

Summer 2014

Thermal Journal

Dedicated to the never-ending battle against the law of gravity

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Submissions the Thermal Journal in the form of letters to the editor, articles or photos (please include appropriate caption information) are always welcome. Use the editor's address provided above. All photos in this issue are by the editor.

The Editor's Ramble:

It has been some time since the last regular Thermal Journal. We would have normally put out an issue in the winter which included contest dates and additional particulars. However, at this year's planning meeting, it was decided to tie promotion the ESFFC and the GGG (along with other WNYFFS flying events) together to build interest in all of the free flight flying opportunities at the National Warplane Museum. That is why the announcement of the "National Warplane Museum Free Flight Series 2014" was sent out via email to the combined electronic distribution lists for WNYFFS and SAM 86. That task was ably handled by Roy Smith who sent out a number of files which described the Series in general along with additional useful information. Thanks Roy for the idea for the Series and all your work in support thereof.

Everyone on the TJ mailing list should have gotten those documents some time ago. A hard copy was sent to those who are not email equipped. An additional mailing described the Spring Opener (formerly the Hobo Meet) and the Pirate Challenge. All the information contained in those communiques is available on the Web, thanks to Jim DeTar's excellent efforts. Jim has really done a bang-up job getting content up on the web in a timely fashion. His efforts (along with Marty Wisniewski's) provide an outstanding communication channel which has the potential to reach well beyond the members already on our mailing list.

It is worth pointing out some of the features the series will include beyond the formerly independent meets. First off, there will be a Grand Champion award presented at the conclusion of the GGG. Points will be awarded on the basis of placings in all events flown by a contestant in both the ESFFC and the GGG. The winner must have posted at least one score at both of those contests. In other words, a flyer that flies at only the ESFFC or the GGG will not be eligible for the Grand Champion Award regardless of the number of points earned.

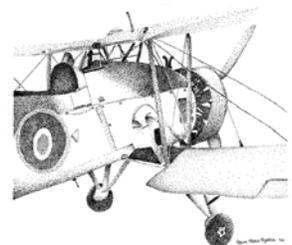
The Editor's Ramble continues on page 7

Dates to keep in mind:

National Warplane Museum Air Show - July 11 (arrival day), 12 & 13
Flying Aces Nationals - July 16, 17, 18 & 19 at the HAG Museum field
Empire State Free Flight Championships - August 8, 9 & 10 at the NWM Museum field
Yankee Air Pirates WNYFFS Pirate Challenge - August 22, 23 & 24 at NWM Museum Field
Great Grape Gathering - September 12, 13 & 14 at the NWM Museum Field

Don't forget to check out WNYFFS website: <http://www.wnyffs.org>

NEW National Warplane Museum web site: <http://nationalwarplanemuseum.org>

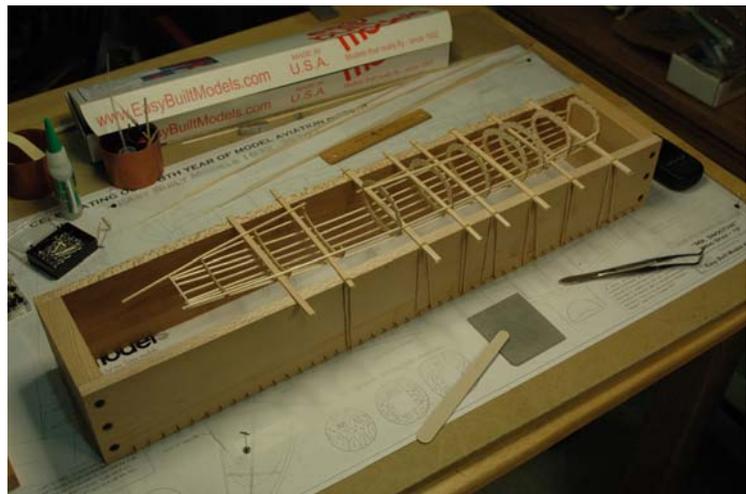


Building Mr. Smoothie from Easy Built

A couple of years back I purchased Easy Built's Mr. Smoothie while at one of the FAC meets in Geneseo. Ever congenial Dave Niedzielski guaranteed it would be a great flyer. Dave's prototype certainly was light and Don Steeb's No-Cal version of Mr. Smoothie has been a good performer for many years. So the kit was brought home and added to the stack of must build models. There it remained until someone at one of the recent indoor sessions mentioned the great review of the Mr. Smoothie kit in *Flying Models* September 2012 issue. Re-reading the article reminded me of the kit which had been sitting in storage for several years. Perhaps it was time to finally get building; those kits are for building models after all; they aren't collectables you know!

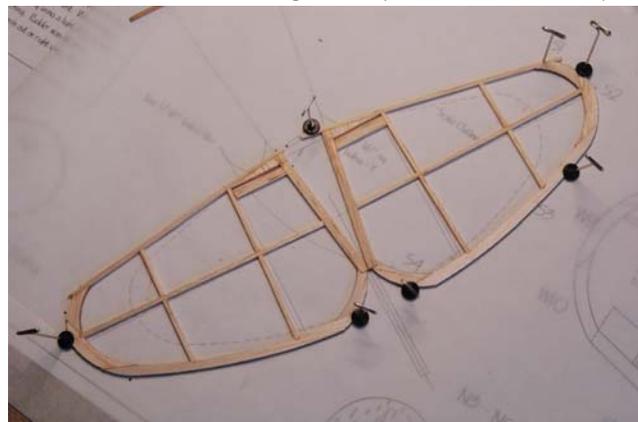
Building Mr. Smoothie was quite an education. I had not built a half shell model in quite some time and as Dave Niedzielski advises, Mr. Smoothie is not a beginner's kit. Without any more introduction here are my observations on two aspects of the kit; half shell construction and incorporation of a DT.

Dave Mitchell's write up in FM was very helpful. It included details on a number of points which the kit instructions left to the builder's discretion. He did not seem to have any problems building the half shell method but that technique certainly does not bring forth happy memories for this writer. Harrison Knapp suggested using a jig to keep the first half of the clamshell flat while adding formers and stringers to the other side. Using the jig for the half shell construction helped produce one of the straightest fuselages of that type ever. No doubt this approach will be the norm when building with the half shell construction method in the future. It is painful to think of all the youthful effort misspent trying to build a Guillow fuselage following the directions included with those kits.



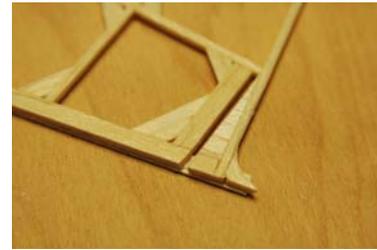
The jig shown in the photo was made from scrap wood in the workshop. Several pieces of 1/8 by 3/16" balsa sticks were lightly glued to the keel pieces of the first half of the clamshell. Ambroid glue was used to allow easy removal of these parts once they were no longer needed. Rubber bands were used to hold the sticks against the top surface of the jig. This provided the necessary flat reference surface while the formers and stringers were added to form the other half of the clamshell. After that, the fuselage was removed from the jig and the temporary sticks released with judicious use of acetone. Even with all the stringers in place this is a very light weight fuselage and very careful handling is required. If you cannot see your way to building the jig yourself at least one commercial option is available. Rocky Top Models sells a laser cut kit for such a jig. Their kit is \$23.95 and can be disassembled for easier storage between half shell models.

Dave's article did not include too many details describing his DT installation. As he said, these can be complicated and hard to describe. Incorporating a DT on Mr. Smoothie is definitely not a trivial matter. Dave used a split stabilizer. Any other approach would be much harder or entail addition of too much structure for such a light model. The main difficulty with a split stabilizer is that the fuselage is oval in cross section and the stabilizer is mounted above the widest point of the oval. The part of the stabilizer in front of the

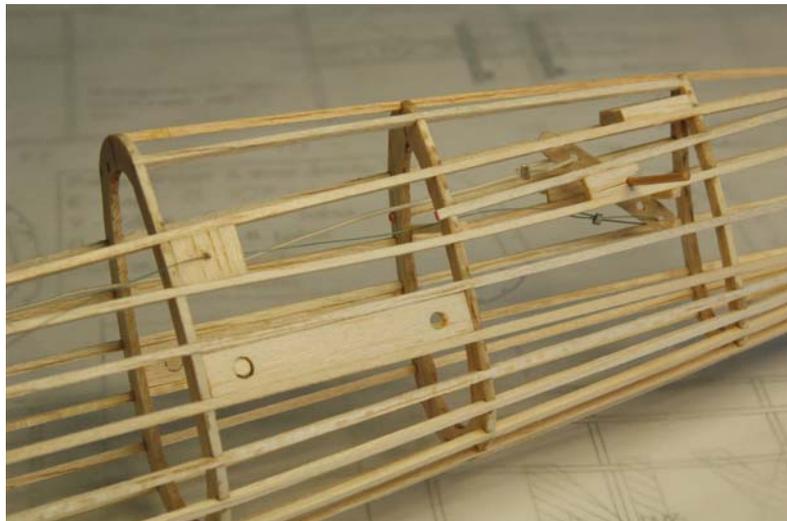


pivot must move downward which means the fuselage is getting wider. Locating the stab's pivot point as close to the leading edge minimizes the portion of the stab that pivots down. Thus the problem due to the wider section of the oval below is minimized. The photo above shows the two stabilizer halves with slots for the pivot rod near the leading edges.

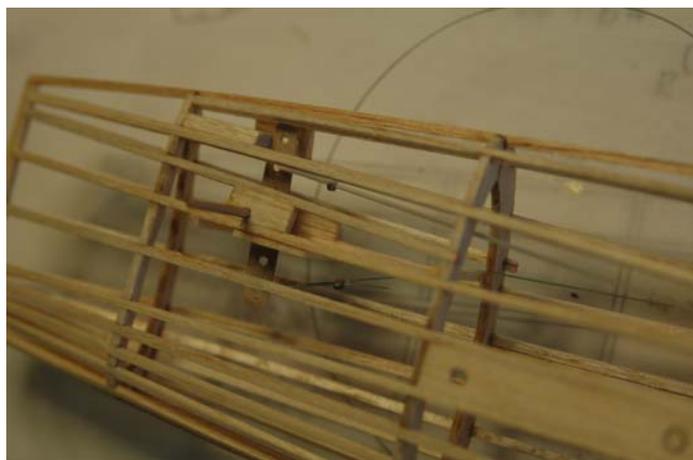
A small piece of bamboo was used to join the halves (and serve as a pivot) as they were attached to the fuselage. Since the bamboo pivot was close to the stabilizer's thickness, some balsa had to be scabbed on above and below the slot made for the bamboo. This created a socket for the bamboo pivot on each stab half's inboard edge. The photo here shows the extra balsa on the bottom half. Once all the scabbed on balsa pieces were in place they were sanded to a streamline shape. That way, a lot of the extra balsa was removed.



Next up was implementing some means of actuating the DT as well a way to hold the stab in place for flight. Mr. Smoothie is way too pretty to have those parts installed out in the breeze. Instead, a control horn was attached to the bamboo pivot as the pivot was installed in the fuselage. In this photo, the control horn is seen inside the fuselage. Elastic thread is attached to the top part of the control horn. The elastic is attached, under tension, to a more forward former to provide the actuation force for the DT. *Spider Line* fishing line is attached to the bottom of the control horn. This line is fed out of the fuselage through a small hole in the scrap balsa mounted just behind and below the cockpit. This line will be connected to the viscous timer to provide the DT timing function.



Finally, a small balsa block was attached to the stringers near the top of the control horn. When the DT is set for flying (that is, when there is tension on the fishing line) this block serves as a stop for the control horn. When the stabilizer halves are mounted the horn should be resting against this stop. By putting in a very small amount of *down* elevator at this time it will be possible to adjust the stabilizer incidence as needed by placing shims on the stop block. Shims will add up elevator; it would be relatively hard to remove material from the stop block in the event that less up elevator is needed so we start out with some extra down. Naturally, the area around the stop will be filled in with very light balsa to allow for a neat covering job. (Likewise, the area behind the bamboo pivot will be filled in as well.)



The final image of the DT setup shows a couple of more necessary details. Two pieces of balsa are mounted to the bottom of the stringer below the pivot mount. Behind the pivot, a 1/16" square piece serves as a stop for the DT in the actuated mode. (As pictured, the DT is in flying mode with the horn resting against the stop on top.) For DT operation the location of the angle of deflection is not too critical with about 45 degrees of up elevator being a

good choice. This can be eyeballed at this time without concern for later adjustment. The larger piece of 1/16" sheet mounted below and towards the front of the pivot has a slot cut into it in which the control horn can swing. This serves as a guide to keep the control horn centered in the fuselage. Also visible in this photo are the filler pieces for the flight incidence adjustment access (far side of fuselage in the photo) and the filler behind the pivot. That's a wrap for Mr. Smoothie's building details. All up weight with two loops of 1/8" rubber was just about 40 grams. Initial trim flights look promising. As with most of my models I'll probably wait until the next contest to really work out the details. See you there, the editor.

Golf Cart Rentals at Geneseo

Several flyers have begun renting golf carts to help with model retrieval at recent meets. It began several years ago but it seems to have become mainstream in 2012. Jack Barker has rented a cart for the last couple of meets and found it to be very useful and easy. Five Star Golf Car, LLC, will drop off and pick up for your convenience. This is a most convenient way to make flying easier on your body, especially if it is hot and humid. Several flyers have gone in together to share the rental costs. This seems to work out just fine as very few contestants are flying continuously. Give them a call or check their web site: www.fivestargolfcar.com



Your opportunity to fly Free Flight may be at RISK!

Presumably, everyone has been keeping up with the AMA efforts to work with the FAA regarding regulation of Unmanned Aerial Vehicles (or UAV, a.k.a., drones etcetera) to insure our ability to enjoy model aviation in all its current forms. It appeared that a reasonable approach had been arrived at based on legislation passed in 2012 which included a "Special Rule for Model Aircraft". It now seems that the FAA has chosen to interpret the legislation in a way that may well negatively impact model aviation, including free flight. The FAA is required to offer a public input period following which the input will be reviewed. This input and review period provides for a very limited opportunity for submission of comments by interested parties (you and me), hence this notice in the TJ.

If you haven't already done so, please use the link below to access the AMA's Government Relations Blog. There you will find a clear write up describing the current situation and your opportunities to **ACT** by **JULY 25**. That date is the end of the comment period for input regarding the FAA interpretation and definition of what constitutes *model aviation*. That write up provides guidelines and other pertinent information for submitting comments. Naturally, all comments should be civil and clear. It is better to be brief and make a simple point rather than be clever and confuse your audience.

If you think this issue does not apply to free flight modelers, consider this point from the bulleted list (fourth item) of AMA's concerns:

Although the FAA acknowledges that manned aviation flights that are incidental to a business are not considered commercial under the regulations, the rule states that model aircraft flights flown incidental to a business are not hobby or recreation related.

Consider a vendor at the flying field wishing to demonstrate his latest and greatest model aircraft for your consideration. By launching a flight in hopes of promoting a commercial venture (his hobby business) he will no longer be participating in the hobby or a recreational pastime! His demonstration flight would be construed as a *commercial* flight activity. This was certainly not intended by congress.

If that does not raise enough concern, consider the sixth bullet wherein approval for model aircraft operations will be required from any airports within a 5 mile radius of the model operations. How many trim, pleasure or contest flights are made sufficiently near to airports to make this an issue? Once given the responsibility and authority, how many airports will open to such "operations" in today's litigious environment?

Check out the website below and express your concerns **BEFORE JULY 25**:

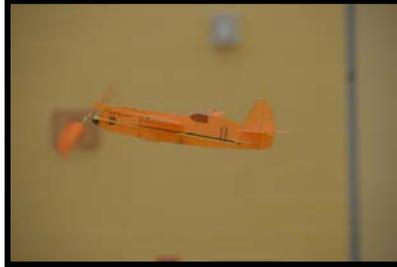
<http://amablog.modelaircraft.org/amagov/2014/06/27/response-needed-to-faa-model-aircraft-rule/>

Indoor Flying News

We had a very active flying season for 2013/2014. Indoor sessions at Pieters continued on Saturdays as has been the case for several years now. These sessions continued to be well attended. Early in 2014 we were able to begin flying in Saint John of Rochester's school gymnasium.

Access to this facility is only available on weekdays and as such was not as well attended. Although it is desirable that more flyers take part, it is also nice having more open space available.

First up we see Don Steeb preparing to launch two different sizes of Mr. Smoothie No Cal models. As one might expect, both models flew exceedingly well.



see

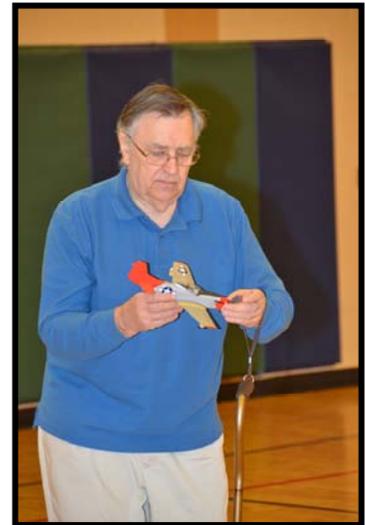
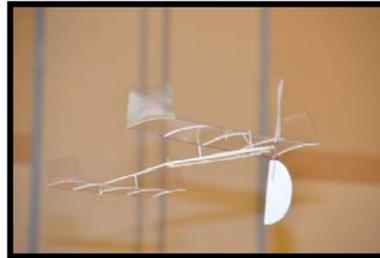
In the next group of photos, Jack Barker's Spitfire heads for the sky, probably intending to take advantage of the glare from the lights to get the jump on some unsuspecting Luftwaffe pilot.



On the far right John Drewski prepares a peanut scale Mustang for a combat sortie.

Directly to the right is the model Lynn Miller prepares to launch in the next photo below.

Although not officially part of the indoor flying season, WNYFFS and the Yankee Air Pirates participated in several Science Olympiad events and the National Science Exploration Days.



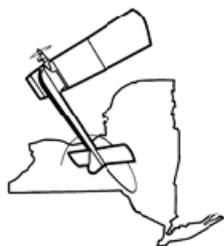
The latter was held at Saint John Fisher College. Our display table was very popular with the students, families and other show participants. The first photo shows another of Lynn's majestic flights which enthralled and amazed several attendees who had never seen a rubber powered aircraft perform. Lynn's model is just in the photo at the top of the frame. At the same event, Bob Clemens was practically a one man show; he was able to fly almost continuously. His and Jim DeTar's models were sufficiently well trimmed and robust to allow many of the students to fly the aircraft. This was a real crowd pleaser. Who knows, someday these demonstrations may lead to a few new members.



WNYFFS and the YANKEE AIR PIRATES

are pleased to announce the

2014 Pirate Challenge



AMA Sanction 1179, valid AMA or MAAC ID required
Entrance Fee: \$10 for contest & casual flyers
Location: National Warplane Museum in Geneseo, NY



Friday, August 22, 2014

Flying 9:30 AM to 4 PM

- Golden Age Combined (TOTF – Scale)
- Combined Race planes (ML)
- Two Bit Plus One Old Time Rubber (TOTF – NS)
- Old Time Rubber Cabin (TOTF – NS)
- Simplified Scale (Misc. timed event)
- Jimmy Allen (TOTF – NS)

Saturday, August 23, 2014

Flying 9:30 AM to 4 PM

- WW I (ML)
- Scale (Scale – Judged)
- Power Scale (Scale – Judged)
- No-Cal Profile (Misc. timed event)
- Embryo Misc. (Misc. timed event)
- Phantom Flash (TOTF – Scale)

Sunday, August 24, 2014

Flying 9:30 AM to 4 PM

- WW II (ML)
- O.T. Gas Replica (TOTF – NS)
- Modern Civil (TOTF – Scale)
- Dime Scale (Misc. timed event)
- Old Time Rubber Stick (TOTF – NS)

You may notice that there are no judged scale events being flown on Friday. These events were specifically deferred because judging will occur following flying on Friday. That way no flying time is lost to contestants or the scale judges. Weather permitting we hope to make the judging into a more social event of sorts. As is the norm with all flying events, this is subject to change based on conditions at the field and the judge's discretion. Anyone interested in helping out with the judging is certainly encouraged to make their desire's known.

Flying times posted for the events is subject to change based on weather conditions. If the weather is good we can extend the flying (on either end) or if weather is bad, flying time may be shortened. Stay in touch with the official AMA CD of record, Jim DeTar (irdetar@yahoo.com) or Mark Rzdca (wnyffs@rochester.rr.com) In addition to flexibility regarding flying time, the events flown are flexible as well. If sufficient flyers make official flights (per the current FAC rule book) to warrant a Kanone, the event will be included in the report.

AMA or MAAC Proof of membership required for all contestants and casual flyers.

The Editor's Ramble Continued:

In addition to the Grand Champion, there will be a "Second Approach Award". As an incentive to attend both the ESFFC and the GGG a bottle of wine will be presented to all fliers entering the GGG who also entered the ESFFC. The wine will be donated by prominent NY State wineries.

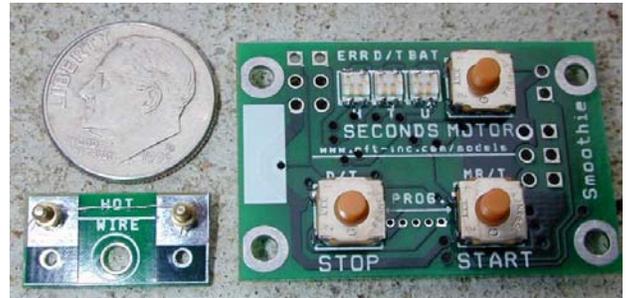
This year may establish a high water mark in terms of free flight events at the National Warplane Museum. Be sure and thank our hosts if you get the chance. The best way to do so is by joining the museum. Let us not take this outstanding free flight venue for granted. If you are already a member of the museum, get a friend to join or volunteer to help out in some fashion at the Museum. There is plenty to do and they are a most friendly crowd.

Go build, then fly.

Mark C. Rzdca

Electric Free Flight Motor Run Timers

Your TJ editor has been a fan of electric free flight from before it was practical. Although the Old Time Gas Replica FAC event has evolved into a target time competition, the clean silent flight, consistent power output and ease of operations associated with these models make the flights both fascinating and relaxing. My electric Fokker D-VII did not survive trimming but the successful flights achieved before the model was painfully damaged were *extremely* satisfying. Electric Scale Free Flight would seem to have all the attributes of a most pleasant modeling diversion.



All of the critical elements for electric free flight are in place. Lipo batteries are a truly outstanding power source, especially compared to the "salt water" cells (from Johnson Smith company) of my earliest attempts. One of the essential elements required for successful application of Lipo cells is a motor run timer which monitors battery condition to avoid over discharge. My favorite product for that task was the Smoothie™ timer from EFT. It was most disappointing to discover that EFT has exited the market.

Extensive review of the current market for replacement technology (ably aided by Vic Nippert, thanks Vic) revealed that there were no products which provided all the relevant features of the Smoothie™. In particular, the Smoothie™ provided motor run control (naturally), Lipo status monitoring (in most models), motor speed control function, and DT operation. Both motor run time and DT delay are digitally programmed via the unit's push buttons.

In light of the current market offerings, I contacted EFT to see if they would be willing to produce "one more run" of the Smoothie if a large enough quantity of units were ordered. Imagine my surprise when they agreed! A sufficient number of subscribers have been identified for the minimum order required based on initial discussions with EFT. A formal quote or lead times have not yet been provided by EFT but they have indicated that the prices will be "similar" to the prices when the product was discontinued. This is by no means a "done deal". Some electronic components are no longer available so prices may change or EFT may be unable to economically make this run. Please do not attempt to contact EFT; they are a small operation and may not be happy with requests coming from several people. Rest assured, this not a money making venture, it is being done to prolong the life of a very appealing product.

My intention is to order units of TWO of their models. Specifically, Smoothie™ models #6 & #7. Model #6 is their "Large Electric LIPO" system and supports 1-3 LIPOs and includes 10 amp motor drive for BRUSHED motors only. It supports a hot wire DT as well. The second model would be #7, their "High Performance Electric" system. That unit depends on an external speed control for motor drive so either brushed or brushless motors could be used depending on the speed controller used. (Speed controller must be supplied by the user.) Either NiCds or LIPO can be since the speed controller must provide electric power to the Smoothie™. If Lipos are used the speed controller must provide appropriate protection. DT function for this model is supported by a servo output. Both models weigh 2.5 grams, not including the hot wire DT function board, the weight of which is minimal.

If you are interested in these timers, send a note to the following email address: wnyffs@rochester.rr.com At this time there is NO commitment expected but I need to know the quantity of each model desired and the level of your interest. For instance, are you ready to send cash when and if the deal materializes or do you wish to be kept informed so you can make up your mind in the event the timers become available? In either case, I can send a copy of the Smoothie™ manual (PDF format) and the last price list which describes the features of the different Smoothie™ models to help you decide. If you send a note on this topic, please use the phrase "Smoothie Timer" as your subject line.

Spring Opener

Our 2014 season began suitably enough with the Spring Opener. We were very fortunate to have a rain date scheduled which allowed us to fly on two weekends even though we did not have to cancel the original date. Here are a few of the flyers who enjoyed flying at one or both weekends: Garry Hunter with his bungee launched Meteor glider, Jack Barker working on a Fokker D-VII, Bob Clemens launching his Porterfield while Dave Pishnery launches of one of his many Half Wakefield models and last up is Jim Mosely launching his entry for the Bungee Launch Glider event.



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