

MARCS Sparks

APRIL 2012

VOLUME 51 ISSUE 4

Monthly newsletter of the
MADISON AREA RADIO CONTROL SOCIETY
Madison, Wisconsin AMA Charter #665



COME FLY WITH US...

The MARCS' meetings are held on the first Thursday of each month at:
MADISON LABOR TEMPLE
1602 South Park St. Madison, WI.
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.

Club Officers:

President: Brad Witt.....bwitt@chorus.net
Vice Pres: Danny Sutter..... stodan@merr.com
Secretary: Don Weigt..... d_weigt@sbcglobal.net
Treasurer: Dick Sutton.....jdsutt@mhtc.net

Membership information

(more details on page-9)

Dick Sutton phone: (608) 437-6795

Flight instruction coordinator:

Rich Johnston rdjohnston50@frontier.com

Web master:

Jeff Alexander webmaster@marcswi.org

Club photographer:

Otto Oie ooie3@charter.net

Club safety officer:

Bill Kinney martbil@hotmail.com

Club website: ----- **www.marcswi.org**

Info."About us", our "Flying sites", "Newsletters" (present and archives), a calendar of events, "Pictures & Videos." **Contains links to:** "WarBirds" "Electric Flyers" & other special interest groups. Membership application forms for the **MARCS** club and the **AMA**.

Minutes of the:

MARCS General Membership Meeting

March 1, 2012

Submitted by: Brad Witt, President

An attempt was made at 7:00pm to call the meeting to order by president, **Brad Witt**. However with the sheer number of chattering people in the expanded room for the Swap-Meet made this next to impossible.

This is not unusual on our annual Swap-Meet night and the attempt was ignored by most of the attendees.

What I tried to mention was that **Dave Rush** was taking reservations for our annual Banquet next month and that we needed nominations for the Trophies and the Outstanding Service awards by or on the next meeting on April 5th. Without these nominations, none could or would be awarded at the Banquet on April 11th.

There was no other business to be dealt with tonight so the brief meeting was concluded.

I did not get a count of the attendees, but the tables were full and I noticed a couple of past club presidents I had not seen for a while.

There were at least three people from the Middleton flyers with at least one of them selling, there were at least two people there from the Brodhead group, and the Lodi club was represented by their secretary, Larry Barnes, who was selling his light-kits and other misc. items for tricking out one's aircraft.

The building's elevator was very handy in getting much of the stuff up and downstairs. All in all, we had a great turnout and it was a very busy place!

PHOTOS DISPLAYED ON PAGE-2



MARCS

Swap Meet 2012



Photos by: Otto Oie, Club Photographer

XF-85 Goblin



Parasite Fighter

The **McDonnell XF-85 Goblin** was an American prototype fighter aircraft conceived during World War II by McDonnell Aircraft. It was intended to be deployed from the bomb bay of the giant Convair B-36 bomber as a parasite fighter. The XF-85's intended role was to defend bombers from hostile interceptors, a need demonstrated during World War II. Two prototypes were constructed before the program was terminated.

The XF-85 was a response to a United States Army Air Forces requirement for a fighter to be carried within the Northrop XB-35 and B-36, then under development. This was to address the limited range of existing interceptor aircraft compared to the greater range of new bomber designs. The XF-85 was a diminutive jet aircraft featuring a distinctive egg-shaped fuselage and a forked-tail stabilizer design.

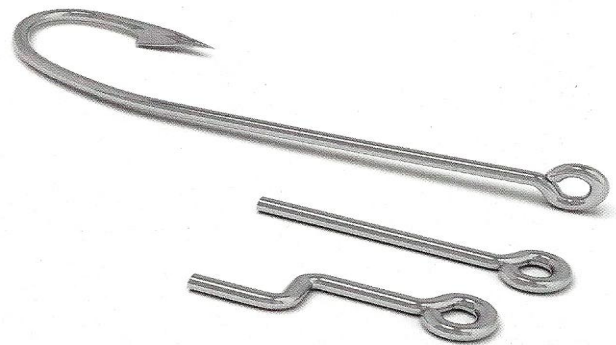
Two prototypes were built and underwent testing and evaluation in 1948. Flight tests showed promise in the design, but the aircraft's performance was inferior to the jet fighters it would have been facing in combat, and there were difficulties in docking. The XF-85 was swiftly canceled in 1949, and the prototypes were thereafter relegated to museum exhibits.

Total program cost to tax payers: \$ 3.1 million

BUILDER'S Work Bench

HOOKING

up the CONNECTION



You'll find that the shanks from a 3-0 or 4-0 fish-hooks have a nice smooth eye at the end that can be used as a connector for rigging in tight places and to simplify hook-up in others.

They can be used in E-Z connectors, threaded connectors, or put a Z-bend in the shank and insert directly into a control arm. Fishhooks with round shanks and a diameter of about 1/16 of an inch work the best in the connectors.

To eliminate the breaking of the shank when using a Z-bender tool, that area must be heated to cherry red and left to cool on its own. This will remove the tempering (brittleness) from that area.

RECYCLE

Most ARF kits arrive from their source with foam padding used to wrap the various kit components to prevent any shipping damage. Save this foam as it can be used to wrap your radio receivers, batteries, etc. to reduce and/or eliminate vibration damage inside the fuselages of your own aircraft fleet.

GOING GREEN ~ GOING GREEN

SERVOS

for **RADIO CONTROL
MODEL AIRCRAFT**

Servos are to the radio system what you are to your company...the under-appreciated worker.

The *transmitter* is like the president whom everyone believes makes all the decisions, but is actually having his levers pushed & pulled by someone else.

The *receiver* is the middle manager whose only function is to accurately pass information from the boss to worker, while being incapable of independent thought or doing any real work. Fortunately, receivers pass information along much more accurately than your average manager.

The lowly *servo* ends up having to do all the work dumped on it and gets all the blame when anything goes wrong.

SERVOS SPECIFICATIONS AND PROPERTIES:

With the exception of retract servos, all modern servos are **digital-proportional**. What that means is that the servo moves in proportion to the stick movement, if you move the stick a little, the servo moves a little, if you move the stick a lot, the servo moves a lot.

Retract servos (*servos for mechanical retractable landing gear*) move from one extreme (*stopping point*) to the other and cannot stop in between.

When a person buys their first radio, they almost invariably use the servos that come with the set and don't even give it a second thought.

As your time in this hobby increases, you'll end up with more planes in your fleet which usually means buying more **flight packs**.

The other option is to constantly swap the radio between planes... which gets old pretty fast.

This is when most people start noticing the wide variety of servos and get very lost in deciding what to buy. Many companies put together flight packs for various types of models to save us the trouble of figuring it out for ourselves.

For example; a company might offer a flight pack for large scale models, another for sailplanes, and still another for park flyers.

Assuming you want to optimize your plane and get the most appropriate servo for each control, you will eventually need to understand what all the specs mean so you can assemble your own flight packs for the best efficiency, optimal performance, and economy as well.

♦ ANALOG vs. DIGITAL:

When digital servos were first released, there were many claims made about "holding power," "resolution," and "centering." Frankly, I thought it was a lot of marketing hype. While I see a lot of "experts" online talking about this and that, in person I don't know too many people who are good enough to tell the difference in one servo or another and I am one of those pilots.

However, when I rebuilt my Stik-30 I built a 3D tail that was so sensitive I had to dial down the endpoints to make the plane controllable. That's a really bad thing to do because it lowers the overall resolution. I used a good servo for the elevator, but it just couldn't center well enough with the setup I had and it only took a hair of up or down elevator to make the plane respond.

So I tried a digital mini servo meant for R/C car steering. I noticed the difference immediately. The servo centers so well that I'm not constantly bumping the stick to get the plane to stop moving in the last direction I moved the elevator. In other words, if I gave it "up" elevator and then released the stick... the plane would continue to climb slightly. The same went when giving it "down" elevator.

There are only two drawbacks to digital servos that I can see; price and current drain. Digital servos cost more than traditional analog servos but I suspect the price will come down over time.

The current drain is higher because (*as I understand it*) there are more pulses to the servo to make it hold its position. I don't think that's a bad thing because I have a good field charger so I can top off my batteries every few flights. It certainly doesn't mean that I need to put in a larger battery in any of my planes that have digital servos in them.

TORQUE:

Torque is expressed in **ounce-inches (oz/in)**. What it means is how much load the servo can handle 1" from center.

For example: if a servo has a 42 *oz/in* rating, then the servo should be able to lift a 42 ounce weight that is attached to the servo arm 1" from the center of the output shaft, without it stalling. Servo stalling (*which is not the same as aerodynamic stalling*) occurs when the load over-powers the servo.

SPEED:

All else being equal, faster servos are better. Often manufactures make pairs of servos that have all the same parts inside and are in the same cases.

SERVOS...

One is a high-torque servo and the other is a fast servo. The only difference is that the servo gears are arranged differently. To make the servo faster (*using the same parts*) the gearing is such that the servo is weaker.

MOTOR:

Some servos have standard motors and others have coreless motors. Coreless motor servos start and stop faster due to less mass in the motor itself.

The coreless motor servos are a better quality and needless to say they will also cost more.

VOLTAGE:

Traditional servos all work with 4.8 volt battery packs. Many servos will also work with 6 volt packs. Higher voltage equates to faster servo movement and more power. It also means a shorter servo life.

SIZE:

Servos come in a variety of sizes. However, size is not always an indicator of strength. For larger models, size is not much of an issue as far as the servo fitting inside the airplane.

Conversely, small models often are limited for space and require smaller servos. There are many choices of small servos available today so finding one that will fit the application and be strong enough is not a problem.

WEIGHT:

Weight is the arch-nemesis of model airplanes. All else being equal, a lighter servo is better.

GEAR TRAIN:

Servos can have either nylon or metal gears or a combination of both. The nylon gears are lighter, smoother, quieter, and maintain a good gear mesh for a long time. Their disadvantage is that they will break or strip more easily than metal gears.

Modern 3D planes can strip gears easily due to the forces fed to them from extreme control throws.

Metal gears have the advantage of being stronger and that's about it. They get sloppy due to the wear much sooner than nylon gears do. They are also much heavier and noisier.

You need not get all stressed-out about gears. The R/C aircraft hobby has used nylon gears for a long time with very few problems. Gears normally strip only because the servo was abused somehow.

Abuse is usually one of three things: "Flutter," "Extreme control throws," or "Crashes."

BEARINGS:

Better servos have one or two ball-bearing races supporting the output shaft. The bearings reduce slop in the system as well as battery-draining drag. Bearings do make the servo heavier, but it is a feature that is usually worth it.

COMPATIBILITY:

Not all servos are compatible with all manufactures equipment. Be sure to check that a servo will work with your radio system before buying it.

SELECTING A SERVO:

An often asked question is how to figure out how much power a servo needs for any given application. As far as I know, there are no formulas to figure this out. The reason being is that nobody knows how much force is actually on a control surface in any given flight condition,

Most of us simply learn from experience how much servo we need, You cannot go wrong by having too much power, but that usually means a bigger, heavier servo.

If you think a servo may be questionable, but you want to try it anyway, then ease into maneuvers during test flights. If the plane does not respond as quickly as you think it should, then it is possible that the servo is being over-powered by loads on the control surfaces.

One thing you can do is turn on the radio and push on a control surface until you think you are getting close to breaking something. If the servo does not give up, then it is probably okay.

I really wish I had a simple equation to answer this question, but I am sorry to say that I do not.

by Ed McCollough ~ AMA Insider Newsletter

HELP PLEASE:

I recently acquired a wounded helicopter with all the necessary parts to repair it. It is a model from Century Products: Hummingbird V3 RTF. Is there someone in our club that is capable of repairing and test flying this bird so it can be used as perhaps a raffle prize at one of our events? Please contact me in the near future if you have an interest in bringing this model back into a flight readiness state.

thanks, Brad Witt

REMINDER

The date for the MARCS Banquet "April 11th" seems to be coming up faster than usual this year... being only 6-days after our next general meeting. Please get your registration slip and payment to **Dave Rush** or **Brad Witt** before or at that meeting on April 5th. *Thanks*

NOTICE...

Our "Flight Instructor Coordinator" **Rich Johnson** would like to know who would be available to do flight instruction for our members this season.

We also would like to know who could participate in the evening instruction for our new program "Learning to Fly" that will be available to the public. The availability of these instructors is one of the determining factors in how many and when we will hold these public flying sessions.

We are requesting that anyone who's willing to instruct in either (or both) of these programs to please contact **Rich Johnson** or **Brad Witt**. *Thank You*

GERMAN EXPERIMENTAL AIRCRAFT?

And you thought aeronautical engineers worked in plush well lighted offices. Here's a Heinkel HE-162 "Volksjaeger" having a turbo-jet unit attached to the top of its fuselage... and remember now, this is well before "Duct Tape" was invented.

The fortunate test pilot was probably still locked in his cell at the time this picture was taken.



TIP of the MONTH

KEEP THAT COWL IN PLACE:

If you have you ever had your nose-cowl come loose because one or more of the bolts have vibrated loose and fallen out causing it to chew up the prop or the cowl itself getting crewed up by the prop, you know what a head-ache that can bring. Here's a sure way to eliminate that potential problem.

Acquire the needed quantity of 8~32 x 1/2" nylon machine screws at your hobby shop to attach the nose-cowl to your firewall blocks. Cut and epoxy dowel plugs or tooth-picks into the existing block mounting holes so you can start afresh.

Next, mark the holes and use a 3/32 drill bit to drill the new pilot holes through the mounting blocks. Cut the new threads with an 8~32 tap. Put a small amount of thin-CA in each hole to strengthen the newly cut threads and allow to cure out before assembling. To assure you won't have any problems installing the new nylon screws, run the tap through the new holes once more to assure that none of the threads aren't coated too thick and/or clogged by too much of the CA glue.

For the final touch, if you like, you can use a felt-tip marker or paint on the heads of the new screws to match or compliment your plane's color.



**DAWN-PATROL
BREAKFAST**

Thursday, April 18th
8:30 am

ELIE'S

Family Restaurant
4102 Monona Drive
(At: Buckeye Road)
Monona, WI.

The purpose of this gathering is social only. During our winter months here in Wisconsin very few, if any members are venturing out to Kettle Field to do any flying. So this has become a way to keep in touch with each other over these gray off-season months. No RSVP is needed. Simply show up with your appetite on the date, at the time, and at the restaurant shown above.

For those of you not familiar with this restaurant, it is located in the Lake Edge Shopping Center on the corner of Monona Drive and Buckeye Road. This is the same restaurant as last year with its new owner, Elie. Hope to see you there at this, the last gathering for this winter as spring will bring us good flying weather once again.

Dr. Roger Zimmerman

RAFFLE

PRIZES
APRIL 5th Meeting

CARL GOLDBERG

GENTLE LADY

79-INCH W/S
EASY~BUILD GLIDER KIT

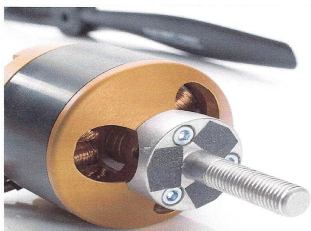
"WELLER"

Expert 110~140 Watt
SOLDERING IRON
(w/ solder and flux)

In the
Electric World
of modeling

Adapter BACK-PLATE Slippage

Almost all motor/prop adapters have a smooth surface rather than a knurled finish where the back of the propeller rests. This results in the adapter slipping when you tighten the prop-nut. Small pieces of 180 or 220 sandpaper CA'd to that back-plate surface (as shown) will prevent this from happening. This easy fix is well worth the bit of time it takes to do.

**JR-341 MICRO SERVO**

(new in box)

[2-GRAB BAGS]

Misc. Electric Motors

[1-GRAB BAG]

STICKERS

and a

Pilot Figure

2012 EVENT SCHEDULE

MARCS CLUB

Volunteers are always needed to help these events run smoothly. Sign-up with "Brad"

EVENT	DATE	LOCATION
MARCS BANQUET (see ad below for details)	APRIL~11th (Wednesday evening)	Maple Tree Restaurant MCFARLAND
WARBIRDS OVER DANE	JUNE~2nd (Saturday)	KETTLE FIELD
ELECTRIC FUN-FLY (one day event)	JULY~7th (Saturday)	KETTLE FIELD
Ken Kindschi SCALE RALLY	AUGUST~11th (Saturday)	KETTLE FIELD
2012 Float~Fly	AUGUST~26th (Sunday)	RILEY/DIEPPE PARK, MARSHALL
AERO-CAMP	TBA	KETTLE FIELD

SPECTATORS ARE ALWAYS WELCOME AND ADMISSION IS FREE

MARCS ANNUAL

BANQUET

MAPLE TREE RESTAURANT
HIGHWAY 51, McFarland, WI.

WEDNESDAY, APRIL 11, 2012
Cocktails...5:30~6:00 / Dinner...6:00
Program to follow the meal

BUFFET MEAL
Ribs ~ Chicken ~ Popcorn Shrimp
Salad Bar ~ Casseroles ~ Potatoes
Desserts ~ Beverage of Choice

MARCS BANQUET RESERVATION FORM

NOTE

NAME: _____

NUMBER OF PEOPLE _____ X \$14.00 each = amount enclosed \$ _____

Please complete and turn in at the March or April meeting or mail to:

DAVE RUSH, 5113 Ridge Road, McFarland, WI. 53558 Make check payable to "MARCS"

Please have this Reservation Form in Dave's hands at the April 5th meeting at the latest

BOARD of DIRECTORS

Meetings

These meetings are held on the same evening as the monthly General Membership meeting, shortly after its adjournment.

General Membership meeting: 7:00~9:00pm

Board of Directors meeting: 9:00~10:00pm

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

Agenda: April 5, 2012

“Learn to Fly” 2012 program

Kettle Field maintenance and upgrades

Member issues?

M.A.R.C.S.

Madison Area Radio Control Society

Annual Membership Dues

Regular membership	\$60.00
Junior membership	\$25.00
Park Pilot membership	\$25.00
Family membership	\$20.00
Associate membership	\$20.00

All applicants for a **MARCS** membership must show proof of their **AMA** membership at that time.

To receive the club's monthly **“NEWSLETTER”** by regular first-class mail, rather than off the Internet, please add \$10.00 to your annual fee.

Treasurer: Dick Sutton
612~South First Street
Mount Horeb
WI. 53572

BRODHEAD

INDOOR FLYING

High School Gym'

Wednesday Evenings... 8:00~10:30

Through 4/25/2012 Exception: 4/4/2012
 There will be **no flying** on **“snow days”** even if the weather clears up by evening.
 Obviously, there will be **no flying** if a basketball **game** or a **concert** is moved to any Wednesday.

Pilot's fee: Free (please contribute a one time donation \$10 or more for Janitors Gift)

Rules: 6-oz weight limit; electric, co2, or rubber band. 6.5-oz weight limit; with protected propeller. Flight-Line, Rest-room location, children rules available on site.

Spectators: Free admission.

Questions? Tim Hamel <thamelmd@gmail.com>

No AMA membership required

HELLO...

is there anybody awake out there?

We still need suggestions/nominations for the four trophy classes:

The **SMOKING HOLE**

The **SUBMARINE COMMANDER**

The **TREE CHOPPER**

The **SCOOTER** Award

As well as those individuals you feel that have given an extra-ordinate amount of time or effort that has benefitted the MARCS club in some way.

Please submit this information ASAP to Brad Witt

CORRECTION:

In last month's newsletter I misspelled our visitor's Name. The correct spelling is: Howard Von Ruden.

CORRECTION:

I incorrectly stated that Dave Rush had bought his Sensei model at Hobby-Lobby, when he actually bought it at: Hobbytown USA, Rockford, Il.
 Sorry, **JOHN/EDITOR**