

**SKYMASTERS RADIO CONTROL CLUB  
OF MICHIGAN**  
AMA Chartered Club #970  
16 Year Gold Leader Club  
[www.skymasters.org](http://www.skymasters.org)



## In this issue:

President's Message .....	1
New pilot .....	2
Airbrushing seminar .....	2
Tech Talk (BECs and reboots) .....	3
FunFly photos.....	4
Meeting photos, Oct. 10th ..	6
Meeting photos, Oct. 24th ..	7
On The Wing (News).....	8
Calendar.....	9



### From the President...



It's been an interesting year for me. In all honesty I took on the job of president with some apprehension. I knew it would be a great deal of work and I could only hope that I would be equal to the task.

In the end it has turned out to be quite rewarding. We've had a great team this year and I've gotten all the help and support that's needed to keep things running smoothly. The field is looking good with new signs and general clean up. We have a new helicopter area. There have been several enjoyable and very well attended events.

Most important, in my opinion, is that there are many

new and enthusiastic members. These new faces represent the future of the club and the hobby. I'm very proud of the club for doing such a good job welcoming new people. The AMA is also interested in our success and we may see an article about us in *Model Aviation* some time soon.

I wish I could take all the credit for the good things that have happened this year. The fact is that I can't. The work that has been done by the executive operating committee (EOC) this year has been outstanding. Not only do these guys handle the sometimes tedious work that's required but most of them have also stepped up to run events or handle special projects like the heli field and the signs.

*(Continued on page 2)*

(Continued from page 1)

If you see Dave Lange, Pete Foss, Jim Wynn, Paul Goelz, Joe Rubinstein or Gary Wells at the field, please take a moment to thank them for everything they've done. And while you're at it you, the members, can all give each other a pat on the back. The membership has really stepped up this year to get the job(s) done.

If you haven't attended the last couple of club meetings you may not be aware that this year's EOC has agreed to return to serve the club again in 2014. Club elections are on November 14. If you think we've done a good job this year, please come out and vote us in for another

term. And of course, if you feel we have done poorly you are free to vote for anyone who may step up to challenge.

Ken

Ken Gutelius

President, Skymasters

kennanc@msn.com

## Another new pilot!!

Welcome Gil Bergeron to the ranks of signed off pilots!

(Remember when it was this sunny and warm out?)



## Airbrushing seminar at Flightline

19 October, 2013

Flightline was packed on the 19th for the first of the winter series of seminars.

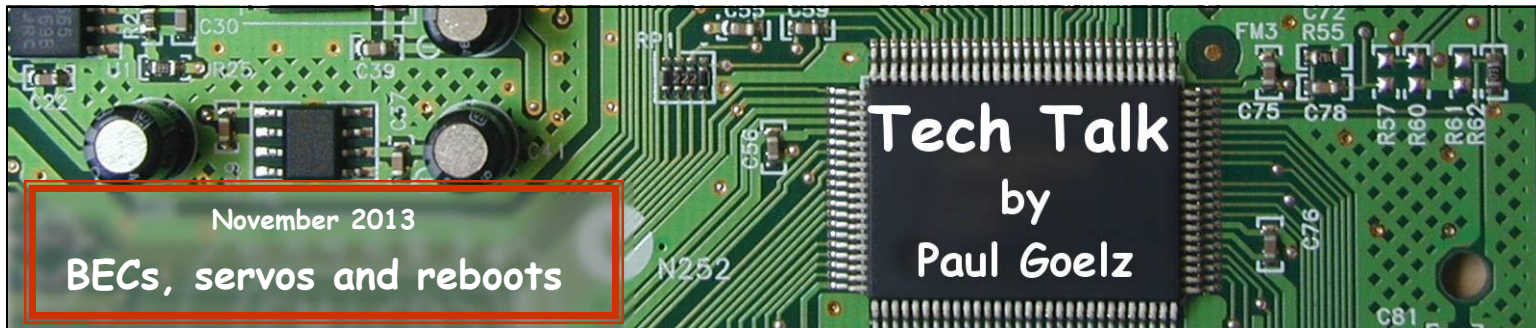
George and Joe shared many tips for airbrushing and spiffing up ARFs.



### Front Cover:

This one might take a bit of explaining.... Fred Engelman and Steve Kretschmer putting for one of the FunFly events. The idea was for the pilot to drop a golf ball from a plane and then for his partner to putt it into the cup. Lowest time won.

Paul Goelz photo



November 2013

**BECs, servos and reboots**

**Tech Talk**  
by  
**Paul Goelz**



When a plane crashes out of control, it is important to diagnose the actual cause of the failure. In this article I will talk about the various ways a Spektrum radio can fail to control the aircraft... And how to figure out exactly what happened. The following can be invaluable in post mortem crash analysis.

#### ***Receiver in the process of initializing***

While the receiver is powering up and trying to establish contact with the transmitter, it moves the all servos except throttle to the position they were in when the receiver was bound. The throttle channel signal is inhibited (to prevent an ESC from initializing).

#### ***Receiver initialized and communicating***

While the receiver is receiving valid data, it continuously updates the servo positions in response to transmitter stick movements. Any corrupted data is simply ignored. For this reason, it is not possible for servos to "glitch" in response to interference like the old 72MHz system. (See below)

#### ***Receiver sees corrupted data (<750mS)***

Any occasional corrupted or missing data frame(s) are simply ignored. If there are enough ignored data frames, the servo response may seem a bit sluggish. This is true for occasional bad data frames or a contiguous stream of bad or missing data frames less than 750mS.

#### ***Receiver sees corrupted data (>750mS)***

If the receiver sees a **continuous** stream of bad or missing data for more than 750mS, in addition to holding the servos in their last known good position, it drives the throttle servo to the idle position. This condition remains until the receiver sees a valid data frame again.

As soon as the receiver sees a valid data frame, it immediately resumes normal operation.

#### ***Receiver power drops below minimum***

If the voltage to the receiver drops below the specified minimum voltage (commonly 3.5V), the receiver **MAY** reboot. This process can take several seconds and while

the receiver is rebooting, all servos except throttle are moved to the position they were in when the receiver was bound. Like during initial boot up, the throttle channel signal is inhibited. The lack of drive to the throttle channel will cause a variety of reactions, depending on whether the power system is glow or electric. Without a signal, the throttle servo in a glow setup may free-wheel and move to a random position or it might sit in one place. The ESC in an electric system should shut down after a short delay.

Given all the above, a careful review of the aircraft reactions prior to the crash can often reveal the actual cause of the crash.... Assuming it wasn't YOU, that is ;)

#### ***BECs and receiver power stability***

Unlike our old 72MHz FM radios, the Spektrum receivers are computers and as such, need to boot up before they operate. For this reason, they do not gracefully ignore momentary power dips like FM receivers could. When the input voltage falls below a critical value (around 3.5V in many cases), the receiver will shut down and then go through a boot up process. This can take several seconds and while it is in process, the transmitter has no control over the aircraft. For this reason, stability of the input voltage is critical to reliable operation. The input voltage can fall below the critical 3.5V for a couple reasons.

1. Undersized wiring between a BEC or receiver pack can cause servo peak current loads to pull the voltage at the receiver low enough to cause it to reboot. Test carefully, including a partially or completely stalled servo,
2. If the BEC output is not sufficient to handle the PEAK servo loads (including a stalled servo), this can cause the BEC to momentarily shut down or go into a voltage foldback condition, causing the receiver to reboot. This is more common than you might think.... Don't ask how I know this! Make sure you adequately test your installation including a partially or completely stalled servo,

**Until next month.... Paul Goelz**

# 2013 Fall FunFly

Sunday September 29th dawned cold and threatening rain but that didn't stop a bunch of pilots from showing up for the Fall FunFly. And as it turned out, for the most part it only threatened to rain until the end. As you can see from the photos, it was grey but the rain held off and we had a great time with some fun and creative events.

There were taxi contests, pylon races, a bomb (golf ball) drop and to cap off the FunFly, there was a drag race. But not the kind of drag race you might think of. This one referred to.... Clothing ;) Each entry was a two person team with one person flying and the other adding various items of female attire. The lowest cumulative time won it. Hats off to the brave cross dressing contestants!



# FunFly (continued)



# Meeting October 10th, 2013

The first meeting in October was a bit different. Skymaster's own Ted Labbe, who flies full scale helis for US Customs and Border Protection gave a fascinating presentation of what the Customs and Border Protection folks do for us. It was a very spirited presentation with tons of questions for Ted and his partner.

In addition to presenting a video and slide show, Ted talked about flying various helis both in Arizona and up here in Michigan.



After Ted's presentation, his partner talked about the various weapons they carry as well as the technology used. The night vision equipment was particularly fascinating.



# Meeting, October 24th

Dave Shea and Pete Foss presented a terrific program at the October 24th meeting. Ostensibly dealing with foamies and foamie repair, it turned out to be a far reaching program about adhesives and repair techniques as used in modeling. Guys, if you missed it, all I can say is that you missed one of the most valuable programs I have seen in a long tme! I vote to make this a regular annual affair. Between the two of them, Dave and Pete covered all the adhesives I have heard of and then some. And tons of techniques to go along with them. From epoxy to CA to canopy cement to wood glue (and some unusual applications for good old Elmer's), we all learned something useful. The wide ranging program also stilulated a lot of questions and additional tips. This was a good one, guys. Lets do it again!

Paul Goelz



If you break it.... a lot.... you CAN repair it with the right.... Umm.... technique?

# ON THE WING

## Skymasters Breakfast

First and Third Monday of each month through May

9AM

Everyone welcome

Red Olive restaurant  
In the strip mall on Walton  
across from Crittenton Hospital

## Indoor Flying

*(begins Nov. 5th)*

every Tuesday

11AM to 1PM

At Ultimate Soccer,  
Opdyke and South Blvd  
Pontiac, MI



## Next Skymasters Meeting...

November 14th, 6:45PM

(financial report and election)

at the Orion Center

1335 Joslyn Road

(on the east side of Joslyn, just south of Clarkston Road)

## Support your local hobby shops!

The next time you shop at

Empire Hobbies

3278 Rochester Road, Troy

note that they are offering a 10% discount to any Skymasters member. Just show your membership card!

## Other local area indoor flying sessions

Premiere Training Center

51379 Quadrante, Macomb MI

(north of 23 mile and east of Hayes)

Thursdays, 9AM to 3PM (that's 6 hours)

Small electric planes and helis (separate heli space)

\$10/session

Information: Steve Durecki 586-246-4203 (text or voice)

[stevedurecki@comcast.net](mailto:stevedurecki@comcast.net)



# November 2013

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4 Skymasters Breakfast 9AM Red Olive Rochester	5 Indoor fly- ing 11AM-1PM Ultimate Soccer	6	7	8	9
10	11	12 Indoor fly- ing 11AM-1PM Ultimate Soccer	13	14 Skymasters meeting 6:45PM Orion Cen- ter	15	16
17	18 Skymasters Breakfast 9AM Red Olive Rochester	19 Indoor fly- ing 11AM-1PM Ultimate Soccer	20	21	22	23
24	25	26 Indoor fly- ing 11AM-1PM Ultimate Soccer	27	28	29	30

# Skymasters Information...

[The Skymasters field is located in Lake Orion, within the Bald Mountain Recreational Area](#) on Scripps Road, between M24 and Joslyn (see map). A state park permit is required and can be obtained from the Park Headquarters located on Greenshield Road or you can check the box on your tab renewal for a "Recreational Passport".

Flying is permitted from 10 AM to 8 PM. The noise limit is 94 dBA at 10 feet. This noise rule is enforced.

**Wednesday evening (through August) is Family Night** with flying and a pot luck buffet. Bring something for the grill & a dish to

pass.

**Wednesday 5PM to 8PM is also Student Night (through August)** but there are usually instructors around all day. Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Greg Brausa, 248-373-8949 [cgbrausa@gmail.com](mailto:cgbrausa@gmail.com)

**From June through August**, club meetings are held at the field, on the second and fourth Wednesday of the month at 8 PM. A great chance to fly and socialize. **Winter meetings (September through May)** are held at the Orion Center, 1335 Joslyn, in

Lake Orion. Check the calendar here or on the [web site](#) for specifics. Bring a model for Show and Tell, enjoy coffee and donuts and listen to the speaker of the evening.

The Skywriter newsletter is available online at the Skymasters web site and is free to all. It may also be printed from the web site if desired. All contributions are welcome. Please send photos and articles to [newsletter@skymasters.org](mailto:newsletter@skymasters.org) If you know of anyone who may be interested in R/C Aviation, please give them a link to this newsletter or give them a copy of an AMA magazine. It may spark their interest!



## 2013 Club Officers & Appointees...

President:	Ken Gutelius	Lake Orion	248-814-1157	kennanc@msn.com
Vice Pres.:	Dave Lange	Oxford	248-969-3914	dllan65@sbcglobal.net
Secretary:	Pete Foss	Oxford	248-236-0676	petefoss@skymasters.org
Treasurer:	Jim Wynn	Oxford	248-236-9983	jameswynn@charter.net
Editor:	Paul Goelz	Roch. Hills	248-375-9461	paul@pgoelz.com
CFI :	Greg Brausa	Orion	248-373-8949	cgbrausa@gmail.com
Membership:	Bob Chapdelaine	Lake Orion	231-675-8590	rdchapdelaine@gmail.com

**Newsletter Submissions**  
Please send all articles, photos and announcements to the Skywriter editor at:  
[newsletter@skymasters.org](mailto:newsletter@skymasters.org)  
Deadline is the 20th of each month.

The Skywriter newsletter is published monthly by the Skymasters Radio Control Club of Michigan  
[www.skymasters.org](http://www.skymasters.org)