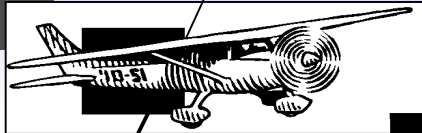


MAY

2008



MONTHLY NEWSLETTER of the  
**MADISON AREA RADIO CONTROL SOCIETY**  
MADISON, WISCONSIN      AMA CHARTER # 665

# MARCS SPARKS

VOLUME 47

ISSUE 5

## COME FLY WITH US...

MARCS meetings are held on the first Thursday of each month at:  
**MADISON LABOR TEMPLE**  
602-South Park St., Madison  
**7:00pm room #201B**

**Visitors** are always welcome. We think we have a great 'HOBBY' and we invite you to come and see, and **CONSIDER JOINING US.**

### Officers...2008:

President: **Brad Witt**.....bwitt@chorus.net  
Vice Pres: **BILL Kinney**.....hukilau@centurytel.net  
Secretary: **Don Weigt**.....d\_weigt@sbcglobal.net  
Treasurer: **Dick Sutton**.....jdsutt@mhtc.net

### Membership Information:

**Dick Sutton**      Phone: (608) 437-6795

### Flight Instruction Coordinator:

**Ozzie Johnson**      Phone: (608) 274-0474

### Web Master:

**Jeff Alexander**      webmaster@marcswi.org

### Club Photographer:

**Otto Oie**      ooie3@charter.net

### Club Safety Officer:

**Bill Disch**      rcdisch\_marcclub@hotmail.com

Club Website:      www.marcswi.org

(Contains links to:) About us, Flying sites, Newsletters, Calendar of events, Pictures and Videos, War Birds, Electric Flyers, other Special Interest groups, and Membership information for: **MARCS** club and **AMA**.

### Newsletter Editor :

**John Steen**      steensr@yahoo.com

Minutes of the:

## MARCS General Membership meeting

*April, 3 2008*

Submitted by **Don Weigt**, Secretary

The meeting was called to order at 7:03 P.M. by President **Brad Witt**. There were 37 people in attendance, including three visitors and one new member.

**Secretary's Report:** The minutes of the February meeting were approved as published in SPARKS. There was no business meeting in March, it was the swap meet.

**Treasurer's Report:** Treasurer **Dick Sutton's** report was available to look at. Copies are available to people requesting them.

### OLD BUSINESS:

Banquet (Wednesday, May 14, Maple Tree Restaurant in McFarland, cocktails at 5:30, dinner at 6, \$13.00/person including gratuity): Send your reservations to **Dave Rush** no later than May 1, or bring them to the May meeting. The forms were in last month's **SPARKS**. Only 14 reservations have been made so far. There's room for a lot more people!

**Events:** The Electric Meet has been moved to July 12 (was July 13). **Dave** had schedule conflict.

**Nominating Committee:** **Brad** asked again for volunteers to serve on the Nominating Committee. There were none. He will ask again...

**Annual Awards:** Not many candidates yet. Members should be nominating people for the awards (Submarine Commander, Smoking Hole, Tree Chopper, Scooter.)

**Field Work Day/Field:** Will be Saturday, April 19, beginning at 9 A.M., with a weather day of the 26th. Bring your shovels, rakes, and work gloves. We will probably do a road pickup for the adopt-a-highway program the same day. **Brad** had pictures taken the day before. The field seems to be undamaged but is still squishy.

**Runway:** We get good weather, we will try to remove the fence around the runway before the Field Day, maybe Saturday (April 5): we could be flying in a week. Snowmobiling is probably over for this winter. Be careful removing it: don't get hurt. The fence fabric could be rolled up and put in the

back of the bigger storage shed, the posts may have to be stored behind it. Collect the "little black things" so they aren't laying around everywhere. **Dave Rush** said the runway staples are up a little, but rolling the field may push them back in. He wants to put roofing adhesive on the seams. That probably should wait for warmer and drier conditions. The Gorilla Tape actually stuck on through the winter, but tail-wheels still get snagged. A glued seam should be smoother.

**Rolling the field:** This needs to be done soon, before it gets too dry and firm, maybe before the work day. The Board will discuss what to use and what to use to pull it. **Charlie Schultz** offered the use of equipment he has. Last year, **John MacKenzie** loaned us the equipment.

**Safety Cages:** Four or five more will be constructed by **John Steen**. Thanks, **John!**

**Equipment:** The equipment stored off-site will be returned to the field for the summer.

**Brad** has the club trainer now. He got it from **Jerry Buss** about a week ago. He wanted to know who was going to take it and use it. It appears to be ready to use.

### NEW BUSINESS:

Building Supplies: **Dave Rush** brought some two by four foot ceiling tiles for building boards from the school where he works, which is being renovated. He can get more if you let him know SOON! There is a stack of 81 by his band room door. We were notified about these by email recently.

**Spectrum Radios:** **Dave** mentioned Spektrum has a deal going for April where if you buy a 2.4 GHz radio you get an extra receiver free, and if you buy two additional receivers at the same time you get two more of equal or lesser value free! There is one package deal that is just a transmitter and receiver, with no servos.

**Brad** now has a cell phone. The number was displayed for writing down, and to be shared with all members, but it isn't to be published in the minutes or on the internet. **Brad** doesn't want spam emails on his cell phone: he gets enough on his computer! Also, **Brad** would like your cell phone number, if you have one.

**Field Wiring:** **Charlie Schultz** wanted to know if and when we'll bury the wiring at the field so he doesn't need to load the trencher too many times. The Board will discuss this.

### RAFFLE WINNERS

**Brad Witt:** glue

**Dave Rush:** SE-5 electric plane

**Dick Sutton:** wing rack

**Harley Nelson:** T-shirt

**Bill Brown:** T-shirt

**Calvin Slota:** T-shirt

### SHOW AND TELL:

**Wayne Lanphear** showed an Aero Works 96 inch YAK 54. It weighed 24 pounds, had a ZDZ 80 Special for power, and JR 2.4 GHz radio. A large, pretty and impressive airplane. **Wayne** reports it was an excellent kit, and is a good flier. It is quite responsive, **Wayne** is going to increase the exponential settings to make precise flying a little easier. **Wayne** also showed a new JR transmitter case that **Charlie** has in stock. It protects two transmitters.

**Harley Nelson** showed a scratch built Chinese N5A, based on a wing he had, and the cut down tail surfaces from his "lifter" from last year. The full size plane spans 51 feet, uses a turboprop for power, and has a two ton load capacity. His model spans 87 inches and weighs 13 pounds with a Ryobi 31 cc engine. It uses a seven channel Hitec radio. He assembled the whole plane except the engine, then checked the weight needed to balance it. The Ryobi weighed just the right amount to balance without any other weights. It is set up as a fire fighter, and has a 3 pound capacity dust hopper with one of his rubber band and servo operated knife blade releases. The top of the bag is a zip lock bag, clamped to the top of the wood bottom section. A rubber band can be put around the bag to help empty the hopper. **Harley** plans to drop sawdust that is dyed red.

**Dave Rush** showed a 40 inch span Pitts Model 12 bi-plane. It weighs 52 ounces. Power is an E-Flite 25 motor and Thunder Power 3 cell (3S) 4200 mAh LiPoly. He had the batteries for another plane. He used HS-81 servos because the recommended HS-35s weren't available. That is part of the reason it's heavier than the specified 50 ounces. It uses a Spectrum DX7 for control. **Dave's** going to wait until he has done some flying this spring before trying the Pitts, which he thinks will be very responsive.

**Charlie Schultz** showed an 89 inch span PT-23 that weighs 20 pounds, built by a friend. It is basically a PT-19 with a shortened nose and round cowl for a radial engine. Power is a three cylinder four stroke Saito 180. The radio is a Hitec. It has fabric covering, in silver. It has Robostrut landing gear, flies great, and sounds realistic. An on-board glow driver heats all 3 plugs at once. It will actually fly with just one cylinder firing, but the performance is sluggish.

**Dave King** showed a Multiplex Twin Jet delta with elevons. It weighs two pounds. Power is a pair of 6V Speed 400 brushed motors direct drive to the 4.7 inch Gunther props. The kit had two airfoiled rudders (vertical fins) for the same side: they weren't interchangeable. **Dave** replaced them with a single larger one glued into a cut in the fuselage. He is using a 3S LiPoly battery for power, says the motors won't last long, but will put out a lot of power! He had a lot of trouble figuring out how to program the motor cutoff voltage on the Castle Creations

speed control. **Dave** said it took him three days, with the instruction manual, and that there has to be an easier way. The radio is a Tower four channel. He expects it to need a hard throw to reach flying speed.

**Don Weigt** showed some old radio transmitters, on loan from Hobby Horse, who borrowed them from the son of the inventor of the Adams Actuator. There was a tube single channel, probably CW (carrier wave) Citizenship; a 10 channel Orbit reed; a Controlaire Galloping Ghost; and an early Bonner Digi-mite digital proportional transmitter that sold for about \$600 in the mid '60s! That was a LOT of money back then...

#### **PROGRAM:**

A video about flying the Sukhoi aerobatic planes, loaned by **Ray Walsh**. They are "overbuilt", very dependable and low maintenance, and stressed for +11/-Gs! Thanks, **Ray!**

Next meeting is Thursday, May 1, at the Labor Temple, upstairs, at 7 P.M.

*The meeting was adjourned at 9 P.M.*

## **THE BATTLE OF BRITAIN**

*Story by Len Deighton      Summarized by Jerry Buss*

### **Chapter-3**

Of the Spit, Hurri and Emil, the Bf-109E-3, the mark of the Emil used in The Battle, technically had the shortest turning radius, 750 feet at 300 mph at 10,000 ft. according to engineering specifications. The Hurricane could turn on a radius of 800 feet and the Spitfire on 880 feet at the same speed and altitude. The problem for the Messerschmitt was that its pilot couldn't use its full turning potential lest it shed its wings and few pilots were willing to so tempt fate, even if put to great extremity. On the other hand, it was renowned for its ability to dive, but there was a problem in that, at some point, the dive needed to end and that too could tear the wings off. Its pilots could address the pull out problem by easing the throttle back and making a long, gradual, pullout but that would create vulnerability to any pursuing Spitfire.

All three planes had a common great shortcoming in that they had very short legs. The Emil could take its bombers no farther than London and, having fought their way in, even to targets nearer than London, were then so short of fuel that they either had to abandon the bombers or a relief force had to follow on to allow the first escort group to withdraw while the bombers did their work over target. Even at that, many splashed down short of France. Gerhardt Barkhorn, who got no victories against the RAF but scored 301 on the Russian front, had to bail out over the Channel when his fuel ran out. He disliked the experience so much that when shot down a dozen times in Russia, he always rode his plane in to a wheels up landing.

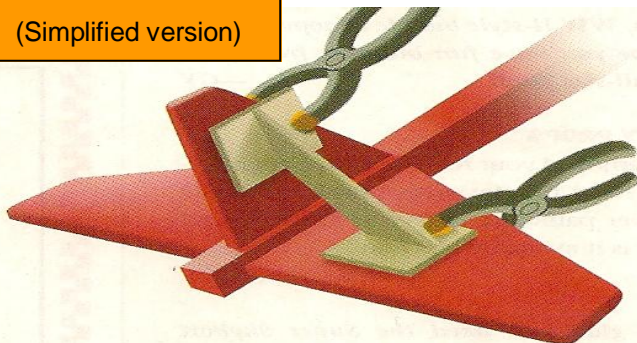
The later E7 mark didn't appear until after The Battle. It carried shackles and fuel connections under the fuselage to allow carriage of a drop tank to extend its range and it might have been a great improvement, but the plywood tanks had a nasty habit of splitting open in flight if wet, such as in a rainstorm, and pilots were very leery of them. English skies were often filled with rainstorms, so perhaps the Luftwaffe lost little by not having the E-7 available. To compound the problem, local commanders couldn't resist the temptation to use the shackles to attach bombs, further shortening its range, to turn it

## **EASY RUDDER ALIGNMENT**

*(and an easy 90-degree jig you can build.)*

First off: install the stabilizer. After the epoxy has cured, position the rudder fin and clamp the jig in place as shown below. Check centerline of fin. Now unclamp the fin and apply the epoxy. Then return it to its position and reinstall the clamp. After the epoxy cures, unclamp your new and **re-useable jig** and you will have a perfectly aligned fin.

(Simplified version)



## **ANY OLD BIKES LYING AROUND?**

Bicycle spokes make nice push-rods. They are threaded on one end and come in many sizes.

into a fighter-bomber, or *Jabo*. Some E-3s were modified in the field during The Battle to carry a bomb and were used effectively against radar stations.

The Spitfire and the Hurricane had the same range problem in that they didn't have sufficient endurance to mount effective standing patrols nor could they even take off until feints and real attacks were sorted out. This left them vulnerable to Messerschmitt's that were already at high altitude. Superior altitude was the staff of life for the fighter pilots who fought the Battle of Britain.

Tactics were vastly dissimilar. The RAF insisted that the only way to array themselves decently was in three plane, parade ground Vics, with wing tips tucked closely into each other and each Vic cheek by jowl with its neighbor. German pilots referred these arrays as the "bunch of bananas" formation. The Vic required constant vigilance to avoid collision and, with the need to also monitor instruments, this frequently resulted in being taken completely unawares by the Hun in the Sun. The tight formations were also easy for the enemy to spot. Despite the obvious faults of the Vic, Fighter Command hung slavishly onto the formation throughout most of the Battle before seeing the logic in loosening up, at least a bit.

Based on experience gained in Spain, the Luftwaffe used what Allied pilots came to call the Finger Four formation. This consisted of two two plane elements called *Rotte*, the group of four being called a *Schwarm*. The most experienced pilot led the lead schwarm. His wingman usually flew on his up-sun side and a bit behind him. The leader of the second rotte flew in the same position on the schwarm leader's down-sun side, with his wingman outboard of and behind him. The four planes might be spread over a half mile or more with all at slightly different altitudes. With no collision worries, all four pairs of eyes could be constantly alert for bandits. The two wingmen, in their widely separated positions could effectively use their different viewing angles to monitor the sun for Englishmen.

Britain was said to have had an edge on the rest of the world where radar was concerned (that wasn't true, of course, but it's what one must expect of war-time propaganda), in that the leading experimenter in the field was an Englishman named Robert Watson-Watt. Actually, the technology was referred to as RDF, Radio Direction Finding. Later, it was called

Radio Location and eventually the name "radar" was coined and it finally stuck. (It was a good thing too. Had it not, can you imagine Walter O'Riley on the TV show M\*A\*S\*H being called RDF O'Riley?) The Germans also had radar, which they called *freya*, that actually was substantially superior to the British version, but German pilots refused to place any faith in it early on. Pilots, like Adolph Galland, refused to be "led about by someone on the ground who doesn't even know how to fly." Although it played a fairly limited role in The Battle, it was responsible for later inflicting serious losses on Bomber Command raids, and later still, American attacks. *Freya* was also used for anti-aircraft and naval gun aiming with good effect. Its main contribution to The Battle was identifying coastal convoys to be attacked by air.

RDF installations on the English coast had no dish antennae or radar domes as we came to know them later. They simply used steel lattice towers, like ordinary radio masts, and this proved a blessing. A bomb blast at the base of a tower was almost totally ineffective, since there was no substance for the blast effect to carry away. On the other hand, the technology still had its problems. It had great difficulty looking up and therefore there were two types. CHL, Chain Home Low, was aimed at low altitudes and used rotating, bedspring like, antennae. CH, Chain Home, covered higher altitudes, but still left a great high altitude gap in that it was useless in detecting anything above 20,000 feet. Chain Home simply used bare antenna masts. There was no way to conceal 350 foot tall towers and thus they were very susceptible to attack, but their height had some redeeming merit in that it deterred dive bombing, at least a bit. The CH system was incapable of accurate directional indication, in that it couldn't tell if the target was a likely enemy at 180 degrees relative or a friend at 360 relative. Experiments coordinating readings from more than one antenna taught the Ground Control people how to triangulate to determine which side of the antenna the signals were coming from. The need to distinguish friends from enemies led to the development of a system to return a radio signal when hit by a radar wave. This was called IFF, Identification, Friend or Foe, and it is still used today.

The perimeter of England was guarded by a belt of RDF towers, all connected by a complex telephone network to sector command posts. In addition, the entire southern countryside was honey-

combed with a vast series of listening and observation posts manned 24 hours a day by specially trained civilian volunteers who stood by with thermoses of tea, binoculars and a telephone wired into the command network. All RDF data and observer sightings were called in to sector command posts manned by young women of the Women's Auxiliary Air Force (WAAF) where talkers received and relayed information from RDF stations and observers to others who stood over map tables with croupier sticks moving colored tiles about over the maps. Sector Controllers then relayed the information from the tables to a central command post where other Controllers scrambled fighters and vectored them once airborne to intercept points. A complex system of information was arrayed before these Central Controllers in colored lights to indicate available squadrons and numbers of ready aircraft which could be called. They were responsible for distinguishing feints from actual attacks and ordering any response. It was a tremendously complex series of operations that cried for computers to run it, but there were no computers in that era. The young women who manned most of these operations were perhaps the most vital part of RAF operations in The Battle. Without them Fighter Command would have been blind and hard put, indeed, to bring its planes in contact with the enemy. *To be continued*

## “FIELD DAY” APRIL 19th

I arrived at the field at about 8:45AM and the boys were already hard at work removing the plywood from the shelter. In short order the plywood was put away along with the snow fencing **Dave Rush** had taken down earlier. Repairs to the permanent fencing were accomplished, along with a general field pickup. It was determined that the bridges were good for another year, but that the main one would be redone next winter weather permitting. We were unable to roll the field or do a road pickup due to the soggy conditions. Thanks to all that participated and I am sorry if your name is missed. **Wayne Lanphear, Harley Nelson, Bill Kinney, Bob Stowell, Bob Geimer, Dan Sutter, Roger Zimmerman, Ed McDonald, Ozzie Johnson, Wendell Hottmann, Don Weigt, Dave Rush, and Dick Sutton** picked up a new member at the field **Manish Upadhyaya**.

*Reported by Brad Witt*

## SAFETY CAGES

### FOR YOUR PROTECTION & WELL BEING

The club's five new flight cages are on the flight line as of Wednesday April 23, and have already been used by several of the members. The frontal width has been increased out to five feet to give the Pilot and the Spotter more elbow room. So charge up those battery packs and get it up flying.



## SCHULTZ SPORT & HOBBY

**R/C:** *Electric, Gas, and Nitro Fuel.* Airplane Kits and ARF & RTF models. Helicopters and accessories.  
315-So. Thompson Rd., SUN PRAIRIE (608) 837-3498

## TIP OF THE MONTH REMOVING COVERING from Balsa SHEETING

Removing covering from balsa sheeting can be tricky. If you make the cut too deep, you can compromise the woods integrity. This can be overcome by placing the blade in the knife handle as shown in the photo. Now you can easily adjust and control the depth of the cut. To set the blades depth, try it first on a scrap piece of sheeting and make some test-cuts before you make the actual cuts on the model.



## BASIC ENGINE / PROP COMBINATIONS

### ENGINE SIZE RECOMMENDED PROPS

.049.....	5x4	6x3	7x3
.09.....	7x4	7x6	
.15-.19.....	8x6	9x4	
.20-.25.....	8x5	8x6	9x5
.30.....	9x6	10x5	
.35.....	9x6	10x5	11x4
.40.....	9x8	10x6	11x5
.45.....	10x6	10x7	11x5 11x6
.50.....	10x8	11x6	12x8
.60.....	11x6	11x8	12x6
.75.....	11x8	12x8	13x6 14x4 12x6
.80.....	12x8	13x6	14x4 14x5
.90.....	13x8	14x6	15x6 16x5
1.08.....	15x8	18x5	16x6
1.20.....	16x8	16x10	18x6
1.50.....	18x6	18x8	20x6
1.80.....	18x8	18x10	20x6 20x8
2.00.....	18x10	20x6	20x8 22x6

## THE... BUILDER'S WORK-BENCH

### FLAT TAPE...

If you have ever used Nylon reinforcing tape on the center of your wing joint, you know how frustrating it is to get it to stick down flat. This is due to the fact that it has been rolled up and then smashed flat in the package. Also, Nylon will not absorb the epoxy or CA and become limber. It remains somewhat stiff, wrinkles and all. So, use a steam iron with steam on full and on the high heat and iron it flat. This ironing will take out all the wrinkles. To store it, roll it up on a piece of cardboard tube. Do not put a rubber-band around it to secure it or you will put wrinkles back in it. Wrap a piece of paper around it and secure the paper with tape. Ironing it flat will make for a nicer wing joint next time too.

## RAFFLE PRIZES

MAY 1st Meeting

**E-FLITE BLADE CX2** RTF Helicopter  
No assembly required, and everything is included, such as; the 5-channel 2.4 GHz Radio, Li-Po battery, and DC Li-Po balancing charger.

OR

**GLOBAL DeHavilland Beaver** KIT  
Wingspan-64" / .40-.53 engine required

And: **Gallon of SIG i5% fuel**

And: **2-oz. Thin Cyanoacrylate**

### PROP WASH CLASSIFIED ADS

**FREE:**

**PARTIALLY ASSEMBLED KITS:**

1- 60-size..... P-51 Mustang

1- 60-size..... F4U Corsair

1- 90-size..... P-40 Warhawk

**Dennis Peterson**

(608) 838-3577

[denpete@merr.com](mailto:denpete@merr.com)

## BOARD of DIRECTORS meetings

These meetings are held on the same evening as the MARCS General Membership meeting, (first Thursday of the month) after its adjournment.

**General Membership meeting: 7:00 / 9:00 pm**

**Board of Directors meeting: 9:00 / 10:00pm**

Both meeting are held in room: 201-B. Club members are welcome to stay and observe the Board meeting. A Club member may have the floor by being recognized by the Chairperson. Input or opinions must be brief and to the point as the overall meeting time is limited.

**AGENDA: MAY 1, 2008**

**FLIGHT CAGES / underground wiring**

**prep' for Event prizes / NEW SIGN**

**MEMBER OR GUEST ISSUES ?**

## 2008-MARCS EVENT SCHEDULE

EVENT NAME	DATE	LOCATION
MARCS BANQUET .....	May-14.....	McFarland
SCREAMIN' EAGLES Giant Scale Fly-in .....	June-14.....	Kettle Field
ELECTRIC FUN FLY .....	July-12.....	Kettle Field
BOY SCOUT FUN FLY .....	July-26.....	Kettle Field
FLOAT FLY .....	August-2.....	Marshall Pond
Ken Kindschi SCALE RALLY .....	August-24.....	Kettle Field
WAR BIRDS over DANE .....	<i>Event looks doubtful for 2008</i> .....	Kettle Field
THERMAL GLIDER EVENT .....		Paul's Tree & Turf Nursery
1.5 METER SUMMER FLING .....		Paul's Tree & Turf Nursery

*DATES, ADDITIONS, and DELETIONS will be updated as they become available.*

## MARCS ANNUAL BANQUET

**Date:** Wednesday, MAY-14<sup>th</sup>,

**Time:** Cocktails @5:30 ~ Dinner @ 6:00

### Buffet Meal

Ribs, Chicken, and Popcorn Shrimp

Potatoes, Casseroles, Salad Bar, and cookies

Coffee, Milk, and or Soda

**Cost:** \$13.00 per person (tax & tip included)

**Place:** **MAPLE TREE RESTAURANT** McFarland

*(Cut out and mail 'Reservation form' on page-9)*

### BRODHEAD

FREE Indoor flying continues at Brodhead

Wednesday nights 8:00 PM until 10:30

All are welcome. Because of our very safe 6oz limit we do not require **AMA** membership.

**May: Only 5/14/08 (start at 7:00 PM)**

## MARCS~BANQUET UPDATE...

*Don't forget that reservation forms for the Banquet are due to Dave Rush on or before Thursday, May 1st. You may hand them to him before the May MARCS meeting (he will only be there until 7:30) or mail it to him. We are currently at 26 people and Dave is hoping for closer to 40. Harley Nelson and Bob Geimer are donating some nice raffle prizes they have hand-made for the ladies.*

## NOTICE...

Any of the tools or equipment... at **Kettle Field**, that doesn't work right or you notice is broken and is in need of repair,

**PLEASE...** Notify: **Ed Buechner**

**(608) 222-0774** or **ebuechner@charter.net**

So it can be taken care of **before** it is needed and wastes somebody's 'work' time. *(Thank you)*



**BATTLE of BRITAIN MONUMENT**

By June 1940, Hitler's forces occupied most of Western Europe, and it remained for Britain to be neutralized by invasion. The resulting fight for air superiority came to be known as the "Battle of Britain" and is recognized as one of the crucial turning points of WW II. The names of all 2,936 RAF airmen engaged (of 15 nationalities including nine U.S. volunteers) were known, but until 2005, were not commemorated in one place. This has now been put right with a 75-foot-long monument in London close to Westminster Bridge. *~Ed McManus*



**Printer died...**

My printer had to be replaced & I always kept spare ink cartridges on hand. Now my new printer uses different ones. I have a #94(black) & a #97(tri-color) available to anyone that can use them @ N/C. John/Editor (608) 220-5994 ..... [steensr@yahoo.com](mailto:steensr@yahoo.com)

**M.A.R.C.S.**

*membership dues...\**

- Regular membership.....\$50.00
- Junior membership.....\$20.00
- Family membership.....\$15.00
- Associate membership.....\$15.00

*You must have proof of AMA membership in order to receive your MARCS membership card.*

Treasure: *Dick Sutton*

*\* If you wish to receive the club "Newsletter" by regular first class mail, rather than on the internet, please add \$5.00 to your annual fee.*

TURNING YOUR **TRAINER** into a **FUN-FLY** AIRPLANE

*By Ed Moorman*

Here are some modifications you can make that will turn that old 40 trainer into a bell ringer for a *Fun-Fly* event or just a plane in your stable to have lots of fun with any day you're at the flying field.

[1] Replace the original landing gear with a much wider one. If you're entered in a *Fun Fly* that may have a *'Taxi-Race'* and if there is any wind it may have a tendency to tip over. If your trainer has a wire landing gear you might want to add a cross wire between the gear-legs to keep the airplane level. This will prevent the nose-wheel from hitting first, insuring a bounce.

[2] Pull out that tired .40 engine and drop in a hot .46 or .50 engine. If there is an event that require any *'Looping'*, set the needle valve so the engine runs slightly rich in level flight. Under G-forces during loops, the engine will lean out to max power. If there is a *'Climb 'n Glide'* event in the program you'll be glad you're a little on the rich side too.

[3] Set your elevator throw by going up and doing several loops at full back stick. As the airplane goes through the loops it may slow down and try to stall. This is why you need a powerful engine, to keep your speed up in maneuvers. If the airplane stalls and rolls out of the loop or drops a wing, land and reduce the elevator movement. If it can do continuous loops, land and increase the throw. Do this until you can do 10 of the tightest possible without stalling.

[4] Next, remove the ailerons and replace them with 2-inch-wide aileron stock. Anything wider than 2-inch will necessitate two aileron servos on each wing, which many people might not want to undertake. After you install the wider ailerons, seal the aileron-wing gap on the bottom with tape or *Mono-Kote*. If you're not going to change out the ailerons, seal the ones you have. Sealing the ailerons will increase their authority, giving you a higher *'Roll'* rate. Install your most powerful servos on the ailerons. If there is going to be events with *Rolls* in

them, set the throw for all you can handle. Guys with computer radios will need exponential.

There is a one-time way to make wider ailerons. Go to a drug store and pick up some poster board. Cut a strip 4-inches wide, fold it down the middle, and tape it to your original ailerons. You will have to clean your aileron surface with alcohol to get the tape to stick. Remember you are going to need a strong servo on the ailerons.

[5] Flaperons and Spoilers: Here's how you can have flaps without the aid of a computer radio. Make up three sets of aileron pushrods. This includes the servo arm, pushrods, and devices. **One set** will put the ailerons level for normal flying and events like **'Climb 'n Glide'**. A **second set** will be short and pull the ailerons down about 20-30 degrees or so. You will have to experiment to get the best setting. These are your loop ailerons. Down flaps will give you tighter loops. You'll need to test fly to see where the elevator trim has to be for flying with flaps.

The **third set**, or premade aileron pushrods, is for **'Touch and Goes'**. This set gives you about 10-15 degrees of up ailerons. Up ailerons, or spoilers, will kill some of the lift your trainer is making and keep it from floating. This will let you make faster **'Touch 'n Goes'**.

All right, let's see what we have. We have a trainer that should have the same power as the other guys and it ought to be as light or lighter. It ought to glide much better than any airplane with a fat, thick, sym-

metrical airfoil. With the flaperons down it ought to **'Loop'** with just about anything. Even without flaperons, the light-weight, high-lift, flat-bottom airfoil, and a lot of power should keep you in the ball game. All trainers are floaters, but setting the ailerons slightly up like spoilers should help you get down quicker. This should be a very competitive airplane in any local **Fun-Fly**.

If you don't want to convert your trainer and would rather build a good **"Fun-Fly"** airplane, The **'Sig Kadet Serorita'** (Shown below) would be a good choice. It is big and light. This model is built from sticks and ribs. Build the wing **flat** and replace the spars with **spruce**. If you can, blank-in the cabin and build the fuselage completely out of sticks. The airplane was originally a three-channel trainer without ailerons, so use dual servos and make some 3-inch wide ailerons out of sticks and cover with **MonoKote**. Use **Kevlar** cord for bracing on the tail. Use a wide and fairly long gear for good propeller clearance. This airplane will be very light and, with a hot .46 will be a real sleeper at the **Fun-Flys**.

*AMA insider newsletter*



**NOTICE:** nominations for this years awards *Please present to: Brad Witt [bwitt@chorus.net](mailto:bwitt@chorus.net)*

- SMOKING HOLE** award (*best crash on the field with lots of witnesses*)... \_\_\_\_\_
- SUBMARINE COMMANDER** award (*best crash in the drainage creek*).... \_\_\_\_\_
- TREE CHOPPER** award (*best crash in a tree*)..... \_\_\_\_\_
- SCOOTER** award (*nice guy or gal*)..... \_\_\_\_\_

## MARCS BANQUET RESERVATION FORM

Name: \_\_\_\_\_ Number of people: \_\_\_\_\_ X \$13.00 = \$ \_\_\_\_\_

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