



S.A.M.-Antics

The Official "Fly" paper of the
SACRAMENTO AREA MODELERS
AMA Charter Club #1822

May 2016

PRESIDENT'S REPORT

I would like to give a BIG THANKS to all the Sacramento Area Modelers Members that helped on the 2016 Open House. Without the coordination that Jim Smith and Jerry Cunningham did and all the help we got from the members; this Open House would not have been as successful as it was. There were 5 new members that joined that day and we welcome new members with our arms fully extended. Jim will be writing an article for the 2016 Open House in the next month's newsletter.

We have a General Club Meeting this month on May 15th at 3:00 pm. We are trying to get as much participation in the general meeting. If there is anything that you would like to see added to the meeting, please let me know. In the General Club Meetings, I get very descriptive on what has happened, what is happening and what we are expecting to happen. That is a great time to bring up question or comments that you may have about the club. I hope to see all of you at the General Club Meeting.

Don't forget to come and check out the precision flying at the Spring Pattern Contest. This contest is on May 14th. You will be impressed with the pilots (except me) that fly pattern, these guys are so smooth on the sticks and what is actually very hard to do, and they make it look so easy.

Till next time, fly safe and have a great time at the Sacramento Area Modelers Flying Field!!!

JR Schiager

"Good Sportsmanship Equals Fun For All"

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(No Board or general meeting this news period)

Those Pesky Lipos... Part 4 Q&A

Last month we discussed lipo end of life strategies, how to dispose of old lipos, etc. I have received a few questions about lipos and I will try to cover some of them here. Will also cover some other techniques for those situations where you are left with fully charged lipos when you had to leave the field early or just decided to quit flying for the day.

Q: How do you tell when it is time to retire a lipo?

A: Well, if a lipo is damaged, puffed significantly, etc, it is pretty obvious that you should probably retire/dispose of that lipo. But, sometimes there is only a little bit of puffing and you question getting rid of a serviceable (in your opinion) lipo. In this case, use your experience with this lipo such as it has been performing well, it still seems to hold a charge and fly my aircraft ok, etc. This is a soft area and there is no easy, concrete, right answer for each situation. Maybe the best course of action is to closely monitor it while it charges making sure it charges normally and doesn't spend a lot of time balancing, IR values are close on all the cells. If nothing seems out of the ordinary, I would probably continue to use the pack but keep a close eye on it. If puffing continues to get worse each flight I would probably dispose of it. Luckily for us, the cost of lipo packs has continued to decline over time and it is not worth the gamble to try and get a few more cycles from an aged lipo. I would err on the caution side personally.

Q: How bad is it to leave my lipos fully charged because I didn't fly them today?

A: Another situation where there is no absolute right answer. Lipos age for multiple reasons. Shelf life, number of cycles, time left at full charge, storage temperature, how deeply discharged, etc. As far as leaving lipos fully charged, the reduction in cycle life increases the longer you leave them at full charge. This time could be a couple hours to many months. It is a cumulative deterioration impact. So, if you charge your packs just before you use them, the impact on cycle life will be much less than if you leave them charged overnight, for a few days or longer. I typically try to charge as close to flight time as is reasonable. Usually I charge at the field because we have power at SAM, but if I am going to another site without power, I will usually charge before I go, or take my generator to charge at that field. Lipos have improved over time and shelf life has less impact on lipo life but it is still there. My guess is the impact of leaving them charged is less now than it was several years ago. Once again it is a 'cumulative' impact over time. If you leave your packs charged all the time, your cycle life will be less than someone that leaves packs at storage voltage when not in use. Now, add heat to the storage equation and it gets even worse. As previously mentioned, the worst thing you can do to your lipos when not using them is to store them at full charge in a hot garage.

Q: I usually take several charged lipos to the field with me when I fly, but sometimes I don't fly all of them which leaves some fully charged. What do you do then?

A: Depends on how long you expect to leave them fully charged. If you will fly next day, then it becomes a value judgment should I discharge them to storage voltage or just leave them until tomorrow. The smaller the pack, the less I worry about it (basically a \$\$\$ cost decision). For my large packs, I will typically discharge them to storage values. But, there is an easy answer to this that I use all the time. I use a fully charged pack to charge a fully discharged pack, leaving both at storage voltages. Yep, a direct connection between the packs, positive to positive, negative to negative with a resistor between the packs in one of the leads to control the initial inrush of current between the two packs. Sounds CRAZY, but it works great

even on my 5S 5000mah packs. And, you can leave the two packs connected until you charge them again. Once the voltage between the packs equalizes, there is no current, no energy flowing between the packs. Male connectors on both ends with the resistor in the positive lead although which lead makes no difference. Initially, the current will be pretty high and the resistor will get warm/hot but it cools pretty rapidly. It takes a couple hours to get both packs to the same voltage, but you can just leave them connected with no risk. Here is a link to the detailed thread on RC Groups that I got the idea from and how to build it. www.rcgroups.com/forums/showthread.php?t=1255751

Q: Should I use a small 2 cell lipo as a receiver battery?

A: Good question, let me answer it a couple different ways with reasons. I typically fly larger lipo powered planes so I do not rely on the ESC to power my receiver. So my choices are basically nimh, life or lipo. Since I am flying lipo for main power, I opted to use a small lipo receiver for 3 reasons. 1. Same charger for both, no switching voltages, etc. 2. Lightest solution. 3. Little to no vibration for my planes. Now, your situation may be different. You may be running glow and the idea of removing the rx battery to charge is more cumbersome due to any vibration dampening techniques you are using. Or you want a more 'robust' battery in which case a life battery may be a better choice. In my case, I can use a 700mah 2 cell 25C lipo for about 6-7 flights and only use half the capacity of the battery. Yes, weight is critical to pattern fliers so it is an easy choice for me. Because of that low weight, we can actually run redundant rx batteries and have a lighter solution than either of the other 2 choices. Just depends on what you want. The receiver and servos don't know the difference. The receivers also don't care if it is 4.8V, 6.0V or 8.4V. But, the servos certainly do so don't use too high a voltage for the servos you are using.

OK, enough for this month. Next month we will discuss a different (but related) topic of ESCs. What do these mysterious little boxes do and how do they do it?

So, be safe, have fun!!! Happy Landings

Don

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Building Tip #4

by Shawn "Speed" Berkheimer

One thing we often overlook is the use of adhesives. In my shop I have epoxies, CA, aliphatic resins, polyurethane glue, JB Weld and even some adhesive tapes. Let's take a look at some and what their best applications are.

Epoxies, mostly used when high strength is required. Fillers such as Cobosil and milled fiber can be added to create a more paste consistency and in some cases add strength. Care must be taken when mixing epoxy to make sure the ratios are correct and they are mixed thoroughly. I suggest using a scale. Harbor Freight has a handy little gram scale for under 10.00. I personally do not use epoxy glue very often. I do a lot of fiberglass lay ups and always have epoxy laminating resin available. When I have need for epoxy glue I simply mix up some resin and add Cabosil until I get the desired consistency. They also can be mixed with different speed hardeners that will extend or reduce cure times. Some epoxies are better for metals and some for plastics. Choose the right epoxy for the job. You can also speed up the cure time with a little heat. There have been many times I have used a hair dryer to speed up a cure or even put the part in my car on a sunny day. There is no downside to heat curing, it actually increases the strength in most cases and aids in the epoxy penetrating into the bond. We often need to fuel proof areas of the airplane. Epoxy thinned with 99% isopropyl alcohol works well for that application. Thinned epoxy also works really well for fibreglassing wing center sections. Don't thin too much though, 15% is about the most you would want to do. The brands of epoxy resins that I prefer are Z poxy (available at R/C country), Tap Plastics Marine grade and West Systems (available at West Marine).

Next month we will touch base on the different CA adhesives.

Shawn (Speed) Berkheimer.

Open House A Success!!!!

What a great day the open house turned out to be for the attendees and SAM members that participated in this year's open house. Jim Smith & Jerry Cuning did a superb job organizing and running this year's open house. Jerry's wife Patty and his niece Jan kept the food area clean neat and well organized, well done ladies.

Here are some interesting facts the club should be proud to share with its members.

Over thirty (30) members showed up to help with the open house. Over sixty (60) people attended, of which most went through the ground school activity. There were five (5) new members join the club and one (1) returning member. There was one plane crash, but I'll let Jim tell you about that in the next issue.

New Feature

Please see the last page or (Back Page). First of all, everything you see on the "Back Page" is bogus, except the contact information. It is just a sample. Starting next month if you want to sell or are looking for something to acquire, this is where it can be listed. Also it is encouraged for flight instructors to list solo events. **ANYONE** can contribute positive comments or suggestions. **All** negative material can, as always, be directed to the club board. All contributions must be verified prior to printing. This should be a fun thing.

DO YOU HAVE A VALID AMA CARD?

Remember: Our By-Laws and the County of Sacramento require a current AMA Card to fly at the S.A.M. site. Also did you know that your current status as a **member requires a valid AMA card?** If you do not have a current AMA Card in your possession or proof in the form of a fax or e-mail from AMA, **do not fly**. If you fly without AMA membership, you will be in violation of our rules and may be suspended from flying at the S.A.M. site. Contact the AMA at 1-800-435-9262 for membership when paying via credit card.

FLIGHT INSTRUCTORS

Are you new to R/C flying? Or perhaps you need to brush up or even just want to talk with one of our "Pro's." SAM's corps of Flight Instructors stands ready to help you. You will usually find at least one of them at the flying site on Tuesdays or Fridays. You may call **Jim Lichtenberg** our Flight Instructor Coordinator at **916-681-5335** or e-mail at **rcflyer999@comcast.net** and he will arrange for the assistance you need. If **Jim** is not available, you can contact the Assistant Flight Instructor Coordinator, **Ron Davies** at **916-682-7902**. Or you can call our flight instructors directly.

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|---|----------------|--|
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SAM-Antics SUBMITTALS

Deadline for submissions to the SAM Antics is the 27th of each month. Please send articles as Word text or as text in an email to the Newsletter Editor, at info@sacramentoareamodelers.com. Submittals may be edited for content and length.

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SAM 2016 SCHEDULE OF EVENTS

| Date | Event | Location |
|-----------------|--|----------|
| 4/10 | Big Kahuna Warbird Race | SAM |
| 4/24 | SAM Open House | SAM |
| 5/14 | Spring Pattern Contest | SAM |
| 5/15 | SAM General Meeting | SAM |
| 6/11 thru 6/12 | Flying Ash Fast Warbird Race | Redding |
| 7/31 | Nitro Madness Warbird Race | SAM |
| 8/21 | SAM General Meeting | SAM |
| 8/28 | SAM Picnic and Fun Fly | SAM |
| 9/8/ thru 9/11 | 11th Annual Trashman & YS Classic Warbird Race | SAM |
| 9/18 | SAM General Meeting <i>(Nominations for the Board)</i> | SAM |
| 9/30/ thru 10/2 | SAM Field is Closed for Flying | SAM |
| 10/1 | SAM Swap Meet | SAM |
| 10/8 thru 10/9 | Bud Garric Pattern Contest | SAM |
| 10/16 | SAM General Meeting <i>(2017 Events Scheduling)</i> | SAM |
| 11/20 | SAM General Meeting <i>(Board Elections)</i> | SAM |
| 12/10 | SAM Christmas Party | SAM |
| | | |

* Dates subject to change upon S.A.M. Board approval

SACRAMENTO AREA MODELERS

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Keep Current by

Checking the SAM Website Regularly.

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The Back Page

This & That

- * Congratulations!! To Chuck Yeager for completing his first ever war bird event.
- * We have a new fellow pilot. Gary Powers soloed Neal Armstrong Saturday the 5th. Flying a vintage LT 40 named "*The spy*"

For Sale

- * One (1) used LT 40 with OS LA 46. Landing gear needs straightening. \$65 or best offer. Contact Neal Armstrong 916 555-5555

Wanted

- * Warbird (cheap) for racing competition, must be fast and crash proof. Contact Neal Armstrong 916 555-5555

To post on the "Back Page" please contact Gene Strobel at 530 676-4233 or by email geneal123@comcast.net Dead line for submittals will be 26th of each month