

Wing Tips

February 2015

The Newsletter of the Mid-Hudson Modelmasters

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2015 Club Officers

President: Bob Santoro

Secretary: John Knight

Sgt. at Arms: Flavio Ambrosini

Vice President: Ron Irvin

Treasurer: Tom Eng

Junior VP: George Amenta

Club Calendar

Coming Up:

- **Saturday February 7:** Olympiad program, at Ulster County Community College, Contact Scott Owitz
- **Friday, February 13: - CLUB MEETING,** Because of a scheduling conflict with the Highland Middle School we once again will be having our meeting at Brad's manufacturing plant. The March, April and May dates will remain the same and Middle School location. Thank you for making the change.
- **Friday February 20 – 23:** 47th Annual WRAM Show at the Meadowlands Exposition Center in New Jersey, opens daily at 10 am.
- **Thursday , March 5: - February Wing Tips Article submissions due,** Send your submissions to wingtips@modelmasters.us
- **Sunday, March 29: - INDOOR Flying ,** Ulster Community College Gym, 1-5pm *Note: Please limit flying to indoor types -- fly the larger, more aggressive models outdoors or at larger indoor sites. Sneakers or other gym floor type footwear should be worn.* No indoor flying in February.

Regular Events:

- **MONTHLY MEETINGS AT HIGHLAND MIDDLE SCHOOL:** Oct. through May club meetings and flying sessions at will be held at Highland Middle School, dates are: Thursday; March 19th- Thursday; April 16th- Thursday; May 15th- Friday
- **INDOOR FLYING SESSIONS AT SENATE GYM, SUNY Ulster:** 1-5pm (time revised), All dates are Sunday. March 29, April 12 (new April date), May 10, September 13, 2015, October, 11, 2015, November 8, 2015. No indoor flying in February.

- **INDOOR FLYING AT SCHENECTADY ARMORY:** Saturdays, February 7, 14, 28; March 7, 14, 21; April 4, 11, 18, 25. For more info, contact Jesse Aronstein, 845-462-6452, protune@aol.com. If you plan to attend check with Jesse before departing for the Armory, since weather and other factors can cause cancellations. Info also available here -- <https://sites.google.com/site/epamodelers/home/schenectady-armory-flying>
- **OUTDOOR FLYING SESSIONS AT WEST ROAD FIELD** – Every Saturday Morning, weather permitting.

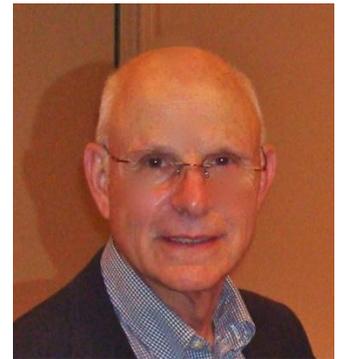
Membership Deadline is March

If you have already sent in your 2015 dues, Thank You! If you have not, please consider sending it in soon, your membership will expire in March. Thanks to John Sohm, the membership application available on the web page (PDF file) as an editable form. You can open the file and type your info directly. Then, print and send. No need to hand write it. Of course you can also print and then write in your info.

From the President's Cockpit

One would expect most members to be hunkering down in January to build and do maintenance on their collection of planes, helicopters and quadcopters. Instead, numerous pilots made their way to the field and have enjoyed an extended flying season.

The highlight for January was our annual dinner/auction that was attended by 36 members including their guests. The evening started out with a moment of silence for recently deceased member Don Typond. The gift exchange followed, developed and conducted by Lloyd Quick. Everyone was required to make an exchange which added an interesting twist to the event.



Bob Santoro



*Bob & Cameron Masker -
Field Improvement*



*Cameron &, Joe Masker, Bob,
Top Flight Parent*



*George, John, Frank Amenta, Bob
Top Flight Parent*



*Bob Top Leader Award with
Brad Quick*



*Bob DiGiacomio most Spectacular
Crash Award with Dillon
Losee*



Domenick Fusca - Auctioneer



*John Amenta's Night Vapor
donated by Bob
Auchincloss*



*John Amenta, Top Flight
Brother with Bob*

A special service award was granted to Bruce Fallon for both his outstanding assistance to our club as well as his recent military service to our country. Because of family obligations Bruce was unable to attend the dinner. At the dinner Bruce was contacted by phone at which time he was notified of his award.

New this year were the Top Flight Parent Awards. These were given to the parents of our young pilots in recognition for their dedication and support of their children in pursuing model aviation. Awards went to Frank and Tracey Amenta; Ron and Olga Irvin; and Joe and Ann Masker. John Amenta received the Top Flight Brother Award for spending many hours in the van at the field as brother George honed his flying skills. Cameron Masker was recognized for his outstanding field improvement project that he did in partial fulfillment of his requirements to become an Eagle Scout. Lastly, in a humorous vane, Bob DiGiacomio received the most spectacular crash of the season award.

As always, the auction, conducted by Dom Fusca and assisted by Brad Quick was a lot of fun as members used their Modelmaster Dollars to bid on 40 hobby related items. New this year, Dom added a 6 item raffle, tickets of which could be purchased with Modelmaster Dollars. Thanks to Bill Bolitho for tracking MMD's earned throughout the year and then printing and distributing the currency at our event. The highest bid item was a 2200 mah battery for \$7520, with a total of \$45,515 model master dollars being spent.

I hope many of you will be able to attend the WRAM show at the Meadowlands Exposition Center in Secaucus, N.J. on February 20-22nd.

Please note that due to a scheduling conflict at the Highland Middle School our February meeting will be held at Brad's manufacturing facility on Salt Point Turnpike, Poughkeepsie on Friday, February 13th beginning at 6:30 P.M.

Build straight, fly safely and have fun, Bob

MEETING MINUTES – Jan. 16, 2015 - Taylor Manufacturing

1. Meeting was called to order by Secretary, John Knight at 7:35 PM (President Santoro and Vice President Irvin were not available).
2. Prior to the start of the meeting, Brad took us on a tour of his facility. There are some very impressive machines for bending, punching, drilling, stamping, painting, and powder coating metal. Thanks for the tour.
3. Minutes of the December meeting were approved.
4. Treasurer Tom reported that the club is in good shape financially. In addition there is \$500.00 for (Highland School Usage) in the treasury. Field Maintenance voluntary contribution = \$623.00
5. Treasures report was approved (1-abstention).
6. Last year there were 64 paid members. As of 1/16/15 there are 27.
7. A motion was made to reimburse the Maskers \$400.00 for materials for work done at the field as part of Cameron's Eagle project. This included the addition of a flying pad, walkway to the field, fence repair, runway spruce up, and picnic table repairs. Tom reported that there is sufficient money in the treasury to cover that amount. Motion was carried.
8. The club via President Santoro will provide a letter to the Boy Scout Council in support of the work done by Cameron.
9. Lloyd explained the rules of the gift exchange and Dom talked about the auction.
10. There was discussion of the certificates that would be awarded during the annual dinner.
11. SHOW AND TELL
 - a. Dillon demonstrated a game/flight simulator that runs on his tablet (will also work on a desktop). He felt it had great graphics and was approx. \$5.00.
 - b. Barry presented a rubber powered indoor model. Weighs 7grams (w/o rubber). Plans are available on www.parmodels.com. Six inch



Taylor Mfg. Tour by Brad



Taylor Manufacturing

Ikara Indoor Props are available from www.volareproducts.com. for \$3.00 each. Twelve Inch (\$4.00). Barry does some of his indoor flying at Red Hook HS.

- c. Brad presented a Dollar Tree foam Piper Cub that he is considering for this year's build project. It uses a 2836, 1000KV motor. He is still waiting for conditions to improve before attempting an outdoor flight.
 - d. Brad presented his new Flysky Transmitter (approx. \$200.00) it uses open source software, which allows the user to download custom configurations. The transmitter provides voice commands, telemetry, etc. Each button or switch can be programmed.
12. WE WOULD LIKE TO THANK BRAD FOR ALLOWING THE CLUB TO USE HIS FACILITIES FOR THEIR MEETING.
 13. There is no date set for the February Meeting
 14. March 18, 2015 Club Meeting at Highland MS 6:30-9:30 (Meeting at 7:30)
 15. Meeting Adjourned at 8:18 PM
- Respectfully submitted, Secretary J. Knight

MEET YOUR FELLOW MODELMASTER MEMBER – Chris Luy

1. How did you get into the hobby/sport?

Many things led me into RC. I grew up building stick and tissue Guillows airplane kits and to this day, I still think there nothing quite as gorgeous as a framed up airplane. From an early age, I was also fascinated by Cox engines and my father introduced me into flying Cox control line planes. I discovered old collections of Model Airplane News in the school library and started spending a lot of my study hall time in the library reading them. I started saving my money and soon had purchased my first RC airplane, a ready to fly, .020 powered, Cox single channel trainer.



2. How long have you been in the hobby/sport?

I started building balsa rubber powered kits in the 1970s, but my first RC flight was around 1980.

3. What aspect of the hobby/sport are you most interested?

Up until the past decade or so, gas engines and speed planes were my combination of choice. I flew a lot of delta wings and small 1/2A size planes fitted with high performance engines. As battery and brushless motor technology started to rival nitro, I gradually converted to electric. I still have lots of nitro planes and helis, but, anymore, it is just too easy to take the electrics out and leave the oily residue behind. The past 5 years I have really gotten into FPV. I started with my own design quadcopter to learn on and now have 2 other quads with full camera setups.

4. What was your 1st plane?

My first RC plane was a Cox .020 powered, single channel high wing plane. It came ready to fly and only had rudder control. The plane would pretty much climb while the engine was running and you had to loose altitude by going into a rudder induced spiral dive! Once the engine quit, you would try to put it down in a tall grassy area. I got a handful of successful flights out of it before it finally took a hard crash. That was all I needed though, I was bitten by the RC bug and had to have more!.

5. Do you have a favorite Plane? If so which one and why?

A long time ago I had a SIG Kougat. Of all the planes I have owned, this one just reminds me of some of the best times I have had in the hobby. It flew well and always came home with me. There was one time when I was flying her low inverted down the runway and the engine quit. I had to quickly roll out of the invert and turn around because I was at the end of the runway going the wrong way! I lost a lot of airspeed and was at full sticks, trying to line her up and flare for the landing when the wheels hit the pavement. It ended up being one of the best landings I will ever have. The wheels touched the ground so gently there was no bounce. It was the definition of - Greasing The Landing-. The planes last mission was to survive the move, in a trailer, from Colorado to New York. It did not survive the move. If I had asked her to fly all the way, it probably would have made it.

6. What is the most challenging part of the hobby/sport for you?

Keeping up with technology these days has got to be the biggest hurdle anymore. With my quadcopters and FPV systems especially, you need to adjust settings and calibrations with a computer and I am always having to go back and reference manuals. Heck, just changing models on my radio makes me wonder what switches are set up to do what.

7. Do you have goals regarding what you want to accomplish in the hobby/sport? What are they?

My goals involve my love of a subsection of the hobby. I love model en-gines. I also enjoy 3D design and using my CNC and metalworking machines. I hope to one day be able to run a working engine that I have made with my own hands.

8. Do you have other hobbies or areas of interest and if so what are they?

I have metal lathes and a CNC mill and enjoy making my own parts when I can. I have spent the past year building a humanoid robot with parts made mostly from my 3D printer. It currently has 27 servos and is controlled with an Arduino microcontroller.

9. What advice do you have for new people getting into the hobby/sport?

Unfortunately, the media has portrayed our hobby as one full of crashing and mishaps. Most people who are not in the hobby only know what they have seen on a news segment. We all know that if they can get a crash on film, that is what they show the audience. I always tell new people that "You Do Not Have To Crash To Learn How To Fly!" With a good trainer and a buddy box system, learning can be easy, fun, and very rewarding. The hobby will reward you with knowledge in many areas, problem solving skills. You will also be welcomed into one of the most friendliest and supportive organizations available.

TWIN ELECTRICS: ELIMINATING THE LOW VOLTAGE CUTOFF SPIN by Jesse Aronstein

My two "stick-and-tissue" twin electrics (Grumman Widgeon and PBY) have both splashed at Galway Lake from time to time, spinning in towards the end of a nice flight. Usually some repairable damage, but why would I want to spend time on repairs? I had to figure out the cause and solve it.

There were many possibilities, such as pilot error, radio glitch, misplaced CG, or even some inherently evil aerodynamic characteristic of these zero-dihedral scale models. My reaction whenever a spin occurred was to throttle up and try to fly out of the situation, but that did not work with these models. For a while, just flying a bit faster seemed to avoid the spins -- until it happened again.

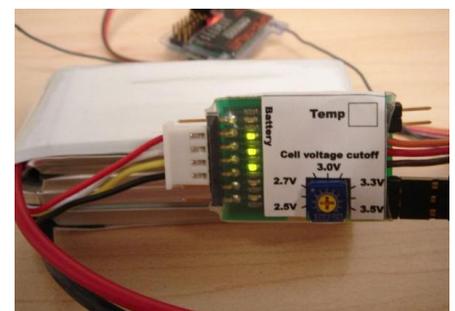
Now my focus is on the ESC low voltage cutoff. I don't time my flights, since that is not very practical for variable flying style and an assortment of battery packs. I just land the model when I sense the power starting to sag. That usually works for me, and, when it doesn't, a deadstick landing is not a problem.

But I had overlooked a little quirk of twin brushless electrics. With brushless motors, you need to use one ESC for each motor. When the battery voltage goes low, one ESC is always going to activate (cut or reduce throttle) before the other. There is no practical way of assuring that the multiple ESCs (one for each motor) cut off simultaneously. So, one motor cuts out first, and the spin initiates. Once in a spin from this cause, throttling up just doesn't work to help you get out of it.

The solution is to install a single LVC (low voltage cutoff) unit that activates at a low voltage threshold higher than that of any of the ESCs and cuts power at all motors simultaneously. The LVCs that I happen to have were from FMA Direct, and they can be set to activate at any voltage I choose. The unit simply plugs into the receiver's throttle servo output, and the throttle cable connector from the (two) ESCs plugs into it (instead of directly into the receiver). There is then one red voltage sensing wire that gets spliced into the red battery power lead at any convenient place. The manufacturer's directions for setting to activate at any desired voltage are pretty clear. For a few grams added to the overall weight, I think I've eliminated the root cause of at least some of these random spins.



Jesse's PBY at Galway Lake



The units that I have are no longer available, but there are others presently on the market that will do the same job. An adjustable LVC that senses voltage at each cell in the battery pack is the "Cellshield" (dimensionengineering.com) pictured here. For those of you who are comfortable modifying electronics, you can fool any non-adjustable LVC into activating at a higher battery pack voltage by simply using a small potentiometer or a pair of resistors as a voltage divider to reduce the voltage that the unit senses. So, if the potentiometer is across a battery pack that is at 10 volts and the adjustable tap feeding the LVC sensing lead is at the 90% position, then the LVC thinks the battery is at 9 volts. Just make sure that the LVC cuts the throttle at a higher voltage than any of the ESCs do, and your multi-motor model will be a bit safer to fly.

Open Source Transmitters by Brad Quick

The purpose of this article is to open your eyes to the wonderful world of open source transmitters. We'll start with a brief history. Years ago, Hobby King started selling the cheap Turnigy 9X transmitter. A number of our club members bought these because they were cheap and reliable. Unfortunately, the software on these transmitters was a little clumsy. Sometimes, the left and right navigation buttons seemed to be reversed, etc. So some dedicated hobbyists figured out that these transmitters used Amtel microcontrollers and that if they soldered 6 wires from the board to a connector, they could re-program the software from scratch. Working together over the internet, they came up with some pretty good software to run on the 9X and shared it as open source, meaning that anyone can use it.

Turnigy noticed this and came out with a new transmitter, the 9XR. The 9XR was similar to the 9X, but this time they built a programming port into the hardware so that people who wanted to update the software didn't have to do any soldering. They also pre-loaded it with the open source software. The result is a \$50 transmitter with great software.

But, the hobbyists weren't satisfied. They kept adding onto the hardware and modified the software to match. Eventually, some even designed a whole new control board to replace the guts of the transmitter. This control board had a more powerful processor, data stored on a micro SD card and voice playing capabilities.

Again, Turnigy noticed and is now selling a 9XR Pro. It's a little more pricey, but for \$100 you get a 16 channel transmitter with a large LCD screen, powerful processor, micro SD card, usb port, and sound/voice output. All this with arguably the best software on the market. This transmitter comes without a battery or RF module. If you don't care about the SD card, voice, etc, you can still get the 9XR for \$50.

Turnigy wasn't the only company to take notice of the advantages of open source software. FrSky, (pronounced "free sky", as I understand it) has come out with it's own version of hardware that runs the open source software, the Taranis (and now Taranis Pro). It's similar to the Turnigy 9XR Pro, but it has more of the standard transmitter look. People who have both seem to think that the quality is a little better than the Turnigy. It has about the same hardware features with the addition of haptic feedback (it vibrates). Unlike the Turnigy, it comes with a battery and it has a built in RF module that works with FrSky receivers. It has telemetry built into the transmitter too, so if you use a telemetry capable receiver, it can warn you if the signal received by the receiver gets too low or can speak your plane's altitude to you. It also has a port in the back for an additional RF module. If you put an Orange DSM2/DSMX module in this extra port, you can use the same transmitter to fly planes with cheap Orange receivers as well as planes with FrSky telemetry receivers. It has more three position switches than the 9XR Pro, rotary sliders on the sides of the transmitter, and a little larger screen. It's a little more pricey but you won't find another transmitter with close to these features for it's price, \$200.

Which transmitter is better? The Taranis is probably a little higher quality, has telemetry built in, and comes with a battery, but is twice the price.

Next month we'll talk about what really makes these transmitters rise to the top; the software.

No-Cal Model by Barry Knickerbocker



At our last Model Masters meeting I brought in a "No-Cal" model of a P-51D for "show and tell". The the model is built from plans I got from the PAR models website. When it comes to free flight "no-cal" models, the unique thing about this website is that the plans offer the building profiles for the model and also patterns for printed tissue covering. The colored tissue is printed out on just about any ink jet printer. This website is a

real gem that offers lots of information on plans and techniques for free flight and electric RC models. I encourage you to take a few minutes for a visit to PARMODELS.COM.

Mobius Action Cam by George Amenta

One of the items I got this Christmas was the Mobius mini camera. It costs around \$80 and comes with the camera, lens cap, USB cable (for charging and downloading video) and a case with a mount. It measures approximately 2 ¼" by 1½" without the case and measures about the same with the case. It comes in at a little more than an ounce which is light enough to mount it on some of my smaller planes. The only thing that you need is a micro SD card. I use a 32 gigabyte card which can hold around 2 hours worth of HD video which is also about how long the battery lasts. The camera itself has a nice hard plastic rubbery shell with metal heat plates (the two shiny things in the picture). There are 3 buttons and an LED light to indicate the mode, on/off, and start/stop recording. The camera has a wide angle lens and 3 modes. There is a still photo mode which I don't really use because there is no viewfinder or screen to see what you're filming although you could hook it up to one. Then the first video type is 30 frames per second at 1080p. The second mode is 60 frames per second at 720p. Almost the quality of a GoPro! It has a microphone which is surprisingly quite good. I filmed a song from a concert I went to at Madison Square Garden and the audio was clean and clear. In the two videos I've included



below though you will only hear the sound of the motor and the whistling wind.



The picture is from the concert and the two videos are both shot on my Piper Archer flying from my dead end street. Ignore the date and time in the bottom left corner I haven't bothered to fix it.

Picture taken after the show at Madison Square Garden

<https://www.youtube.com/watch?v=DdSks33OgL4> Shot at 1080p 30Fps

<https://www.youtube.com/watch?v=ePxPC1OINsY> Shot at 720p 60Fps



Make sure to select the quality for best results!

Do you have this disease?

Important Health Announcement! Some members in the club have been diagnosed with Gottoflyst disease. Symtoms include, unable to put your transmitter down, constant loading and unloading of planes into your car, constant forecast checking, use of 2nd layer clothing, keeping a snow shovel in your car to shovel the runway just enough for takeoff and landing. If you have any of these symtoms (like the individuals in the photos) come out and fly! It is the only relief. There is no known medication available.



Brad Quick, Scott Fellin, Domenick Fusca



Domenick Fusca & Lloyd Quick



Scott Fellin (worsereported case of this disease)



Domenick Fusca, Tom Eng, John Knight

Interesting Stuff

Bill Bilitho - Lockheed Martin Develops Airplane/Airship Hybrid,

<http://www.engineering.com/DesignerEdge/DesignerEdgeArticles/ArticleID/8970/Lockheed-Martin-Develops-AirplaneAirship-Hybrid.aspx>

Dillon Losee - RCTESTFLIGHT - RC Flying Sled: http://youtu.be/4eY3Q7iO7_o

RC ADVENTURES - 500lb RC Wheel Loader clearing Sn...: <http://youtu.be/SpfezMvnx24>

Drive Along FPV - RCTESTFLIGHT -: <http://youtu.be/eT-MyPDnf4A>

Check out "Sky Gamblers: Storm Raiders" - <https://play.google.com/store/apps/details?id=com.atypicalgames.sgssr>

Flying a 350 sized quad copter fast inside: <http://youtu.be/967JJEDw4I>

Flying a micro quad in a machining facility: http://youtu.be/NgQIA1j4C_0

Mid-hudson model masters fly in a local business: <http://youtu.be/ffFlmMPpV7A>

FOR SALE

Great Planes Cosmic Wind-Like New/Unused

This is the complete ARF in like new condition (white color scheme). The box and packing have been opened, the wings have been glued together (glue joint is straight and uses the specified epoxy), and the landing gear has been assembled. otherwise the kit is NIB. Asking price is \$90 obo possibly interested in partial trade for small park/indoor flyer. Please email or call me if you are interested. Patrick Walker, pawalker@vassar.edu, 845-464-9035



Domenick Fusca

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Wing Tips

«First_Name» «Last_Name»
«Street»
«Town», «State» «Zip»