



The Flightline



Volume 36, Issue 10

Newsletter of the Propstoppers RC Club

AMA 1042

October 2006

President's Message

Well how time flies, Last month's meeting was the best even though it got dark early. The flying was great and so was the weather. But now it's time to move inside. So don't forget; the meetings are on the second Tuesday of the month at the Middletown library.

This is the month for nominations so please come out and get involved, Jim Barrow is stepping down. So we need a treasure. We do have a member who is thinking about it and probably will do it. But let's not forget the President, Vice President and Secretary Jobs. If you want to get involved now is the time. Come out and help nominate the new board for 2007.

We will need show n tell at the meeting so anything new or old bring in and share.

Indoor flying thanks to Mike Black will be Fridays as usual; Nov. 3, Dec. 1, Jan. 5, Feb 2 and Mar. 2. again at the Tinicum School gym.

Hope to see you at the meeting

Dick Seiwel, President

Agenda for October 10th Meeting At Middletown Township Library 7:30 pm

1. Approval of the September Meeting Minutes
2. Membership Report
3. Flying Field Status
4. Finance Report
5. Acceptance of Budget and Dues for 2007
6. Nomination of Officers
7. Plan for Indoor Flying
8. Show and Tell

Propstoppers at the Fields

It seems that one key ingredient for a successful club with few flying members is to hold regular scheduled flying sessions. At least that is what works for the Propstoppers as our two fields are often deserted, but Thursday evenings and Tuesdays, after breakfast at the Country Deli, we have our regular flyers. Here are some of these flyers and their models.

Thursday evening regulars come in two waves; Lou Yadevia and Joe Mesko come early. Lou has been flying, fixing and modifying his venerable GWS B-2 for years. Sometimes it has two motors, sometimes one but although it seems to be a handful to get off and up, once there it flies fine and looks great.



Lou Yadevia with his B-2

Your editor has taken to bringing out an Old Timer and for others to fly. Here George Rhoad flies the Miss America on the buddy box.



**George Rhoad on the buddy box
flying Dave Harding's Miss America**

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Calendar of Events

Club Meetings

Regular Meeting at Middletown Township Library at 7:30 pm
Tuesday 10th October, 2006

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

Regular Club Flying

At Middletown / Sleighton Field

Monday - Friday;
10 am until dusk - Electric Only
Saturday
10 - 3pm-for FUEL PLANES and
10 - Dusk for Electric
Sunday - 12 - Dusk - Electric Only

At Christian Academy; Electric Only
Monday through Friday after School till dusk
Saturday 10 am till dusk
Sunday, after Church; 12 pm till dusk

Indoor Flying

At Tincum School; Fridays, Nov. 3, Dec. 1, Jan. 5, Feb 2 and Mar. 2

Special Club Flying

Saturday mornings 10 am Sleighton Field
Tuesday mornings 11 am Sleighton Field

Note; only electric powered airplanes.
Beginners using due caution and respecting club rules may fly GWS Slow Stick without instructors.

Minutes of the Propstoppers Model Airplane Club SEPTEMBER 12th, 2006 at Sleighton field

Flying Commenced at 5:30 PM with several fixed wing and two helicopters taking to the air.

President Dick Seiwel called the meeting to order at 6:30 PM.

Ray Wopatek reported that 16 members and two guests were present.

Dick mentioned that the availability of Christian Academy Field may be limited by future development. New options being sought.

Treasurer's report was submitted by Jim Barrow and accepted by the membership.

Minutes of the September meeting were approved by the membership.

OLD BUSINESS

Dick commented about the good turnout at the Electric Fun Fly and reminded us that low noise levels at our fields make good neighbors.

NEW BUSINESS

Nominations for club Officers for the year 2007 are open.

Dick stated that Mike Black has paved the way for indoor flying this winter at the Tincum Elementary School, dates to be announced.

Beginning in October, and continuing through the winter, future club meetings will be held on the 2nd Tuesday of the month at the Middletown Library.

The meeting was adjourned at 6:55 PM so that members might enjoy good flying in the still night air.

Dick Seiwel, President

George Rhoad has been working on this very old Kyosho glider kit for some time. He has fitted a speed 400 with Model Motors 6:1 planetary gearbox and a three-cell LiPoly battery. It flies great, although you have to watch that tip stall with these high aspect ratio short models.



**George Rhoad
with his new
Kyosho motor
glider**

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Propstoppers Web Site; www.propstoppers.org
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Propstoppers at the fields continued from page 1

President Dick Seiwel has joined the Foamy 3D group and brought his new model out one Thursday evening.



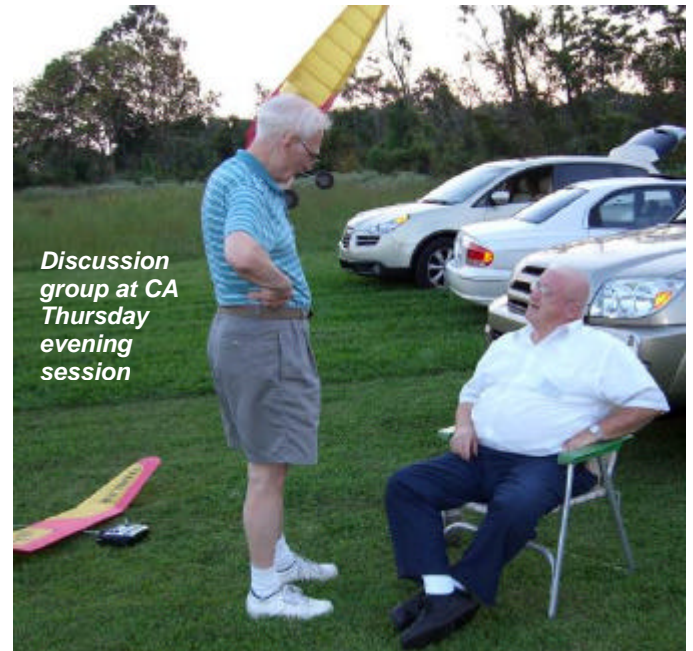
President Dick Seiwel with his new Foamy 3D

On fine evenings, and we have had a bunch of them, flying continues till dark. Sometimes a flyer comes out late to snatch just one good flight. Here is Al Basualdo with his helicopter after just such a flight one fine evening.



Al Basualdo during a night session at CA Thursday evening flying.

Thursday evenings have also proved to be good social occasions.



Discussion group at CA Thursday evening session

Weather permitting, Tuesday mornings find Propstoppers flying at Sleighton. Some come to breakfast, a regular fixture where there is always quorum for discussion of modeling and other things; others just show up at the field at 10 am. Ed Goretzka has been working on his Elf Old Timer biplane for two years. Initially this model was almost un-flyable as the large fuselage and biplane wings blanked the rudder at low speeds. High speed control was frisky so I suppose you would call this model schizophrenic! Test flights at Moore field revealed these tendencies and Ed. set about increasing the size of the fin so that it "reached above" the fuselage blockage. Some missteps with batteries ESC's etc were fixed and the model brought out to a recent Tuesday morning session. Handling was still a bit of a handful but the sight of this unusual model flying high in the clear sky thrilled Ed and the other Propstoppers. Ed has concluded that he can't improve on this flight and the glow of satisfaction so this one is now hung in a place of honor; not to fly again.



Ed Goretzka with his Elf, before the magnificent flight at Sleighton after Tuesday breakfast

Propstoppers at the SAM Champs

It's that time again when Dick Bartkowski, Mick Harris and Dave Harding focus on the competitions at the annual SAM Champs, this year at the AMA Center in Muncie Indiana. However, Dick couldn't make it this year so Mick and I made the trip and attempted to hold the fort for the Propstoppers; SAM 76.

Last year Dick won the Spirit of SAM event and I garnered enough points in the five electric events to win the Electric Champion award. We did not fly any gas/glow/ignition/diesel events in Las Vegas as it was too difficult to transport the models; the full size Lanzo Bomber, shown on the cover, has a 96 inch span, one-piece wing, although the Trenton Terror breaks down. But at the last Muncie Champs, two years ago, we had such problems with the IC engines that I almost swore off them for ever (despite being an "engine guy" in my younger days). Anyway, a half empty van was more than enough to transport everything we had that might fly, so we took it all.

This was not possible without some preparation as the Bomber had flipped on its back in the wind at the end of the Last Muncie Champs and broke the wing in five places, so that needed repairing. Then my experience with the Trenton Terror and another Ohlsson 60 ignition engine was also fraught with problems as the vibration loosened the landing gear mounting, allowing the front end to shake and froth the fuel for a series of poor runs. Then there was the saga of the High Tension lead.

You see, although SAM mandates many things to remain as they were in the 1940's, they do allow some modernization, and one of those things is transistorized ignition, as we called it when we installed it in our automobiles in the 1960's. This does away with the troublesome condenser and reduces the current on the points. (Why do I think I need to explain ignition systems to some of the younger members? Could it be they are now so reliable that nobody ever touches them anymore; consequently they do not know how they work?) Anyway, part of this "modernization" is the need for a 10k resistor in the HT lead. In Muncie two years ago none of the ignition engines would run reliably, and eventually, with much careful diagnostics, Dick discovered that the resistor, which is buried under some shrink wrap, was cracked, causing intermittent spark.

Naturally once this was discovered the experts said "oh yes, of course you need to mount the resistor half way along the wire rather than at the engine end, so the vibration is less! Well, armed with this advice the 2006 version was made to spec. and performed perfectly.

The Trenton Terror landing gear was repaired with silver solder rather than the soft kind and it too worked perfectly. But I am getting ahead of myself as we were focused on the electric events and holding my Championship position.

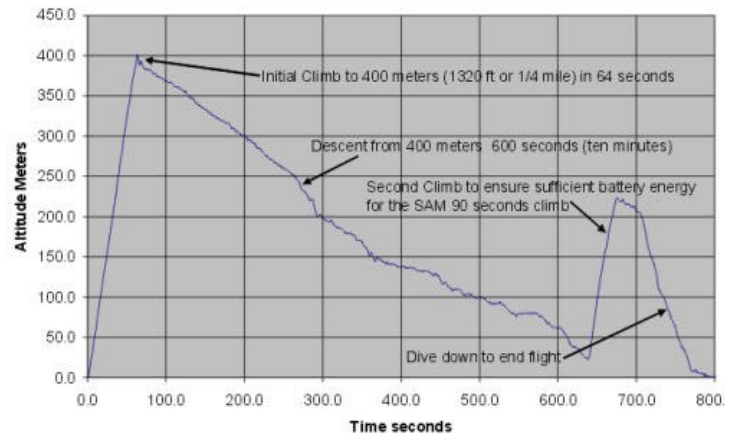
I had three electric models for the five events; the big Stardust Special for Limited Motor Run and Electric Texaco, using different motors, gearboxes, props and batteries for each event; the Jack North 1939 Wakefield for the electric Wakefield and Electric Unlimited Rubber events and a reduced scale Jack North Wake for the Spirit of Sam event.

I flew big Stardust model in Eloy Arizona in January and at the European SAM Champs in Italy in June. Nevertheless, I did some checkout flying before the Champs with both powerplants. Indeed, I had the choice of two different LMR powerplants, the Neu Motor 1506/1.5Y with a 6.7:1 gearbox turning an 18x10 Aeronaut prop on seven CP2400 NiCad cells and a Castle Creations Phoenix 80 amp ESC, or the old Aveox 1412/2Y with the Robbe 3.7:1 gearbox turning the same prop on 14 CP1300 cells and an Aveox L160 60 amp

ESC. I had fitted the model with a separate Rx battery and chose to use a two-cell 1500 mah LiPoly with a voltage regulator. I did this for two reasons, first, I was concerned with the reliability of the power system at the 80 amp level and I was also concerned about the amount of energy necessary to power the Rx on the potentially very long flights.

Now my experience with the Euro power system; the Neu motor etc. was not so good as it did not pull the current I expected and the climb rate and altitude suffered. I still don't understand this. On the other hand, the Aveox does pull somewhat over forty amps on twice the voltage, so it is working to spec. but it is seven ounces heavier. I decided to do some experiments and made some flights at Sleighton with the altitude logger.

Big Stardust / Aveox



Here is the flight with the Aveox powerplant; spectacular! We are allowed a 90 second power-on climb followed by a glide with a maximum scored time of ten minutes; 600 seconds, including the climb. You see from the chart that the model did this with only a 64 second climb so the other 26 seconds would be margin and potential for the model in still air during a flyoff, where the time is unlimited; the last man down wins. So that was a wrap; Now on to the Texaco.

The Texaco powerplant is a Mega 16/15/3 with a Model Motors 6:1 planetary gearbox turning an 18x13 wide blade Aeronaut on 7S/2P 1500 AUL Sanyo Nicads, to use the popular nomenclature. In other words, fourteen cells arranged into two parallel packs of seven. The ESC is a Castle Creations Phoenix 35. This system takes off exceptionally well and cruises on very little power. I expected a 45 minute still air power-on cruise.

My trusty three-year-old Wakefield was last flown at the Great Grape Gathering in Genseso, NY, back in July where it put in two superb maximums, so that was wrapped for the Champs as was the Spirit of SAM that took second place in the last two major competitions, although I did make an additional new battery pack as we don't know how these Sanyo AAA Nicads hold up.

Jack North 1939 Wakefield is the basis for the electric Wakefield / Unlimited rubber and SoS models



Now one of the lessons learned in the last few years is that there is always at least one bad weather day, and the most difficult weather is high wind. I build my airplanes down to the minimum weight allowed and this means that they won't go up-wind when it blows much over ten mph; less for the SoS and Wakefield. The second part of this lesson is to engineer provisions for ballast so as to accommodate higher winds, and this I have done with the big Stardust and I have acquired several square feet of "church roof" lead sheet for this purpose. A little slice under the wing bands does it on the smaller models.

So Mick and I made the easy and uneventful ten and a half hour trip to Muncie in fine weather. Weather; well, two weeks before the meet the forecast was for fine weather in Muncie. That practically guaranteed poor weather and sure enough the forecast when we arrived, was for deteriorating weather Monday, two inches of rain Tuesday, and not much better Wednesday. Nevertheless we held our true course and Monday early found us setting up shop on the flight line, just off the abundant hard surface where the models launch.



*Home on the range,
Muncie style*

We had two events on Monday; Electric LMR and Pure Antique, the latter is a limited motor run event for Antique models (prior to 1938) with original ignition engines. Now the model of choice is a full sized Bomber with a McCoy 60 series 20 ignition. Lots of power and very expensive just to buy, much less have tuned by an expert. This class is for the big boys, but we planned to fly the Trenton Terror, shown in the picture above, with a big port Ohlsson 60; the one that shook itself and the model to bits at the last Muncie Champs.

Since the electric classes were our focus and the big Stardust has sufficient performance to make a maximum in still air, we planned to put in two quick flights with it first.

The wind was modest at ground level so no ballast was installed and away we went, only to find that the wind was coming from 90 degrees to the surface wind and it was blowing much harder up there. The result of these two factors was that I ended the climb downwind and was unable to make much progress in getting back. Under these circumstances you put in down trim and try to bring it back in a shallow dive. This we did, but the loss of altitude to put it back on the field, meant that we missed the maximum; putting in a time of eight minutes and change; darn! Never mind, we have two more flights to score two maxes and ballast to handle the wind, so we charged up and went again and made two text book flights to make the flyoff, that would take place later in the afternoon.



*Big Stardust Special
after a good Texaco
flight in Muncie*

Time to play with the engines: so we brought out the Trenton Terror. I mixed some fuel: 3:1 methanol and Sig castor. Plugged in the starter and went at it.



*Mick and Dave get
down and dirty the old
fashioned way.*

Now at the last Muncie Champs my first flight with this model and motor was excellent, in fact it went for a max. It was on the second and third flights that things began to come apart. But this time the motor did not seem strong, despite the setup being rigid and the motor running smoothly. What is wrong?

Our friend and fellow electric flyer Steve Roselle is also an experienced ignition flyer so we asked him to take a look while it was running. Mick and I were aghast as Steve pointed to the motor and proceeded to put his hand in that fast spinning APC; horrors, blood and a wound indeed. We couldn't imagine that he did it. It seems that he saw a leak between the cylinder and crankcase, common on these old engines, but it was the presence of the HT lead that caused him to shy away at the last moment; into the prop.

Of course, we were all discouraged at this point and Steve was probably going into shock. At the pilots meeting the CD, Ed Hamler, had pointed out that AMA have medics on standby, so we hailed him down and he did a field dressing on a nasty gash inside one finger. Steve and his wife then drove themselves to the hospital for, what turned out to be ten stitches. But before he left Steve said "this is not your fault, so go out and make a max with that thing".

That was the last thing on our minds at that point but as we waited the hours till LMR flyoff we decided to just fly it for Steve. And we did, putting in four very modest flights in quick succession. The engine started first time every time and ran evenly through the whole climb, but with diminished power. I made a mental note to send this engine to George Tallent, the

master craftsman who found a way to disassemble these engines and replace this errant gasket. The Ohlsson cylinder is spot-welded in-place on assembly, so George had to find a way to drill out the old spot weld without doing damage, and then weld it back while putting pressure on the new gasket on assembly. He is now famous for saving so many of these popular engines. He is also famous for the amount of power he can coax from them too. (This engine is on its way today.....)

The picture shows the early small port Texaco engine used in the Bomber for Texaco Ignition and Classic Texaco, and the later big port engine used in the Trenton Terror for Pure Antique and Ohlsson Sideport events. You can just see the spot weld location on the front side of the cylinder about half way up.



Small port Texaco motor and Big port LER motor, both Ohlsson 60's ignition

Now it was time for the electric LMR flyoff and we had been told that they would reduce the motor run time from 90 to 60 seconds to reduce the flight length. This is sometimes done and I had thought about a strategy for it, in fact I had been carrying larger propellers for this very purpose at every meet.

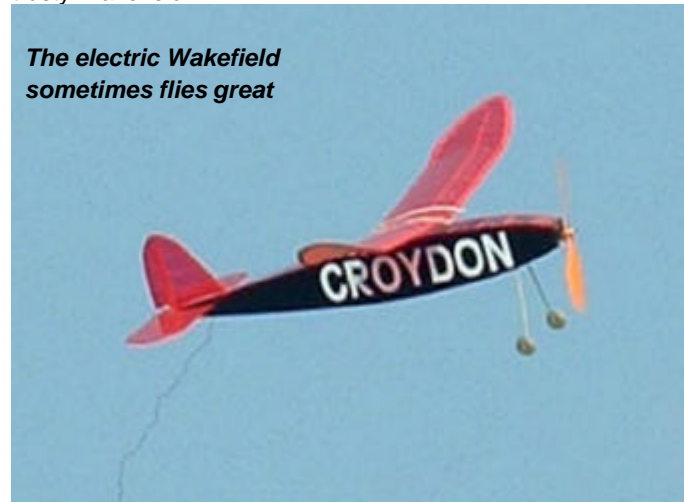
See, the first part of this event is to lift the weight of the model as high as the battery allows. This is simply an energy transfer; the chemical energy in the battery is transferred, via the motor and propeller, into lifting the model. We set the operating current of the motor so it almost exhausts the battery during the climb. With an electric powered airplane you can change the propeller so that you pull more current and exhaust the battery in a shorter time. If the motor / prop combination operates at the same efficiency you will climb to the same altitude. So we set about trying a bigger prop switching the 18x10 narrow bladed prop for an 18x13 wide blade one, but not before checking the operating current. The 90 second setup drew 44 amps static on a fresh battery, the 60 second one 63 amps; just a little over the 60 second rating of the ESC, but this was static and the prop would unload in the air; good enough

So to the flyoff; takeoff was good, but climb not good at all. The prop was clearly mismatched so we only gained modest altitude. Mick was right; we should have left well enough alone. But you remember the Racer's Credo, and I couldn't leave anything on the table! Well we were down in something like six minutes and change, and to add insult to injury, in trying to stretch things I even landed just into the bean field and so scored a zero. Not that it made any difference as we were first down anyway. The winning time was something over eight minutes, well within our still air time for a 60 second climb as shown in the Sleighton tests.

The threat of the torrential rain for the following day resulted in the CD calling it off and reassigning the Tuesday

events to other days. So we cooled our heels in the AMA Museum and helped the free flight guys by typing their scores into my laptop. But we were ready for Wednesday when we would fly electric Texaco and Wakefield; my two strong events.

Wednesday dawned miserable and wet although it wasn't as windy as we expected as the front had gone through so when we were ready we made the first electric Texaco flight, a smooth still-air time of 53 minutes, leading our two closest competitors by several minutes. This gave us time to fly the trusty Wakefield.



The electric Wakefield sometimes flies great

But the wind was now gusting and on launch I got it inverted and then into the grass, causing what looked to me like fatal damage. One of the reasons the original rubber powered Wakefield had been so successful was that it handled the gusty British weather as a free flight model. Add someone pilot interference with its inherent correcting motion and you have a recipe for disaster! Darn, that model has been a winner and I planned to fly it in two events. But I was disgusted with myself and we just sat and watched the others for a while till Mick said "I don't think it is as badly damaged as you think". And he was right as it didn't take long to glue back the balsa sticks that were taken out as the battery departed the model. The motor also came adrift but cleanly so it was also easy to restore. The prop was fine as was the gearbox so we were back in business, as we are allowed three flights where two count and we had two left.

So after charging we made another flight but all was not well and the climb was poor. This model usually flies almost out of sight in the 60 seconds allowed, and it makes seven minute still-air flights. This flight was three minutes and change against a five minute maximum. We tried again but with much the same result. Clearly the motor was not putting out, and this was not entirely unexpected as we push them hard. The rules call for a speed 300 motor and seven NiCad cells of any capacity. So naturally you want power out of this system. I have been operating at 11.5 amps, surely on the edge, but this motor has lasted many flights (and that is the trouble; too many; I should replace these regularly before trouble strikes.) I had a spare so we planned to fix it on Thursday for the Unlimited Rubber event.

Meanwhile our competitors had made second flights with their Texacos and found a little lift. Jack Hiner had made a flight of just over an hour. Well, if there is lift I don't need much to beat that time so we had been charging for this eventuality and out we went to cover the competition. Comfy chairs in place, takeoff good, air stable, good altitude but what it this..... It is coming down at twenty-five minutes. Shame on me, another failure of the gearbox mounting, just like in test at CA and the second flight in Eloy.



I think I explained before, there are two slip joints in the Model Motors planetary gearbox, one screw joint between the motor adaptor and the gearbox proper, and another in the front face mounting with the gearbox front end. This latter joint is just a press fit and when I discovered this to be my problem in Eloy I CA'd it carefully, so as to preclude gluing the gears together! Apparently this was not enough, and in hindsight it is evident that when the motor and gearbox operate for periods of half an hour, there is a temperature differential between the front housing and the gearbox, such that the differential thermal expansion allows the joint to open up and slip. In other words the gearbox gets hot and expands away from the front housing. Now it is glued together again, but this time with proper Loctite shaft fixing adhesive. It works as you will read from the later story on the Propstoppers flights for the Electric Texaco Postal competition.

However, our day was done and we settled for third place in electric Texaco. Not bad really.

Thursday held two events for us too. They were the electric Unlimited Rubber with the Wakefield, and Ignition Texaco with the Bomber and small-port Ohlsson. The first business was to fix the new motor to the Wakefield and we quickly soldered the ESC and stared at the pinion. It seems the speed 300 has a splined shaft and you can't get the old pinion off and it is a devil of a job to get the new one on too (of course I had a spare gearbox). Fortunately I had a two-pound ball-pen hammer to knock in the canopy stakes and it worked perfectly as a pinion driver.

So now we were ready for the Unlimited event and out we went to put in our initial flight. The model did not seem to climb any better, so another poor flight. What was going on? This time we checked the battery, a seven cell 350 mah pack which we also abuse with the current level. I did not have a spare but did have a somewhat heavier 500 mah pack so we installed that and made our second flight. This time the climb was better but the trim was way off and I stalled and pitched most of the way down for another poor flight. Much the same happened on the successive flights and I believe it is time for a new model. This one has served me very well in the past, so I may just build a new one. Come to think of it, as Mick said, the wing is fine, and the tail surfaces too, so maybe just a new fuselage. Clearly the Electric Championship was gone, but wait, just realized, I didn't wear my lucky "Howard Johnson's" shorts; no wonder we didn't perform.

The Ignition Texaco event was the first with the Bomber and small-port Ohlsson that was so troublesome in the last two Champs where I used it. One problem was the engine was not really broken-in and the Texaco event rewards engines that can turn big props slowly and efficiently. This amounts to lugging the engine in automotive terms and a lugged engine is not operating at a sweet spot in terms of

internal cooling and mechanical losses. After I mixed the 3:1 unleaded gas and castor mix we ran it with the "correct" prop, a 15 x 8 APC Electric (I know, but this thing puts out the equivalent of a speed 480). I had modified this engine to take a Cox needle valve assembly with interchangeable venturis, like we used in Goodyear U/C racing in the 60's. So I first tried it with a small venturi as this is an efficient way of throttling down for long endurance. I had also made a Team Race uniflow tank to replace the clunky old Ohlsson one. We designed these tanks to be an exact capacity with the feed actually forming the lower aft corner. They have two vents; one to the bottom and the other to the top; the latter gets plugged after filling. The uniflow tank produces a constant head against which the venture pulls, so the mixture is constant throughout the run; unlike a tank where the vent is at the top and the draw varies with fuel height.

The first run began well enough but the old Ohlsson lugged and slowed as it got hot, eventually quitting long before the fuel was exhausted. What to do? Two things; it is tight so add castor, and then unload it with a smaller prop. And while we were at it we swapped the venturi for a bigger one. Magic, this time it started and ran fine once we got the settings right; mixture and spark advance. It ran as sweet as a well oiled machine; right through the whole tank; although it exhausted the tank in five minutes. The good guys get theirs to run for twelve! Twelve minutes up and twenty down is a good still air time for one of the top flyers.

But what did we have to loose? We only brought the sparkers for fun, so out we went and put in our first flight. Wonderful, it only ran for six minutes but in that time it reached close to that out-of-sight altitude the good guys get. Now to look for the thermals. We didn't find much lift but it was a fine flight anyway and we had another yet to come, so we waited for the weather to come to us before our next attempt.

But the next attempt didn't go so well as the engine was balky and we waived off the flight to have a look at what might have caused the change. Back at the pits it seemed that the points assembly was awash with castor and who know what else that came out the front of the crank housing, so I cleaned it out with a shot of brake cleaner and all was well again, so we were ready for our last flight.



This time we climbed as before but found lift and followed it downwind, milking it for all it was worth. Meanwhile someone checked on the competition and gave us the time to beat; twenty seven minutes. Best time wins. This we easily made

with altitude to spare and I fooled around a little on the way down. How about that, a winner! But it was not to be as at the trophy ceremony we learned that another competitor made a flight just ten seconds longer than ours, so it would be second place and another lesson learned. It 'aint over till it's over, so stretch every flight unless you are certain nobody else can cover you.

Our final day, Friday, saw three events, Classic Texaco with the Bomber, Spirit of SAM electric and Ohlsson Sideport with the Trenton Terror. SoS was to be a mass launch at 11 so all we needed to do there was make sure the battery was fully charged and remained so.

The wind was modest so no ballast was added. The sky was clear although small puffy clouds were beginning to form, but it didn't look like there would be much thermal activity, and so it proved. There were eight of us in the competition. Mike McIntyre from the Electric Mafia of Illinois had made an interesting new model, a Phantom Flash. It weighed only 3 ½ ounces but it used only three AAA cells driving directly into the motor; no ESC, so although it was three-quarters of the weight of my model, it only had only three-quarters of the energy. He said it did 25 minutes indoors. My best still air time was more like twenty minutes.

The mass launch was clean and my model flew well, it moved up-wind and handled the modest gusts with ease, so I did not have to add power or steer it unnecessarily. I did not find any lift but watched as the "thermal flyers" with their heavier models made repeated passes up-wind to find lift then drifted back downwind. It did not seem like they were finding any, and certainly I did not.

Slowly the other competitors came down but my model began to behave a little strangely. I thought the BEC might not have prevented a low battery state on the radio components but I hung in and asked Mick to check out the competition. He said

he couldn't see anyone else up, so I maneuvered it back to the landing area and put it down with nothing left in the tank. Only to find that Mike McIntyre and Jack Hiner had moved all the way down the other end of the blacktop; Maybe looking for lift from that warm surface. Jack was down but Mike was still up, and that is how it ended, Mike won and I took second with a flight of just over 19 minutes.

After the Trenton's poor performance on Monday I decided not to bother with the Ohlsson Side Port event, instead to concentrate on the Bomber and the weather, as Texaco contests are won by the thermals you find and they come at various time, of course, depending on the weather. Friday was a fine day that started clear and the clouds slowly built throughout the early afternoon.

Classic Texaco was the last event of the five day Champs. Again the Ohlsson performed well and took me to altitude but the weather was not there yet and the first flight was a modest one. But by early afternoon some significant clouds had formed and began to march through and I launched right into one. This flight was a memory for life as it flew so high and downwind that I lost it twice but found it again with help. Then tried to fly back from the downwind cumulus to the next one but lost it again in the deep blue sky between the clouds. I spiraled down some and maneuvered closer so the silhouette became more distinct in the deep blue so I was able to gain the next cloud and soar up again. The 63 minute flight was way beyond the competition, although I must say that Barbara Mulholland was with me in the first cloud but she really did loose her model and Fred had to go chase it and was unable to fly his model either, so that was my most troublesome competition eliminated. Then the weather began to clear and the strong lift went away. Competitive flights were no longer possible.

I won with the high time of the meet. Who needs

Spirit of SAM competitors just prior to the mass launch. Mike McIntyre with his Phantom Flash, center, kneeling.



electrics? Love that castor, although I am still trying to get it off the finish of the Bomber.

Well, I have told the tale of our efforts in Muncie, Mick and I, but of course there was much more going on, too much to take it all in, much less report on it. But there is one aspect of this meet that I must describe. At each Champs there are Special Models identified, those that are landmarks of one sort or another, designed by the pioneers who put the bedrock in our hobby from which we all build. This year the special model and the pioneer were Earl Stahl and his Fokker D-VIII. I have described this model in prior newsletters. Many people took the challenge and produced a wonderful "Staffel" for show and go, as this was a flying contest too.

Best of all, the 88 year old Earl Stahl graced us with his presence, both at the field, the Concours and the Banquet. On seeing Eut Tileston's Fokker fly, Earl commented that this was the first time he had seen any of his Fokker models fly, other than his own! Indeed, back in the '30s and '40s he never received any feedback from the dozens of his designs that were published, and wondered if anyone ever built his models. He seemed overwhelmed at the SAM acclamation.

Dave Harding and Mick Harris



88 year old Earl Stahl, seated, with the Fokker D-VIII builders at Muncie

Fellow competitor, Glen Poole, with his 70% Boehle's Giant, a 1930's rule breaker. It flew beautifully but Glen thinks he fried his motor in electric LMR.



Propstoppers Fly in the World Wide Electric Texaco Postal Challenge.

We said we would put up a strong challenge and so it was as Dick Bartkowski, Mick Harris and I prepared our models and spares for others to fly. A few test flights to get things right and then we aimed at the last week in September to go for it.

The rules require your team to make their flights on the same day, so we started at Sleighton with Dick, Mick and me, and Dave Bevan being checked out on my Trenton Terror, the big one, now with a speed 400. He made a fine flight but we had not timed it so he planned to come back to CA field in the evening when Al Basualdo would also fly one of Dick's Trenton Terrors, the small one.



Dave Bevan checks out Dave Harding's Trenton Terror at Sleighton

Mick flew his Rambler to a fine flight of 25 minutes, although he thinks he could do much better with a smaller motor.

Dick flew his Record Hound also with a speed 400 to an excellent flight of over half an hour, finding just a little lift.

I started my flight with the big Stardust after Mick landed but the weather looked un-promising with a 9/10 high overcast and some lumpy clouds forming below it. Blow me down but didn't I hook a good thermal at low altitude over the field. This took me, un-powered, to the limits of visibility, and like at Muncie, Mick surprised both me and himself by having the better eyes in this "find the fly speck in the sky" contest. Fortunately the winds were light and I was able to come back at great altitude from the downwind cloud to the next and continue the ride. Soon some really black threatening low clouds drifted in and I was worried that I may be above them and so loose the model. But nibbling at their edges I verified that they were indeed above me so I milked them for some more lift but not as strong as the first two. Nevertheless this process continued well over an hour when we began to worry about the Tx battery, which by now was dropping into the single digits. We wondered if we could hook in a separate eight cell battery and tried it, but you have to switch off the primary battery for the charge connector to be in the circuit, so we just hung on watching the meter and wondering if it would hold. Well, hold it did for a flight of one hour, fifty four minutes and twenty seconds.

At CA field the weather was almost calm with clear blue skies; probably no lift, but good conditions to get the maximum still-air performance. Al did about 25 minutes and then Dave surprised both me and himself by making an outstanding flight of 38 minutes. He even found some lift, probably from some cleared land over by the tower.

So, our day was a good one and when Dick sent in our times we were told that we are now in the lead, having beaten the West Coast guy's times. But the Aussies are waiting for their weather to improve and the Electric Mafia from Illinois are planning to give it a try too. So hold your breath and cross your fingers. We may pull this one off yet.

Dave Harding

Dick Bartkoski



Mick Harris



Dave Bevan



Al Basualdo

The Propstoppers 2006 ETex Postal Team

Photos from various venues as we didn't fly together and did not take photos of all members on the day.



**Dick Bartkowski,
Record Hound
Mick Harris, Rambler
Dave Bevan,
Trenton Terror
Al Basualdo,
Trenton Terror
Dave Harding,
Stardust Special**



Dave Harding

Lithium Technology for Big Planes

You have probably noticed that the community is finally getting around to putting electric power in big planes; like my old trusty Sig Kadet LT-40 with the Aveox and mucho Gordy 1700 mah NiCad cells (well 16 to 31 at one time or another, but \$2 each). It flew great; I learned to fly power with it.

LiPoly batteries and big outrunner brushless motors have made this step somewhat easier, although rather expensive in terms of up front investment. Also many people are worried about LiPoly for safety reasons and, no doubt, they are more fragile than NiCad or NiMH cells with their metal cases. Now the next new thing that changes this equation is the advent of Lithium technology power tools. Both Milwaukee and DeWalt have offerings which include a large pack of Lithium cells, although there are two distinctly different technologies.

Milwaukee use, what they call E-moly cells which are in fact Li Ion chemistry; charge them with LiPoly equipment and expect the same voltages etc. DeWalt on the other hand have a slightly different chemistry, one that produces a lower voltage but is claimed to be more tolerant to deep discharge. These are called M1/ A123 cells and there are already people who are making up packs from these cells and providing the associated charging equipment for the RC hobby. Both the Milwaukee and DeWalt cells have metal cans.

There is an article on these matters in a recent edition of the excellent and pioneering newsletter "The Ampere" put out by Ken Meyers; here is some of the material to whet your whistle, as they say in England.

To Li-Po or Not to Li-Po, That is the Question

EFO and Midwest member Jim Cross made a comment about Li-Po batteries in a recent email. As I was typing up my response to him I thought that it might be a good idea to share my thoughts with the Ampeer readers. I had also recently had a phone conversation with Rich Flinchbaugh, Ampeer reader, about the A123 cells, so I thought the interest was there. KM

JC: "How are your new Skyshark Li-Po batteries holding up? Bill is seriously considering some for his Porterfield I think."

(Skyshark is a low cost brand of LiPoly batteries;

<http://www.skysharkrc.com/shop/?shop=1&cat=24> Ed).

I can say without doubt that the Skyshark RC 3S 2100mAh is doing very well. The 4S 4000mAh #1 that was physically injured in the first crash of the Low-Stik continues to require constant maintenance and vigilance but it is still useful. The 4S 4000mAh #2 may have been injured in the wipeout of the Low-Stick but is showing little degradation.

I believe that I have become quite disillusioned with Li-Po batteries because they are so fragile. I am very seriously considering the Milwaukee V28 E-moli cells. They have the same characteristics as the Li-Po cells and can be charged on the same type charger. They have a capacity of about 2800mAh. On average, I have been only using 3000mAh from the 4000mAh Skyshark packs before recharging, so that is not significant. The C rating of the E-moli is plenty good for my usage. They are in a metal can and weigh a little more. To replace my 4S 4000mAh Li-Po battery with a 4S E-moli battery would be an additional 2 ounces in weight. I don't feel that that is significant on the size planes I would use them in. The metal can mean they are more resistant to crash damage. They also do not burst into flames. Those are a couple of benefits that I believe are worth the slight weight penalty.

Here is a link to a site where a guy sells pre-made packs so that you don't have to buy the Milwaukee V28 packs, tear them apart (there are seven inside) and solder them up. www.bigerc.com. I know absolutely nothing about him, whether he is reliable, or if he can actually deliver as promised or who he is. I just know that I ran across his posts on RC Groups. The prices

aren't bad.

According to what I have read, E-moli cells don't seem to need as much "balancing" as Li-Po batteries either, but they can be purchased with taps. That's not a bad idea.

Their voltage is about the same as a Li-Po cell both for charging and under load.

There seems to be a lot of press recently on the DeWalt (M1)/A123 cells.



At this time, I see no advantage to them, but hey, I've certainly been wrong in the past. They require charging to 3.6v per cell instead of the 4.2v of a Li-Po or E-moli. They also have lower voltage per cell resting and under load than Li-Po or E-moli batteries. Therefore more M1 cells are needed in series to produce the same voltage. They have a capacity of about 2200mAh. Sid Kaufman, (ElectricCalc), likes them. You can check out his article at <http://silkelectronics.com/DeWalt/index.htm> (Sid also makes a LiPoDapter, a device which allows "conventional" Nicad chargers to be used to safely charge LiPoly batteries. Ed.)

For comparison, the M1/A123 cell has a diameter of 26mm (~1 in.) and length of 66.5mm (2.62 in.) and weighs 72g (2.54 oz.). The E-moli has a diameter of 26mm (~1 in.) and length of 70mm (2.76 in.) and weighs 100g (3.53 oz.). The Sanyo HR2600SC NiMH, chosen for like capacity, has a diameter of 22.35mm (0.88 in.) and length of 42.93mm (1.69 in.) and weighs 62.34g (2.2 oz.). Of course they all have different voltages, so that must be taken into consideration.

According to tests I have seen, the M1/A123 cell delivers about 2.6 volts per cell at 33 amps, the amp draw I am interested in. The E-moli about 3.25v per cell at 33 amps. My Skyshark 4000mAh about 3.3v per cell at 33 amps. The Sanyo NiMH about 1.1v per cell at 33 amps. Keep in mind that all of these numbers are optimistic, and based on a 33-amp draw. 9 Sanyo HR2600SC NiMH = 9.9v 561g (19.8 oz.) \$39.15 cheapbatterypacks.com, 4 M1 = 10.4v 288g (10.2 oz.) \$64.00 Kaufman said about \$16/cell, 3 E-moli = 9.75v 300g (10.6 oz.) \$54.95 bigerc.com, or 3 Skyshark RC 4000mAh Li-Po = 9.9v 265g (9.3 oz.) \$69.95 Skyshark RC.

If I had to do it over again, I would go with Milwaukee V28 E-moli cells for my big planes, not Li-Po batteries. On the other hand, I am not at all sorry for starting out with the Skyshark RC Li-Po batteries. They are produced to do the job I've asked of them at a price I could/can afford. Their quality or usefulness to me is not an issue. If I were to use more Li-Po batteries, I certainly would continue to use the Skyshark RC and True RC brands.

Ken Meyers, The Ampere, October 2006

<http://members.aol.com/KMyersEFO/ampoct06/ampoct06.htm#LIPO>

Red Scholefield reports; I'm running them in a 4S2P configuration in a Telemaster Electro with an AXI 2826/12 13 X 6.5 APC E prop. Max current 30 Amps, but seldom fly this with full throttle. I've got 36 cycles on them and no sign of problems or need to balance. Charging with Xtrema at C rate.

One 4S pack weighs 11.56 oz. (includes Deans Ultra, CellPro balance connector and overshrink 5 mil sleeve). Telemaster Electro setup can be seen in November issue of Model Aviation due out shortly.

Additional comparisons from Sid Kauffman;

CELL	V	R (mohm)	WGT. (OZ.)	MAH	R/V	MWH	MWH @10C	WM /OZ.	≈ COST	MWH /\$
GP3300	1.25	5.0	2.20	3210	4.00	4013	3497	95.4	\$5.00	699
PQ2100	3.75	11.4	2.16	2060	3.04	7725	7241	201.1	\$26.00	279
PQ3300	3.75	7.5	3.11	3300	2.00	12375	11558	223.0	\$41.00	282
E-Moli	3.79	14.7	3.50	2840	3.88	10764	9578	164.2	\$17.00	559
M1	3.15	8.9	2.45	2200	2.83	6930	6499	159.2	\$16.00	406

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Propstoppers R.C. M.A.C



Mick Harris and Dave Harding with the winning Classic Texaco and meet high time Lanzo Bomber at the SAM Champs in Muncie

The Indoor Season is Upon Us Get Building (or Buying!)

*Dates are the usual Fridays in the
Tinicum School Gym.*

Nov. 3, Dec. 1, Jan. 5, Feb 2 and Mar. 2



The Meetings are back in the Middletown Library

*Tuesday 10th October; 7:30 to 9
but be there early as they
sometimes open at 7
Bring Show and Tell*

