



The Flightline



Volume 34, Issue 9

Newsletter of the Propstoppers RC Club

AMA 1042

September 2004

Editorial; Another Fine Walt Bryan Memorial Electric Fun Fly.

With good weather and the usual interesting diverse mixture of Propstoppers and guests the annual electric fun fly was just that; fun.

One of our guests, Rob Schaffer, brought a whole squadron of different models including a fine big autogyro that flew magnificently.



Agenda for September 7th Meeting Marple Newtown Library, 7:30 pm

- Approval of August meeting minutes
- Membership Report
- Finance Report
- Nominating Committee and Nominations
- Flying Field Issues
- Discuss Indoor Flying plans
- Show and Tell

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He also brought a GWS Beaver on 7x800 NiMH cells carrying a two mega pixel Aiptek Pocketcam to take high quality aerial pictures and video. Dick Klekotka recently lost his Dragonfly in the deep wood to the North West of the field to the guest flew a series of "missions" to take pictures which could be searched (by the National Reconnaissance Office?) to locate the missing plane. Here is a good shot of the "high rent district" in that direction, the reason we should not fly our gas models over there. Dick has subsequently found his plane, high in a tree! Should have it back by the time you read this.



He also took a fine picture of the Flightline;



Karl Benson brought out his unique collection of very large Bird of Prey powered gliders and put in several serene flights at altitude. Another visitor flew several "hot liner" type high-powered gliders that put on quite a performance with fast climbs and very fast flybys.

Of course there were a number of Propstoppers with their usual collection of models including that building machine, Sam Nevins, but a number of members just came to spectate. Shame really as they could have enjoyed the good flying weather too. Refreshments were provided by a number of members to round out a very satisfying day of flying.

Dave Harding



Calendar of Events

Club Meetings

Regular Meeting 7:30 pm
Tuesday 7th September
Marple Newtown Library

Tuesday Breakfast Meeting
The Country Deli, Rt. 352 Glenn Mills
9 till 10 am. Just show up.
Flying afterwards, weather permitting

Flying Events

Thursday Evenings at Moore Field
Join us for relaxed evening flying. Bring your supper and kids. Let's make this a family affair.
5 pm till dusk every Thursday, weather permitting.

Regular Club Flying

At Moore and Sleighton Fields

Daily	10 am til Dusk
Saturday	10 am til Dusk
Sunday	12 p.m. till Dusk
	(Electrics 10am till Dusk)

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Propstoppers Web Site; www.propstoppers.org
Check the web site for back issues of the newsletter, pictures of club events and the calendar of future events.

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The President's Message

Dear Fellow Propstoppers,

As our summer flying schedule comes to an end I would like to thank everyone who made the club's events a success. Thank you to all those who participated and those who were there to cheer others on. We look forward late summer/fall flying and soon our indoor flying schedule.

Fall is coming and with that also our club nominations for 2005. Nominations will be held during the October meeting for club officers. A healthy and active club depends on the input of a large number of people. I hope each club member would consider giving some time to the club either thru running for office or as a member of a committee. Al Gurewitz our club treasurer, who has served our club for many years, is not seeking re-election and I will also not be seeking re-election. Your participation is vital in the next meetings, as they will direct the club in the future. Candidates for nominations will be invited to print a statement in the club newsletter.

The club logo shirt form is in this month's newsletter (see form) please consider purchasing one as we need a 25-shirt minimum order to put the order in. You may turn in cash/checks at the meeting or send a check/money order to my address with your order form for your shirts.

A reminder: September's meeting will be held at the Marple-Newtown Library September 7th, 2004.

Keith Watson, President

Minutes of the Meeting, 3rd August 2004 at Sleighton Field

Vice President Dick Seiwel called the meeting to order at 7:00 p.m.

The roll call by Safety Officer: Jess Davis showed 15 members and no guest present.

The minutes of the July meeting as published were accepted by the membership.

Club Secretary, Richard Bartkowski— Away at SAM Nationals representing the club.

Old Business:

The Club Sent \$50 donation by check to Team USA F5B.

T-shirts (polo type) will cost \$21.50 plus tax. Charging \$25. each, profit to go to club treasury. Hats and Logo Patches can be ordered after initial order is put in and complete. Need 25 paid orders minimum. Order form to be placed in next month's (Sept.) newsletter for Polo Shirts.

New Business:

Next month's meeting to be at Marple-Newtown Library (Sept.7th).

Discussed details for Walt Bryan Memorial Electric Fun Fly on Sat. Aug. 7th. Mick Harris suggested a sign at Moore field to show the location of the fun fly at Sleighton field. Anyone with a canopy tent was asked to bring one to the fun fly.

Event – N.E.A.T fair in Downsville, NY. See www.neatfair.org for details.

Show and Tell

– Dan Mochocki showed his Great planes FIREBAT and explained its characteristics.

The Meeting was Adjourned @ 7:35.

Bill Tomasco for Dick Bartkowski

Propstoppers at the Electric Nationals

For the third year in a row Dick Bartkowski and your editor, accompanied by grandson and Propstopper, Matthew Everett, made the pilgrimage to the AMA HQ in Muncie to compete in the Electric Nationals. The Electric Nationals includes quite a few events, including four powered glider events, three Old Timer events, two pylon races and scale.

Dick and I had models to compete in the Old Timer events and Mick Harris provided the three of us with excellent WWI models to fly in the scale event.

Muncie is a ten-hour drive, due west from us and almost entirely on interstate highways. Muncie is a rather poor, run down town that was probably prosperous at one time. Motels are cheap so even though the AMA site includes extensive RV and camping hookups it is not worth taking the RV for a couple of days.

We did not fly in the glider events, which were flown over the first two days so our contest started on Tuesday with ½ A Texaco and Scale. In ½ A Texaco Dick flew an updated version of his trusty Trenton Terror and I flew a new smaller version of the Stardust Special I would fly in the Old Timer limited motor run events on Wednesday.



Dick Bartkowski with his trusty Trenton Terror

The objective in this event is to fly the longest with a seven cell 600-mah Nicad pack and a speed 400 motor, which can be geared or direct drive. Gearing provides more thrust with a larger more efficient propeller but at a weight and gearbox power loss penalty. My new Stardust was aimed at the lightest model that carried the weight of the power system so I elected to use direct drive turning big propellers at reduced power for long cruise flight.



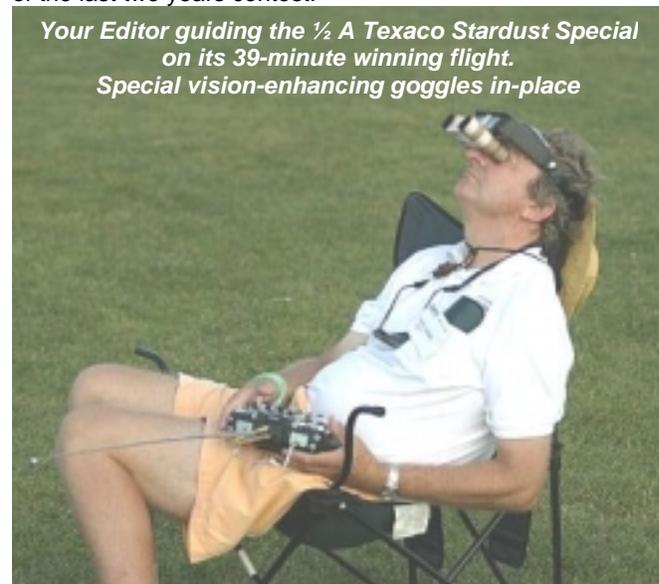
Your Editor with two Stardust Specials

We both made a number of test flights leading up to the Nats, showing that both models were significantly better than those we used in the prior attempts. The ½ A Texaco event is flown as two heats, with a maximum flight time of 15 minutes. Those that accomplish this participate in an unlimited flyoff, which was flown late in the day so as to minimize the very long thermal flights. Both of our models easily made the two maximums, but they were optimized to cruise for long flights. The ace competitors are highly skilled at thermal flying, so the late flyoff was in our favor.

Some years ago, on one of my UK pilgrimages I bought some inexpensive speed 400 motors. Upon my return I found they were of a particularly high voltage specification, in other words, useless on the seven and eight cell packs we normally use. Leading up to the Nats I thought I would have another look at these motors and found that they would not fly my model with normal propellers. So I did some experiments with larger direct drive GWS props and found the performance, while very marginal, might be attractive. More research and analysis indicated that I needed more pitch to match the slow rpm but fairly high model speed. I found I was able to re-pitch the props with the aid of a heat gun and a propeller pitch gauge (really just a protractor on a board).

Finally I found that if the wind induced ground turbulence was low enough the model would climb at full throttle, but only just. However, this very low rate of climb was sustained for a flight of 47 minutes on one fairly still evening, so I knew if the weather was right I had a contender.

Well, the weather, which was quite windy at mid day became less so by five o'clock so I flew with the new motor (my heats were flown with a 7.2 volt motor). Dick flew his standard setup. There were seven people in the flyoff including the winners of the last two years contest.



Your Editor guiding the ½ A Texaco Stardust Special on its 39-minute winning flight. Special vision-enhancing goggles in-place

The first three were down in less than 30 minutes and Dick came in next with a personal best of 30:56 to take fourth place. Last year's winner Paul Siegel landed next at 34:11 and the 2002 winner and Flying Models electric columnist made a 35:49. Both of these guys flew Stardust Specials, but much bigger models with geared motors. When the last of them landed I was still way up in the heavens so had to spin and dive down for a time of 39:03, a winner!

The scale event was flown between the ½ A Texaco heats and the finals with two pylon racing events squeezed in between.

There were five models entered in scale, so we knew we had a certain place, and maybe more. This event is for standoff scale, where the judges must stand off about ten feet and judge based on the fidelity to original as evidenced by a package of information you must provide. They also judge workmanship, so we knew here we were in good shape too as Mick builds beautiful models. Two flights are required and flying sore available is equal to the static judging score.



The lineup of models in the Scale competition. "Our" three models in the foreground.

One of the unique aspects of flying scale at the Nats is that it is flown from a vast, smooth macadam surface, which is also used for the U/C competitions. Now this has particular significance to the scale event because the rules provide for scoring realism of flight. Some WWI machines had a very limited flight envelope so there are relatively few scale maneuvers to demonstrate. Consequently, the takeoff and landing is important, and the surface both aids and hinders this. The hindrance is the strong tendency for WWI machines to ground loop.

Our preparation therefore, included some practice takeoffs and landings from the local school parking lot. These tests showed the ground loop was indeed a problem; what to do? Well, what we did was to install a gyro in the yaw channel on the DH-6 trainer I flew and the Bristol Scout that Dick flew. Matthew was on his own!

Further flight trials suggested that these enhancements improved the situation but it was still a concern.

When we arrived at Muncie Monday evening we made some more practice flights from the blacktop site. Matthew made his first flights with "his" Bristol Scout.

Of the other two competitors, Don Belfort had an unusual Aeronca model. His speed 400-powered model had

lots of scale detail and a working flap, also an unusual device that fit between the landing gear on the forward part of the fuselage. Don is an excellent builder and flyer and his effort won him the event last year, and as it turned out, this year too. The remaining model was some kind of ST type racer with very little scale detail.

Us Propstoppers elected to fly first and I was the first up. My takeoff was OK and the model handled quite well in the somewhat windy conditions. My plan was to simply takeoff, make one circuit and land, as I didn't know if I could make any other meaningful maneuvers and none of us had practiced any. In the event there was an outcry from the "crowd" as I declared my intention to land, so I made a flyby before coming round and putting it down quite well.

Matthew was up next and he made an excellent takeoff but had a good deal of difficulty handling the wind as the model was blown off the site and downwind. Nevertheless, he fought it and brought it slowly back on the field for an excellent landing.

Dick was up next and the magnificent Bristol M-1 looked superb on takeoff and in flight.



Dick Bartkowski guides the Bristol M-1 on its first takeoff.

Don Belfort flew next and made an excellent flight then the fifth competitor flew his machine to a high-speed performance ending by running out of power and landing off the field. His model was OK so he was able to make a second flight later.

Our second flights were essentially a repeat of the first with me throwing in a stall and Matthew had the Bristol Scout very much under control. Dick decided to add some maneuvers and got into difficulties while low and at low power. The result was a rather inglorious dive into the macadam, breaking the nose back to the wing.

Don made another good flight and the fifth competitor made an identical flight to his first, planting it again in the cornfield! Strike one competitor; we would be taking two trophies home.

Bristol M-1 climbs out at Muncie.

At this point the judges huddled to total the scores whereupon they declared that Matthew and I were tied and would have to fly off against each other!

Hmmmm, what to do? Did I want to win or hand it to the grandson? Hmmmm.....

When we were ready I flew first and elected to make an additional maneuver, a touch and go. Well, I did a touch and stop as the prop touched the unforgiving ground and tore out the motor! Now the judges let slip that all Matthew needed was a good takeoff and landing. He performed it to perfection.

*"Good hands" Matthew Everett makes a perfect takeoff.*

So the result was Don Belfort first, Matthew second and me third. Thanks Mick, well done and please get building for next year.

Wednesday brought a weather forecast for a major storm to pass through during the day and it did indeed begin with heavy rain. AMA is wired to a real time weather service so we were able to track the rainsqualls as they approached. In mid morning the organizers declared that the rain would stop at noon and we would fly five flights in Old Timer A Limited Motor Run followed by Old Timer B.

This event requires you to climb to altitude with a one minute motor run on seven nicad cells with any Old Timer model, whereupon you glide down and land, on time and within a circle for extra points. Time over the ten minute maximum is deducted. This accurate landing requirement dominates the results as many of the competitors can stay aloft for ten minutes. The landing rewards those who practice it and have models that can be dived into the spot, while continuing to fly again.

Dick's first flight was a little off but we both got into the swing and made good flights for the rest of the rounds, getting some landing points along the way. However, the

experts carried the day. With a maximum flight score potential of 3000 points and maximum landing points of 100 the top four all made over 3000. I ended up fourth, one point behind third with 3009. Dick's weak first flight put him in eighth.

Following the A flights the organizers declared that they were prepared to fly till dark and so five rounds of B were planned. The weather began to sour with heavy low clouds in multiple layers.

Dick Bartkoski launches his Pacer C Electric Old Timer in the Limited Motor Run event.

Dick made some good flights and I managed to damage my model so quit after two. Then the weather closed in and rather than declare the event done the organizers proceeded to wait it out for a couple of hours. At this point the cloud base was still very low and Dick's fourth flight disappeared into the cloud base after only twenty seconds of climb. We were able to see the model but with such low altitude a decent flight was not in order. However, on his fifth flight, under the same conditions he remarkably found lift and did a flight of almost ten minutes. We were led to believe that he was in contention for a place but on adding the scores he just missed.

All in all, a good Nats, we enjoyed it and will be back in Muncie for the SAM Champs in mid September.

Dave Harding

Rusy's First Flight, RC That Is!

I had been hearing what sounded like model airplane engine noises coming from a neighbor's yard several houses away, for weeks. Finally, curiosity got the better of me, and I wandered over into his yard to see what the ruckus was about. Actually, I made sure my "Sleek Streak" rubber powered dime store clip together plane managed to fly into the neighbor's yard, and then I just "had to go get it".

My neighbor, Bill Patterson, immediately struck up a conversation and in a few minutes I was getting the nickel tour of his Galloping Ghost controlled, Enya 19 powered scratch-built Aeronca Champ. It made no sense at all to me - how you

controlled an airplane with all that wiggling going on - why not just keep it steady and make the controls move when you want the plane to do something?

But this was 1967 or so, and the RC technology of the day had not produced digital proportional control systems yet, or at least not to the extent that they were affordable and available to the masses.

After a few more visits during engine testing sessions at Bill's house I had an invitation to go to the flying field with Bill. The flying field was the original Valley Forge Signal Seeker's field, over on the opposite side of the park from where it is now. It was a very long walk from the parking area to the flightline, but manageable because planes were smaller and rarely did anyone bring more than one plane. You tried to pack everything so you could unload in one trip.

There were a few other flyers there, mostly using reed radios. Bill turned on his frequency monitor, an old Citizen's Band super-regen walkie-talkie with the transmit button disconnected. I heard what sounded like a touch-tone phone being dialed. Bill explained that those sounds were the reed tones, each one corresponding to one direction of movement for one servo. When he got the pin for his frequency and turned on his 'Ghost transmitter, the sound was entirely different, a beeping noise that changed when you moved the single control stick on the transmitter.

Bill's transmitter had a very homemade look to it, and half of it actually was homemade, from magazine plans. Bill had modified his original Controlaire single channel escapement radio by adding a Galloping Ghost "encoder" to it, in the form of a homemade box with an open gimbal stick and all the electronics and relays to pulse the front end of the escapement transmitter.

Finally, the engine was running and the Champ was hand launched and airborne, and after some trimming it was my turn at the stick. I was all over the place and out of control for several flights, but Bill was patient and after a few more flights I managed to fly in a more or less controlled left hand pattern, until the fuel ran out and then Bill would take over and dead stick the Champ back home. Bill invited me to the field many times after that, and I was soon hooked to the point that I resolved to get my own airplane some day.

To be continued....

Rusty Neithammer

Tuesday Breakfast Fun

Out Tuesday morning breakfast meetings continue to be well-attended and good fun. In fact, the attendance has been steadily growing since we started it last year. Most Tuesdays from the spring on have been relatively calm when we get there at about ten, so there has been spirited flying of all sorts. John Drake and I have been building a pair of Hand Launched RC Gliders from Dr. Mark Drella's plans for the Apogee. This model is about 36-inch span with solid very low-density balsa wings and tail and a carbon tail boom. We have fitted them with a single LiPoly 350 mah cell to power the GWS Rx and Pico servos. So far John thinks he could fly all day without recharging. These planes are usually flown by throwing them like a javelin or a discus then guided down, hopefully finding some low altitude thermals on the way. However, the Racer's Credo; "if a little is good, more is better" has led us in the search for altitude, and lots of it. So, I made a saddle mount fitted with a servo release for my old

Miss America contest model. The glider is strapped by rubber bands to the saddle and the bands attached to the release.

Flight tests this Tuesday were magnificent, with Miss America carrying the Apogee to altitudes where it was barely visible (well, to most mature eyes, if not John's). Long flights!



*John Drake with your editor and the piggyback launcher
Miss America with John's Apogee HLG in-place.*



Great fun, as always on Tuesdays, and on Thursday evenings at Moore field too. Join us while the weather is good.

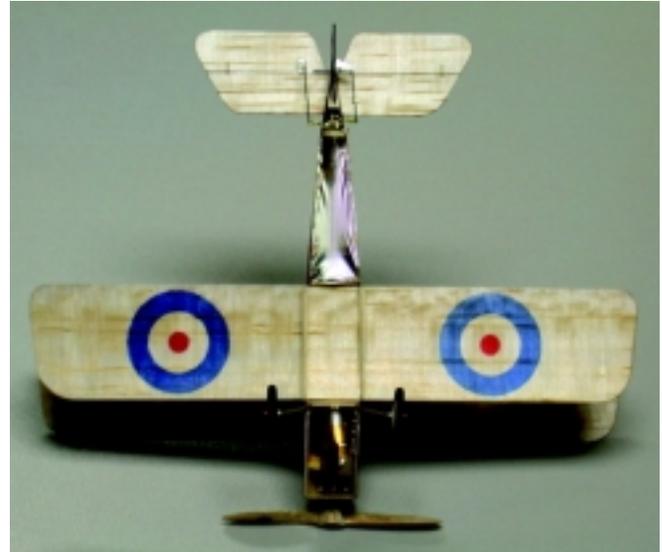
Shown in the picture of the Miss America is my UK-1 indoor pylon racer that I have been flying outdoors too. This is a fast maneuverable model that is inexpensive and easy to make. In shape it could easily be modified to look like a P-51, a Hurricane or Zero. It is largely made from three sheets of balsa and uses the full set of equipment from a GWS Litestick, including the motor, speed controller, servos and receiver. The "speed secret" is the use of a 600-mah three-cell LiPoly battery and a 7 x 6 prop.

I will publish the plans soon, but ask for a set if you want to build one. WWII "combat" anyone?

Dave Harding

Indoor RC; A New Level

Matt Keennon, program manager for micro air vehicles at AeroVironment, has done it again. Following his tiny P-38 reported in last October's Newsletter, Matt has made a 4.4-in.-wingspan 1/72-scale model of a Royal Aircraft Factory SE5 biplane. Weighing only 2.5 gm. (0.088 oz.)--About the size of a hummingbird and the weight of a penny, it has proportional rudder, elevator and throttle control.



The 4 X 8-mm. (0.16 X 0.31-in.) electric propeller motor comes from a pager vibrator and is geared down 1:3.5 to drive the 1.6-in.-dia. numerically machined maple prop. Current consumption is about 110 milliamps from the 3.2-volt 20-milliamps-hr. lithium polymer battery weighing 0.7 gm. "The battery wasn't doable five years ago."



Key technologies making it possible are a novel homemade actuator powered by shape memory alloy wire, and a tiny high-performance battery. The aircraft has flown 4 min. at a time and should be able to go 10-15 min. on a charge.

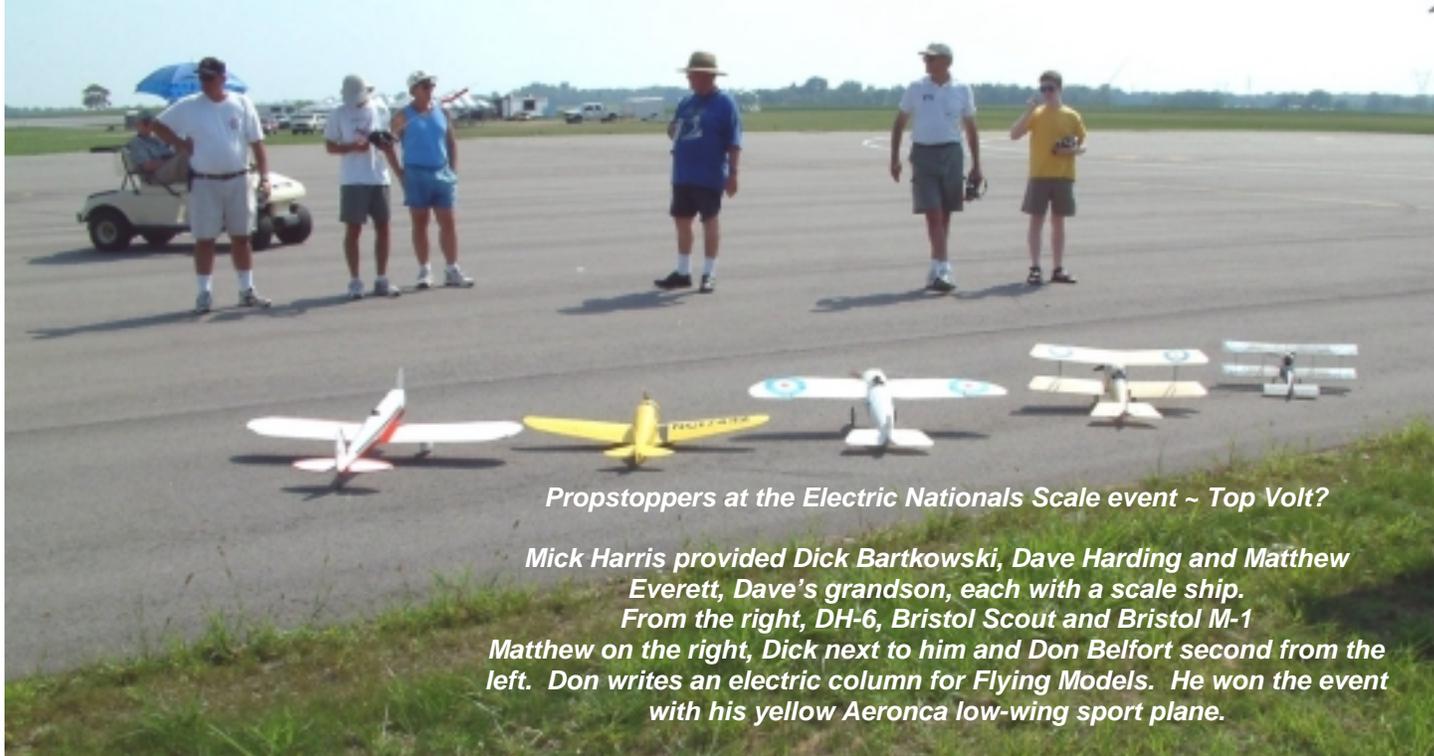
"Muscle wire" actuator and tiny battery are key to small size, which is near limit of in-flight visibility. A similar actuator weighs 0.12 gm. and has 2 gm.-cm. of torque with roughly 2-Hz. response. Motor, gearbox and prop weigh only 0.6 gm.

Wing loading is about 2 oz. per sq. ft. and the 12-mph. flight-speed gives a lift coefficient of 0.34. The wings are a single sheet of 0.015-in. balsa wood steamed to an undercamber with a root rib holding the curvature. "It has a very thin leading edge, not too different from a butterfly or dragonfly wing," Keennon said.

"Birds chase it constantly, but I can turn much sharper and they zing on by." It can take off from the floor and do loops, and is stable enough to fly hands-off in gusts. There is no stability augmentation.

Dave Harding – Editor
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Propstoppers R.C. M.A.C



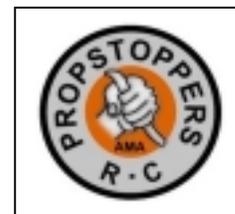
Propstoppers at the Electric Nationals Scale event ~ Top Volt?

Mick Harris provided Dick Bartkowski, Dave Harding and Matthew Everett, Dave's grandson, each with a scale ship. From the right, DH-6, Bristol Scout and Bristol M-1 Matthew on the right, Dick next to him and Don Belfort second from the left. Don writes an electric column for Flying Models. He won the event with his yellow Aeronca low-wing sport plane.

Propstoppers Logo Shirts Order Form

Please list the number of shirts desired next to the size.

SM. _____ @ \$25.00ea. = _____
 MD. _____ @ \$25.00ea. = _____
 LG. _____ @ \$25.00ea. = _____
 XL. _____ @ \$25.00ea. = _____
 XXL. _____ @ \$26.50ea. = _____
 XXXL. _____ @ \$26.50 ea = _____
 Total = _____



The shirts are polo-type - pre-shrunk cotton (gray in color) with the Propstoppers Logo embroidered on the left side.

Name: _____ (first/last) Phone #: _____

Please make Checks/Money Orders out to: Keith Watson.

September Meeting back at Marple Newtown Library

Next Tuesday, 7th September at 7:30

Please attend the September meeting, as there are several very important flying field issues to discuss.

Also, Nominations for officers will be accepted by the Board, up to the October meeting, for elections to be held at the November meeting.

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