

M.A.R.C.S. SPARKS

Monthly Newsletter of the Madison Area Radio Control Society
Madison, WI

AMA Charter # 665

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Minutes of MARCS General Membership Meeting, September 5, 2002

By Dave Rush substituting for Burr Fontaine

Meeting called to order at 7:05 with 40 members in attendance.

Visitors: Jim Lacy

New Member: Mike Kimmerly (who is flying solo and learned without an instructor).

August Minutes : Accepted. Nothing new from Ed on the \$\$\$.

Event Reports: Hand Launch Event: Pretty windy day. Steve Yahr from Madison Won. Lots of broken planes this day!

Kindshi Scale Rally: Went well, lots of help. Thirty one registered pilots and 51 planes. Raffle Sponsors included Bob's Aircraft Documentation, Concept Models, Dymond Modelsport USA, LTD, ProMARK, Model Graphics, R/C Report and Schultz Sport & Hobby. We need to get these events in the paper to help generate more spectator interest.

Fun Fly: Five flyers at the fun fly. All had a great time although oddly enough all declined participating in the barrel dive!

Old Business: New Bench Comments: Front horizontal piece needs to be twice as wide so field boxes, etc. don't have to do a balancing act. Wheels might be a nice feature if the bench is light enough so it doesn't make ruts.

When you clean your plane please clean the bench as well as any other junk that should go in the garbage cans. Cigarette butts too please!

Dave Jeardeau's student, Bob Stowell, soled and wanted to thank Dave for all the assistance.

Dan Dudovick presented outstanding service award for running the instructor program. Dan thanked all the people who have instructed and said if you are interested in instructing to let him know. The year has been successful, but we still need more instructors!!!

New Business: Fall thermal report next month.

Come Fly With Us

MARCS meetings are held on the first Thursday of every month at 7:00 P.M. in Room 201B of the Madison Labor Temple, 1602 S. Park St. in Madison. Visitors are always welcome. We think we have a great hobby and we invite you to come and see and consider joining us.

Officers:

Pres: Wayne Lanphear, bgbird@charter.net

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Secty: Burr Fontaine, 233-9063

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The MARCS web site contains links to War Birds and Electric Flyers Special Interest Group web sites

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Contribution of articles is encouraged. Deadline for submittal is the 20th of the month

Wayne has e mailed to the golf superintendent regarding cars having access to the field from soccer fields. Some damage has been done by cars doing donuts on the field. It is also a safety issue as many golfers end up under planes on their final!

E mail Wayne (bgbird@att.net) if you are interested in the e mail address of a person selling out of electrics.

Raffle: The following won real sharp MARCS Sweatshirts: Vince Aman, Bob Geimer, and Bob Stowell

Show and Tell: Dave Rush – F-15, speed 400 pusher, 24” wingspan, 20 oz. A great place for you too old ZAGI guys that are in need of a home!

Tom Lazar – Messerschmidt 109 (BF 109 G2 (I hope that’s right) 32 lb., all composite except control surfaces, 102 Wing Span, 1/4 scale. Very Impressive Model – I hope we get to see it fly!!!

Mike Kimmerly – Discontinued Blue Hanger 9 Cessna 182 w/ Saito 72.

Harley Nelson – Eagle DW1 Duster – 108 magnum, 13 lb., 97 inch wing span. The dusting holes are built into the bwer wing. Ailerons on the top wing only, spoilerons on the lower wing. I must also note some of the names Harley took in vain because they caused this project. Frank Baker, you should have been here to defend yourself, because you were blamed for finding this plane. I bet your ears were burning!!! Chris Spierings just smiled about his ability to help/cause wing construction through his computer program. As well as some unnamed others. Perhaps we need a cash award for anyone who finds obscure dusters for Harley to build!!!! VERY COOL as always!!!!

Adjourned at 8:30.

Philosophy 101

What do you call a woman who knows where her husband is at all times? --A widow.

1.5 Meter Hand Launch/High Start Contest

By Larry Landucci -- CD

The 1.5 M contest held on August 17th, 2002 featured only three MARCS members and two "out-of-towners." The weather forecast scared away several other potential contestants, both in and out-of-town, however the situation was much better than the forecast. There was no rain, the fields were dry and the only

challenge was a brisk wind for most of the day, although we were somewhat shielded because we were directly downwind from a high hill. Our three MARCS members took all three trophies. The first two were taken by the father and son team, Steve and Ben Yahr, and the 3rd place went to Al Scidmore. Although there were a few thermals, it was difficult to work them because of the wind. Some of the pilots utilized the lift coming off the back side of the nearby hill to stay up longer, but it was inconsistent and rather turbulent. There were a few slightly damaged aircraft but backups and glue saved the day and everybody finished all six rounds.

Carl Mohs (the alternate CD) assisted me in the running and scoring tasks and both Carl and Al Scidmore provided much of the material necessary for the contest.

<u>Contestant</u>	<u>Score</u>	<u>Percent</u>
Steve Yahr, Verona, WI	5563	
93		
Ben Yahr, Madison, WI	5490	92
Al Scidmore, Madison, WI	5198	87
Steve Leitgen, LaCrosse, WI	4745	79
Paul Haley, LaCrosse, WI	4737	79

New Indoor Electric Season is Near

By Pete Aarsvold

EXCITING NEWS !!!!!!!!!!!!! I talked with Susan of Urban Links Golf. She says that we are welcome to fly this season at Urban Links and has asked me to confirm times. She will confirm prices.

I have committed to fly starting on Sunday morning, November 3, 2002 at 7:30 am. Flight session will be for two hours ending at 9:30 am.

If you think we should start earlier than November, let me know. If enough interest is heard, we can certainly start sooner. Please reply to: paarsvold@tds.net

Elections -- Your Club Needs You

Not all elections this fall are for political office. As you know, we need nominations for club officer and board slots in October so that the election can go forward at the November meeting. This year, in addition to needing to fill three three year seats on the Board of Directors, there is a fourth, partial term, by reason of a current vacancy. To assure a democratic (geez, I didn't mean Democratic) election we really need more than four candidates. If your term is expiring, why not run for

RESULTS OF 2002 SOUTHERN WISCONSIN FALL THERMAL SOAR SEPTEMBER 7, 2002

By Brian Andreas

The 2002 SOUTHERN WISCONSIN FALL THERMAL SOAR was once again a success! I was glad to see so many attending from around the state. Hopefully, we will see more from the Madison contingent next year. A BIG THANKS to all that helped (especially Al Scidmore). We added the landing task this year and it seemed to generate some interest along with spreading out some of the scores, but it was still not until the final round that first place was determined in unlimited. I hope to see all of you next year! Below are the final results:

Name	RES or UNL	Freq	Total	Place	WI State Sailplane by Class	WI State Sailplane Combined
Bob Hawkins	UNL	59	2535	1st	1000	1000
Matt Barbian	UNL		2102	2nd	829	829
Al Scidmore	UNL	44	2017	3rd	796	796
Brian Andreas	UNL	39	1964	4th	775	775
Tom Hoff	UNL	52	1655	5th	653	653
Bob Harold	UNL	35	1097	6th	433	433
Dewey Boelk	RES	29	1728	1st	1000	682
Bob Harold	RES	35	1479	2nd	856	583
Toom Lambert	RES	59	976	3rd	565	385
Dan Kirk	RES	51	70	4th (DNF)	41	28

reelection? The past three years weren't really very tough and you have served the club well. If you have never been involved in the club's leadership, this is your chance to fulfill an obligation to actively participate in your club's affairs.. The duties aren't at all onerous and the small time investment is part of the price we all need to pay for membership.

Also, while I, personally, hope the current officers will see fit to run again because I think they have given great service to us, I would hate to see them run unopposed. That's just not the way to achieve the kind of leadership that everyone can feel is representative of their personal interests. If you decide to run, it's not a matter of your

winning or losing, nor that of your opponent. It's a matter of giving the members a choice.

If you are a member of a Special Interest Group, it is especially important that you or one of your buddies should seek to represent that group's interest, either as an officer or on the Board of Directors.

Bill Kinney is this year's Nominating Committee Chairman for securing candidates. Please contact him at hukilau@itis.com or at 846-7999 to nominate yourself or someone else who will agree to run for any of the positions that must be filled. MARCS really needs you.

Condolences

We are saddened to hear of the sudden, unexpected death of Dick Strand, President of the

Midstate Aeroguidance Club in Marshfield on September 2. We extend our sympathy to his club's members.

Look at the MARCS Web Site

If you haven't visited the MARCS web site lately, now would be a good time to do so. Bill Velez has done a nice job of setting it up and really deserves a pat on the back for it. Some of our members have contributed some great pictures from the past summer's events too. The pics from War Birds Over Dane and the Kindschi Scale Rally are especially good -- as are the planes that are the subjects of them. To visit the site, go to marcswi.org and click on the links on the left side of the home page.

The Bent Bird

Batteries and Switches or Airplanes

By Don Weigt

Remember the old oil filter ad, with the mechanic rebuilding an engine saying "you can pay me now, or pay me later?" Some of the components in our models could be sold the same way!

We'd all like our planes to last a long time. As we gain experience, skill, and judgment, we build and fly better. Our planes naturally last longer. We get more flying and more pleasure from our investment, and that's great!

Most parts of our planes have long life expectancies. Even the hard working engines and fuel systems can last a long time. The airframes also are very durable if well built, protected from fuel, and we don't crash the planes. Some accessories last "forever"! When is the last time you wore out a set of wheels? I've had some on 3 or more planes. The receivers and servos are very durable, too.

But some things do wear out or age faster. Switches are one item, because they have moving contacts and are seldom mounted softly to protect them from vibration. Batteries are another, not necessarily because of vibration, but because the materials they are made of can't be perfectly pure, and the contaminants eventually cause them to fail.

One of my students recently checked his plane's receiver pack after 5 flights. He had one of the battery testers with a moving meter pointer. It showed his pack was nearly discharged, so we decided to quit flying the plane for the day. His battery tester may have saved his airplane from an early end. I was pretty impressed. Here

was an easy test that protected his investment.

In all my years of flying RC models, I've never had a battery tester. I do have general purpose meters for reading voltage, current, and resistance, but I've never made up an adapter cable to connect them to my airplanes. Even if I had, they don't have a load like the battery testers do. The meters themselves draw so little current that the batteries would be read in an essentially unloaded condition.

So, I bought a battery tester. It was inexpensive, simpler than making up an adapter cable and load for my meters, and left my meters available for other uses. The first battery I checked was the 1400 mAh 4 cell JR battery in my big PT-19. After only 3 flights, it was down in the yellow (caution) range, meaning I probably should stop flying it. Hmmm. I'd been flying 5 similar flights without problems. Was the tester just conservative, was the battery failing rapidly, or was something else happening?

I checked the 600 mAh battery in my oldtimer and it read higher. The battery in the PT-19 read at the top of the green range only briefly after charging. I crudely measured that the PT-19's battery had about 700 mAh left (half of its full capacity) after the tester showed it was down to "20%". I was certain it wasn't really a 3500 mAh pack!

Well, this battery was 3 years old, the same age as my JR XP783 radio. That radio, like most JR's, has a transmitter battery voltage readout. I had noticed that the transmitter battery voltage is at least several tenths of a volt lower than it had been when new. One effect of aging batteries is that their voltage is lower, even though their current capacity may be nearly as high as when new. Hmm. The "20%" tester reading was several tenths of a volt below the green range. It seemed obvious that the voltage reading wasn't a direct indication of the real percentage of power left. That makes it harder to use correctly.

Discharging an airplane's battery too far can cause two main types of problems. First, if the voltage is too low, the receiver may quit working and the plane will be out of control. This will happen at the same voltage, whether it is when a new battery is fully discharged or an older one is partially discharged. But, this voltage is usually quite low, so other problems happen first.

The other major problem is that it takes power to move the control surfaces, and to hold them in position when the control surfaces are getting pushed toward another position by the airflow, or from any other outside

force when not flying. For example, If it takes 200 mAh to do the work of moving the controls for a flight and we take off with only 100 mAh remaining in the battery, the controls will go dead about half way through the usual flight time. The consequences are usually severe!

A minor effect is that lower voltage means the servos will run slower, but a few tenths of a volt less than five volts only slows them a little. I had not noticed any slowing of the controls in my PT-19.

The same battery voltage reflects the least remaining power when the battery is new and its terminal voltage is high! The same reading on an older battery may occur with far more power (safe flying time) remaining. If you built testers, you'd never want them to read that it was safe to fly when it wasn't, so you'd have to design them to read correctly with new batteries. Older batteries would show as too discharged to fly earlier than might be necessary, but that could not be helped.

So, an old battery may have more remaining capacity than a tester shows, but would you risk an airplane on it? I decided I wouldn't. I recycled this old battery, and replaced it with a new one of the same type. I'd rather spend an hour and \$25 replacing a battery than all the time and money it would take to replace an airplane and possibly a motor and some of the radio gear!

So, in a way, the battery tester cost me money: I replaced a battery that may have had another year of life. But, to me, it's worth the cost of 2 gallons of glow fuel to make sure the radio in my PT-19 doesn't run out of power, and so I can fly 5 flights on a charge without worry instead of flying three. After all, the plane cost about \$300, the motor about the same, then there are servos, the receiver, the replacement wheels (lighter), and all the other bits and pieces, plus a lot of time.

Even if the battery cost \$30, replacing it every 3 years would be an annual cost of only \$10. I think that's a bargain, given what it's protecting!

I even recycled the 2 year old 600 mAh JR receiver battery I had never used in a model. I thought it would be dumb to install it in any plane, knowing it should be replaced in a year or so.

If you don't have a battery tester, what should you do? First, I'd recommend getting one, and using it, and not flying when it shows your battery is anywhere below the green, even if you think it has power left for several more flights. A tester costs less than \$20, and can be used with all your flight pack batteries. Many are designed for use with 4 and 5 cell batteries. If you use both types, be sure to buy a tester that can be used with

both.

Second, when the batteries get down to the yellow range after 3/4 the number of flights they did when new, or 3/4 the number of flight minutes, I recommend replacing the batteries.

Finally, if you can't or won't buy a tester, I recommend replacing airplane battery packs after 3 years, or sooner. You'll have to keep records, or put dates on them to show when you bought them. I guess that makes a good argument for buying the tester, which makes those records unnecessary and will catch early battery failures, too.

Also, keep in mind that a heavy, fast, or powerful plane flown hard uses lots of power to move its controls, and loads down the output voltage of any battery pack. The harder you fly, the better the battery(ies) should be, and that means newer, or higher capacity, or cell types with lower internal resistance, or some combination of the above.

Transmitters with power output meters or low voltage alarms are easier to monitor. If they give you all the flying time you want on a charge before their power drops below the green or the low voltage alarm sounds, they are OK. When they run down too quickly, it's time to replace them.

I haven't replaced any of my 3 year old switch harnesses, but think something similar might be a good idea! After all, they cost even less than flight pack batteries.

Switches and connectors are the least reliable parts of most electronics. That's because "most electronics", as defined, didn't have batteries! Batteries are the least reliable part of properly designed electronic devices. Switches and connectors are next.

A switch harness that's never been used should be fine, if made with good grade contacts, but switches definitely wear out, and wires fatigue and break. Fuel, oil, and dirt can get inside switches and foul their contacts, making them unreliable. Replacing a switch harness after several hundred flights would be cheap insurance.

Any erratic switch or switch harness should be replaced immediately, before attempting even one more flight!

If the offending switch is the transmitter's power switch, replacing it usually requires sending it to an authorized repair station. It's a lot better than crashing an airplane, then still needing to send the transmitter in for repair!

Replacing batteries and switches as needed is an

easy preventive maintenance item that can make our models' lives longer and happier.

Interrogating the Kriegies, Part II

How'd He Do That?

By Jerry Buss

Last month, we were introduced to Hanns Scharff, the Luftwaffe's Master Interrogator. Material for this series is taken from *The Interrogator* by Scharff and Colonel Raymond Toliver.

Part of the psychological force that Scharff was able to bring to bear on recently shot down airmen was an array of information that left kriegies gasping with little doubt in their minds that he already knew all of the answers to the questions that he was asking, so what more could they possibly divulge to him? How did he do that?

Early on in the war, after Dunkirk, at the time the Battle of Britain was just getting under way, the British had radar stations set up along the Channel Coast. These were used to vector fighters to intercept incoming German raiders. The Germans had no radar at the time, but they did have radios. A listening post manned by men who were highly fluent in English was established opposite the radar stations at Wissant under the command of Hauptmann Horst Barth with the assigned task of monitoring all channels used by the British fighter units. It is apparent that this unit had spies afoot in England, for they knew all call signs used by the RAF and all code words, as well as what squadron used which channel. By monitoring instructions radioed by RAF ground control, they knew at all times what the British were doing and where they were. Barth tried hard to get Jg-26's CO, Adolph Galland, to allow them to vector him and his pilots to engage the RAF defenders, but he was stubborn saying he was a fighter and not someone to be lead about on a string. In an all or nothing gamble, Barth made a bet with Galland that he could help in setting up an ambush. On an afternoon when all was otherwise quiet, Galland and a wing man took off on the French side of the Channel. Radio traffic immediately indicated two aircraft taking off in England and heading toward a rendezvous with the Messerschmidts. Barth directed Galland into a favorable position and then told him to look up, into the sun. The result was that a bounce by the Hurricanes was forestalled and Galland shot them both down. From then on Barth was some kind of wizard to Galland and radio monitoring was there to stay,

More listening posts were established up and down the Channel and North Sea Coasts. As the RAF and USAAF air activity grew these posts were expanded inland to the Rhine and then beyond, even to Berlin. Every radio channel used by the Allied fighter and bomber units was constantly monitored. All radio traffic was laboriously written down and forwarded to Oberursel where it was carefully evaluated, cataloged and filed. German intelligence was so good that the monitors usually knew of planned frequency and code word changes before the concerned Allied air crews did.

Obviously, a great deal Scharff's information other than radio intercepts came from agents within the Allied camp. For example, when Francis Gabreski appeared before him, Scharff produced a picture of Gabreski, Mahurin, Johnson, Zemke and a couple of others that was only a few days old at the time Gabby had taken off on his last mission. Certainly there must have been a spy somewhere in the camp of the 56th Fighter Group. Similarly, he was able to show a four or five day old picture to Hub Zemke of himself and three other pilots when he came before The Interrogator. Looking at such detailed results of obvious espionage, Gerald Johnson, a seventeen kill ace of the 56th, remarked, "This breaks my heart," when Scharff allowed him to read the file on his group. Not only did it contain a detailed and accurate history of the organization and an accurate and up to date personnel roster, it had detailed information on the men. On himself, information included his mother's maiden name. The fact that German intelligence files contained the name of the 351st Fighter Squadron's Armament Officer's dog and that their Intelligence Officer's name was Blackie Fuchs was not the result of prisoner interrogation.

Such innocuous pieces of information could be used to overwhelm a young, nervous, scared, recently shot down airman. If the Germans already knew all this they must know a lot more. Why risk privation, hardship and possible torture?

Not only did the information the Luftwaffe had come from radio intercepts and espionage in the combat units, the GI newspaper, Stars and Stripes, was only seldom more than three days old when it arrived at Oberursel. One of Scharff's favorite ploys was to ask what happened in the comic strip *Terry and the Pirates* on a certain recent day that he said he had missed. Many articles in Stars and Stripes openly discussed things that air crews were warned must not be divulged to the enemy should they be shot down. Those responsible for security

on the American side learned nothing from this, for only a few years later the Atomic Energy Commission would be jealously guarding the secret of the atomic bomb, when a recipe for making one was published in *Popular Mechanics*. Much the same went on in news print in the states. German agents took clippings from both large and small circulation newspapers. If a boy were graduated from flight training at Kelly Field in San Antonio, Texas and commissioned a second lieutenant, his hometown newspaper in Kalamazoo, Michigan proudly announced it and that item found its way unerringly to Oberursel. When a new fighter group arrived at Liverpool aboard the *Queen Elizabeth*, it was observed by German agents and its movements were tracked to their final duty station. Each pilot in the group could be identified by name, rank, serial number, hometown and more. Their having such details as serial numbers suggests that there must have been moles within military units themselves, perhaps in very high up units. The command structures of both the 8th and 9th Air Forces were open books.

These clandestine operations are only alluded to in *The Interrogator*. The information probably got to Oberursel via neutral countries, mainly Portugal or Spain no doubt, perhaps in the diplomatic pouches of neutral nations that collaborated with the Germans.

In at least one prewar case information simply walked out of the country. Throughout the war, the Norden bomb sight, a much overrated instrument, was a jealously guarded secret, but its details were well known to the Germans since 1938 when a disgruntled worker at the factory where they were made passed a complete copy of its plans to a German agent. A courier rolled them up inside a closed umbrella and, feigning a bad limp and using the umbrella as a cane, passed unchallenged through customs en route to Germany.

Another main information source came from shoot downs. Every crash of an Allied aircraft was required to be reported by anyone having knowledge of it and its circumstances were documented. The gatherers of crash site information was the BUNA unit, "BUNA" being the initials from a phrase in German meaning "Information Through Booty." The BUNA unit accumulated "booty" from crashed aircraft, corpses and captured airmen, creating crash site files. When a downing occurred, a BUNA team appeared at the crash site, usually within a day, and combed the scene for information such as aircraft type, squadron markings, date and time of crash, pilot killed in crash, captured or unaccounted for. They searched for such things as maps,

navigational notes, personal things like unmailed letters home, pictures, mess hall tickets or stubs and anything else a pilot may have left behind in his hurry to bail out or to get away from a crash landing. If the pilot was dead, it could be a grizzly task to search the clothing of a badly burned or otherwise ravaged corpse to collect his dog tags, maps, escape kit, wallet, watch, pictures and whatever else might come to hand. If not burned, gun camera film was collected, developed if exposed and assessed

If the pilot evaded capture for some time, the crash site file helped identify him when caught and provided a base of information with which Scharff could ambush him. Invariably, airmen were admonished to leave all identifying information behind when going on a raid. However, twenty two year old hot dog pilots know that they are immortal and cannot be shot down. Consequently, they provided a treasure trove of information when the impossible happened.

Each pilot was provided with an escape kit. One item was a button sewn into his clothing that was magnetized and could serve as a compass when floated in water. Somewhere in his clothing a waterproof escape map printed on very fine silk was hidden. Germans regarded these as prized souvenirs. He carried some combination of Belgian, French, German, English, Dutch or American currency to provide a fund to buy train tickets, food or clothing or to pay bribes. Other material included an easily concealable wire hack saw, water purification tablets, concentrated food tablets, a morphine syringe and a small folder with twenty useful sentences in several languages. He also carried five pictures suitable for forging an ID card. Each group's intelligence officer had these pictures taken in his own photo shop. Since the flyers didn't come to England with civilian clothes, five sets of clothing were collected by each officer to convey the impression that the subject was a fisherman, a farm laborer, a factory worker, etc.. The French Underground were masters at creating forged documents from these pictures, but there was a fatal flaw. The same clothing was always used to take the photos of everyone in a given group and the same background was also invariably used. Additionally, each group's method of cropping and editing the pictures were uniquely individual. As a result, specialists at Oberursel could look at the five raw pictures taken from a newly downed airman or a forged pass taken from a "suspect" in civilian clothing and know that the man was an American fighter pilot from, say, the 357th Fighter Group. Each downed airman, living or dead,

was carefully searched for this material. Answers to questions by interrogators asking for information beyond name, rank and serial number were already known and only served to obfuscate what the interrogator was really after from a frightened and confused kriegie, if, indeed, he was after anything special at all. Such advance information might also serve to indicate whether a kriegie were lying, if he did talk.

All these bits and pieces of information were assessed, sorted, cataloged and filed away in one huge file room under the direction of one Frau Biehler and a covey of buxom fraulein file clerks. Several of the kriegies who contributed statements to the authors remark on these women and on Scharff's secretary, the blonde and lovely Fraulein Beck. Frau Biehler, personally, was a veritable storehouse of information, as were her files which contained a myriad of seeming trivia on nearly every pilot in the USAAF and the RAF.

Where Frau Biehler's files contained gaps, those gaps were easily filled by interrogators after impressing kriegies with what they did know and then maneuvering for answers to get at the missing facts.

Next month, The Interrogation of Lt. Price

MIA

War Bird and Electric articles were not received in time for publication.