



S.A.M.-Antics

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

APRIL 2016

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PRESIDENT'S REPORT

It is coming to that time of the year again when we start our events. All the events that are scheduled for the rest of the year will help bring in revenue to the club as well as great exposure to our class "A" flying field. The CD's of these events could always use help to make sure each and every event runs very well. If you are interested in helping on any event, please contact the CD of that event and let him know that you would like to help.

Everyone appreciates the help you can give. I know it takes away a few days of open flying each year but the events have a huge positive effect on keeping us on budget, brings in new members and helps us keep a great flying site to fly at.

On April 24th (Sunday), we will be holding the 2016 SAM Open House. This event is a great event for families and friends to learn about what we do with our hobby. If you have not been to the Open House, it would be a great event to come and check out. If you have been there then come out again. If you know people that might have interest in the RC Airplane hobby, please invite them. They will be able to learn about many things such as building, safety, and flying. Thanks to Jim Lichtenberg for all your help on getting the grant from AMA. AMA is a huge supporter of the Open House. Please contact Jim Smith or Jerry Cunningham if you like to help. They are looking for planes to display and trainers to fly. In addition they are also looking for people to help in many other areas.

I would like to give a huge appreciation to John and Vince for putting up the P-51 above the snack shack.

(See photo next page and continuation of president's report)



The board has been putting a lot of thought on expanding the safety of the field. We as the board have approved the upgrade of the spectator fence. The fence is now 6 feet tall and will last for many years. This will help the spectators be safer for all purposes from general flying to events. Like I have mentioned before, if you have any ideas, please bring it to the board so we can review them.

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”

SAM Board Meeting Minutes

Date: March 10, 2016

Location: Perko's restaurant at 50 and Bradshaw

Time: 7:06 PM

Board Members

Present: President: JR Schiager, Vice President: Jerry Cunningham, Secretary: Jim Smith, Treasurer: Steve Brown, Publicity: Mark Forister, Events: Kimo Dias, Field Marshall: Don Atwood, Membership: Bob Obregon, Safety: Sergio Varo

Absent: N/A

Officer reports

President: JR started the meeting by letting the board know that he currently has the new club charter certificate from AMA and will be adding it to the on line drop box storage. JR then shared that he had received a quote to for an upgraded spectator area fence for roughly \$1200. As compared to the other cost comparisons the expense is better by close to \$200 in materials alone without even considering labor. After discussion the Board made a motion regarding the quote (see below).

Next topic was an update on having an attorney look at club documents and what the expenses associated with it. Bob Obregon had some conversations with a local attorney and their suggestions regarding viewing our current club documents that he shared with the board. JR also did some research on the subject and relayed his findings to the board as well. At this point the board decided that the board needed to tackle a few other projects prior to going down this road.

Directors and officers insurance was next on JR's agenda. Kimo was able to get a quote for roughly \$900. See motions below. Kimo will move forward on getting the paperwork in.

Final topic revolved around possible future safety upgrades. The board is looking at the functional possibility of adding netting to the pit area and what type of cost would be associated with it.

Other officer reports:

Vice President: Jerry Cunningham started off by sharing that the open house we will need financial funding and membership support for this year's event to make it even greater than last year. Jim Lichtenberg will be working with AMA for funding. Jim Smith and Jerry are the CD's for this year's event. (After the meeting notice came that Jim Lichtenberg had received a positive response from AMA regarding some sponsorship for the open house – great job Jim.)

Membership: Bob Obregon shared that we are currently at 130 members.

Safety Officer: Sergio Varo did not have much to share, but asked for input on safety issues. JR shared that he is adding stuff to the president's notes about dead line violations, and starting electrics in the pits. Kimo made some comments about lipo charge balancing, and not running planes up on the starting tables in the pits. JR then shared the notes with the board that will be in the next newsletter. Safety equals fun. ☺ Further discussion revolved around having some sort of safety corner in the newsletter.... More to come.

Publicity Officer: Mark Forister is ready to get the ball rolling on events. Event season is quickly approaching.

Treasurer: Steve Brown shared the current club financials and was happy to report the numbers are going on track for this year. We are about \$5000 short so far, but Steve is pretty hopeful that between renewals, new memberships, and events we should catch that up and remain on budget.

Field Marshall: Don Atwood spoke with John Reynolds about spraying for weeds starting soon. Don will be purchasing weed killer for the entry road. Currently early April for a work party tentatively. Need to have the rains stop. Members should view the SAM web site for updates regarding opportunities to help out with work parties.

Events: Kimo Dias shared that the Big Kahuna memorial race is on the 10th. Followed shortly after by the Open House.

Secretary: Nothing to report.

New Business:

N/A.

Old Business:

N/A.

Motions:

Jerry made a motion to accept the bid for installing the fence for the spectator area. Sergio seconded the motion.

All for, except for Steve Brown who abstained.

Jim Smith made a motion to proceed with the purchase of the directors and officers insurance for the BOD.

Jerry Cunningham seconded the motion.

All approved.

Jerry Cunningham made a motion for the club to fund the open house for upto \$500.

Sergio 2nd the motion.

All approved.

Meeting adjourned at: 8:15 PM

Respectfully submitted,

Jim Smith

Secretary

Editor's note: Each educational article or building tip starts at a fresh page. This has been done because these are excellent resources and well written. This way a whole series can be easily printed and available for reference without the requirement of a computer.

Those Pesky Lipos... Part 3

Last month we discussed charging and discharging of lipos, what to avoid, etc. Did you make it thru the chapter without taking a nap? ;-) This month let's talk about what to do with old or damaged lipos you want to dispose of. There are many approaches to getting rid of those 'aged' lipos and I certainly won't discuss all of them. What I will do is tell you what I do based on many years of using lipos and what is most 'convenient' safe and repeatable for me.

End of Lipo Life

First, let's review what can cause us to decide to get rid of a lipo. We could have used it for many successful flights, charged it carefully and never discharged it beyond 80% of the lipo capacity. But as time has gone by, the lipo has begun to loose capacity or is getting hot during use and/or has puffed to the point we don't feel comfortable using it. Or, it may have been damaged somehow like the time you ran into severe thumb turbulence or the runway tipped up 90 degrees and you ran into the side of it (come on now, we have all done it). Anyway, we need to dispose of the lipo somehow.

You could take it to some recycle service and they will dispose of it for you, typically it is a free service although they may question taking lipos for disposal. This usually involves some type of at home storage until you can get it to the recycler, maybe you have more than one and have been keeping them until it is more urgent to 'take care of it'. Or, you could take care of it yourself. Basically, we need to discharge the lipo to a near zero voltage level. This leaves the lipo in a non-toxic, safe state. There several approaches to doing this. For example, like using your charger to discharge it. Depending on your charger, you may have to use a different setting such a nicad / nimh settings to discharge or maybe your charger will let you gradually discharge your lipo to zero voltage and hold it there. Some chargers will let you discharge your lipo and charge another lipo at the same time. It uses the lipo we want to get rid of as a 'source' instead of a 'load'. Or, we can use some other non- automated 'load' to gradually discharge the lipo. This is usually the easiest way of doing it, no programming or tricking your charger, etc. All we need to have is the 'load' and a safe place to gradually discharge the lipo.

One of the easiest 'loads' we can use is a tail light bulb (or two in series for higher voltage/larger packs). Solder some insulated wires on the taillight bulb (#1157 tail light bulb from any auto parts store) and then put a matching male plug on the other end of the wires to match your battery. Plug the load into your lipo, place it in a safe container (large can, bucket, concrete block,etc) in a safe area like your back yard preferably on a stone or concrete surface well away from anything flammable. This is just a safety precaution, I have never had a lipo catch on fire using this method. The light bulb will glow brightly at first then will dim as the voltage drops on the lipo pack. Just leave it for a day or so. Even though the bulb may not be shining, or even glowing, that doesn't mean the lipo is dead yet. It takes a bit of time to get to near zero voltage. After 24 hours or so, the lipo should be discharged, it will probably puff pretty badly but that is ok. Use a battery checker or multimeter to check the pack voltage. If it is zero or very near zero, the next step will ensure the voltage will remain at zero. Clip the plug off the end of the leads, strip back a couple inches of the leads and twist the leads together. If you don't do this, the lipo may recover some very small amount of voltage and we don't want that happening. Shorting the leads together ensure nothing will happen.

At this point, the lipo is inert and can be thrown in the trash. This approach works for any pack, 1 cell thru 10 cell or higher. The capacity doesn't matter, higher capacity batteries will just light up the bulb longer. The bulb is a constant load, it doesn't change resistance during the discharge. As I mentioned before, I use two bulbs in series for packs greater than 5S. Tail light bulbs can handle up to about 18 volts or so and a 10S pack could be over that. Using two bulbs in series basically increases (doubles) the resistance to the point they will handle a 10S pack. Make sure you are assembling the bulbs in series if you want to use two bulbs, wiring them in parallel will cut the resistance in half and might be too high a discharge current for the pack. Below is a picture of the simple setup I use. It can handle up to a 5S pack and has multiple type plugs on it to handle various connectors. One word of caution, if you use this type setup remember to put a some type safety cover over the exposed ends of the male plugs. Note, this bulb setup is wired in parallel which increases the current draw. I use it primarily for large capacity 5S packs that I want to get to zero volts overnight. I have a couple other bulb configurations I use for various size packs. (See two bulbs wired in parallel below)



You can use any type load you want, a simple wire wound resistor with a high enough resistance value would work. A 60 watt light household light bulb would probably work, but they are not as handy as the simple tail light bulbs. Off the top of my head I can't remember what the resistance should be, but you would need a resistor physically large enough to handle the heat dissipation. Some resistors are actually built into heatsinks to help dissipate the heat. You can use your imagination here, just be careful you have enough resistance in the circuit to limit the initial discharge current to prevent the lipo from overheating.

Remember I mentioned using a salt water bath in the last months article, here is why you don't want to use it.

Salt Water Bath.... NO!!!

There has been a discharge approach for lipos floating around the internet for quite some time. Somehow, it just won't die and go away so I will cover it here and maybe help someone reading this that thinks this will reliably discharge a lipo. Notice I said 'reliably'. The salt water bath approach 'might' work but there is no easy way to check whether it worked or not and you might be throwing away a lipo you think is fully discharged but isn't.

The theory.... Pure water will not conduct energy, in fact has almost infinite resistance. BUT, add some chemical like salt and it will conduct current very well. So, if we take water and add salt to it, drop a lipo pack in the salty water it should gradually/safely discharge the lipo to

zero voltage over time by allowing current to flow between the positive and negative leads of the pack. Sounds good, right? Theoretically it should work... BUT it ignores the fact that the salty water will also cause a oxidation/corrosion process to occur as the energy flows across the connectors of the pack, including the aluminum connectors inside the pack. Over time, this oxidation/corrosion process eats away at the aluminum of the internal connectors of the lipo gradually dissolving it. Now, as soon as this process erodes the connector(s) to the point there is no connection between one or more of the cells of the lipo it will open the circuit and you will get a zero volt reading when you check the pack using the main leads. You can't see the internal connectors so you have no idea the reason you are getting a zero voltage reading externally is there is an 'open' in the internal circuit of the lipo pack. Of course, this might not occur and the salt water bath would be successful but you have no way of determining if it was actually successful without opening the pack up to verify each cell is zero voltage. So, that is the reason you shouldn't rely on the salt water bath to discharge lipo packs.

Enough already....

This is the third and final chapter in our lipo info series. I hope it has been useful to you or at least given you some piece of information that is useful in your use of lipo batteries. Lpos that we use in RC have improved a lot since the early days of use. Probably the biggest safety factor is the idea of 'balancing' the cells during charge. It took a couple years to figure out why we were getting fires occasionally. Now the chargers default to a 'balance charge' and we have discussed why you should always use balancing charging for best safety practices. Lpos will continue to improve in capacity, weight, cost and reliability over time. We are now seeing higher voltage cells but it will take a bit of time to see how they will stand up to repeated use. And they will probably improve also.

I am not a lipo 'expert' by any measure, I have no idea how they chemically store or create energy for example. However, I do have a lot of experience using them over the past 6-7 years. I read a lot and am always curious 'why' something happens. Due to the way I use lipos while flying pattern, the packs I use get the same workout time after time so I can observe how packs age, how one pack compares to another, etc. This affords me the luxury of having a stable base to compare performance rather than constantly using different capacity lipo packs, different flight conditions/planes. Not exactly scientific but can be a good base of information about how and why lipos do what they do.

If anything I have covered here is confusing, let me know and I will try to explain it better. And, if something I have said is wrong, please just let me know. That way we can get the articles corrected since they are posted on the SAM website for future reference so we want accurate information.

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

Don
atwooddon@aol.com

Building Tip #3

by Shawn "Speed" Berkheimer

This time around we will be talking about some covering tips and techniques. For the most part we all use the two major brands of covering. Monokote and Ultracote. Both have their good and bad points. I prefer Monokote due to its better shine and my method of applying trim but it is a little more difficult to work with and takes more time. Most ARF offerings are covered in Ultracote due to its ease of application and lower cost.

The key to a good finish regardless of which material you use is the wood prep. I like to finish sand to with paper from down to 600 grit. Following the sanding you must remove all the dust. For this I have a few black cotton T shirts that I use. The black color allows me to see just what I am removing from the surface. You will be amazed how much dust comes off even after it looks clean. It usually takes me between 8 and 10 times over to remove all the dust. This will enhance adhesion greatly and make the reappearing bubbles almost a thing of the past.

When covering remember that the material not only shrinks but it will stretch with the application of heat as well. When covering an open structure get the covering on as tight as you can prior to shrinking. The less you shrink it the better. For solid structures, start at one end and slowly work it down as you pull tight avoiding air bubbles. If you have a model that required you to attach the tail section prior to covering, make some templates out of masking paper. Pre-cut pieces are much easier to work with than trying to use a big sheet and trimming afterwards. Take your time, I will usually work on covering jobs for an hour or so at a time, if you mess up peel it off and start over, R/C Country has more in stock.

Now for a little trick. Adding trim, cut your trim piece and apply by spraying some Windex with ammonia on the adhesive side, position in place and use a scrap of balsa to squeegee the Windex out. After a dry time of 12 hours you can come back and seal with medium heat. There is no trapped air between the two layers of covering so no bubbles will result.

Speaking of the Windex method, sometimes getting matching paint is a pain. I tend to try to design a color scheme that will allow me to paint the base color onto the cowl and then apply Monokote right onto the paint with Windex followed by light heat. The final clear coat seals the covering into place. Unfortunately the Windex method does not work with Ultracote but the same can be done using very low heat.

You will find that both covering materials will dull blades quickly. On an average size airplane I will usually use almost a full package of 100 single edge razor blades. I prefer the blades due to them being less costly than X-Acto blades and seem to last longer.

I hope these tips help make your covering jobs more enjoyable, a pretty airplane just seems to fly better and we all enjoy getting the ohh's and ahh's when we bring a new build out of the field.

Shawn "Speed" Berkheimer
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Safety Tips

1. Do not connect your battery on your electric plane when you're on the bench, please use the start-up benches.
2. Never connect your battery to your electric plane when the plane is facing you. Always stand behind the prop and make sure no one's in front.
3. After landing, **do not** taxi into the pits past the flight line. Please stop before the flight line and take hold of your plane.
4. Remember it's always more fun to fly with a buddy.

Safety is our #1 concern,

Sergio Varo

The SAM Clean Up Crew

Last Saturday, March 26, we had a Spring cleanup day at the SAM field. We needed to clean up and straighten up the area, particularly around the storage buildings. The larger east parking area needed mowing and we also needed to start getting control of the edges of the entry road before the grass and weeds took over.

We started about 8 and were done around 9:30 AM. I would like to thank all those that helped with the effort. We had no shortage of people and plenty of sprayers, string trimmers and volunteers to drive the Craftsman lawn tractor. I have no idea of how many yards of trimmer string was used or how many gallons of Roundup Pro were sprayed, but it was a bunch!!! It is great when we have a turn out of helpers like we had so THANK YOU Jimmie, Mike, Bob, John, Bonnie, Gary, Greg, Fred, Don and JR. Below is a picture of our 'Clean Up Crew' after an exhausting hour and half of effort.... ;-)

Don Atwood
SAM Field Marshall



2016 S.A.M. Open House



**Get ready for the next S.A.M. Open House
On April 24, 2016**

**Great Family Event!!!
Learn to Fly Radio Control Airplanes!!!
It's All Free!!!**

**Bring your family members, friends and neighbors to see
our premier flying site and have lots of fun!!!**



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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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

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