# Glitch Busters

May 2014

## Lums Pond IMAC Challenge 2014

May 31 - June 1, 2014

## Warbirds Over Delaware 2014

July 9 - 12, 2014

**NEXT MEETING**
**May 6**
**7:00 PM**
**Newark Senior Center**

AMA #197 / IMAA #687

# FROM THE PRESIDENT

As I am writing this, I am thinking we should form the Delaware RC Boat Club! Enough rain?

**First Annual Open House**

This past Saturday, we hosted what I hope becomes an annual event. We had a wonderful turnout of club members as well as people they invited to see what we do and enjoy the hobby. While the wind was blowing pretty well, that did not deter our members including those who had dual control transmitters for our guests (thank you Mike Roenig).

Greg Schock brought our brand new grill and got the dogs going: we served quite a few. Toward the end, I was preparing them and handing them out along the flight line. All we did was truly appreciated by our guests. I believe we will pick up a few new club members thanks to all of you that had fun and participated.

I want to thank both Greg and Dick Stewart who both took the time to send me very nice emails about how much they enjoyed the event and thanked the Board for getting this going. I know some long time friendships were renewed too.

**The Administration of "Warbirds Over Delaware"**

While that title may seem awkward, the Board has taken a very proactive approach to the event this year, designed to help Pete ad Dave concentrate on the positive aspects of the event. It is no secret that we had a couple of meltdowns last year that caused several pilots to question whether they would come again.

So, I will be taking space in each Newsletter until the event in July to talk about the changes that are being made for the benefit of our guest pilots, sponsors, guests, and vendors. As I have said many times before: WOD is presented by the Delaware RC Club for our guests. It is our greatest opportunity to be gracious hosts.

We have formed a special WOD Steering Committee that meets each month and we are making great progress. We will be preparing an accurate Google-type map of the field depicting exactly where various functions will be located. We are making changes for the benefit of our guests. As the map gets finalized, we will share it with you in the newsletter and at meetings.

This year, it will not be "business as usual" so if you are involved in the event, please do not assume you will be located where you have been before. The odds are your location will be changed. We are going through all this work to make this event as trouble free as possible. Club members creating unwarranted events at WOD I know will not recur.

I have been up to my ears in getting eight airplanes ready for the Joe Nall as well as getting the hats, shirts, sponsor banners, articles for the website, arranging for instructors, and more. I leave next Thursday for nearly 10 full days. While it is a lot to do, the folks who come by and enjoy flying our or their own control line planes make it all worthwhile. Nothing good comes without a lot of hard work.

I look forward to seeing you at our May General Membership Meeting this Tuesday at the Newark Senior Center. We will again have great raffle items as well as a program.

See you there...
Mark

## FROM THE EDITOR'S DESK

This month several people approached me at the field with ideas for articles and even offers to write articles for the Glitch. I'd like to thank all of you for the help. We are grateful for all ideas and contributions.

**Caring for the Field**

Quite a few pieces of model airplanes were discovered on the runway during recent field maintenance. The most common item found was a broken prop. I personally have found wheels, a strip of LEDs, a motor, a piece of fuselage, and of course broken props.

When the field is rolled, the tractor has to keep moving or it will create a large divot across the runway. Items left in the grass will get rolled over and pressed into the runway. These pressed in items will not improve anyone's take-off or landing. Please help! When you have cause to go on the field to retrieve a plane, look around you, and pick up anything that does not belong. It the item is of use try and find it's owner. He's most likely the person you saw walking all over the field looking for what you just picked up. If what you picked up is just junk (a broken prop for example), take it home and throw it away.

Please don't throw trash in the cigarette butt cans. They are not trash bins. Our field is in a state park. It is a carry in, carry out park. That means all trash that you carry in must be carried out again. There are trash bags hanging from poles for your convenience. Please make use of them. If you see trash on or around the picnic tables, please dispose of it as well. Don't depend on someone else to throw away the trash. That kind of thinking is why the trash is there in the first place. Keeping our flying site clean is everyone's job. Please help!

## **WIRELESS BUDDY BOX -** by Roger McClurg

This month I was going to do an article about wireless buddy boxing on the FrSky Taranis transmitter. That was until someone came up to me at the field and told me he was sick of reading about the Taranis. I'm sorry he didn't care for the articles, but at least he read them. As a result of this encounter, I decided to do a generic article about wireless buddy boxes.

In case you didn't know, a buddy box is just a device (usually a cable) that allows you to connect one transmitter to another. The buddy box setup is typically used for training. The student's transmitter is the "slave" and the instructor's transmitter is the "master". These terms are not technically correct, as the student's transmitter isn't slaved to anything. It just passes it's commands through the instructor's transmitter to the airplane. So from here on out I will just refer to the student's or the instructor's transmitter.

In a typical setup the student transmitter is connected via a cable to the instructor's transmitter. The student's transmitter is blocked from emitting radio signals. In stead it passes the position of the student's throttle, rudder, aileron, and elevator to the

instructor's transmitter. The instructor's transmitter sends signals to the airplane. It is the instructor's transmitter that is "bound" to the airplane's receiver. A switch or push button on the instructor's transmitter gives the student control. Should the instructor need control he (or she) just needs to release the switch or button.

Having two transmitters tied together by a relatively short cable can be cumbersome especially when starting and taxiing out to the runway. The wireless buddy box eliminates the cable and all the problems associated with it. Now the student and instructor can walk around objects, be on opposite sides of the airplane, even at opposite sides of the field if that's what they needed.

A buddy box cable takes the PPM signals generated in the students transmitter, and feeds them into the instructor's transmitter. The instructor's transmitter then uses those signals as if they were generated by the instructor moving the sticks. A wireless buddy box connects the student's transmitter to the instructor via radio. The simplest way to do this is to bind the student transmitter to a small 4-6 channel receiver that can output PPM. That PPM signal from the receiver feeds into the instructor transmitter's trainer port via a short cable.

Low cost receivers capable of outputting PPM (also called CPPM) are available for JR/Spektrum radios using either DSM2 or DSMX from lemon-rx.com. Futaba receivers use a protocol called S.bus. Small low cost S.bus to PPM converters are readily available. FrSky (they make the Taranis) manufacture a Futaba S-FHSS/FHSS compatible receiver that outputs PPM. The same receiver also supports Hitec A-FHSS protocol. It costs less than $25.

Once you have a receiver that supports PPM for the student's transmitter, bind it to the transmitter and set the transmitter up for the airplane you are going to fly. In most cases you only need to set the student transmitter for the 4 basic inputs (rudder, elevator, aileron, and throttle). Most brands of transmitters will only support those 4 input channels. Some will take the trim, dual rate, and expo settings from the student. Others use the settings on the instructor's transmitter. Check the manual for the instructor transmitter for the inputs it will take from the student.

All that is left to do now is to connect the PPM output from the receiver to the instructor transmitter trainer port and power the receiver. Connecting the receiver to the transmitter will require a special cable. An old servo cable will do for the receiver side. The transmitter should only need the negative and signal wires from the receiver. These connect to the corresponding pins of the trainer port. JR and Taranis (You didn't think I was going to leave Taranis out completely, did you?) use a standard 3.5 mm mono plug. If you don' have one, a stereo plug can be used in a pinch. Just don't connect the positive lead to the stereo cable. Futaba and Hitec use 6 pin connectors (different ones of course). So you need to get hold of a trainer cable for the particular transmitter used for the instructor.

It turns out that there is a cheap and easy solution to the connection problem. A number of computer flight simulators (FMS, Phoenix, and others) will allow use of your own transmitter connected via USB to the transmitter trainer port. A USB universal simulator cable set is available for under $10. Such a set comes with a 3.5 mm mono cable, and adapters for the major brands of radios. Get one of these sets, cut the mono cable, solder it to a servo cable, and plug the mono cable into your transmitter directly or through one of the adapters. A small nicad pack or lipo can be used to power the receiver. There are no servos connected to the receiver, so very little battery power is required.

I'm building a buddy box to connect my JR transmitters to the Taranis. The Taranis has a module bay that supports JR compatible transmitter modules. I will make use of the empty space to house the buddy box. A Lemon RX DSM2 receiver, a small nicad, and an on/off switch will be housed in an empty JR module case. The case will fit flush to the rear of the Taranis and only the trainer cable will protrude.

Next month in Part 2 of this article, I will show you how this all fits together. I'm waiting for parts to arrive, or I'd show you now. In the mean time, if you see PJ and me at the field flying our PT-17 with 2 transmitters, stop by and check it out.

## **REVIEW - SIG KADET SR. SPORT -** by Dick Stewart

The Sig Kadet Sr. has been around for many years (+ 50 yrs.) Originally designed by Claude McCullough (a member of the AMA Hall of Fame) as a large primary 3 channel trainer powered by a .35 cu.in. engine. Over time kit bashers and scratch builders have come up with many different models of this old time favorite. Yes, even the ARF world hit the market with a Kadet Sr. about 15 years ago. I had a blue one powered with an OS .70 surpass four stroke. It was an outstanding flyer with a surprising large flight envelope. In addition to serving as a very good trainer, the Kadet Sr. makes a great “fun fly” model.

Now here in 2014, the Kadet Sr. has morphed into a sport version ARF. It still has a 78 in. wingspan, 1150 sq.in. wing area, light wing loading and a weight of about 8 pounds. Some design changes include a set up for electric or glow, a tail dragger with wheel pants, a removable hatch on top in front of the wing, locations for control horns

(predrilled) and switch cut outs large or small (a nice touch) and a 2-piece wing that mounts on a strong aluminum wing tube. Also features CAD drawn, laser cut and factory jig assembly. Oracover is used on these models.

I saw the Kadet Sr. Sport advertised in the magazines several months ago and I knew I had to order one. A quick trip up to our local hobby shop G-force and an inquiry with Jasmine on availability. Five minutes later she had a red & white one on the way. When I received the Kadet Sr. Sport I couldn't believe how complete it was. After doing about 30 ARFs, this one is the most complete 99% of all. There were no surprises in putting it together. I purchased an OS 72a four stroke for power. There are many choices of engines available for the Kadet.

The first flight was smooth with just a touch of down elevator, typical for a trainer. A few more minutes of flight and the controls were handed over to other club members. More members and guests at Saturday's get-to-gather at the field had a chance to fly this bird. Comments were favorable.  I'm very happy with the Kadet Sr. Sport and would recommend buying one to the beginner or to the experienced flyer.

# PHOTOS FROM THE FIELD




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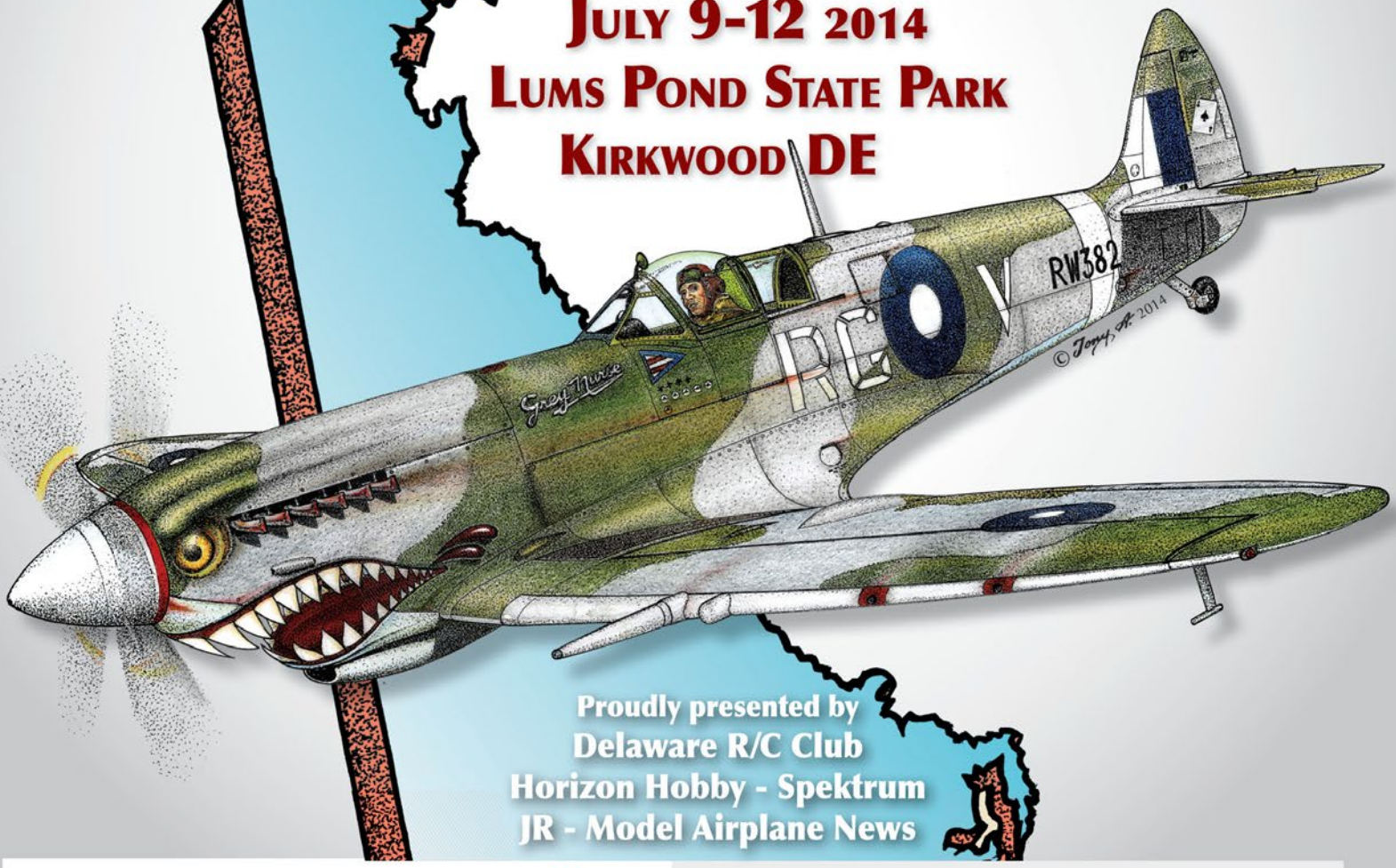
# WARBIRDS OVER DELAWARE

## 23rd Annual
## July 9-12 2014
## Lums Pond State Park
## Kirkwood DE

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- Fun flying & mayhem 5pm 'till dark
- Breakfast & lunch daily by Boy Scout Troop #30
- Pilot Sign-up Fee $35 (includes Park Entrance Fee & Saturday Night Barbecue)
- Registration forms and info at DelawareRC.org
- RV's on site (no facilities) or at adjacent campground w/facilities
- Giant Lunchtime/Halftime Show on Saturday
- Many vendors on site
- Pit Passes available to spectators $10 ea (kids free)

# 2014 Family Fun Event

Antiques, Classics, Warbirds

KIDS CANDY DROP, R/C JET DEMO

FANTASTIC NIGHT AIRSHOW

# EASTERN PA IMAA GIANT SCALE R/C AIR MEET

## 12-14 SEPTEMBER

NO JETS- TURBO PROPS OK!

## New Garden Airport

www.newgardenflyingfield.com

JON MARTIN- 610-268-2619  PETE MALCHIONE- 610-656-6358

**We'd like to thank G-Force Hobbies for their generous support of our club:**



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