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### Guest Column

2000 AMA Visit

This fall, while on one of my motor home trips, I had a chance to visit the AMA headquarters in Muncie, Indiana. If you've never been to Muncie, you can't appreciate what you are missing. even my wife was impressed. The superb 1047 acre flying site handles all phases of model flight interests ,even RC boats! The day we were there the wind was blowing in excess of 20 knots but the free flight people were out in force and the RC guys were nowhere to be seen. Open flying is from 8 AM to sunset unless there are scheduled events. The museum is a repository of modeling history beginning with Sir George Cayle's 1804 model, which was the first documented model flight. Some of our finest Free Flight models are displayed, including Wakefield rubber-powered models. The museum has a small theater showing "All Because of Model Airplanes". The film focuses on the multifaceted sport of aeromodeling. The Engine display starts at the beginning and takes you through numerous engine designs and innovations. Scale models run from WWI to modern day aircraft including the B-17 & B-29. The technological progression of RC flight, including radio developments, can be seen. Walt Good's "Big Guff" hangs above you along with the modern aircraft of today. Housed in another area are the ARF production models. Step back in time when you visit the 1950s replica of a hobby shop! Something in this shop, such as the cash register, telephone, or a model kit at a mind boggling price, will whisk

the OFFA guys back to a special time in aeromodeling history. The Lee Renault Memorial Library contains thousands of books and magazines that could benefit any type of modeler. The museum store contains a wide variety of books, shirts, sweaters, and souvenirs. I purchased a sweatshirt and a book on electric RC. I have included a couple of photos of the museum but they don't do it justice. The model display towers above all others that I have seen.....  
 .....by Lou Cotton



Lou, the mention of prices bring back special memories. A friend cleaned out his attic and brought me an original Lou Andrews kit of the AeroMaster that he had bought in the early '70s. The price was still on the box; \$ 37! I bought a VK Fokker Dr I for \$ 72 in 1973. Of course, those prices were steep in 1973! I guess kit prices have really dropped, all things considered.....

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**This and That....**  
**Please get your dues in before February 13 if you don't want to pay the penalty. The meeting at Deane Hills Rec Center is the last opportunity to save \$ 10. You can mail the dues (\$48) to Chris Field 259 Highland Way Harriman, Tn 37748 Include your AMA number on the check.**

We had the banquet on January 9 at the Logans Roadhouse and we had a ball! It was the best attended banquet I can recall, with over 60 at one count. We overflowed the room they gave us and filled the end of the cafe where the room was. I heard several comments that the food was good and I can certainly vouch for mine and Mary Jo's. It was delicious, and the poor waitress's, although busier than a cat scratching fleas, did a great job getting the food out. People started arriving at six and ordered their food as they came in. They were still arriving at seven, and some were still eating when President ( both outgoing and incoming ) Joe Bolinsky called the meeting to order at ~ 7:45. Joe, as well as the other officers, deserves a round of applause for the jwork they did for our club. They were good at their jobs and got us through a very productive year. It'll be hard to top it this year!.....

## Minutes of the January 2001 Meeting

The January 9, 2001 meeting of KCRC was held at Logans Roadhouse. This month's meeting was very informal, lots of good food and fellowship. There were approximately 60 members and guests present. In fact, we ran out of room in the "garage" dining area, and some had to sit in by the bar. What a crowd! Many of the club members brought their wives and/or children.

After we all ate, President Joe Bolinsky welcomed all who attended and gave a brief history of what happened during the last year. These things included the Flea Fly, the show held at the Museum in Oak Ridge, the Club picnic, the Senior Pattern Association Masters Tournament and the Air Show. Joe also went over some of the events that are coming up this year, like the Senior Pattern Association competition, having another Flea Fly and an airshow. Joe thanked everyone who was involved in helping with the events in the past year.

As many of you know, there were a lot of changes that took place at the field. We erected a new sign, a new gate was put up, and work was done to keep the gravel from washing down the driveway when it rained. Joe thanked all that were involved with those projects. The O.F.F.A was also thanked for their help in doing field repairs and upkeep.

There were some awards given at this meeting. The club honored Al Crandell as Most Improved Flyer. Another award, presented tongue-in-cheek by Bob Morris, went to Joe Parrot and Chris Field, they got the Lazy Flier Award for lying out in the middle of the runway on their backs while flying their planes very high overhead. They each received a Solar Panel to charge their batteries. Joe Parrot was given recognition for his many contributions to the club, as well as serving as past Vice President of the Club and Chris Field was also given recognition for his great job of handling the finances of the Club. Jim Scarbrough was recognized for doing an outstanding job being the Editor and Publisher of our Newsletter. Phil Cope and Jerel Zarestky were recognized for their work in putting on the airshow and for the many other things that they do for the Club. C.D. Martin was thanked for the fine job he did as past Secretary. Joe Bolinsky also thanked other Club members and their wives for their help during the past year.

Joe Bolinsky had a sign up sheet for the hats and shirts with the Club logo on them. If you want a hat or shirt, you need to see Joe either out at the field or at the meeting. Several people paid their dues for the Club Membership. Joe also reminded everybody to pay their dues by the February meeting ( dues are still \$48 ) and if the dues are paid after that, there is a \$10.00 maintenance fee. A question was asked by a club member, " when will the combination on the lock be changed?" The answer was it would be changed after the February meeting. The meeting was adjourned at approximately 9pm.  
.....Michael J. Foley, Recording Secretary



The pictures above were taken on the night of the banquet showing several members stuffing their faces with good food. It was hard to get enough light for good pictures but you can see the crowd we had. In the background of the top picture, you can make out Chris Woods and Mike Rogers sneaking in from their tables outside the room where several members had to eat because of the lack of room. A bigger room next year?

## At the Field

I got a note recently from Fred Heddleson that had some scary information in it. I'll quote from his letter; "In September of 1995, I bought three battery packs from Tower Hobby Supply. Since these were wrapped in yellow plastic, I could identify them from other flight packs. When my Uproar crashed in March 1999 in the front yard of the trailer west of the field I thought it was interference from the trailer. The Uproar was completely totaled. Even the engine was critically damaged. As I reviewed the damage, I discovered that the battery was dead! Since it wouldn't recharge, I stripped off the plastic shrinkwrap and found that one of the tabs that connect the batteries together had not been soldered! This was the third of the three battery packs that I questioned the possibility of battery failure. I checked the other two packs by removing the shrinkwrap and discovered tabs on them that had not been soldered! My theory is that the tight shrinkwrap held the tabs in contact until the shrinkwrap had stretched enough to allow lack of contact.

The earlier crashes were my Cosmos in June of '97 which was totaled, and a second Cosmos in February of '98. Since the failure of the three Tower battery packs, I had a similar failure in November of '99 that caused my Eaglet to crash. The examination of that battery pack also showed a tab that had not been soldered.

My latest pack failure caused the crash of my Playmate in October of 2000. There also I found a tab unsoldered. My concern now is whether the plastic should be stripped off all battery packs and checked before trying it in a model." Fred, I can certainly understand your concern and I find it hard to believe that anyone could have experienced so many battery problems. I think I might carefully check EVERY battery pack after that. I had a similar experience with a battery pack that I had made up myself. One of the solder tabs broke off and I destroyed a Sig Cavalier. I have had pretty good luck with the battery packs I have bought. Both from Cirrus and from local Hobby shops. The capacity of my older packs has caused me to replace them and I have had a cell go bad in packs on occasion but it has always occurred during the charge so that no crash was involved. (I think!!!)

Speaking of battery packs, I recently went by Batteries Plus off North Peters Road and they made me up a 4.8 V, 940ma for a very good price. The batteries are supposed to be able to take a fast charge. I also had a 4.8V, 400ma pack made up that is pretty small, about 1 square inch size and should have enough capacity to get several flights between charges.....

I finally got a chance to go to the field on Saturday, January 6th. That's just about a month between trips. Last year as I recall, I got to go almost every week. I took my Eindecker again since it is so easy to fly. Cranked up the 1.20 4stroke and taxied out, took off with no trouble. Problems occurred when I tried to idle down and float around for a while. I got to sail around for a while because I had no throttle control! The keeper on the "Easy Connector" throttle arm came off and the connector pulled off the arm. I've often wondered how dependable the plastic keeper is, and now I know. It's fine

as long as you don't have any stress pulling against it. The metal keeper will not come off at all, so I recommend you use them if there is any doubt in your mind. I've checked to see if there is any pulling stress on the others, and I think they are OK. Of course, I thought that one was OK too. Somebody timed my flight and said it was seven minutes. As John Heard likes to point out, I generally am up and down in two minutes, so that's the reason I was shaking my britch's leg.



Joe Bolinsky was there the same day and he had one of the best looking models I've seen in a long time. Jim Munday built it and Joe bought it from him. Jim did a fabulous job on it as you can see if you are getting the picture in color. (Off the web, that is.). Joe had a Saito .91 Golden Knight on it which was plenty of power, since Great Planes says the Giles 202 is a .60 size. It flew just like you would expect it to.

Mike Foley was there helping prospective member Brandon Hindmarsh get acquainted with the hobby. Unfortunately, they let the model get a little too close to the "Model-Eating" trees on the west end of the field.



Oh well, they all gotta go sometime!

I can remember when the advice of some of the veterans of the flight wars was to do the best job on building that you could do, then paint the model with mayonnaise.....

# Don't forget the regular monthly meeting at Deane Hills Rec Center on Tuesday, February 13th, at 7:00 PM

## Information on Ni-Cd packs

You might be interested in the following article I copied from Red Scholefield's Battery Clinic on [www.rcpattern.net](http://www.rcpattern.net). I intend to include some information on various subjects each month;

### "Using a Timer Can Improve Battery Life

One of the failure modes in Ni-Cd cells is shorting. While many things can contribute to shorting one of the significant contributors is cadmium migration through the separator where it forms a conductive bridge, ultimately shorting the cell. Cadmium migration is a function of the time the charge current is flowing through the battery and less a function of the level of current. Therefore we have found that high pulses of charge current to maintain the charge state are better than a steady low rate (trickle) current. This is very difficult to quantify as there are many other factors contributing to the life equation but improvements in battery life of 10 to 20 percent by pulse charging vs trickle are not unrealistic. Therefore we have found the sustaining a pack at the fully charged state by way of pulsing the charge is better than an continuous trickle charge. Some charges employ this technique. You can do the essentially the same thing rather simply and at a very low cost. Simply connect your regular wall module charger that came with your system to an appliance timer. Intermatic makes a good unit for around \$5.00. Set the trigger pins on the timer so that it is on for 1 hour a day. When you return from a flying session turn the timer wheel so that the on off triggers come up in 14 to 16 hours. Then turn the timer knob to on. This will give your pack a full charge and then a sustaining charge for 1 hour a day. The battery can be left in this manner for a long time between flights and still be maintained at a fully charged state with minimal overcharge. If you only fly a couple of flights, you can just set the timer so that you get 6 or 8 hrs before you go into the 1 hr.day mode. If we assume a normal 2 hr flight time for a system and you only fly 20 minutes. Then the charge you need to return is 20/120 times 16 hours, or about 3 hours. It is good to know what your system consumes in the way of energy per minute of flight. This can be determined by first charging a pack and then discharging it on a cyclor to determine how much capacity it has - fully charged. Then recharge and go fly. Record your system on time and immediately discharge the pack when you return home. This will tell you how much capacity you have left. Lets say you fly for 40 minutes and when you discharge the pack you get 390 mAh. From your initial discharge from a fully charge pack you got 585 mAh. This would mean that you discharged 195 mAh in the 40 minutes you flew or about 5 mAh/min. From this you would know that your pack is good for 116 minutes of flight time. The system usage will vary, depending on your flying style, size of the plane and number of servos used....."

These articles are intended to give you something to think about on the care and feeding of Ni-Cd batteries. It seems to me that there are a lot of different opinions on how to make them last. My procedure is to deep cycle them ( discharge completely ) every couple or three weeks during the flying season and then charge overnite before going out to the field, regardless of how many flights I got last time out. Stu Richmond in February RC Modeler gives some more info. Maybe more than you wanted to know!.....

## This and That.....

I got to thinking about some of the things that have to do with our battery packs and the number of flights we get. What I came up with is this;

You can use Ohm's Law to get an idea of your power situation. For instance, a flight pack uses so much current each time you turn your radio on. An operating servo uses most of this current and the receiver uses very little ( ~ 10ma or less). The current used by the receiver is the same all the time that it is on. An idling servo uses about the same amount of current as the receiver. If the servo is operating against a load however, such as high air pressure against the flight surface ( high speed or heavy models ) or a binding pushrod, the current goes up rapidly. A stalled servo uses a bunch of current. For the purpose of demonstrating my reasoning, we will make some assumptions based on guesses. If we assume that the average current of one servo in normal flight is 250 ma ( and it could easily be more ), and you have a 4 channel radio, then it is easy to see that the type of flying you do determines the number of flights you get on a standard 4.8 volt, 600ma battery pack. If you work several servos all the time you are in the air, like pattern or hot-dang maneuvers, you are not going to get as many flights as a lazy type flyer who is only steering around in a small light model. If you assume the average current in a pattern flyer situation to be two servos working all the time, then it would be 500ma+ the small current used by the receiver and the servo amplifier, or about six 10 minute flights on a GOOD 600ma battery. The lazy flyer might get one or two more safely. You can easily see that a higher capacity battery pack would be better. I thought that perhaps a 6 volt battery might help, but Ohm's Law says that, all other things being the same, the higher voltage also causes higher current. The current drain with a 4.8V battery being 500ma, the circuit resistance would be  $4.8V/.5A=9.6$  ohms. If the voltage is increased to 6 volts, then  $6V/9.6$  ohms = 625ma, or a 25%increase in current draw. It would shorten the number of flights to five 10 minute flights. All these thoughts say that you need to give some consideration to the care and maintenance of your battery packs, and remember that the capacity is always going down in a pack as they age. No matter how well you take care of a battery, it will deteriorate over time because of the nature of the chemical process when you cycle it. If you have a choice, buy the larger capacity battery pack. Even if you don't fly all that much ( like my 2 minute flights ). the added safety of the higher capacity pack will pay for itself over time. Usually, the added weight of the higher capacity pack will be minimal and most airframes can handle it easily.

You can look at all the information available about the care and maintenance of battery packs, but good old common sense is the best thing to use. If you think you can get six flights, quit after five. And always use a expanded range meter to check pack voltage before each flight.....