



# The Flightline



Volume 39, Issue 11

Newsletter of the Propstoppers RC Club

AMA 1042 November 2009

## President's Message



The indoor flying season has begun and Dave has a new flying site in Brookhaven. Dave will go over this at the meeting.

Anyone flying at the field watch you don't get mud bound. I'm sure it's soft.

Mike Williams & Jeff Frazier will be bringing in their flight training computers to the next meeting. They are Great Planes G-4 and so the latest excellent simulations of model RC flight. There will be a lot of time so all should get a try.

If you have some thing to show off bring it in also.

Don't forget the keystone RC club auction Sat November. 21<sup>st</sup> See Propstoppers group e-mail. See you at the meeting

*Dick Seiwell*

*Agenda for November 10<sup>th</sup> Meeting  
At the Middletown Library;  
Doors open 7 pm, Meeting 7:30pm.*

1. Membership Report
2. Finance Report
3. Election of Officers
4. Plans for Indoor Monthly Meetings
5. Show and Tell

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## Minutes of the Propstoppers Model Airplane Club

### October 13th, 2009 at the Middletown library

Call To Order took place at 7:30 p.m. by Vice President Dave Bevan  
Roll-call by Dave Bevan showed 13 members present  
Minutes of the September meeting as printed in the newsletter were approved by the membership

Treasurer's report was presented by Pete Otinger and accepted

### Old Business:

The club discussed several fields and flying sites.

### New Business:

President Dick Seiwell discussed the retrieval options for planes that end up in a tree. He has information on someone with a 75 ft. bucket truck who can be hired for retrieval. He also mentioned that Dave Bevan, our Vice-President as his slingshot retrieval system for difficult areas.

There was a discussion about the club elections and all current candidates were re-nominated. No other nominations were tendered. Several members commented that the nominations and elections were not announced in much time. After a discussion and reading of the bylaws, it was decided to hold the elections at the November meeting as specified and accept nominations up to then

Dave Bevan is now meeting with a new group of students at Widener University for the international engineering competition involving payload lift with a given glow fuel engine and specified airplane parameters. He remarked that today's students in general engineering have a lack of knowledge of aviation principles.

Dick Seiwell spoke about the Club picnics which were enjoyed by those who attended. He is encouraging everyone to attend.

Jeff Frazier brought up the idea of having an online forum for the club to have a discussion of things like the Club picnic. He is planning to research these possibilities.

### Show and Tell:

Joe Paradine showed his ARF biplane and asked how he could mount the motor so that it does not break off in a crash.



## Calendar of Events

### Club Meetings

Monthly Meetings  
Second Tuesday of the month.  
Middletown Library  
Doors open at 7 , meeting at 7:30 pm.

### 10<sup>th</sup> November

Tuesday Breakfast Meeting  
Tom Jones Restaurant on Edgemont  
Avenue in Brookhaven.  
9 till 10 am. Just show up.  
Flying after at Chester Park 10 am.

### Indoor Flying

At the Tincum School Gym.  
6:30 – 9:30 PM.  
November 6, 2009  
December 4, 2009  
January 8, 2010  
February 5, 2010  
March 5, 2010

### Regular Club Flying

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

### Special Club Flying

Saturday mornings 10 am  
Thursday evenings in the Summer  
Tuesday mornings 10 am weather permitting  
after breakfast at Chester Park.

Check our Yahoo Group for announcements;  
<http://groups.yahoo.com/group/propstoppers/>

### Beginners

Beginners using due caution and respecting club  
rules may fly GWS Slow Stick or similar models  
without instructors.  
The club also provides the AMA Introductory Pilot  
Program for beginners without AMA insurance.

Mick Harris showed his Vagabond old timer that is similar to the first power plane he built. Originally his plane was a diesel, now it has electric power.



Mike Williams showed the wing of his former plane, the Fairiey Tipsy Junior, that had a spectacular crash recorded on an inboard video camera while at the Christian Academy field. It was a Mick Harris original build.



He also showed his new connectors and a servo driver to test servos on the bench.

John Moloko showed his Parkzone Corsair that he has modified to add several scale elements like a dummy bomb that can be dropped from the plane in the air.

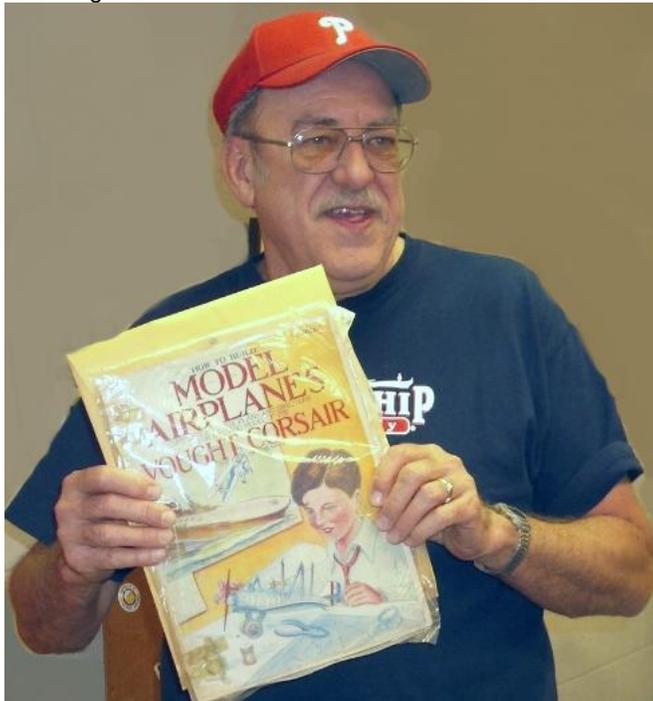
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Eric Hofberg showed several old books for aircraft identification used during WW2.



New member Jeff Frazier showed his simulator.



Adjournment took place at 8:45 p.m.  
Richard Bartkowski, Secretary

### The Propstoppers SAM 76 on El Dorado Dry Lake



The saga continues. The picture above shows Tina and Chuck Kime with SAM Hall of Famer Eut Tileston at the RC scoring table on El Dorado. Tina worked the table keeping scores and maintaining decorum for the whole week. Fortunately the weather this year was exceptional. Other than the high winds for a period on Tuesday the winds were moderate and temperatures peaked in the low 80's; magnificent. In fact under the shade of the RC marquee Tina was often cold so she maneuvered her table into the sun, much to the amazement of the west coast regulars.

On Wednesday, following the high winds Tuesday we were allowed to fly the Tuesday events as well as those scheduled for Wednesday.

Contest Manager Mike Myers had arranged for a mass launch event each day at nine o'clock and Wednesday it was the electric Speed 400 event. My entry was toast following the Monday "arrival" of the model as Chuck was flying it in LMR, but Chuck had worked on his Ed Goretzka Kerswap so he was ready. Dick flew his unique Tail Firster canard again. He has been working continually on taming this model for over a year with only modest success. The Speed 400 event would be flown to the rule book which specifies the sum of the two best flights, the mass launch counting as the first flight. Unfortunately Dick's canard again made an excellent climb out only to wiggle and pitch over into a vertical spin into the desert floor. Chuck did better with a decent flight which he repeated later in the day for eleventh place.

The wind was calm and the thermals began to pop so Dick took his first Electric Texaco flight for a magnificent 51+ minute flight, just eleven seconds out of second place, but Phil Pearce waited till the booming afternoon thermals took him to a seventy five minute flight for the win. Dick had tried a second flight but the lift was gone and he had to settle for third. Not bad so far as he won Spirit of SAM and fifth place in LMR, three of the five Electric Championship events.

The other event on Wednesday was Electric Wakefield. Dick and Chuck both flew Mick Harris models, they had been practicing all year with these models. The Contest Director again decided to fly by the rule book which specifies a Rise Off Ground takeoff; something we have not done for years. This caught me out as on my first takeoff my model's landing gear collapsed such that the prop touched ground and tore the motor off it's mounting; strike one, but actually strike two as I fly this model in another event the next day. Oh well, no preparation!

Chuck's first flight was a max and Dick's fell just short, but his model was a bit of a handful. Chuck's second flight fell short and his third even more so, but Dick scored two magnificent maxes which put him in the flyoff with our perennial competition, Jack Hiner. The flyoff was exciting because the guys went off in different directions in the climb and Jack found lift. Dick on the other hand found sink. What to do? Get out of it as quickly as you can. And what do you know, Dick went from sink to lift and although he was lower than Jack it brought Jack over towards him. But Jack did not have enough altitude for the transit and gain the lift and both of them drifted down with Dick the highest. Dick won by eighteen seconds. Now he placed in four of the five Championship events, one to go on Thursday.

#### *Electric Wakefield Flyoff Competitors Dick Bartkowski and Jack Hiner*



We took the opportunity to sample the Bellagio's buffet in Las Vegas following which we melted into the crowds of tourists on The Strip. What recession?

Thursday was another beautiful day with mild winds and temperatures in the low 80's. Dick was clearly in the running for Electric Champ, but Jack Hiner was on his heels. We discussed the strategy for the Unlimited Rubber electric event. I urged Dick to fly the same model as for Wakefield, but he was confident in the Skyrocket he had been practicing with for months. So he generously offered the Wakefield for me to fly, which I did. First Chuck flew with modest results. Dick went out and with me yelling in his ear (it was exciting after all) I managed to spook him into a wobbly climb for a poor result. And some damage to the model. I then flew and hooked a magnificent thermal to score a max. I again urged him to take over the Wakefield and asked the CD if it was legal for Dick to use a spare; he said it was.

You score best two of three flights and he needed to do well in the two that remained. Again he expressed confidence in his primary machine and went out and scored a max. Chuck then flew and just missed a max. Meanwhile Jack Hiner maxed on his second flight, the first being a very low score.

So it was all down to our last flights. Chuck's was subpar putting him in sixth. Dick's was fair but he was well short of a max. Now he needed me to beat Jack and I did so with another great max while Jack fell short into second place. I won and Dick was third sealing the Championship.

Friday we were out of models and events so Tina asked for permission to take off and we toured over to the Hoover Dam to see the new bridge construction.

The Banquet followed on Friday night as usual and the

Propstoppers, SAM 76, were proud to cheer for the new Champ, Dick Bartkowski here seen receiving his trophy from CD Steve Roselle. Tina was recognized for her hard work with a rousing round of applause.

#### *SAM Electric Grand Champion Dick Bartkowski with CD Steve Roselle*



In hindsight, and there is always hindsight, Dick won because he had fairly competitive models, and he practiced all summer. He worked out the problems and became very familiar with flying them; A great lesson. He richly deserved the win.

Did we have fun? You bet. How much fun? Well we, Tina, Chuck and I volunteered to manage next year's Muncie Champs. Why not plan on coming out with us. The AMA field and museum are worth the trip but the flying site is outstanding too. Come on, how else are you going to spend September 13<sup>th</sup> through 17<sup>th</sup> 2010?

Dave Harding

#### *Old Timer Model Build Tutorial*

SAM member, Tandy Walker, is currently starting to build a Cleveland Cloudster, for the SAM Speed 400 electric events. Tandy is a master craftsman and provides a series of emails with great photos illustrating his step by step building procedures as he goes along. He just started the series and it may not be too late to get on his mailing list.

Here's his email message with his offer to be put on his mailing list for the Cloudster build series.....

From: "Tandy C. Walker" <tandyw@flash.net>  
Subject: One More Time  
Date: Wed, 21 Oct 2009

As I said earlier, I am starting a new Speed 400 electric SAM project. I asked you to send me a message that says "Yes to Speed 400 Project" if you wanted me to put your name on the construction report distribution list. I have heard from most of the other modelers of interest, but not from you. If I do not get your response to this message, then I assume you are not interested in electric's and your name will not be added to the list.....Tandy  
You will have missed a few but I think Chuck Kime may have them to forward to you.

Dave



**Dead Giant? Well no, it will live to fly again**

### *CSI El Dorado*

#### *Boehle Giant Crash Forensics*

When you loose a model to a crash the first reaction is to dump it in a bin. But if you have been around a while you push that thought away and chuck it into a bag or bin and drag it back home. In my case the next phase is to abandon it to the van for a few days, or maybe a week or so, then drag it down to the shop and put it away in a corner. Eventually you become curious and start looking at the pieces and often, you start putting the jig saw puzzle together; just for amusement you understand. Much later the pieces may receive some thin CA and you get drawn into a rebuild.

In the case of the Giant, it was necessary not only to drag it back but to park it in our hotel room for the rest of the week, so casual inspection became the rule.

At the field I postulated the cause as insufficient tape connecting the wing halves at the center joint. And indeed other clues supported this view, but there were other inconsistent factors that didn't fit the puzzle. So I decided to do a more thorough forensic examination.

First I decided to replay the flying side of the event in my mind, untainted as possible from the crash theory.

The model was on a normal trimmed climb out heading away from me, but quartering to the right at about 45degrees heading. Simultaneously it began a turn to the right and the climb rapidly diminished, continuing in trajectory continuously pushing over until it was in a steep dive. Somewhere from level attitude to the nose down I put in full up "elevator", although the model has a flying tail. There was no response from this. Next I observed the wings and vertical tail departing and the fuselage descending vertically into the desert.

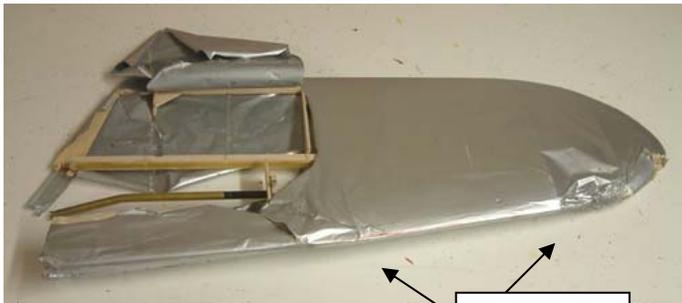
Now for the crash parts forensics. First thing I noticed was that LH wing and LH stab half were largely undamaged. Conversely, the RH wing outboard panel had only the root rib,

the main spar and leading edge intact and connected. The rest was lost. Note, the wing is in four equally sized parts. These are the outboard panels; the inboard panels were largely intact.



The LH horizontal had departed the aircraft with a failure of the pivot/spar graphite tube flush with the root rib. The other side, the damaged part, remained attached to the aircraft through the pivot/spar remaining half inserted into its socket in the fuselage and the pitch horn attachment to the servo. It had damage in a line diagonally across from front to back; severing the leading edge, trailing edge and the spar.

Although the fiberglass uni reinforcement held the spar and outboard end of the surface in place. It was clearly struck by a long straight object. Certainly the RH outer wing panel. Furthermore, the vertical fin, which departed the aircraft, clearly has a red mark down much of the leading edge.; also indication of a wing strike. The fin's graphite spar/pivot remained attached to the fuselage although it was bent at its lower end where the graphite changes to brass tubing. In this picture the spar has been reinserted into the fin structure.



Red Mark

The next very interesting information is in the fuselage. The cabane structure remained intact; struts bent but unbroken, attachment to the fuselage undamaged and the horizontals undamaged and in place. Even the wing hold-down rubber bands were intact and in-place on the cabane! But the most interesting piece is that the forward aluminum cabane struts are both bent outboard. The RH strut at about 90 degrees and the LH at about 135 degrees. The aft struts remain straight.

This is certainly consistent with my initial hypothesis that the wing center tape joint failed allowing the wings to sweep. But two other findings relate to the "crime". First, the red electrical tape that we use to join the wing parts was **still firmly attached!** But it was attached to the sub-layer of tape which had actually separated from the RH wing surface.

The wings are covered with Depron clear film then painted with Krylon Plastic spray can paint. While this is fairly durable in everyday handling adhesive tape will pull the paint off. So I installed a layer of clear tape over the wing covering in the locations where we use the electrical tape. This way the repeated application and removal of tape does not remove the paint. The actual clear tape I used was a product which emphasizes the clarity when applied. Maybe the adhesive is substandard, but I have also noted that the side that came unfastened took all the paint with it. So maybe it is the paint that does not adhere adequately. But certainly the failure initiated in the tape joint.



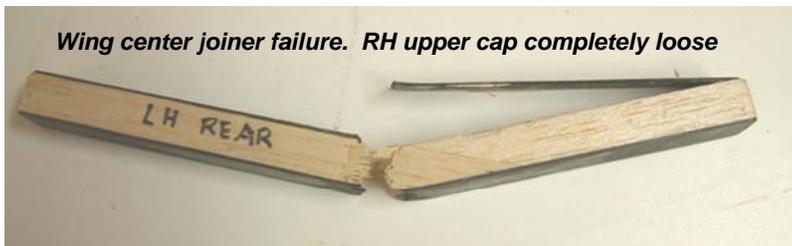
Forward cabane struts bent outwards



Fore and aft slop 0.05 in shown by drill in gap

Center wing joint showing where tape pulled off with the paint

The remaining very interesting finding is that the center wing joiner failed. You may remember that I structurally tested the entire wing spar/joiner assembly before building the wings. So how could this have happened?



Wing center joiner failure. RH upper cap completely loose

The failure is interesting for two findings, first the RH upper spar cap became un-bonded from the plywood shear member.

This looks like a cohesive failure as there is adhesive still attached to both graphite and wood parts. The RH cap half was completely separated, but remained in the wing socket. The LH upper cap is disbonded at the center but firmly attached at the outer end.



Adhesive failure cap to ply shear member; note glue on both surfaces

But wait, the wing joiner is / was a substantial part that fit well into the spar sockets. How did it allow the wing to sweep? Why didn't the chordwise stiffness and fit of the joiner restrain the wings from sweeping?

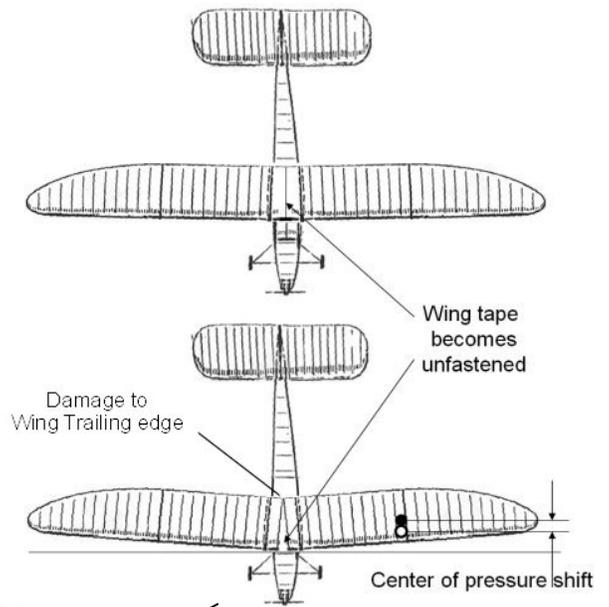
Well, the answer is they fit really well in the flap direction, restraining wing flying loads without slop, but they don't fit that well in the chordwise direction. I didn't think they needed to because the wing root is taped together along its chordwise length holding things firmly from any motion; Yeh right!

Here, in the picture, is the measured fit of the joiner in the root socket. That is a 0.050 inch drill in the gap. The joiner penetrates five inches into the socket and with 0.050 inch slop it could allow the wing to joiner to displace 0.10 combined fore and aft slop over the five inch length. This slop would allow a gap of almost one inch at the leading edge.

If the wing also moved outboard at this point, it is no longer connected to the other side remember, it would allow such a gap. This in turn would allow the wing-half center of pressure, at about 50 inches outboard, to swing one inch aft. Just like moving the CG one inch forward; or 5.5% of wing chord; a significant nose down trim. Damage to the wing center rib trailing edge confirms this theory.

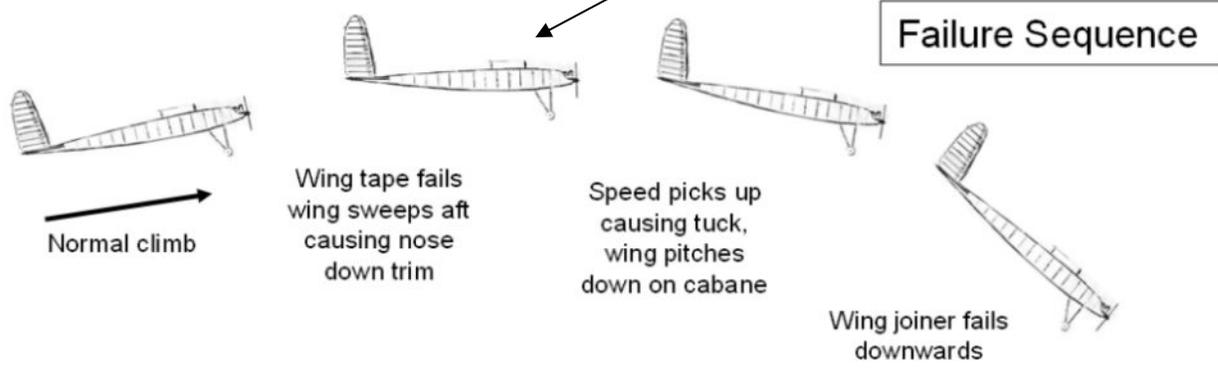
Now the speed will increase significantly and the nose down trim causes the model to tuck finally reaching the point where the joiner is subjected to negative bending and fails. Why does it fail you ask? Well it is because there is what we call a kick load at the center of the joiner pulling the upper cap away from the plywood. It just pulled the upper cap off at which point all the load was in the plywood; totally insufficient for these loads. In the positive lift direction the kick load holds the cap in contact with the shear member; my test condition.

QED. Now for the rebuild; an easy fix!

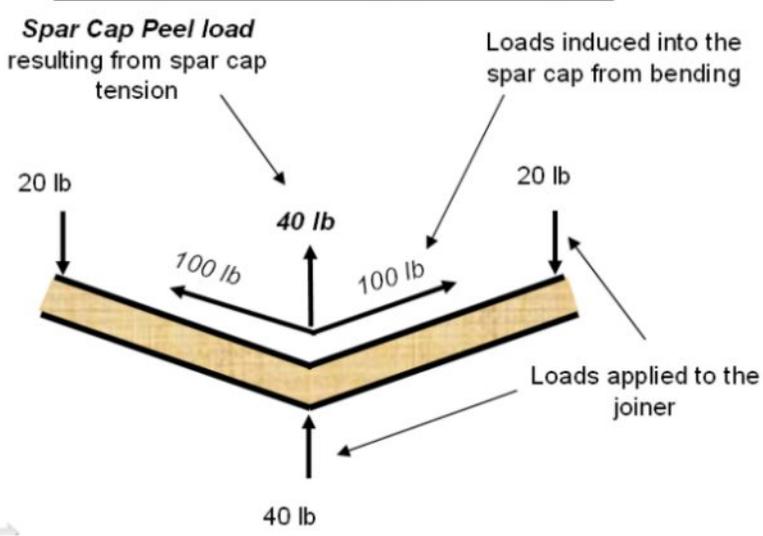


Dave Harding

**Failure Sequence**



**Wing joiner failure mechanism ~ negative bending peels cap**



Wings depart pulling cabane struts apart. RH wing strikes horizontal tail

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# Propstoppers R.C. M.A.C



*SAM Speed 400 flyers at the 2009 SAM Champs on El Dorado dry lake south of Las Vegas Nevada. Can you find Chuck Kime and Dick Bartkowski?*

## *First Indoor This Friday*

### *Tinicum School Indoors*

Fellow Propstoppers Members,  
I obtained the required Principal's signature and submitted the required forms for the following indoor dates at the Tinicum School:  
They are all first Fridays with the exception of January and flight time will be from 6:30 – 9:30 PM.

November 6, 2009

December 4, 2009

January 8, 2010

February 5, 2010

March 5, 2010

Look forward to seeing you there!

Mike Black

## *Brookhaven Borough Gym Indoors*

Following our successful Senior Expo in the Brookhaven Borough gymnasium I requested that the Propstoppers be allowed to fly in the gym.

Basketball season has begun and most dates and times are already spoken for but I have arranged one date to show what we do and how we behave. So we can fly there on Saturday 16<sup>th</sup> of January from 6 pm till 9 pm

I hope if we can put on a good showing and demonstrate that we can use the facility responsibly we may get a regular date when the calendar clears out.

Dave Harding