

Propwash

The Newsletter of the Mercer County Radio Control Society
March 2007

Ham Fly 2007: Few Flights, Few Hams, but Still a Good Time

We have grown to distrust weather forecasters, who have routinely predicted clear weather for events that did not materialize. The predictions for the 2007 Ham Fly were deadly accurate, however. Unfortunately, the prediction was for dismal weather.



The parking lot was so wet that everyone chose to park elsewhere.

But in a sense it's odd how minor an effect truly lousy weather can have on an MCRCS event. At least that was the case with this year's ham fly. Although, in the excitement, no one thought to count how many members showed up, it was somewhere between twenty and thirty. Some might have difficulty understanding how standing around in an open shed watching the rain drip off the roof could be an exciting way to start off the new year. But then those people just don't understand.

It's not that we haven't had plenty of days of good weather this winter. (The photographs take December 31st attest to that.) So no one seemed to mind the damp atmosphere. Maybe it was the donuts and coffee. More likely it was the hearty hot chili served for both breakfast and lunch by Dave and Patty Sagot that really cheered the crowd, though.

Most members will recall that the late Doug McMillan used to provide a vat of his legendary vegetable soup for this event. It had become a treat that some of us looked forward to all year. But Dave and Patty have started a new tradition (we hope) by providing a pot of steaming chili. In stock form it was warm, yet safe for the most sensitive of stomachs. But with the fixin's provided, it could be supercharged as to make a glow flyer feel like he was running on gas. Well done, Dave and Patty!



Dave and Patty Sagot kept the fires fueled with an endless supply of hot chili.

And there was some flying. Jans Brower started it off with his 1938 Powerhouse, an old-timer designed by Sal Taibe. Although the wet runway and extra weight from the water on the wings made the takeoff unusually difficult, the flight was pretty routine and even included a touch and go. A few others (including an intrepid newsletter editor) followed Jans' lead and, standing under a large umbrella nimbly wielded by Pat (Binky) Monacelli and operating transmitters sealed in plastic bags, several flyers were able to start the year with flights that were notable but uneventful.

Except, of course, for a unique model flown by Forrest (Woody) Miller. Woody brought a Styrofoam hydroplane that he'd received as a Christmas gift. The take-

offs were generally pretty routine, except for the one that hit the flagpole. The landings, however, were often a bit more sudden than is typical of Woody's usual finesse, thus adding an element of excitement to the day's activities.

Overall, there was a lot more hangar flying than actual flying going on. But, hey, that's the advantage of belonging to a club such as ours. You can fly by yourself but you need other club members if you want to talk about flying. And there was plenty of that.



Jans Brower was the first to brave the elements, flying his Powerhouse in near-IFR conditions.



Bob Levanduski called out the numbers of ten lucky winners.



Nobu Iwasawa used his 3D skills to deal with visibility issues while Pat Monacelli provided shelter.



Dan Geerders went home with the first ham.



Woody Miller flew the craft best suited for the weather, a Styrofoam hydroplane. Nobu Iwasawa and George Allen observe.



The event team (Nobu Iwasawa, Frank Figurelli, and Bob Levanduski) awarded Paul Abati (second from right) the last ham.

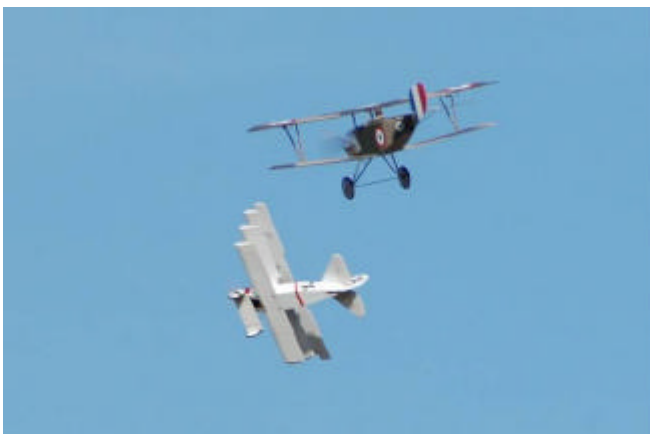
Of course, there were the hams too. In deference to the weather, the drawing was held early at 11:30. Ten lucky attendees went home with Hormel EZ-Cut hams this year. The rest went home with full bellies, good memories, and the certainty that the rest of the year's weather would have to be better than today's.



Paul Abati reminisced over photos of brighter skies the day before.



What a difference a day makes: Bill Collier's Fokker the day before the Ham Fly in loose formation with Augie Lucidi's Fokker.



Bill Collier's Fokker again, this time in the sights of Keith Zimmerly's Nieuport.

MCRCS Public Ground School

The Board of Directors is considering a plan to offer a six-hour ground school program to the general public. As envisioned, the free six-hour ground school would cover everything a new flyer would need to know for a successful start in building and flying RC model airplanes. Through this school, students would see and be able to investigate the details of several types of RC aircraft including electric park flyers, giant scale military aircraft, WWI biplanes, and ducted-fan jets. They would learn the theory of model flight, how to choose their first (and second) models, what additional equipment they would need, what it takes to make their models airworthy, how to control their models in the air, and how to ensure the safety of themselves and those around them.

From our perspective, there are three goals we would hope to accomplish through this program:

- To raise awareness of radio control modeling in our community and promote it as a worthy sport.
- To identify and attract enthusiastic new participants to join our club.
- To increase attendance at our revenue-producing events through free media coverage of the ground school.

Feasibility and timing are the current concerns of the Board: Can we get the support, both from the club and community, to allow us to do a good job with this program and, if so, how quickly can we put it together? The ideal scenario is to offer it this April, in time to generate interest and publicity for our annual charity event, the Jumbo Jamboree. A less attractive fall-back schedule is to present it over the summer, perhaps enhancing attendance at the Warbirds event.

If we are to conduct this program, the first requirement is obtaining volunteers from the club to teach the curriculum. Six one-hour blocks are tentatively titled:

- **Introduction to RC Flight**
- **Aerodynamics and Flight Procedures**
- **Radio Control**
- **Power Systems**
- **Building Your First Model**
- **Preparing for Your First Flight**

The final curriculum is still subject to modification by the teaching staff, which we need to enlist. The Board envisions as many as three different classes taught in two-hour segments weeknights and Saturdays. If you would like to consider teaching in the program, please contact David Vale by email (cdavidvale@gmail.com) or by phone (609-430-9633). You need to be enthusiastic about teaching and have knowledge of the content you teach, but **you do not need to be a designated flight instructor to teach in the ground school program.**

So, if you'd like the opportunity to promote the sport of RC flying and to pass some of your expertise on to the next generation of RC flyers, please contact David Vale by March 10th so that we can evaluate the feasibility of conducting an April program.

First 2007 Board Meeting

The first meeting of the MCRCS Board of Directors in 2007 occurred on Thursday, February 8th. In addition to approving new members, the Board discussed methods of better communicating with club members (see related email article), methods of better publicizing our events, and plans to rearrange the pit area to get parking closer to the clip board (see related impound article).



The 2007 MCRCS officers and directors (top) David Vale, Sal Lucania, Augie Lucidi, Armand Graziani, Terry Watros, Jim Meighan, (bottom) Bruce Evertsen, Jim Feszchak, Bob Levanduski, and Keith Zimmerly.

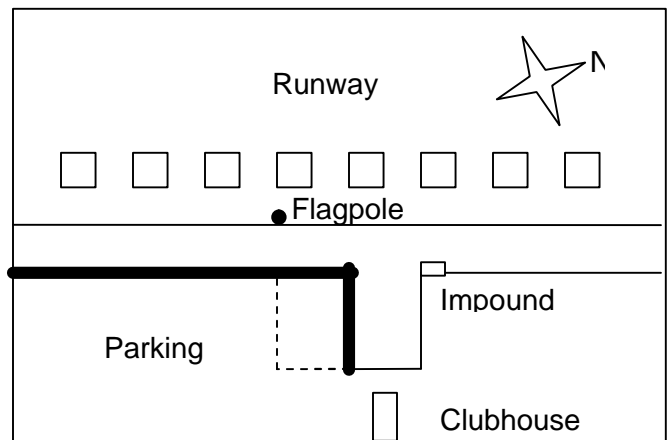
If You Can't Move the Impound to the Parking Lot ...

Of historical interest to those members who have belonged to the club for only a few years, the impound shed (that also houses the frequency clip board) was built right next to the parking lot. This simple fact has

been interpreted many ways. To some, this meant that its location, a 145-foot walk from the place they park, was right next to the parking lot. Those with more experience and maturity knew that the place we now park and tailgate was not intended as the parking lot and, in an earlier era, the impound was a tidy 20 feet from the parking lot.

There has been much discussion at club meetings over the past couple of years, culminating in the conclusion that 145 feet was too far to walk for a clip. (It could easily be double this, should you be one of the late arrivals.) The periodic suggestion to move the impound has met with vigorous resistance, however, as the impound shed contains a considerable amount of wiring, which would make moving it difficult. Some observers coyly noted that a new generation of radios might render this issue moot, but in an action-oriented club such as ours, sometimes technology changes too slowly.

Not to worry about the wires, though. A compromise plan has been developed that will halve the distance without cutting any wires: Rather than moving the impound, we're going to move the parking lot.



A non-scale drawing of the field. Heavy line is new fence, regular is existing, dashed will be removed.

Here's how it's going to work: Note that the current pit is an L-shaped area with a large rectangular section between the clubhouse and the flight line. The official parking lot is to the northeast of the pit. The unofficial parking lot is to the southwest of the pit. The new plan calls for extending the pit essentially the full length of the flight line and putting a new fence about 32 feet east of the flight line fence. The existing pit area to the east of that fence will be designated as parking lot. Thus, we'll have an official pit area where currently we establish an informal one, and those who arrive at 9:00 will be able to secure a parking spot within easy walking distance of the impound. (Latecomers might still want to consider spread-spectrum technology.)

A Board of Your Own

Having a flying field named after us is an honor most of us will never achieve. However, for a limited time, you can invest in the future of our flying field and have a part of it to call your own. Well, maybe it won't really be your own, but you can call it that. In particular, you now have the opportunity to buy a board or a section for the new fence. Boards are \$25 each. Whole sections are available for \$100. Although you won't really own the fence, you can feel free to lean against it and watch the ongoing aerial displays any time you wish. And as a special incentive for section owners, you will be able to carve a notch in the top board of your section for every model you total at the field. Send your orders for boards and fence sections (along with your check) to Bruce Evertsen, MCRCS Treasurer, 863 Robin Rd, Hillsborough, NJ 08844.

Sunshine Liaison Needed

The idea has been raised that our club could benefit from identifying an individual to serve as a semi-permanent liaison with local and national representatives of our designated charity, The Sunshine Foundation. This role would entail ongoing communication with the Foundation to learn of Foundation needs that the club or club members could meet and to identify opportunities for joint publicity. Anyone interested in taking on this role should contact Armand Graziani at agrazi7401@aol.com or (732) 821-7524.

Email Communication Plan

In an active club such as ours, things happen: The weather changes, events are postponed, and members die. We haven't always done a good job of communicating these things to members in a timely manner and we'd like to change that.

If you would like to be provided with timely club related information, we need a current email address for you. Send an email from your preferred email account to mcrs@mcrs.com. In the subject line, please put the words "Email list" followed by your name. For example: *Email list David Vale*.

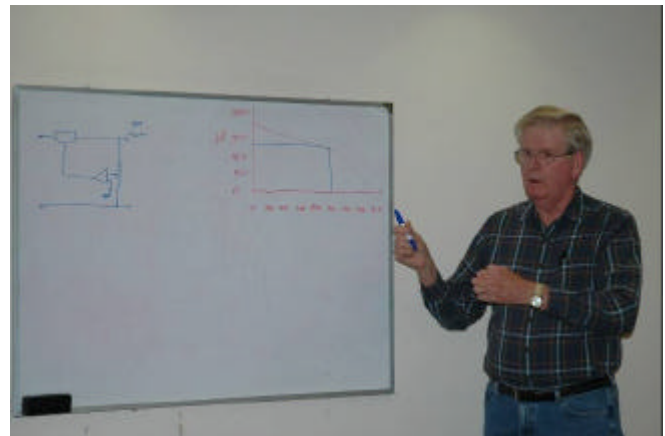
We'll only use the list for legitimate club-related information, such as events, deaths, and other time sensitive announcements. We will not release it for commercial use, nor will we send for-sale notices. Email will be our sole official way of communicating timely information, however. If you don't have an email address or don't ever look at the one you have,

you will need to pair up with someone who does to receive timely news.

A Lesson in Power Supplies

Everybody knows that you wire power sources in series to increase voltage and in parallel to increase current, right? Well, not so fast if you're starting with regulated power supplies. Several of us, especially electric flyers, have invested in power supplies to convert house current to 12 VDC for our battery chargers. With batteries more demanding and chargers more capable, sometimes the power supply can't provide enough power. How about adding a second one and wiring it in parallel?

As explained at a recent meeting by electronics expert Jim Meighan, most modern power supplies are regulated, which means that they contain circuits that allow them to maintain a constant voltage across a wide range of current loads. Unfortunately, for those of us planning to strap a couple of them together, the voltage regulation circuitry is not configured to allow this.



Jim Meighan explains the likely effects of wiring two regulated power supplies in parallel.

In particular, if two regulated power supplies are connected in parallel, it is inevitable that their target voltages will be at least slightly different. In this case, the one set at the higher voltage will service virtually the entire load, until it overloads and can no longer meet the demand. At that point, in the benign scenario, its voltage will drop and the other power supply will kick in, servicing the load until the first power supply recovers, at which point the process will occur again, resulting in an unhealthy oscillation between the two power supplies. In the less benign scenario, the first one will overload and shut down completely, followed immediately by the second one doing the same thing. So, Jim's recommendation regarding connecting regulated power supplies in parallel is simple: Don't do it.

Futaba Fail-Safe Safety Issues

By David Vale

I bought a Futaba 9C radio system a while back, figuring a PCM radio would be safer with electric models than my previous PPM system. My thought was that PCM systems, less likely to interpret radio noise as a legitimate signal, would be less likely to give me an unanticipated motor start. Fuel modelers get hurt reaching around a spinning prop to adjust the needle valve; electric modelers get hurt when the motor starts unexpectedly. While fine in theory, I ran into a couple of glitches in the plan when I put it into practice.

Let's start with a little theoretical background. PPM (Pulse Position Modulation) radios, often just called FM radios, communicate information through a series of digital on-off signals. Each channel has a signal in the series of on-off pulses and the position (i.e., timing) of the pulse along the time line determines the position of the servo. PCM (Pulse Code Modulation) radios also transmit pulses, but each channel gets several (11-12) pulses that are translated into a number indicating the proper servo position (e.g., 512 for neutral). When noise is introduced, a PPM system does its best to identify the pulse position and translate it into some servo position, ideally one close to what you'd intended. The PCM system recognizes that it has received garbage and refuses to interpret it. The practical difference is that a PPM system gives incorrect movements as it loses the signal while the PCM system offers no movement at all.

Most PCM systems incorporate a set of fail-safe settings. That is, when the signal is lost, rather than just freezing, they offer the option of moving to preset positions. Thus, in the ideal situation, an aircraft that has lost its signal will shut down its engine and gently circle to a safe landing.

My HiTec PPM systems have a rudimentary fail-safe. Once they recognize a loss of signal, the throttle channel goes full off and the other channels hold their last position. This works well, once the system determines that it has lost the signal. It's the time between signal loss and signal-loss detection that's problematic. In that time, the throttle and all of the rest of the channels can go wild. At full signal loss, the throttle will eventually settle to idle. But all the rest of the channels will stay at their final (possibly wild) positions.

PCM systems reserve at least part of the signal for error detection and/or correction codes. Thus, they are able to determine that the signal has been lost before the servos go wild. Along with this ability to recognize the

loss of signal usually come the fail-safe settings. Think of the fail-safe settings like the transmitter leaving a will telling the receiver what to do should it die prematurely. Minimally, the will should probably suggest that the throttle go to idle and the surfaces return to neutral.

It's at this point I have a couple of problems with the way Futaba has implemented fail-safe on its 9C systems. First, the factory default settings, that is what happens if you don't set the fail-safe. The factory settings instruct all channels except throttle to hold their last position. This is probably okay. If you happen to be in a loop when you lose the signal, the airplane will continue to loop. But generally, you won't even notice you've lost the signal, unless you try to change something while providing no signal. The default throttle setting is more problematic, however: The throttle defaults to 20%. In a flying model, this will provide some power, possibly keeping it up long enough to regain the signal. However, in an electric model, this means that an idled motor will suddenly spring to life. This is especially a problem if you're on the ground sitting in front of the model and you accidentally turn the transmitter off before the receiver. **If you are using a Futaba 9C radio with an electric model, it is imperative that you reset the throttle fail-safe to go to full off when the signal is lost.**

Regarding the second issue with the Futaba fail-safe settings, you will notice that the instruction manual states that you must allow two minutes for changes in the fail-safe settings to take effect. This is because the 9C transmitter only transmits the fail-safe information once every two minutes. What the manual doesn't tell you is that **you have to wait two minutes for the fail-safe settings to take effect every time you turn on the receiver.** At least with the two nine-channel receivers I tested, including the top-of-the-line R319DPS, the receiver loses all memory of the fail-safe settings and must be reset each time it is turned on. Until it gets the fail-safe information, the receiver will function in the hold-last-position mode on all channels. This means that if, as I have done, you turn the electronics on when you are ready to fly and immediately taxi out and take off, if you happen to lose the signal on the initial climb out, your model will continue at full throttle in the direction you took off until the fuel runs out—if you're lucky.

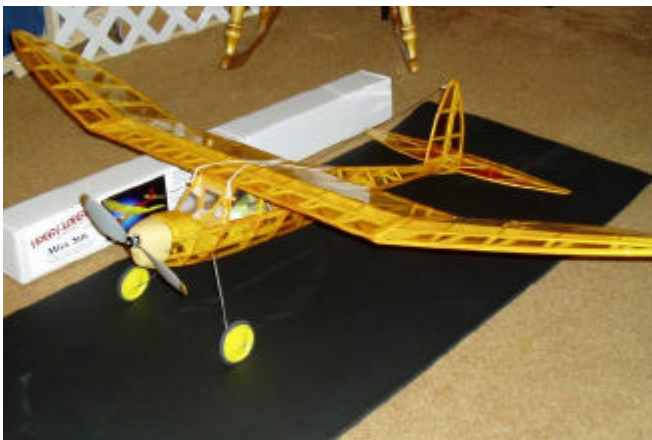
So, if you're using a Futaba 9C system, my advice is to be sure to set your fail-safe settings the way you want them, rather than relying on the factory defaults, and then remember to wait a full two minutes after turning the electronics on before you take off.

On the Bench

MCRCS members are an eclectic group when it comes to model selection, their choices ranging from the gentle electrics to the downright scary warbirds. Carl Gubkin, for example, has just completed his electric powered Miss Stik model, built from a laser-cut kit sold by Hobby Lobby. With a wingspan of 55” and a weight of just over a pound, the model has the appearance of an old timer and should make for a relaxing afternoon at the field.

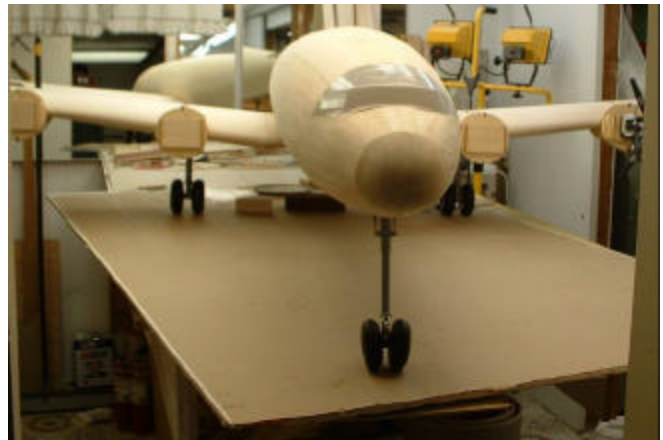


Carl Gubkin’s kit-built Miss Stik, almost ready to fly ...

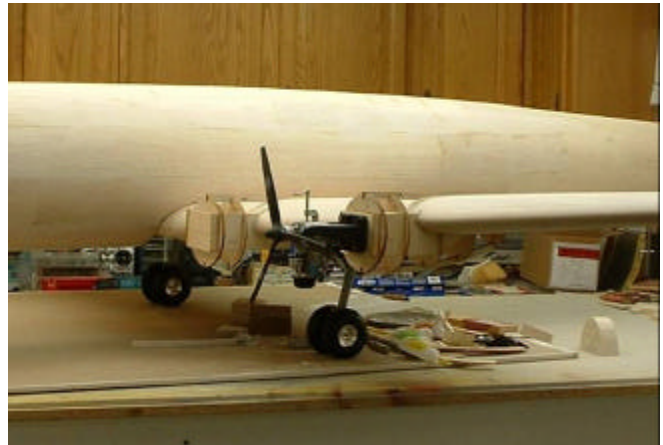


And ready to fly.

Meanwhile, on the other side of town (and the other side of the size spectrum), Keith Zimmerly continues to work on his Constellation. First revealed in the September 2006 *Propwash*, Keith has made notable progress on this model (after taking time out to build a significant portion of the models in the Dawn Patrol). Built from Don Smith plans and cut by Precision Cut Kits, it will have a wingspan of 134 inches, weigh between 42 and 47 pounds, and be powered by four YS-63 four-stroke engines. Carl, beware of wake turbulence when this one is flying.



As usual, Keith’s creations dwarf his workspace.



Mounting one of the YS-63s.



Side by side with the B-17, the size is apparent.

Notice

Jackson Hobby Shop has just received an order of plane kits, ARFs, and radios. As always, club members get a 10% discount on regularly priced items.

Jackson Hobby Shop
2275 W. County Line Rd.
Jackson NJ 08527
732-364-3334

Upcoming Events

March

- 7th Meeting at WWL
- 21st Meeting at WWL

April

- 3rd Student Days start
- 4th Meeting at WWL
- 18th Meeting & static judging at **Lawrence Library**
- 29th Opening Day and Building Contest fly-off

May

- 2nd Meeting at WWL
- 16th Meeting at WWL
- 25th Setup day for Jumbo Jamboree
- 26th & 27th Jumbo Jamboree

Club Information

The Mercer County Radio Control Society is a New Jersey-based AMA Chartered club. Its field is in Assunpink Wildlife Management Area off Exit 11 of Hwy 195. It meets at the West Windsor Branch of the Mercer County Public Library on the first and third Wednesday of each month at 8:00 PM. The club publishes this newsletter for members six times a year in odd-numbered months and operates a web site at www.mcrcs.com. This newsletter is available, in color, on the web site.

Officers

President: Keith Zimmerly
VP, Membership: Bob Levanduski
VP, Events: Armand Graziani
Secretary: James Feszchak
Treasurer: Bruce Evertsen

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