



November 2009

# Thunderbolt

## President's Message

Alex Stathis Alexopoulos

Dear fellow members

As November is approaching fast, we are all getting ready for some cold weather, and as far as flying goes, we all know that it's going to be hard to find a small window of calm weather and even harder to find any sunshine so we can fly a little at the field. Well, this is fall in our state and there is nothing we can do to change that. On a positive note, we are all excited about .....swap meet season and winter building as well. I know that I'm going to see most of you at the swap meets, chasing a good deal, maybe buying a new plane, or just looking around for some spare parts. It is always fun to gather with friends at places like that and to spend some time together.

Last month's meeting was a good one with many people, models, and some great raffle prizes. I hope to see more of you at the November meeting.

Please try to attend as we have many important issues to talk about, and to complete the officer nominations for next year. Nominations for president and treasurer are still open, and we will be voting on them at the December meeting.

I hope the weather allows us a few more flying hours this fall, so when it seems that we could get away with a coat

and a hat, try to come out to the field and do a couple of flights. It is always fun and you can always find shelter under our tent if it starts to rain.

As we approach this coming holiday season, I would like wish in advance, that you and your family have a happy, safe and memorable Halloween and Thanksgiving.

Hope to see most of you at the meeting.

*Alex*

### Editor's Note:

## PLANES FOR SALE

Warren Wells had planes for sale at the October meeting. If you are in the market for a well built and maintained plane give Warren a call at 248-437-2794. If you have planes or accessories to sell, advertise them here.



## November Club Meeting

**Monday, November 2, 7:30 pm**

Livonia Senior Center

5 Mile & Farmington Livonia

**Officer Nominations**

# Ribcrackers October Meeting Minutes - October 5, 2009

We're back in the Livonia Senior Citizen's Center at 5 Mile Road and Farmington, in Livonia. Warm, dry and unlimited light, we're into our winter home and a great place to examine those winter projects / new planes. Alex started the meeting at 7:32. The September minutes were approved as published in the October Thunderbolt. Don Unsworth continues to get out impressive issues, but we're not helping him by not sharing stories, pictures or plane reports. Don's doing an outstanding job, so we need to pitch in a little and make his job easier.

**Treasurer's Report** - the club's still solvent. Contact Roger for further information or details.

**V.P. Report** - Hank's happy and says we should be too! Field is good - go fly!

**Sec. Report** - Matt reported that some of our members have not completed their work hours and next year will be subject to \$20 in penalties.

**New / Old Items:** Alex started by stating the after visiting other clubs and seeing how they acted at their fields, he's now sure that the Ribcrackers are the most friendly, helpful and nice group of guys around. (I've been telling him that for years, but he never listens!) Alex also stated that next year, he's going to step down and concentrate more on family, (real) work and his business. However, he'll still be around plenty to help, so don't fully count him out. On the same topic, Roger is thinking

about giving up his treasurer's spot, so that will be another open office. Nominations will be accepted at any time and will also be discussed further next month! We had a short discussion over where we fly. Nothing new, just a reminder for everyone to avoid flying over Grand River. Try to keep your planes in a little closer to our field. A potential Fly-In may take place next year at the Ford Proving Grounds in Dearborn to benefit Juvenile Diabetes. Steve Vines will keep us posted, so pay attention to upcoming news.

**Model of the Month:** Alex brought in a beautiful Jet Star powered with an OS-AX-55. Very difficult to assemble, but Alex made a few modifications and it now flies "HOT". Watch for this one - bright Yellow and Red! Marshall brought in an Edge 540 done in blue and silver with red wing tips. Power is with a Magnum 0.46. Marshall (if you don't know him) is a relatively new flyer, but learning his limits fast - and this plane will help with that. And the winner of MOM was Alex! Fly safe guys!

**Club Raffle:** For this raffle, Warren had a complete 6 channel PC 2.4 GHz radio plus a bunch of other good stuff.

Good meeting, lots of fun and laughs + someone brought apple cider and donuts! Make sure you show up at the Nov. meeting - 11/2/09. The meeting ended around 9:00pm

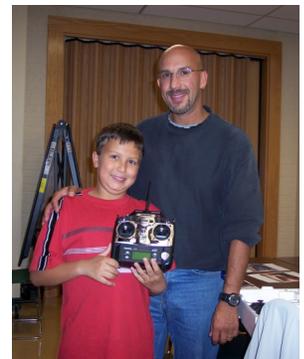
Respectfully submitted - Dennis Robbins

## RAFFLE WINNERS

Bill Hanson won the monthly member drawing of a gift certificate at Nankin Hardware. I just know that if he and his bride went to Florida for the winter as they normally do yours truly would have been the lucky one with gift certificate in hand. No grudge Bill, have fun spending it. The winners of the raffle grand prize of a Futaba 7C, 2.4 GHz radio and receivers were Steve and son, Kyler Vines. They recently rejoined the

Ribcrackers and some of you old timers will remember Steve as a past president of the club. Congratulations Steve and Kyler on a great prize. Also raffled off were a Robart Super Stand II and a receiver battery.

What a great job our raffle coordinator, Warren Wells is doing in coming up with these great items in the raffle. When you see Warren, say thank you for a job well done.



# Welcome to Gerald's Modeling World

*"It gets a bit dicey sometimes and once or twice a plane has fallen off..."*

In a 900 sq ft house there isn't a lot of room to have a fancy model building area. The workbench that you see does triple duty as a modeling workbench, general house maintenance workbench and a computer desk. Occasionally the kids will do one of their school projects on it as well. Just because I don't have a lot of room though is no excuse for how messy I keep it. As you can see I tend to be a bit of a slob. In the second picture is my plane storage rack. It was designed to hold 4 fuselages and the accompanying 4 wings. I tend to double stack occasionally and have had the Electro Streak, Tiger 60, Spirit 100, GP Oldtimer, and the Sig Kadet all on there at the same time. It gets a bit dicey sometimes and once or twice a plane has fallen off. This then becomes my self limiting threshold of how many planes I can keep at any given time. This also cuts down on the number of times that I hear the question "How many planes do you have? Do you really need all of them?" In picture three you can see my current project on the building board. It is a Tigercat F7F. It is from an RC Kits kit that I picked up at an es-

tate sale in Flint. The kit looks like it is a good 50 years old. It came with rolled plans and a page and a half of typed instructions. It makes you appreciate the comprehensive instructions that Great Planes and the other kit

manufacturers now provide. The plane should finish out to about 12 pounds with a 72" wingspan. I plan on putting two OS55ax for power. Should be plenty. Retracts would be nice but we'll see what the budget tolerates. The toughest part is going to be the wings and tail feathers. I have never built with foam before and it will be a new experience. I have researched the internet and found all kinds of interesting information. If anyone has any

tips or tricks I would be happy to listen and learn. In any case, it is probably going to be another year or so before this plane is even close to being done. I hope you enjoyed your little peek into my modeling world.

*Gerald*





# 9 In an ongoing series

The last couple of installments have covered how an electronic speed control (ESC) works and what some of the specs mean. This time we'll look at a component that is often included in ESCs, but can also be a stand-alone module. This is the battery eliminator circuit (BEC). BECs drop the 8 volts or higher of the motor battery down to 5-6 volts to run the receiver and servos. The advantage the flight battery, you're also charging the radio battery.

The most common BECs use a 7805 integrated power regulator. These are linear regulators originally intended to provide regulated 5 volts to computer circuits. Just like the early, non-switching ESCs, they are linear circuits that work by dropping the voltage to the radio system and dissipating the extra energy as waste heat. They are most efficient when the supply voltage is low – the lighter the input voltage, the more the BEC has to drop and the more energy it has to dissipate.

As a result of how linear BECs work, there are limits to the maximum voltage of the motor pack and there is usually a limit to the number of servos that can be used with different numbers of battery cells. Briefly, the more cells, the higher the voltage drop the BEC needs to generate; the higher the voltage drop, the more heat it generates for the same current – so the higher the voltage, the lower the current needs to be to keep the BEC from over heating. Since servos are the main current drain in a radio system, the number of servos has to be limited. Above 10-12 Nickel or 3-4 Lithium cells, most linear BECs can't handle anything beyond the controller's own electronics – so high voltage ESCs never have linear BECs if they have one at all.

There is a second kind of BEC, known as a switching BEC. These BECs work by charging an inductor and capacitor with a varying duty cycle pulse (much like a switching ESC runs the motor at less than full throttle by switching the motor on and off). The BEC's circuitry senses its output voltage and changes the on to off ratio to maintain a constant output voltage. Like the switching ESC, the switching BEC operates very effi-

ciently and generates only a fraction of the heat of a linear BEC. Also, the switching BEC works more efficiently with a higher input voltage - the input voltage for a switching BEC is mostly limited by the voltage capacity of its transistors. Until recently, switching BECs were all stand-alone, but recently, they have been showing up in ESCs.

The reason that BECs can be used to power the radio is that the battery usually has a enough energy left to run the radio after the motor dies. The two times you don't want to rely on a BEC are if there are a lot of servos in the plane – the load from the servos may be too much; and, if the plane can thermal – it's difficult to know how much is left in the battery after several motor runs.

What makes BECs practical is that there is enough energy left in the battery to run the radio after the battery can't effectively run the motor any more. The component in ESCs insures there is some energy left is the low voltage cutoff. We'll talk about it next time of a BEC is that you don't need to charge a separate radio battery – every time you charge.



### 2009 Board of Directors

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# Amphibian in the sky?

Look up in the sky..... it's a bird, no it's a plane, no it's an amphibian!!! No kidding folks, one of our members "unknowingly" allowed a stow away to get a ride out over Walled Lake. A lake that it has and will continue to swim in. And what a ride it must have been for the lowly, cold blooded vertebrate. How did it happened do you ask? Well here is the story as I remember related by the errant pilot. I do admit to perhaps making up some of the details for clarity purposes.

Seems as though the pilot lives near Walled Lake and stores his float plane under a carport. The fuse must have looked like a comfy place to set up a domicile by the creature. The plane's

wing is difficult to attach to the fuselage and the frog was missed. Well, those of us that have seen this pilot fly, know that amphibian got one heck of a



ride. Loops, rolls, dives, etc. any creature inside would suffer from dizziness, vertigo and you name it.

After landing, the plane on shore and the wing removed, the frog jumped out but didn't leave. Instead it hugged the floats and hung around for a while. I'm sure not out of love of flight but complete disorientation. Oh, and the pilot was our illustrious hot flying ace, President Alex!

This was a memorable summer, first a deer strike in the east cornfield, the two engine plane on Walbridge's roof and now a flying frog. Can it get any weirder than this? You just can't make up stuff like this. I wonder if PETA will get involved. So what other good stories await us this flying season as fall and winter loom ahead? Are there other stories that I have missed? Let me know.

*Marshall Stern's  
MOM entry  
for October*



*Taken at the  
Red Bull races  
this summer  
in Detroit*

Photo by Juan Lopez

## LOCAL COMING EVENTS

**November 8, 2009**

# Midwest R/C Swap Meet

**Northville Parks & Recreation**

**303 West Main Street**

**Northville, Michigan**

**9:00 am – Noon, \$5.00**

*After the swap meet, stop in and visit me in my work shop. I am located at 895 Grace St., one block N of 8 mile and one block E of Center. If the garage door is not open, come in at the back of the garage.*

*I can always put on a pot of coffee and just may make a pot of chili.*

*Don*



895 Grace, Northville, Michigan 48167

## Model of the Month



Two planes were presented at the October meeting for model of the month honors. Alex won with his entry of a Jet Star pusher that he found on Texas RC Planes. It was difficult to assemble and a lot of improvisation was needed to finish it out to Alex's high standards. The net result was a beautiful airplane that was difficult to get in the air. Alex almost had to use the runway ramp on the west side of the runway to pop it up into the air. However once airborne, it was one fast vehicle. Alex says you have to stay on the controls all the time due to its tendency of dropping like a rock.

The runner up recognition went to Marshall Stern's entry of an Edge 540 decked out in the Red Bull racer motif. Good job guys, the assembled members enjoyed the discussion and stories.