

N.E. Kansas Blue Sky Squadron, Inc.

Smoke Screen

I.M.A.A Chapter #291

A.M.A. Charter #2826

Pres: Mark Davidson

<http://nekbssi.org/>

VP: Bill Miller

Secretary: Sam Carkhuff

Treasurer: Sam Brown

Safety: Don Regier

Editor: Ainsley Charest

CD: Aaron

Charest

Presidents Conner

MARK'S REMARKS, MARCH MEETING

Our April meeting will again be LIVE AND IN PERSON at the Museum of Kansas National Guard at Forbes Field Sunday, April 18 at 2 pm. This will be our last meeting at Forbes until next winter. Our May meeting we will be at our field. The last couple meetings we have had a good turn out and a great spirit. Last month again it was great to see some show and tell items at the end of our meeting. If you have something to bring for "show and tell" please bring it. We would love to see what you have been working on. Flying season is upon us and there have been several good days in the last month to fly both for RC and Control line members. It is great to be together again and see the increased activity at our great facility. The field has been fertilized and the mowing committee is now having to mow the field every week. Which is a good thing! Work Day - We have set Saturday, April 24, at 9 AM for a club work day. In addition to sprucing things up in general. We will be putting together 3 new flight stands to replace ones that are falling apart. The wood has been purchased and will be cut and labeled this week so it will be a matter of drilling and screwing the pieces together. There will be some painting to do as well. It would probably be helpful if members bring a few tools for whatever needs attention. If you know of things that need to be on the repair list please let me know and we will discuss it at the meeting to make sure we have all the supplies we need to make the most of the time when

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we have every one there to do the work. Right now the weather for that day looks good and when we are finished we may be able to get some flying in.

Looking forward to seeing you at the meeting!

A message from 3D Dave:

Spring is here and it's time to start thinking about outdoor flying and safety. Safety should always be a RC fliers' number 1 priority at home and at the field. With all the electric planes that are becoming more and more prominent at the fields it is important to recognize that with electric motors can start instantly with deadly results. It's very easy to forget and accidentally bump the throttle control on the transmitter and have an emergency in a split second. With most of the new transmitters it is very easy to program a throttle kill switch on them. Usually the kill switch is programmed on the back top right side of the transmitter. This will greatly improve the safety of a plane when the battery installed by not letting the motor start till you turn on the switch before flying. If setting up your plane or testing out your controls at home you should always take the propeller off the motor also. At the field you should have some kind of restraint to keep the model from taking off unexpectedly if the battery is installed and not ready to fly. Most of the electric flyers do not even install the batteries till they are ready to fly, but I have seen some installed waiting for there turn to fly with no throttle kill switch on there transmitter. All it would take is to bump the throttle on the transmitter with you hand while doing something else.

Checking the control linkage and proper direction of the controls on your model should be one of the things you do before each flight. Most flyers probably put there models away for the winter after they are finished flying for the season thinking that they will check everything and forget to do it. So now is the time to give that beautiful plane a once over and don't forget to check the servo connectors, control connectors and receiver connectors that can become loose from vibration and normal flying. Electronic equipment like receivers can go bad for any reason and should always be checked preferably at home when you have plenty of time and not rushed to get in the air. It only takes a few minutes to

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check over everything and the 1st flights of spring will be uneventful and the plane will ready for a great summer of flying.

I hope to see lots of activity at the flying fields this summer with new planes, old planes, visiting with friend, maybe making new friends and everyone enjoying a safe year.

Taking care of you Lipo batteries

Lithium polymer batteries (LiPo's) power our electric model airplanes. With sizable inventories of packs that represent a fair investment, getting the longest life out of our LiPo's is in our best interest. Two words: proper storage.

The bulk of a pack's lifetime is spent in "non-use". The conditions packs see during the cumulative days, weeks, months and even years of storage takes its toll. A unique characteristic of LiPo's is their life span is dependent upon aging from time of manufacture and not just on the number of charge/discharge cycles. An older battery will not perform as well as a new one, due solely to its age. This drawback is not widely publicized or know by the typical user.

As lipo batteries age, their internal resistance rises. This causes the voltage to drop under load, reducing the maximum current that can be drawn. Additionally, as LiPo's age, usable capacity is lost. Typically, once a battery has lost 20% of its rated capacity it considered at the end of its useful life. It's a fact, LiPo's age and degrade even during non-use. What can we do to? minimize these effects? Manage two factors that are totally in our control: cell storage voltage and storage temperature.

Storage Voltage:

A fully charged lipo cell is approximately 4.2 volts. LiPo's are different from other battery chemistries as they should never be stored fully charged. LiPo's should be stored approximately "half full". Many of the newer lipo balance chargers have a

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“Storage Mode” which charges the pack to the proper reduced voltage state for storage purposes. The popular FMA Cell Pro charger charges cells to 3.85Vdc in Storage Mode. Check your charger manual, some chargers can both discharge the pack and then charge up to the storage level, while others can only charge up to the storage level. The later type charger requires you to discharge the pack below the storage level to take advantage of the storage feature. Storing your packs at the proper voltage level is the simplest thing you can do to lengthen their usable life span (assuming proper application and use). Storage is not just “over the winter”. If you only fly on the weekends, your packs are technically in storage all week, week after week during the entire flying season. Those cumulative hours can add up slowly degrading your packs.

Temperature:

Lipo batteries function via a chemical reaction that occurs inside their sealed foil envelopes. Providing power is a chemical reaction, while the aging/degrading process is another chemical reaction. If you remember back to high school chemistry, a chemical reaction doubles its speed for every ten degrees increase of ambient temperature. This is why LiPo’s don’t perform as well in cold weather. The cold “slows down” the chemical reaction process. But this fact can work in our favor when it comes to lipo storage. Reducing the storage temperature slows the chemical reaction of the aging/degrading process. There is a limit as to how cold is, OK? LiPo’s don’t want to be frozen solid, but keeping them cool during storage is most certainly in our favor. use them as you normally would. To see it all in black and white look at the table below...it tells the whole story.

My typical routine for a morning flying session:

After dinner I charge the packs as I’m getting my planes and loading the car for the next day of flying.

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In the morning I go out and fly. When I return from the field or airport, I discharge all my packs (used or unused) to the storage voltage with my charger. I then put each pack on a Hitec X2 charger set to Storage Mode. The packs then go back in their storage bags.

I don't leave a pack fully charged or at room temperature for more than 48 hours if at all possible.

Is this all necessary?

I've had batteries put in "proper storage" and I have had them last for over 4 years.

So how long a pack last is in a large way up to you. It's your decision on what you want to do to care for your batteries. It doesn't take much effort to get the most out of your lipo investment.

Permanent Capacity Loss versus Storage Conditions

Storage Temperature 40% Charge 100% Charge

0 °C (32 °F) 2% loss after 1 year 6% loss after 1 year

25 °C (77 °F) 4% loss after 1 year 20% loss after 1 year

40 °C (104 °F) 15% loss after 1 year 35% loss after 1 year

60 °C (140 °F) 25% loss after 1 year 40% loss after 3 months

Source: BatteryUniversity.com

Dave B.

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Rob flies more than anyone

Bud and Rob getting the field ready for another flying season.



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The mower had the drive belt break and got all the wood cut for the flight stands. Field finally got finished by 6:45 after starting at 1:00. Bud and I took it to Bishop in Perry to get fixed!!!



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Snaps from the last meeting



Check presentation to the museum

Bud's Vintage control line plane



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The landing gear for Bud's next project



Upcoming Events:

Jayhawk Swap N Shop	This Saturday 4/17 Starts at noon.
Work Day	April 24
Jayhawk Open	May 8
R/C Barnstormers Aerobatics Fun Fly	May 15
Jayhawk Electric	May 29
BS All Size Fly In	June 19

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Jayhawk Float Fly

July 10

Jayhawk Fun Fly

July 24

Don Vineyard/Don Moden Memorial large Scale Fly-in

Sept 11

Salina

John Dalton Memorial Giant Scale Fly In

Sept 18

Jayhawk Big Bird

Sept 25

T-Shirt Winners Circle

Jim Lee

Bud Park