



The Flightline



Volume 33, Issue 2 Newsletter of the Propstoppers RC Club AMA 1042 February 2003

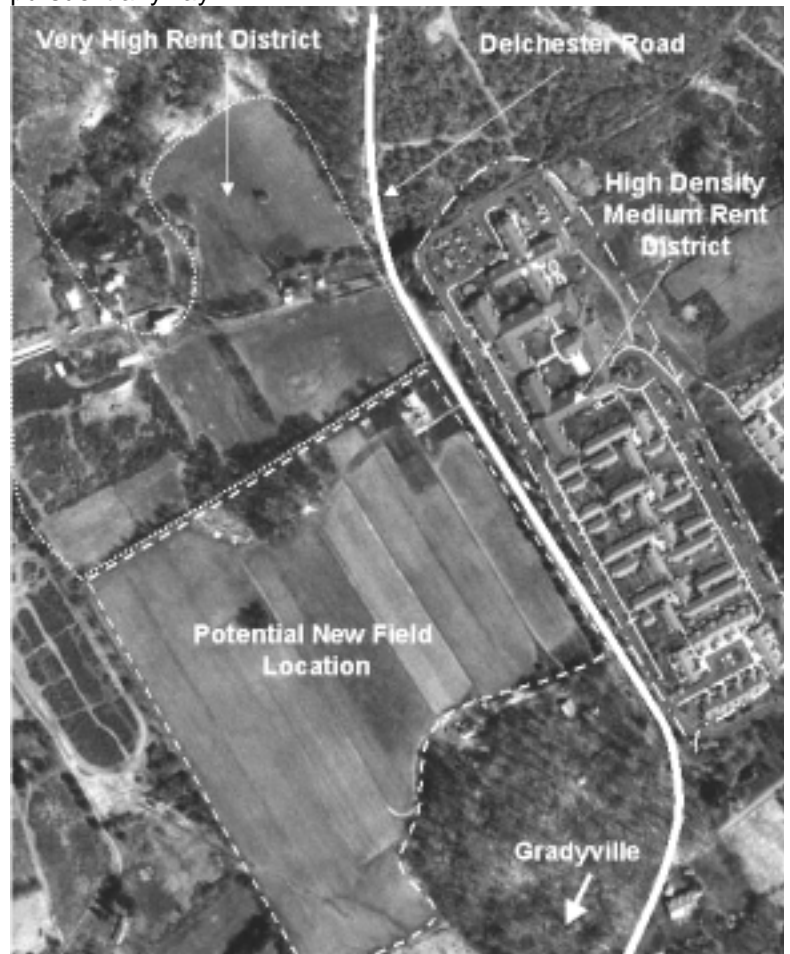
Editorial: Club Happenings

Chris Catania has once again worked his magic by securing a new lease for our use of Sleighton field this year. This took some urgent diplomatic effort as Elwyn, the current owners of the Sleighton property, have just sold the property. One of the last acts performed by their agent was execution of the lease. The terms of this lease flow to the new owners so we do have a legal standing for our continued use of the property and an understanding that we may make changes to our field and shelter. Chris even managed to get a reduction in the lease costs. On the other hand, the lease does include a clause that allows the new owners to cancel the lease with just 30 days notice. Chris's judgment is that the new owners will need many months of planning and local government reviews before any construction will be possible on the site. Therefore, so long as we are "good tenants" we should be assured the use of Sleighton for the 2003 flying season.

Out of the blue, member Mark Berkmeier stumbled upon a possible replacement field and grabbed the opportunity to ask about it. The field is located in Gradyville. The owner stated that he might be interested in a lease of his field for our use so Mark has given the information to President John Zebuski for further action.

In the meantime, we have explored the field location and it's surroundings to determine if it is a viable site. The aerial photo below shows the field, which is off the Delchester Road, just off the Gradyville light on Rt. 352.

The photo below shows an area north of the field that was, at the time of this photo, open land. However, it turns out that a small exclusive development of \$800k homes has been built on this site. Also, not apparent to Mark during his visit, is the high-density development of town houses behind a tree line on Delchester Road. So, although the invitation is open it may not be a site suitable for gas powered models, but we should pursue it anyway.



Agenda for February 4th Meeting at Marple Library 7:30 pm

- Approval of January meeting minutes
- Finance report
- Membership report
- Field Matters
- New business
- Fieldwork day plans
- **Club Auction**

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Calendar of Events

Club Meetings

Club Auction 7:00 pm
Tuesday 4th February
At Marple Newtown Library

Flying Events

Indoor flying at Tinicum School
7 till 9 pm
Friday February 7, 2003
Friday March 7, 2003

Wednesday February 19th 7 till 9
Interboro Indoor Flight Demonstration

WRAMS Show White Planes New York
Saturday February 22nd 2003
Possible Club Convoy
See Steve Boyajian

Lebanon Flea Market, 8th March

Regular Club Flying

At Moore and Sleighton Fields

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

The President's Message

Dear fellow Propstoppers:

Our annual club auction will be held this month, so please plan on attending and bring anything you wish to auction off or sell. I would like to thank Al Tamburro for organizing this annual event. Remember we will start the meeting at 7' o'clock to make time for the auction. Please come early if you have items to sell or auction off.

Yearly club dues are also due at this meeting. Club dues are \$80 and you need to bring your 2003 AMA card with you. Hopefully this will be a start of a great flying year for the Propstoppers.

John Zebuski



President John Zebuski and his wife display their favorite model at the January Indoor Fun Fly

Club Auction, February 4th, Marple Library 7:00 pm

First, note the time, although this is a normal meeting night, the Auction preparations cause us to start early. There will be an abbreviated business meeting followed by the auction. There will be no Show and Tell on this night.

Now, and I mean now, go to the shop and pick up at least four things you know you really don't need, then move them to the back door so you can put them in your car the next time you go out. It is only a few days to the auction so take the initiative now.

This is really a good opportunity to begin that clearing out process you have been planning for so long, so after you move the four pieces to the car get a coffee and survey the rest of your stuff. Don't forget those precious things you have stashed away in the attic etc., they are fair game too.

Now for the format.

- All items sold in the auction will incur a 5% "fee" from the proceeds for the club; the balance is for you (to buy other peoples junque?).
- You may also just place your stuff on the "For Sale" table, with your asking price. If you sell it the club will take a 10% fee.
- If you later decide to move an item from the For Sale table to the auction the fee goes up to 15% (I think!).

So, don't hesitate, go for it now. It is for the good of the club.

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Propstopper's 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.

Pictures courtesy of Bob Kuhn and Dave Harding
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**Minutes of the Propstoppers MAC.
January 7th, 2003 at the Marple library**

Call to Order: 7:30 p.m. by president John Zebuski

The roll call by membership chairman Ray Wopatek showed 30 members and 1 guest present. The treasurer's report was read and accepted.

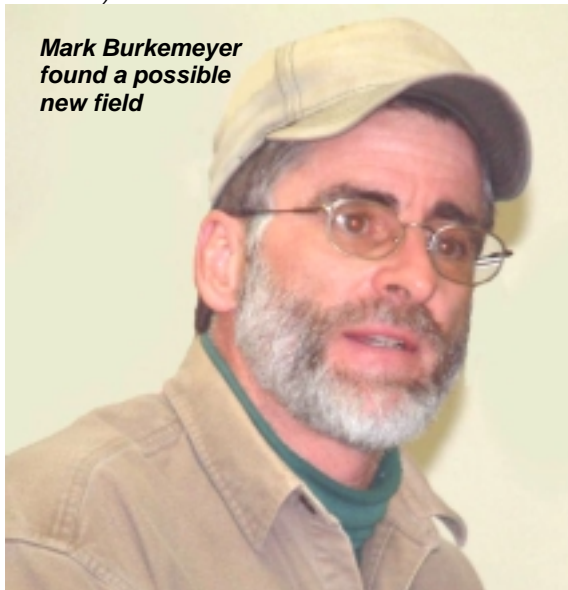
Old Business:

Al Tamburro reminded us that the club auction is to be held next month and he will be auctioneer assisted by Mike Black. The auction will start at 7:00 p.m. with terms the same as last year. The club will get 10% of all items sold from the sale table and 5% of any auction proceeds.

The indoor fun fly in December held at the Tinicum elementary school was very successful. Mike Black reminded us that we have three more of these to come.

New Business:

As part of our field search, Mark Burkemeyer found a possible site in the Gradyville area. He and President, John Zebuski will follow-up to see if this is a possibility. (See article in this edition Ed.)



**Mark Burkemeyer
found a possible
new field**

Ed Goretzka has volunteered to run the magazine exchange.

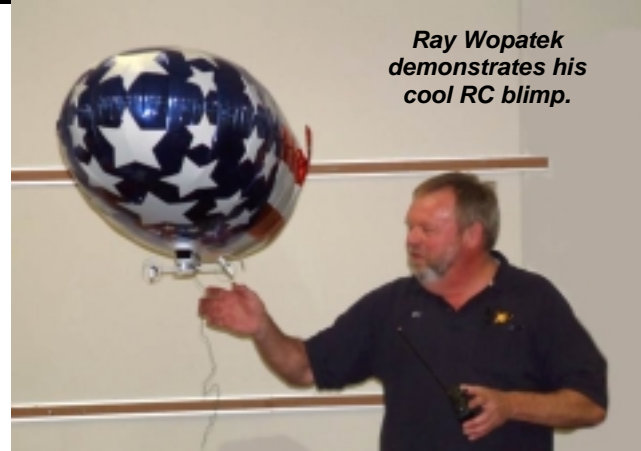
Break

The 50/50 drawing was held and this month's winner was Eric Hofberg.

Field Committee Report: Chris Catania met with the current owners of Sleighton farm and negotiated a one-year lease renewal. Because the area is being sold, the lease comes with a 30 day to vacate provision. At some time, development will begin and will have to vacate on the 30-day notice. In the meanwhile we will continue to use the field.

Show and Tell:

Ray Wopatek demonstrated his R.C. blimp, which was a big hit at the last indoor fun fly. He even managed to fly it successfully in the meeting hall.



**Ray Wopatek
demonstrates his
cool RC blimp.**

Mickey Callahan showed a Coronet A ARF model. It is an electric speed 400 years with full controls including ailerons. He also showed the GWS P 51 electric Mustang that he got as a Christmas gift.



**Mickey Callahan
with new electrics**

Al Tamburro showed an Akro bye that he purchased as a rubber free flight model. He converted it to electric and tested it. He reports that it flew well in his backyard and he has it ready for the next indoor fun fly.



**Al Tamburro
with his latest
creative toy
conversion.
Cute, Al!
(Cute Al?)**

David Harding showed his SAM legal Stardust Special made for competition flying. It has a new brushless motor with integral 6:1 gears. To prepare for competition he showed a hand held wind speed meter that he recently purchased. He also showed an electric flight logger that can be placed in a model and record the altitude on a second by second basis.

Dave Harding with electric powered SAM Stardust Special competition model.



The prolific Sam Nevins with his latest, an electric powered SIG Kadet.

There being no further business the meeting was adjourned at 8:45 p.m.

Richard Bartkowski, Secretary

Editorial, Club Happenings, continued from page 1

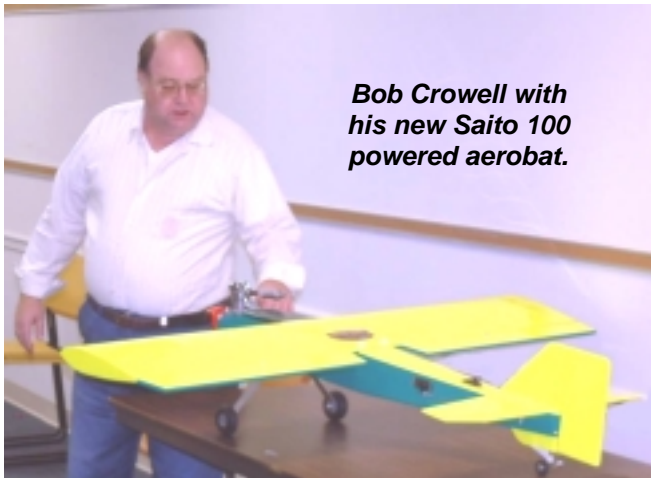
The indoor flying season is in full force and the second evening at the Tincum school gymnasium saw not only an increase in flying activity but also a large contingent of Propstopper members as spectators too.



Dave Harding's electric altitude data logger. It weighs 10 grams and plugs into a spare channel for power

Bob Crowell showed his new aerobat with Saito 100 4-stroke motor capable of 3-D maneuvers. He seems anxious to get out to the field.

Bob Crowell with his new Saito 100 powered aerobat.



Sam Nevins showed a SIG Electric Kadet with 19 cells and electric drive that he built from a kit. It is now ready to fly.



Dick Bartkowski chats with Tom Tredinnick and Dick Klekotka at the Tincum indoor flying. Chris Catania with his two children in the background. Dick is holding his electric powered free flight P-40.



Kids with freeflight models, the dominant theme of the last indoor.

Along with the usual collection of indoor RC models and Ray's RC Balloon, we saw an increasing number of freeflight models. These were built and flown by an increasing number of junior flyers. The youth of our sport are there, they just need to be encouraged and it was a thrill to see so many senior members helping these youngsters get their fledgling models to perform. And perform they did.



Dick Bartkowski gets the maximum loft for the initial launch of his new free flight electric-powered ducted fan Mig-15



Guest Craig Tompson flies his Hawker Typhoon electric free flight while Dick Bartkowski and Mike Black jaw on how good it is.



Guest Scott Tompson prepares to launch his free flight electric powered model he made that afternoon in Dave Harding's workshop. Note the trimming required on aileron, elevator and rudder to get good flight performance. This is half the fun with free flight.

The model is a winner too. Plans, motors and even a kit can be made available!



Al Tamburro and Dave Harding work on another of Al's gems. This one was from one of the plans Al is sharing with us in his "Old Gold" series from the past.

We have a wonderful time in the Tincum gym but the thought of flying in a really big gym opens up the possibilities. We must have done something right in our support of the Interboro Night School program in our earlier demonstrations because we have been invited back for a second one. This program will take place on the evening of Wednesday, February 19 from 7 - 9 PM. This demo will be performed by Propstopper Members only. **All others are welcome but must pay the night school fee of \$10 to attend.** All monies will be donated to the Interboro Night School. Call Mike Black for information. If we get the whole gym this could be spectacular as it is three times the size of Tincum. Plan to attend and come to Tincum on Fridays Feb. 7th and March 7th. Be there!

Dave Harding

More Fun in the Sun

My annual visit to the West Coast daughter began during the height of the Philadelphia deep cold spell with a stay in Phoenix Arizona, or more precisely, Eloy AZ. About half way between Phoenix and Tucson, Eloy is nothing much more than a spot in the middle of miles and miles of absolutely flat dust, free of almost all vegetation (see the picture on the back cover). But it is a magic spot because therein lies the flying field used for the annual Southwest Regionals Model Airplane Championships. This year it was the 53rd annual.

The meet is a mixture of hard core FAI free flight, laid back free flight and SAM RC assist events run as three separate meets. The SAM events are known as RC assist because the RC assists the old time free flight models to stay on the field (and find thermals too, but more on that later).

Actually, my involvement here began last spring when Dick Bartkowski said it would be fun to compete in SAM, which we did. But we could do better. First new models had to be engineered then built and tested.

While thinking about all this I realized that the Southwest Regional contest was about the time I would be going west, so why not attend. Attend nothing, I wanted to compete!

Now another family member deposited the residue of my daughter's eight-month stay in London in our house. The plan was for us to deliver two large suitcases to Pasadena on our annual visit. No room for models here. But last year I hand-carried an ARF glider back from Pasadena so I knew that could be done in the post 9-11 airline security world. So, I began the design and construction of the Stardust Special depicted on page 4 in a way that it could disassemble and carried in a smallish box.

The Stardust was engineered around one of the new crop of small brushless electric motors that weighed about half of the Aveox system I used last year. Compounding this savings into a smaller model which in turn weighed less, I achieved a total all up weight of 19 ounces vice the 37 of last year's Miss America used in the Limited Motor Run event. Weight is a major factor in the performance in this event because you must climb, in 90 second, to sufficient altitude so the decent takes more than ten minutes. The other key factor in the design is the L/D. In this regard, since we will be flying at low speed, the induced drag is paramount, that which comes from lift. Here, aspect ratio is King, and the Stardust Special has a particularly high aspect ratio of about ten. Of course, modern gliders have much higher aspect ratio, but the Old Timers had to do it with balsa, tissue and silk. More on this later.

Having progressed with the design of the Stardust for the LMR event I realized that with a different powerplant the same model would also work for the Texaco event. Here the model is flown to the longest possible flight using power whenever you need it. Very long motor run is desired, which stems from a light efficient (L/D again) model with an efficient motor and prop (gear driven and large). I ran the numbers through Motocalc and found that a \$10 Speed 280 motor turning a GWS indoor prop through a MPI \$20 5:1 gearbox was ideal.

By the time I had nearly finished the model family arrangements took care of the two bags slated for the West Coast so I could think about checking the model and taking another so I could fly all three electric SAM events during the three days of the contest.

Mick Harris came to the rescue, offering his custom-built model box. A little work to make a new lid brought it into compliance with America West's requirements of 80-inch maximum girth. One large and one medium plastic box was all that was required to pack my Tx, charger and all the tools and spares necessary for the trip, even including a covering iron! These were packed into my other checked bag.

So, on the Friday before the contest I checked my box and flew to Phoenix and then drove to Eloy. It worked perfectly, models intact, no delays and no excess baggage costs.

I had flown the Stardust a couple of times at Moore field, with varying results. The climb was awesome, measured at 2000 feet per minute, and the glide excellent. Control in the climb was good and steering in the glide satisfactory. However, I seemed to be getting some interference and on two occasions lost the model over the hill on descent. It didn't seem to make sense because I had the same problem with both propulsion systems; motor and ESC, the items that are most likely to cause interference. I knew I had an excellent Rx, the FMA M5, similar to the one I had used in multi frequency meet environments so I just sucked it up and went west with the same setup.



Eloy on Friday afternoon was critical to get the final rough points worked out and explore the "interference", so I was pleased to find the wonderful field and 75 degree, calm conditions. My other concern was my ability to see the model at the peak of the climb, which had the potential of being 3000 feet up! Calculations suggested I didn't need that much performance to achieve the ten-minute max so I erred on the safe side and reduced the climb rate with a smaller prop.

The clear Arizona air enabled diagnosis of my "interference" problem; the wing was fluttering, even at climb speed. When flutter set in, lift was lost and elevator effectiveness markedly reduced...just like interference. At glide speed there were no problems but transition or aggressive maneuver would induce the flutter.

As luck would have it the first event to be flown on Saturday was Texaco, an event that only required slow steady ascent and cruise so I could put off the flutter solution till Monday and still fly the Stardust.

Analysis suggested that the motor run might be in the order of 50 minutes although you never get the theoretical performance in real conditions. I wanted to test this set-up too but by mid afternoon the wind picked up and quickly blew beyond the capability of the model to hold its own. So the day's testing was concluded and some concern about weather patterns was raised; "would it start calm then blow hard tomorrow"?

Saturday I started early to get in some more testing. It gets cold in the desert at night and I spent an hour and a half testing my Spirit of SAM model for the Sunday event until I was chilled to the bone, it was in the thirties! However, by ten o'clock the sun was strong and the layers came off down to shorts and T-shirt. My friend Jim Kutkuhn, who now lives locally, told me the thermals grow beginning at about ten then it sometimes goes flat in the middle of the day and thermals grow again in late afternoon, but I was wary of the wind coming back.

So, since I expected good calm air performance I flew first and put in a flight of 39:21. As it was warming up, still concerned about the wind I elected to make my second flight right away. This one was not quite as good at 36:00. Best single flight wins this event. All I could do now was wait. My time held up until three o'clock when the winds were still calm and the desert warm. Three contestants that could not match my still-air time managed to find and ride thermal lift to push me to fourth.

The winning competitor, Hardy Benson ended up as the meet's Grand Champion. He flew in many events, an excellent thermal flyer. I timed for Don Bekins, one of the top guys, in Texaco Ignition. Flying a nine-foot Lanzo Airborne with an eleven minute engine run he hunted and pecked for lift throughout a thirty minute flight. Hardy Benson found the lift necessary for a fifty eight minute flight in the same air. This being beaten by good thermal flyers is getting to be a theme in my contest flying and the same thing happened the second day in the Spirit of SAM event.

		MAY 05		EVENT	
		Texaco Results			
Contestant		1	2	Cost	
1	DAVE HARDING	39:21	36:00		39:21
2	STEVIE ROSELLE	25:47	40:33		40:33
3	LUTHER PETERS	AT	17:47	28:05	28:09
4	ED RUTHERFORD	36:46	41:10		41:10
5	BO BUIKE	15:07			
6	ROBIAN BETHELL	22:02	14:01		22:02
7	BOB SCHLEMMER	28:53			
8	GEORGE CLARK	25:41	26:03		26:03
9	HAROLD BOLDON	38:24	43:58		43:58
10	VAN WAGENER	7:30	8:01		
11	PAUL PEARCE	36:43			

Now to fix the flutter problem for the LMR event.

Flutter occurs above a certain speed in aerosurfaces, which exhibit a specific combination of torsional and bending stiffness, weight, CG and elastic axis location. The elastic axis of a beam is the point at which an applied load produces only bending; no twisting.

Obviously, high aspect ratio wings are particularly prone to flutter, as they are limber in both bending and torsion. Suffice to say here, but more on flutter later, increasing the wing torsional stiffness was the best option, maybe the only one given that I was operating out of a motel room.

The Stardust weight control program involved using the lightest covering material I could get away with, from a handling-strength point of view. "Solite" is a brand of polyester film that is one-third the weight of Monocoat. It is also 1/3 the stiffness and the covering is a key contributor to the torsional stiffness of open, stick-built, model structures. As luck would have it there was a vendor who had some Micafilm covering material. This material is probably also polyester film but it is loaded with fine mica fibers that add considerable stiffness and tear strength. It does not contain an adhesive but you use Basaloc for adhesion. So, armed with the necessary materials I stripped the lower covering from the leading edge to the spar. This allowed me to inspect the critical structure for "post-flutter" damage, there was only one loose joint. Then I covered the lower and upper surfaces from the LE to the spar with Micafilm (glad I brought the covering iron). This is the most effective place to apply a torsion "wrap" as it encloses the maximum area of stable structure. Torsional stiffness of a thin-walled tube is directly proportional to the shear stiffness of the "skin" and the enclosed area. Guess what; it worked perfectly, the stiffness went up to at least double.

Now I needed to test the result to see if I had a stable airplane to fly in the LMR event on Monday, but first I had to fly the Spirit of SAM event on Sunday. This event is for electric powered Old Time rubber models and I used my 1939 Jack North Wakefield with which I took fourth at the SAM Champs.



1939 Jack North Wakefield Spirit of SAM

Flying against technically inferior models I was trounced again by the thermal flyers despite coaching from new Texan friend Gerald Martin, (who was a senior member of the Confederate Air Force

and flew both Spitfires and Me 109's for the movie "The Battle of Britain"). These guys are certainly old but their ability to watch for minute upsets in the model's behavior is awesome. "See that? turn it now" was the frequent command. I didn't see "that" and often made poor altitude-losing turns. But he did impart some real strategic wisdom via a drawing with a stick in the dust following the flight.

He also invited me to the evening BBQ that turned out to be a wonderful experience under the Arizona desert stars. How do these guys remember all the words from all the verses of so many cowboy songs? One of the flyers came with a complete John Wayne outfit including sidearm. He walked, talked and acted John Wayne till the wee hours (don't ask me how I know!) Of course we were all loaded following the obligatory downing of "Lanzo Boomer's", a concoction, which it is said, was from a recipe by the great Chet Lanzo his self.

Cowboy songs and "Lanzo Boomers" under the Arizona stars.



But I am getting ahead of myself; following the Spirit of SAM flying I tried the modified Stardust with the hot-brushless setup. It worked perfectly so now my worries returned to the question of whether I would be able to see it at the end of a 90 second run.

The test flights confirmed that the model was stable within the flight envelope necessary for the LMR flight although whether I could dive it out of a strong thermal was problematic.

The forecast for Monday was for a large area of disturbance to move in from the South and the day dawned rather overcast and cooler. I thought that the white clouds would form a perfect backdrop to enhance visibility of the model at the top of the climb and so it proved. I flew early with Jim Kutkuhn timing and advising. I could just see it at the peak altitude and with the light winds I was able to cruise towards imagined lift until I made the ten minute max with lots of altitude to spare. Now what to do? The weather continued to be uncertain with dark clouds on the surrounding mountains and a slow increase in wind speed. Since I had performance to spare I decided to fly again as soon as a suitable cloud moved in. While waiting, the wind speed really picked up and using my new wind speed gauge I saw that the speed was approaching the maximum for the Stardust. The maximum occurs when the model cannot make headway against the wind. Any increase above this pushes the model downwind. You must land on the field for the flight to count. So, I waited until the wind seemed to abate a little then flew. The second flight went much the same as the first with a good climb to altitude against a white cloud however this time I had little leeway in choosing the flight path. All I could do was stay upwind. As I descended to the lower altitude, with eight minutes on the watch, I encountered higher winds and it was necessary to dive towards the field. This resulted in a sound landing but I had wasted a couple of minutes of duration, the time being just under nine minutes.

The wind now picked up in earnest revealing the worst part of desert life, the dust storm. If I imagined the romantic life of the cowboy the previous evening I certainly reversed my image this day.

How had the others fared? Well, a number of them had made first round maximums and one had made a max in his second round but all the others that did get in second flights were lower than mine so I was second. Pretty good really, second third and fourth.

Can't wait to try out my newfound thermal strategies.

Dave Harding

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Propstoppers R.C. M.A.C



Gerald Martin flies to victory in the Ohlsson side port flyoff in Eloy Arizona during the Southwest Regionals Model Airplane Championships. All supporters were designated honorary Texans for the occasion although most of them really were. Can we find a field like this?

Membership Renewal For 2003

Membership renewal for 2003 is now due.
You can renew by mail or at the club meeting in February.
Dues are \$80.

Note; Junior Members MUST show their 2003 AMA card at the renewal time.

Please send a check to; **Ray Wopatek**
1004 Green Lane
Secane, PA. 9018

Please enclose a copy of your current A. M. A. Membership card,

And Please, Please enclose a Stamped self- addressed envelope.

Ray Wopatek Membership Chairman

Magazine Exchange Program

This is an activity for you to support as well as enjoy so; Bring any old (or new) copies of model airplane magazines to the club meeting. We will put them on a desk for members' perusal.

Magazines may be purchased for \$0.50 each or 3 for \$1. You may keep them or bring them back and recycle them.

All proceeds will go to the club.

You will not have to take your donations home, I will do that and bring them back for the next meeting.

Ed Goretzka

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