. Birds have stopped shivering and begun chirping again. Time to get those engines out of storage and ready to run. The first New Jersey Speed Limit contest is a few short weeks away, and the first New England Formula GX contest is about 6 weeks away.

Roy Glenn expressed his opinions and ideas in a provocative piece in this newletter's February issue. Personally I expected to see some e-mails zipping around or a response here in the newsletter. Perhaps you guys have been hibernating? Well, here's what I have to share.

Roy made a number of points about things we could clean up in our contests. Some are simple things that are no-brainers. Regular pull testing at our contests. No good reason for skipping this. By the way, I've been to a couple of local Stunt contests and they're not on top of pull testing either. Another item was the judges being able to see both the clock and the flyers. Simple to fix by having the judge hold a stopwatch in their hand, starting the watch when the signal to start engines is given. Now the judges each have a clock that they can see when the planes are launched. We already have the stopwatches, let's use them!

A few points were made about judging. I agree that the judge should be focussed on the scoring the match and nothing else. If we don't have 2 people available to judge and only judge when the match is about to start, then we should wait until we do. I'd say 95% of the time this is exactly what we do. Still, there are times we don't. While I totally appreciate people's efforts to keep the matches moving along by doing two things at once, I think the rest of us should step up at those times to do the right thing. If you are trying to start a match but need a 2<sup>nd</sup> person, give a shout. And with the exception of the pilots for the next match, I think we have all been willing to drop what we are doing to take a turn at judging.

Another point was made about differences in judging practices between our two regions. I've only been to one non-New England contest so far, which had dedicated judges. It seems that they have tend to have dedicated judges at other events, too. In New England, we don't and pilots generally take a turns at judging matches. There's a certain inconsistancy in judging with this practice, since more experienced folks are likely to do a better job counting cuts than a new guy like me. Hey, it was news to me that I should be listening for cuts as well as watching. We should note that taking a turn at judging is also a valuable learning experience for new pilots. Perhaps we should try to get dedicated judges for some our contests – who might the judges be?

As far as airtime scoring goes, it was noted that the Formula GX rules do not award points linearly with the time passing in a match. Three hundred points can be scored for being in the air for just over 3 minutes (1:00 to 4:00 match time). The NJ/PA rules (aka Roy's Rules) linearly score air time, 1 point per second (300 points total). I could see moving to an approach that is a hybrid of these two systems. Score 60 points for being in the air at the end of the 1<sup>st</sup> minute, then 1 point per second after that. This takes some of the pressure off a beginner in getting the engine started, then moves on to a scoring system (after the 1<sup>st</sup> minute) that is aligned with AMA and FAI events. One side effect of this method is that it might change the GX strategy of waiting until 2:30 to start combat. We would need to see if the 1 point per second air time scoring adds too much to the judging burden for a GX match.

As you know, we had some friction last year due to differing regional rules and differing opinions on rule interpretations. I believe Roy called out for people's thoughts on better resolutions, and let me repeat that request. Hopefully, I have made a positive contribution to the cause.

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The winners were Roy Glenn (1st), Jeff Vader (2nd), Glenn Simpson (3rd) and Chris Sarnowski (1st in Sportsman)

### Rumors, Facts Etc

CONTEST FUND: This month we got a generous donation from Mister Will Rogers. Thank you Will.

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Date	Payee	Category	Amount	Total
7/1/2008	balance		257.00	257.00
7/20/2008	Jeff Vader	contribution	10.00	267.00
7/20/2008	Chris Sarnowski	contribution	10.00	277.00
7/20/2008	Ron Connors Memorial	entry fees	110.00	387.00
7/20/2008	Ron Connors Memorial	trophy expense	(68.00)	319.00
7/20/2008	Jeff Vader	contribution	10.00	329.00
7/20/2008	Rick Clark	contribution	10.00	339.00
7/31/2008	Wingbuster Shootout	Permit/Sanct Ex	(25.00)	314.00
8/10/2008	Eastern Mass Champs	trophy expense	(68.00)	246.00
8/10/2008	Eastern Mass Champs	entry fees	70.00	316.00
8/10/2008	Paul Kubek	contribution	10.00	326.00
8/17/2008	District I Champs	trophy expense	(51.00)	275.00
	_			
8/17/2008	District I Champs	entry fees	110.00	385.00
8/17/2008	Jeff Vader	contribution	10.00	395.00
8/24/2008	Ray DuFour	contribution	10.00	405.00
8/24/2008	Salmon River Shootout	entry fees	100.00	505.00
8/24/2008	Salmon River Shootout	trophy expense	(68.00)	437.00
8/31/2008	Brian Stas	contribution	40.00	477.00
8/31/2008	New England Champs	trophy expense	(280.00)	197.00
8/31/2008	New England Champs	t-shirts	(209.00)	(12.00)
8/31/2008	New England Champs	entry fees	450.00	438.00
9/1/2008	Wingbuster Invitational	Permit/Sanct Ex	(20.00)	418.00
9/7/2008	Wompatuck Invitational	trophy expense	(51.00)	367.00
9/7/2008	Wompatuck Invitational	entry fees	80.00	447.00
9/10/2008	Wingbuster MAC	donation expense	(100.00)	347.00
9/29/2008	Ernie Carosella	contribution	25.00	372.00
10/5/2008	Wompatuck Invitational	entry fees	90.00	462.00
10/5/2008	Wompatuck Invitational	trophy expense	(68.00)	394.00
10/12/2008	_	entry fees	150.00	544.00
10/12/2008	_	trophy expense	(68.00)	476.00
10/19/2008	_	trophy expense	(68.00)	408.00
10/19/2008		trophy expense	130.00	538.00
10/26/2008			70.00	608.00
10/26/2008		_	(51.00)	557.00
10/26/2008		contribution	10.00	567.00
11/2/2008	Year End Awards	trophy expense	(223.00)	344.00
	Wingbuster Fall-Fly Off			276.00
11/2/2008			(68.00)	
11/2/2008	Wingbuster Fall-Fly Off		110.00	386.00
11/2/2008	Rick Clark	contribution	10.00	396.00
11/2/2008	Jeff Vader	contribution	10.00	406.00
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