



# JAYHAWK Model Masters Newsletter



**AMA # 2013**

[www.jayhawkmodelmasters.com](http://www.jayhawkmodelmasters.com)

See us on Facebook at:

Jayhawk Model Masters

## April 21 Meeting

**JHMM Club House**  
**305 West 23rd**  
**Lawrence**

**8:00 AM – Breakfast**

**9:00 AM – Business Meeting**

## 2012 Officers

President	Don Boucher	748-0852
Vice Pres.	Dave Alexander	843-3960
Sec/Treas.	George Jones	408-3062
Fld Safety	Tom O'Brien	913-748-1117
Editor	Gary Rauckman	843-3281
Board 3yr	Gary Webber	842-8426
Board 2yr	Jim Morris	865-0952
Board 1yr	Harris Tate	841-8946

## Schedule of Events:

**April 21, JHMM Club Meeting**

**April 24, Model Talk @**

**April 28, KCRC Spring Pylon Race**

**Thurs. Eve.'s, JHMM Building Night**

**May 5, Jayhawk Open Fly-In**

**May 10, Franklin County Flyers Meeting**  
*"Wellsville Field"*

**May 12, Jayhawk Electric Fly-In**

**June 2-3, Barnstormers Float Fly, Paola**

## Newsrap

Beware, I'm writing this rag on Friday the 13<sup>th</sup>, so, you know the drill. I went out to fly last Wednesday, but it looked like the field needed mowing, so, I did that instead. I enjoyed it so much I decided to mow for another 2 hours today.

I haven't heard much in the way of secret projects; you'all have been pretty tight lipped. So, something must be up. Oh yeah, I have a new secret project that I started while trying to finish my Yak 108. Only one hint; it's an 80" kit-bashed Water Bomber. Why would one do that anyway? Bomb Water?

I did find out what Supacic is up to again. That's not a 49 Chevy like I was told. It looks to me like he's converting an airplane fuse into a new custom Limo. What do you think?



And remember that Giant paper airplane that Jim Morris was flying. Well, that was just a miniature prototype to the real 44 foot by 800 ft final project. Here's Jim with his lieutenants preparing the launch.



### ***Jayhawk Open***

Can you believe the Jayhawk Open is just 2.5 weeks away. Are you ready? I'm not, I need to get that Yak 108 finished and test flown. Perhaps you have the same issue.

And, we will need the usual group of volunteers to help make it happen. So, come to the meeting prepared to sign up for part of the duties.

It appears to me that the new mower is working out just fine, although I haven't seen a mowing schedule just yet. Perhaps that is in the works. Treasurer George Jones has addressed how the Mower Loan payments are to be handled in the following statement:

### ***Mower Loan Payments***

Anyone who wants to remain anonymous or would prefer to receive their checks by mail, please provide me with a self-addressed and stamped envelope to mail your check in. Otherwise I will have the checks available to pass out at the appropriate meeting. The first payment will be on June 16, 2012. You must be there in person to pick up your check. No checks will be given out to anyone not present to pick up their own check unless prior arrangements have been made with me.

JMM Treasurer, George W. Jones

### ***Clubhouse Cleanup***

#### ***Clinton Lake Cleanup***

Remember, this Saturday after the club meeting we will be beautifying the grounds at the clubhouse, so bring the appropriate tools.

Several of us will be cooking hotdogs for the Clinton Lake event, so if you go out and pickup trash near Clinton Lake you qualify for a free hotdog lunch as well. See you there.

***“Middle age is when your old classmates are so grey, wrinkled and bald that they don't recognize you”***

### ***New Club Photo***

I hope you attended the March Club meeting and stayed for the new club member photo. You can see it on the club website. Sorry, if you missed it. We will try to include you the next time. Perhaps we can do it again in the fall.

### ***KU aircraft design team prepares for competitions***



LAWRENCE — Members of the University of Kansas School of Engineering Jayhawk Heavy Lift team are employing a technique that's literally cutting-edge as they prepare their remote control aircraft for two competitions this spring. First up is the SAE Aero Design West competition, set for March 16-18 in Van Nuys, Calif. KU also plans to compete in the SAE Aero Design East, set for April 26-28 in Marietta, Ga.

"We have a new laser cutter that allows us to do more advanced design work," said Justin Howard, a senior in aerospace engineering and captain of this year's Jayhawk Heavy Lift team. "We can cut out lightening holes in each rib, which means we can make the structure a lot lighter and maintain enough strength. To try to do all that by hand (like in years past without the laser cutter) would've been a mess."

The sleeker design is expected to help the team improve on last year's performance. The Jayhawk aircraft carried the most weight at the 2011 competition but broke its landing gear on touchdown, nullifying their highest score. The KU team still finished third overall, but Howard is confident this year the team can fare better.

"We're optimistic. We're working to iron out all

the little bumps in the road as we prepare for the west competition," Howard said. "We think we'll do really well and be even better prepared for the east competition, which is typically a stiffer test."

In addition to the flight tests, teams are judged on a technical report, presentation and inspection of their aircraft. Once teams hit the airfield for the flight competition, they face another set of challenges. The aircraft cannot exceed 55 pounds, so teams strive to make the body of the plane as light as possible, allowing for a heavier payload and a chance at a higher score. After takeoff, the plane must complete one full circle of the field before touching down in a 400-foot landing zone. The aircraft must land completely intact for the flight to be considered successful and the team to receive points.

The team's new laser cutter is just one of several changes for this year's squad. The group also has a new home – an aircraft hangar that KU owns at the Lawrence Municipal Airport – and Jayhawk Heavy Lift is now fully run by students, with no direct ties to a senior design class.

KU's Transportation Research Institute (TRI) was instrumental in getting the club off the ground for this year's competition, providing travel funds and money to purchase the key equipment, such as the laser cutter. The team is competing under the name "Honea Hawks" in recognition of TRI's director, Bob Honea.

### ***Unrelated Photo***



***March 17 Club Meeting***

We had 30 people at the March club meeting and the kitchen served pancakes for a little breakfast change.

First item of business was the mower purchase presentation by Fred Heinecke, Fred and the field maintenance committee suggested that we purchase a 60" Hustler Fast Track for \$7132.29 from Coffy Co. Honda. A motion to purchase passed unanimously. Members furthermore came prepared to finance the mower purchase with loans and gifts. Wow!!....\$8450 was collected. Were off and running....or should I say...off and mowing.

George Jones gave his membership and Treasurer's report. He reported that we currently have 46 members, and a bank balance of \$5455.85. The April balance that George just sent me is \$6876.12. Of course much of this balance will be used to pay back the loans for the mower. If I remember correctly, of the \$8450.00 collected, about \$1000 was in gifts and \$7450 was in loans that will be paid back.

I see we have several new members who were with the club a few years ago. One is Ron Griffin, who was a member back in the mid 90's. Welcome back Ron. Another is Vernon Nelson who recently retired from the Lawrence Post Office. Also Daryl Shutt from Ottawa rejoined. Welcome back to the club guys.

### ***Show & Tell***

We had two members showing their most recent aircraft. Robert Sharp had a Skyarite 180 made by Skyartec Models. The 180 is a 32" span foam electric aircraft that weighs 16 oz's and uses a 9-6 prop. See photo at the top of the next column.



Next up was John Lewis, showing his World Models E-Powered Spitfire with fixed gear. The 1200 Watt "Spit" is driven by a Hacker 650-10L on 5S Lipo's, and weighs 8.5 lbs. The Spitfire was the "MOM" or Model-of-the-Month winner. See below:



The Gal-O-Fuel was again won by Patrick Deuser. Don Boucher also announced that we will raffle some of the extra club clothing at the April club meeting.

# Aileron Differential: Why it's so important and how to set it up

Mar 21, 2012 2 Comments by Debra Cleghorn



For years, depending on the model setup, modelers often used offset servo output arms and bellcranks to achieve differential aileron movement. Today, however, using separate aileron servos and the aileron differential program menu in your computer radio has greatly simplified the task. But before we take a closer look, let's first check out the mechanics of our model during a turn or a roll to understand why aileron differential is so important.

## AERODYNAMICS

Typically, most models are set up with equal amounts of elevator (pitch up and down) and rudder (yaw left and right) control surface movements. But when it comes to ailerons, equal amounts of up and down (roll left and right movement), can cause the model to yaw in the wrong direction. Here's why: When the ailerons are at their neutral positions, the lift and drag produced by each wing panel is equal and the model tracks straight ahead. But when a model has ailerons that move in equal amounts both up and down, the amount of drag (and lift) created by the wing panel with the down aileron becomes greater than the one with the up aileron. The panel with the aileron pointing downward moves up because it creates more lift. The opposite panel goes down (less lift) and causes the model to bank toward the up aileron. But here's the rub! Because of the increased drag caused by the upward motion, that down aileron wing panel also slows down; this causes the model's nose to yaw in the opposite direction of the roll. The model yaws nose right in a left-hand bank/turn. This condition is known as adverse yaw. Without aileron differential, most airplanes require a certain amount of coordinated rudder to prevent, or at least minimize, adverse yaw while the model is banking through a turn. For sport and scale planes, this can be done manually or with a program mix- however, it won't work in all types of flight conditions.

**HIGH-PERFORMANCE PLANES** This adverse yaw thing is also an important consideration while flying aerobatic planes. Aerobatic pilots need to set up their models to react in pure yaw, roll and pitch motions. During a roll (whether it's executed on a horizontal or vertical line), the model must roll axially without its nose yawing or wandering off the straight line of flight. Aileron differential helps keep the model's tracking straight.

#### **YOUR MODEL IS EXPERIENCING ADVERSE YAW IF:**

The model skids through turns.

The tail drops during a turn.

The nose swings out of the turn.

It's very difficult to roll your model in a straight line.

Even with high-speed jets and race planes, correcting adverse yaw with aileron differential is much better than relying only on coordinated rudder mixing. If speed is the ultimate goal, then minimizing drag is key. Less rudder deflection equals less drag. Fine-tuning your model for maximum performance is easier if you know what to look for and how to correct it. If you can't use coordinated rudder to correct adverse yaw, then aileron differential is the way to go. Using your radio's programming is the easiest way to get the job done.

#### **HOW TO USE A PROGRAM MENU**

- > Install dual aileron servos. One connected to the aileron receiver port and the other in the Aux.1 port. Make sure the aileron servo moves in the proper direction.
- > Activate the flaperon wing type or, depending on your radio system, the dual aileron function. ¶ Install and connect the ailerons and control linkages.
- > Start with 30% to 40% differential (down aileron 30 or 40% less than up).
- > If differential mix is backwards (more down than up), reverse the servo connections by switching the aileron and Aux. 1 servo leads.

## *Shots from the Field*



# JAYHAWK MODEL MASTERS RADIO CONTROL CLUB INC.

AMA Charter # 2013

## Year 2012 Membership Application or Renewal

**Please complete this form and return with proper dues payment  
and proof of AMA Membership for the year of 2012 to a club officer.  
Print Legibly**

The Jayhawk Model Masters R/C Club INC. is an AMA chartered club so you must be a current AMA member first. Contact AMA (Academy of Model Aeronautics) at 1-800-435-9262 for membership information. To verify your AMA membership, you must show your AMA membership card or proof of payment to the club officer taking your application. If sent by mail, a photocopy of your AMA membership card is acceptable.

Full Name (**Print**) \_\_\_\_\_ Spouse Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

AMA # \_\_\_\_\_ Phone # \_\_\_\_\_ Cell Phone # \_\_\_\_\_

Birthday \_\_\_\_\_ Radio Channels \_\_\_\_\_

E-MAIL address \_\_\_\_\_

I agree to abide by all AMA and the Jayhawk Model Masters R/C Club INC. rules and any decisions made by the Jayhawk Model Masters R/C Club INC. Officers or Board of Directors.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Annual Dues:** Prorated quarterly for new members only, **Adult**, 1<sup>st</sup> \$75.00, 2<sup>nd</sup> \$56.25, 3<sup>rd</sup> \$37.50, 4<sup>th</sup> \$18.75  
**Family** (with youth under 18 years old), 1<sup>st</sup> \$80.00, 2<sup>nd</sup> \$60.00, 3<sup>rd</sup> \$40.00 4<sup>th</sup> \$20.00  
**Youth** (17 years old and younger), 1<sup>st</sup> \$25.00, 2<sup>nd</sup> \$18.75, 3<sup>rd</sup> \$12.50, 4<sup>th</sup> \$6.25  
**Social** Membership, (no flying or voting rights), 1<sup>st</sup> \$25.00, 2<sup>nd</sup> \$18.75, 3<sup>rd</sup> \$12.50, 4<sup>th</sup> \$6.25

Note -- Dues may change from year to year.

A key to the flying field may be obtained during any regular club meeting and requires a \$3.00 deposit.

### Release and waiver of liability agreement

In consideration of me and or my children, guests, or other person or persons participating in club or field activity, hereby, for myself, my heirs, my executors and or administrators, waive any and all rights and claims for damages I may have against the Jayhawk Model Masters R/C Club INC. and any individuals elected or appointed to act as representatives of Jayhawk Model Masters R/C Club INC., U.S. Army Corps of Engineers or their representatives, the city of Lawrence, KS or their representatives. Also none of the above is responsible for injuries, the loss of personal items nor any other form of aggravation in connection with the club or field activities. I recognize that there may be potential hazards in this activity.

Full Name (Please Print) \_\_\_\_\_

Signature \_\_\_\_\_

Signature of Parent or Guardian (If under 18 years of age) \_\_\_\_\_

Mail To- Jayhawk Model Masters R/C Club INC.  
% George W. Jones  
5630 SE Berryton RD  
Berryton, KS 66409



# ***Jayhawk Open Fly-In***

***Sat. May 5***

***9:00 AM - 5:00 PM***

***Location: Below Clinton Dam, Lawrence, KS  
3.1 Miles West of HiWay 59 on County Rd 458***

***\$15:00 Landing Fee  
Registration Starts at 8:00 AM***

***Contest Director: Patrick Deuser  
By: Jayhawk Model Masters  
785-766-9254    [pdeuser@hotmail.com](mailto:pdeuser@hotmail.com)***

***Concessions & Facilities on Site***

***Spectators Welcome***



*Jayhawk Model Masters  
c/o Gary Rauckman  
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