

# M.A.R.C.S. SPARKS

Monthly Newsletter of the Madison Area Radio Control Society  
Madison, Wisconsin AMA Charter #665

Volume 44 - January 2005 - Issue 1

## *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:**

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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 for publication is encouraged.  
**Deadline for publication is the 20<sup>th</sup> of the month.**

## Minutes of the December 2, 2004 Meeting

*By Andrew Morrow*

**Visitors:** Bob Henricks visited, he is interested in R/C electric and free flight models.

**New Members:** None

### **Old Business:**

- November Minutes passed with modifications.
- The new webmaster for MARCS is Jeff Alexander.
- If equipment is not working at the field please let an officer know so that it can be fixed.

### **New Business:**

- Electric Flying is scheduled for the day after New Years at the Dome. \$15 to fly, nothing to watch.
- We need awards and nominations for the annual awards banquet.
- The combination to the lock on the gate will be changed January 15th.
- Come out to the New Years Fun Fly. Flying begins at 10am.
- A new Director is needed for Warbirds Over Dane this year.
- Questions were raised for the opening of the gate once in a while to allow the general public to get involved with the club.

## Philosophy 101

I never hated a man enough to give him his diamonds back.

Zsa Zsa Gabor

## MARCS Annual Awards Banquet

Dave Rush has labored and brought forth what sounds like a real winner again this year for a MARCS Awards Banquet. Here's the pertinent poop:

When? Sunday, February 20  
Cocktails: 5:00 pm  
Dinner: 5:30 pm  
Where? Dry Bean Saloon on Verona Road.  
Menu? Chef carved prime rib and ham  
Baked cod  
Twice baked potato, green bean almandine  
Tossed salad  
Mrs. Rush's dessert (even Dave doesn't know)

All you can eat!!!  
Price? \$22 per person

See the next to last page of this bulletin for the sign up sheet. Online readers can print it from the document you are reading now.

Dave needs your sign up by not later than February 10, but as editor of this bulletin I know that earlier is a whole lot better and much appreciated.

Don't forget to make nominations for the three awards most folk would like to avoid, the Scooter Trophy for Nice Guy of the Year and also those for recognition of service to the club. You may use the space provided on the sign up sheet for nominations. Nominations for special, non-traveling, trophies for especially outstanding service will also be considered by the Board of Directors.

### Name the Plane Contest

Once again I'm sponsoring a Name the Plane Contest in conjunction with the banquet with another fabulous prize, a bottle of Chateau du Buss Concord Bridge Wine, vintage of 2001. Having tasted it, you won't want to go back to the stuff from the Napa Valley -- come to think of it, doesn't that name, Napa, remind you more of auto parts than wine anyway?

Winning is simple; just be the first to identify the plane pictured below. E mail your answer to me at [jbuss@itis.com](mailto:jbuss@itis.com) or phone me at 244-8534 (leave a message if you get the machine) and then be at the Awards Banquet on February 20. You must attend the banquet to win. This plane had two designations and you can win with either one. I will not indicate whether your answer is right or wrong, nor will I indicate whether it was first before the banquet.

If there is no winner, which seems unlikely, the wine will be raffled as a door prize. A second bottle will also be raffled.



## Happy New Year - Come to the Fun Fly

The New Year's Day (morning) Fun Fly is on and El Presidente Lazar is going to be cooking chili and serving hot spiced apple cider again. With luck, there may be snow for those with ski equipped planes. Whether you have a ski plane or not, and whether you intend to fly or not, come on out and enjoy some really good chili in the heated comfort of the shelter, along with smart talk and a general good time. Then go home and watch the Badger's in the Outback Bowl. It's a pity that all New Year's Day bowl games are carried on local channels except ours, which is on ESPN. If it were on a local channel we could watch it on a portable TV in the shelter.

And, by the way, if you do the Midnight Madness thing on New Year's Eve, remember: **No Fireworks at the Field.** Some of the dogs over at Hickory Hill Kennel may be gun shy. Besides, it's illegal anyway and it leaves a mess for someone else to clean up.

### A Note About Dues

*By Ed McDonald*

I plan to go to Atlanta for Christmas and I am concerned about membership renewals. I will be back in time to attend the New Year's Day Fun Fly and, because of my absence, I will accept the discounted amount for renewal yet that day. You may also mail your money to me before then. Enclose a copy of your 2005 AMA card, your name, address, phone number and e mail address, if any. See last month's bulletin for dues schedule. If you don't yet have your 2005 AMA card, you may still pay your MARCS dues now to take advantage of the discounted rate.

### Web Master Post is Filled

Jeff Alexander was introduced at the December meeting as the new MARCS web master. You can reach him by e mail at [alexanders@hotpop.com](mailto:alexanders@hotpop.com) or by phone at 223-9656.

Thanks for stepping up, Jeff.

### Memorium

The members of MARCS wish to extend their sympathy to Robert Lulling and his family in the death of his wife, Jean, on November 15. Bob, we hope you can find strength in the love of your family and the caring of us, your friends.

## **Big RC Swap Meet and Auction**

The River Valley Flyers, the Wisconsin Rapids club, is having a major auction and swap meet on Sunday, February 13 at Shooters Restaurant on the corner of Hwy 51/I-39 and Hwy 54 in Plover, 8:am to noon. Admission is \$4, age 12 and under free. They say they will have plenty of free tables, if you have anything you would like to sell. Enter at rear of building, lower doors. For more details, contact Rich Ida at [inspectr@wctc.com](mailto:inspectr@wctc.com).

## **Building Tip**

*By Frank Baker*

Chuck Backman told me about a really great building board. It is called Homasote Handi-Board and comes in a 2 foot by 4 foot half inch thick sheet at Menards. It appears to be made of a recycled paper and is a gray color. Pins can be pushed into it. The material seems to absorb razor blade cuts without shredding. In order to get a flat sheet pull one out near the middle of the stack.

I just laid the sheet on top of my work bench and built on it. However, to prevent globs of hardened glue from making the surface uneven, thin poster board could be taped to the top of the sheet and replaced when it gets too messy.

## **Time to Plan 2005 Events - Help Needed**

In January and February the board schedules the coming year's events. If there is some event of a kind we haven't had in recent years that you would like to see included, like maybe a combat meet or a pattern contest or whatever, -- and if you are willing to organize it -- now is the time to make it known. Contact any club officer or board member.

Chris Spierings has retired as the ram rod of War Birds Over Dane and, as far as I can determine, no one has yet volunteered to replace him

In addition, Don Weigt wants 2005 to be his last year organizing the Ken Kindschi Memorial Scale Rally. He says he would like to have a helper who could gain experience that would help him in replacing him in 2006, so think about it.

These are both events that have been thoughtfully presented in the past. They draw some really great airplanes and people to Kettle Field and they reflect well on MARCS. They should be carried on in the manner Chris and Don have caused us to become accustomed. It's time to let Tom Lazar know that you are ready to

offer the club some of your time. The club needs you. **Time is critical with War Birds**, since there is no point in scheduling it if we don't have anyone to run it, so come on down, as they say.

## **The Bent Bird**

### **Radios in the Good Old Days and Now - Part II**

Don't know about you young guys and new fliers of all ages, but last month's column brought back a lot of fond memories for those of us who've been flying a long time. Here's the next installment. Hope it's not boring, but read it and you just might better appreciate just how much better RC is now!

In 1960 most receivers still had one or more tubes. They had simple "superregenerative" detectors, which were sensitive but had poor selectivity. The smallest tubes were about as big around as a pencil, and maybe an inch and a quarter long, with 4 or more wire leads sticking out of one end, which could be soldered to terminals. They were probably designed for hearing aids, which were cigarette pack sized or larger devices carried in shirt pockets. Common electronics didn't have circuit boards yet. They either hadn't been invented, or were still too expensive. Parts were wired to tube socket pins or other terminals, sometimes with short wires connecting them to more distant points. All this helped make receivers bigger had heavier, more expensive, and less reliable.

Probably in the mid 1950s, the FCC allowed radio control for the first time without a ham license. These radios all were on 27.255 MHz, a frequency originally set aside for medical use, I think for "diathermy": warming living tissue in humans, possibly also for veterinary uses. We shared that frequency. Only one plane could be flown at a time on 27MHz. Few RC fliers were hams anymore. Most hams preferred communicating with other hams to flying model planes. Most RCers were too busy building and flying planes to spend a lot of time getting a ham license. Sound familiar?

The Good brothers had been radio control pioneers and won Nats RC events as a team. Walt built and flew the planes, Bill, his twin brother, built the radio gear. Walt went on to be AMA President and an RC glider pilot. In the '90s, I think, he attended MARCS' Sailplane Symposiums. Pioneering multichannel control efforts had sometimes used multiple single channel receivers on different ham frequencies, one for each control! I believe the Good brothers' Guff model used one receiver for rudder and

another for elevator.

Control was "on-off"; either the rudder was centered, or it was full left or full right. Ditto for the elevators and ailerons, if the model had them. The engine probably didn't have a throttle. If it did, most had simple barrel carburetors linked to exhaust restrictors that helped slow the engines to an idle. Some early attempts at throttling used dual needle valves, with the second one's connection to the fuel supply shut off for high speed, and opened to make the engine run very rich for slower speed, so there were only two speeds. An escapement operated throttle would have 2 or 3 speeds. Still we thought things were pretty good! None of it had been available a few years earlier.

Then, about 1960, an explosion of changes and innovations took place.

Reed radios were developed, making multichannel radio control practical. The 10 channel reed radio was king; everyone wanted one, but they were very expensive. There were also less costly 6 channel reed radios, and at least one 12 channel radio.

Reed radios' transmitter radio frequency carrier was on all the time, reducing interference. They had lever switches for each function to be controlled, arranged in 2 rows on the front of the transmitter case. Each had 3 positions: spring centered "off", and up and down for elevator, throttle, and elevator trim, left and right for aileron and rudder.

Ten channel reed radios had aileron and rudder switches in a row along the right edge of the transmitter's front: aileron above, rudder below. Their levers moved sideways. Throttle, elevator, and elevator trim switches were along the left edge of the transmitter's front. Throttle was on top, elevator in the middle, and elevator trim below. They moved up and down for control. All the lever switches were spring loaded to center (off, no tone) when not being pushed by the pilot. Less expensive 6 channel reed radios had fewer tones and lever switches: only one on the right for rudder or aileron, only two on the left for throttle and elevator.

In the receiver, each transmitted tone caused a different metal reed above an electromagnet to vibrate, touching a contact which passed a small current to a relay, which closed, completing a power circuit to move the control. Many wires were necessary between the receiver relays and the servos, perhaps 8 wires per servo.

Control still was on-off, with surfaces either centered or at full deflection if the control was held. Controls were moved by the first motorized servos that resembled modern ones, not by escapements. They were much more powerful than escapements, and unlikely to run down in flight the way the escapements' rubber band motors could. Because they were geared, controls moved more slowly than escapement driven ones usually did.

Rudder, elevator, and aileron servos centered with no signal. Throttle and elevator trim servos didn't: they stayed where they were when the pilot released their levers. Because

the servos' outputs moved rather slowly, throttle and elevator trim servos (yes, there was a separate servo just for elevator trim, with a mechanical mixer!) could be adjusted in small amounts by tapping the lever up or down.

The other levers could be tapped to move the servos a little way, then released to center again. This gave a little nudge of control. Repeated over and over, it was a way to make wide smooth turns. Good pilots could make a plane controlled this way fly quite smoothly. But, because of the cost, complexity, size, and weight, everyone wasn't flying 10 channel reed airplanes.

Typical 10 channel reed planes of the time were the Smog Hog high wing, the Astro Hog low wing (still kitted by Sig), both 6 foot span models with .35 K&B "green heads" for power. A typical 6 channel plane would be the Live Wire Champ, a 4 foot .19 powered high wing with a bulky body.

Other big advances about the same time were caused by the transistor revolution in electronics. Transistors, invented about 10 years earlier, became inexpensive enough to be widely used in radio control equipment. This made much smaller and lighter RC gear possible, not only because the receivers were smaller, but also because they required fewer batteries. This made .049 powered rudder only RC models practical. The whole radio installation weighed as little as 3 ounces.

Citizens Band radio (CB) became legal and popular in the early '60s. They operated on channels just below 27.255 MHz, spaced 10 kHz apart. They were a big source of interference for the simple superregenerative receivers. But, this new "service" contained some good news for RC. With successful lobbying by AMA, the FCC set aside every 5th frequency in the band for RC 27.255 MHz still was available, but not recommended. There were 5 new frequencies: 26.995, 27.045, 27.095, 27.145, and 27.195 MHz. There were 6 different frequencies to fly on. The limit of flying one plane at a time was gone!

Transistors also made more complex superheterodyne receivers practical by making them small and light enough. They were single conversion receivers. Built on printed circuit boards, they were selective enough to permit flying models on any and all of the new frequencies at once, and rejected most CB interference. They were quite costly, but in just a few years had replaced the simpler superregen receivers except for the very lightest or lowest cost uses. There were superhet single channel receivers, as well as reed receivers.

Newer reed radios about 1960 added transistor amplifiers in the servos, doing away with the heavy and unreliable receiver relays, and reducing the wiring to each servo to six leads.

All early servos, with or without transistor amplifiers, needed a lot of maintenance. Models flown frequently might need their rudder, elevator, and aileron servos disassembled, cleaned, and adjusted several times a year. There were sliding limit and centering contacts to clean, while servo

motor brushes and commutators needed cleaning and motor bearings needed oiling.

Next month: alternatives to reed radios, early proportional control, maybe something about receiver evolution, such as dual conversion vs single conversion, and so on.

## Collishaw

***Editor's Note:*** *Without a doubt, in my NTBH opinion, Raymond Collishaw was the greatest UK ace of the Great War, though less well known than some lesser men like Bishop, McCudden, Ball and Mannock. He may well have been better than von Richtofen. He was also the very innovative and successful commander of badly outnumbered and poorly equipped RAF forces in the early North African desert war in 1940-42. Having read his autobiography, I was going to write a summary article on it for Sparks until I did an internet search and found the following on the Canadian Aces web site. The work was already done and there was no sense in my redoing it. Unfortunately, the author is not identified so I cannot give proper attribution here. This month's article and the ones to follow over the next couple of months are a very good summary of the book. I have made only a couple of minor additions and edited some of the text.*

Raymond Collishaw was born in Nanaimo, British Columbia on November 22, 1893. His father was an itinerant miner who had worked the Australian Outback seeking gold and now had stopped his wanderings in Nanaimo to earn some money mining coal so he could go to California to continue to prospect.

Ray dropped out of school in the eighth grade at age 15 and his father got him a job as a cabin boy on a Canadian Fisheries Protection Service ship. He was onboard the Alcedo when it sailed into the Arctic Ocean in search of the Stefansson Expedition, but unfortunately for the expedition they were too late to help. The Karluk had been crushed by ice and some of the crew were dead.

Collishaw applied for and received the British Polar Ribbon. It was not, as some reports have it, for sailing to Antarctica with Robert Scott, for the furthest south he ever got was China. Later, he found out that he was not really eligible for the medal, and he had to remove it from his military tunics.

Maritime life was a hard, but exciting, one and one that taught a man obedience to superior officers. He worked for seven years on the west coast, eventually rising to the post of First Officer on board the Fispa.

When WWI started he tried to enlist in the Royal Canadian Navy, however he heard nothing from them for some time. Having attended a flying meet at Lulu Island near Vancouver, and hearing that the Royal Naval Air Service was hiring, he decided to apply to them instead. He applied in Esquimalt, B.C. and was sent to Ottawa for a final interview. He was enrolled as a Probationary Flight Sub-Lieutenant and his probation would be served upon completing flight training,

at his own expense of course.

He then travelled to Toronto to attend the Curtiss Flying School, the only such school in Canada at the time. The candidates waited a long time to get into the school, but throughput was slow and the weather was getting cold and would soon curtail flying. Due to the destitute condition of many of the RNAS "students" the Royal Navy decided to give them basic naval training in Halifax and then ship them to England and have them do their flight training there. He did his basic training on the cruiser HMS Niobe until January, 1916. It was then that he boarded the White Star liner Adriatic for England with a bunch of other Canadians, including Lloyd Breadner, who was to become the RCAF's Air Chief Marshal in WWII.

He was posted to the naval air station at Redcar for what passed as flight training. Flying in 1916 was very hazardous. He usually flew in a French-made Caudron G.3, a crude aircraft that was tricky to fly because of its use of wing-warping. They also trained on the AVRO 504c and a wide variety of other aircraft. The RNAS believed that a broad base of knowledge of aircraft would stand them in better stead than learning a single type.

Despite problems with landings, Collishaw soloed with only 8.5 hours of flying time. This was typical of both sides in WW I. Flight instructors showed a pilot how to get up, turn the aircraft around and get down again but little else. Ground instruction consisted of machine gun orientation, which only included how to load it and clear jams, and map reading. Everything else of use to a pilot in battle had to be learned by OJT - On the Job Training. This is one reason for the high loss rate of WW I pilots both in training and in operations, and is likely a major reason why the aces of WW I downed so many aircraft each. Novices were simply cannon fodder for the pilots on the other side who were more experienced.

At the time he finished flight training, Zeppelins were raiding southern England with impunity, and the RNAS pilots were tasked to defend against them. For their failure, they were in more danger from irate townfolk than they were from the Germans. Ray was more fortunate than many pilots in that John Alcock, who made the first non-stop flight across the Atlantic with Arthur Brown in a converted Vickers Vimy bomber, gave him extra attention, making him a better pilot than most of his contemporaries. Even so Collishaw made some serious mistakes. Once while attempting to deliver a note from a mate to a local girl he crashed into a row of outhouses, covering himself in excrement and toilet paper and destroying the plane. The girl was not impressed.

He received his wings and was posted to 3 Naval Wing, a bomber wing flying Sopwith 1½ Strutters as one-seater bombers and two-seater fighter scouts out of Luxeuil-les-Bains, France. The Sopwiths had been outfitted with special fuel tanks so they had an endurance of 7.5 hours to be able to conduct long-distance bombing raids over Germany. He participated in the first strike on the Mauser Arms Works at Oberndorff. His duty was as a pilot in a two-seater fighter-

scout as cover for the bombers. Over 80 aircraft, including forty 1½ Strutters, French Breguet V bombers, along with Nieuport 11 scouts from the Lafayette Escadrille, participated in the mission. It was a large one by 1916 standards. Unfortunately, the Nieuports did not have the range of the other aircraft and had to turn back before they reached the target, thus exposing the rest of the flight to attacks by German fighters. This was to be replayed in WWII until fighters were developed that could accompany the bombers to their targets.

Past the Rhine River, the armada was intercepted by Albatros DIIs of the Grasshopper Jasta that included future ace Ernst Udet, who claimed his first victory that day on a Breguet V bomber. Collishaw and his gunner shot down the future ace, Ludwig Hanstein. His gunner put bullets into Hanstein's engine and Collishaw followed him down firing at him with his forward Vickers. This was his first victory, but his engine acted up and he barely made it the 200 miles home. The mission was a failure with the loss of 9 aircraft and little damage done to the rifle works, but Naval 3 Wing had learned some lessons.

The next week they destroyed the furnaces at a steel works with a much smaller force that got in and out of Germany without being intercepted. On the raid after that one Ray was shot down. Fortunately the aircraft of the time were good gliders and he coasted into Allied France near Nancy and crash landed.

Early winter halted operations until January, 1917. On one supposedly easy flight he was ferrying a 1½ Strutter to their new base at Ochey without a rear gunner. He accidentally strayed over the front and was jumped by six Albatros DIIs. The first hint he had of their presence was tracer bullets slamming into his instrument panel, one hitting his goggles and partially blinding him with glass. In desperation he dove for the trees hoping to lose them. One Albatros followed and crashed, another cut in front of him and presented a point-blank target. Collishaw didn't miss and sent him into the ground with an accurate burst. Now he had to get home without instruments and nearly blinded. He guided his way home by the sun and landed, gratefully, on an airfield. Men came running to his plane, he thought to help him, until he saw a line of Fokkers. He had landed at a German base. Quickly, he gunned the motor and took off with Fokkers behind him, clipping two trees at the end of the field. They caught his slower plane and riddled it with bullets, but he managed to lose them in clouds. He was several miles past the front before he realized it and managed to land at a French airfield near Verdun. He stayed several days to have his eyes patched up by a local doctor. The French were so impressed with his feat that they awarded him the *Croix de Guerre*. The British then posted him to an all fighter squadron.

In Feb. 1917 the Allied squadrons on the Western Front were being pulverized during the Arras offensive and several Naval squadrons were sent to lend a hand. The RFC did not view them as a real benefit, however, as the RNAS had a pretty easy time of flying compared to them. Many RNAS pilots were shocked to find the fighting over the front was continuous, with

3 and 4 flights a day and every one guaranteeing a battle with the Huns. Several times Collishaw found himself alone when, just as the Albatroses showed up, the rest of the RNAS pilots having skipped out with "engine trouble."

He now flew the Sopwith Pup, a single-gun, underpowered aircraft that was easy to fly and very manoeuvrable. He brought down an Albatros just after arriving at the front, but then had trouble with his gun freezing up in the frigid air. It wasn't until March that he brought down another aircraft while escorting FE2bs on a spy mission over Cambrai. He shot down the leader of a flight of Halberstadt fighters that were trying to intercept the "Fees". In another mission his goggles were again shot off and his gun jammed so that he had to lean into the slip-stream without eye protection to unjam the gun. He froze his face quite badly and was hospitalized for a month.

Continued next month

## **The AEROMART**

More "Thinning the Herd" Sale - Kits are all complete and un-started.

- ÿ Great Planes Shoestring. Ready to go less Rx - Flown two seasons. Toss in your RX and go fly. Includes Magnum .91 4-stroke, on-board glow, 5 Servos (HiTec), 1600 mah battery, switch harness.-- \$325 Will sell airframe only if you don't want the engine or servos.
- ÿ Ziroli 1/5th scale F4U Corsair (93" span) items - Fiberglass fuselage Kit (includes fuselage, cowl, belly pan, canopy), all plans for built up and glass version, Robart 90 degree retracts. -- \$500.
- ÿ Balsa USA Enforcer - \$65.
- ÿ Mick Reeves Spitfire (74") Full kit - (Glass fuselage, wood, plastic parts, spinner, and retracts) -- \$250.
- ÿ Dare Wright Flyer kit with power system - [MPI motors(2), props(2), pico speed control, 280 9.6 NMH pack] -- \$120.
- ÿ RCM .40 size A-10 plans (pusher prop) and Bob Holman short kit including glass nacelles, plastic fairings, all cut wing ribs -- \$50.

**Craig Lovell**

**(608) 271-3581**

**[bdla@mailbag.com](mailto:bdla@mailbag.com)**

MARCS Awards Banquet Reservations and Award Nominations  
Sunday, February 20, 2005, 5:00pm at the Dry Bean Saloon

Name \_\_\_\_\_

Number of Persons Attending \_\_\_\_\_ x \$22 = \$ \_\_\_\_\_, enclosed

Please make your check payable to MARCS and mail to:

**Please mail on or before February 10, 2005**

**You may also pay Dave at the February meeting**

**Dave Rush**

**5113 Ridge Rd.**

**McFarland, WI 53558**

**Nominations**

**Smoking Hole** \_\_\_\_\_

**Submarine Captain** \_\_\_\_\_

**Paul Bunyon (Tree Chopper)** \_\_\_\_\_

**Scooter (Nice Guy of the Year)** \_\_\_\_\_

Briefly, why:

**Nominations for Awards for Service to MARCS and/or RC Flying**, give a brief reason for each nomination. Use an additional sheet of paper, if needed::

M.A.R.C.S.  
1918 Gulseth St.  
Madison, WI 53704



**Schultz**

**Sprrt & Hobby**

315 S. Thompson Rd.  
Sun Prairie, WI  
(608) 837-3498  
Mon.-Fri., 8:00 to 5:00



### **Attention Big Bird Scratch Builders**

**Just received -- A WHOLE BUNCH OF LARGE DIMENSION BALSA**

**Here are just a few examples:**

**3/32" x 6" x 48"      1/8" x 6" x 48"      1/8" x 12" x 48"**  
**1/8" x 16" x 72"      1/16" x 6" x 48"**

**We've got all these hard to find dimensions and many more**