

NJ Pine Barons R/C Club

The newsletter this month includes both June and July

JUNE 7, 2006 Minutes

LOCATION: AIRPORT HOBBIES
PLAZA 38, 1509 ROUTE 38
HAINESPORT, N.J.

MEETING RUN BY: BILL BRENNAN, PRESIDENT

MEMBERS IN ATTENDANCE: 13

MEETING CALLED TO ORDER: 7:30 P.M.

50/50 CLUB WINNER: MONTY MONTGOMERY -
\$31.00

TREASURER'S REPORT: GERRY GAYSTER went through the verbal report, listing expenses for the month. \$4,500.00 balance last month 1,026.00 income from new members \$634.15 expenses for the month \$4,413.00 final balance

Note: Amounts listed here are approximate. Actual amounts must be verified by Gerry Gayster.

MEMBERSHIP: 177 members, 27 new members. TONY GALLO will send list of new members to AMA.

OLD BUSINESS: HARRY MINNIER will be running the picnic and fun-fly scheduled for June 24, starting at 9:30 AM, and Pilot's meeting at 10:00 AM. He will send invitations to other local clubs. All who attend will be charged \$5.00 landing fee. Your \$5.00 ticket to fly will also get you something to eat. If guests eat, they will also be charged.

The Hobby Shop will donate a prize to be raffled off to paying members and guests. Also, gift certificates will be given out for flying events. Flights will be limited to 15 minutes. He will try to get SCOTT BONOMO to demonstrate his Jet Plane. Both gas and electric planes will be allowed to fly.

BETH will handle all the food and drinks. Money for picnic and prizes was approved by members' votes, \$25 gift certificates. Parking may be a problem so SCOTT MINERVA volunteered to cut the grass for additional parking.

NEW BUSINESS: Quakertown Flyers invited us to their event planned for this Saturday, June 10.

KATE, manager of the Hobby Shop, reported she walked 24 hours to earn money for the CANCER FUND WALKATHON. The club donated money to sponsor her. BILL BRENNAN talked about a safety violation at our field. Our club assumes that if you cause an accident where another flyer's aircraft is damaged, you are morally obligated to compensate, but we are not able to enforce it.

HARRY MINNIER reported that he mailed out 45 newsletters to members.

JULY 5, 2006 Minutes

LOCATION: AIRPORT HOBBIES
PLAZA 38, 1509 ROUTE 38
HAINESPORT, N.J.

MEETING RUN BY: HARRY MINNIER

MEMBERS IN ATTENDANCE: 11

MEETING CALLED TO ORDER: 7:40 PM

50/50 CLUB WINNER: NOT DONE

TREASURER'S REPORT: JERRY GAYSTER went through a verbal report listing regular expenses for the month of approximately \$565 and a final bank balance of \$3506. Jerry told members of an incident where a member's check bounced, and our bank charged us a \$10 fee. This guy is no longer a member.

OLD BUSINESS: Our Fun-fly on June 24 was dampened by rain in the morning. Some flying was done after noon time when rain stopped. We charged for food only and collected \$156.

We counted 45 people. Turbine flight was preformed by Jack George and was great.

BETH reported that we have hamburgers and hot dogs left over that will be used at another Fun-fly in August. We had guests from other clubs.

HARRY MINNIER has gift certificates and prizes that will be used at the next Fun-fly.

NEW BUSINESS: A Fun-fly was proposed for August 5 to use up stuff left over from the last event. Voted on and approved by members.

HARRY MINNIER announced that a Mr. Tom M. would like to donate a 32 ft. trailer to the club. It can be trailered to the field. We plan to move the old van and use it to store the mowers. Approval to get the trailer was approved, and arrangements are in the works to move it to the field.

BRUCE from the Hobby Shop announced that business is in jeopardy and may fold up. If this happens, we will need another location for our meetings.

High winds damaged our canopy at the field. TONY GALLO will purchase a new one, and members will replace it.

MEETING ADJOURNED: 8:30 PM

Well, our first fly-in of the year was held on June 24th. For those of you who braved the weather you were rewarded with a pretty good afternoon once the drizzle stopped. For those of you who didn't come out you missed some fun and interesting flying by your fellow members.

We all owe a vote of thanks to Harry Minnier for organizing the event, and as always to Bethany, who kept the hamburgers and hot dogs coming. To all those others who assisted Harry and Beth, THANK YOU!

I only have one issue to address this month and it has to do with safety, again. We had a mid air over the runway this month, fortunately no one injured, but it once again raises the question of flying the pattern and generally flying with respect for one another.

Simply stated, if you are flying alone you can fly whatever pattern you prefer provided you stay away from the pit area and do not venture over the parking lots or toward the airport. However, when more than one pilot is in the air everything changes. I wouldn't have thought that I have to remind people that you fly the pattern when more than one pilot is in the air, but you do, regardless of who you are or what your skill level is! If the pilots communicate with one another and chose to fly in a different mode also that is ok, provided everyone in the air has agreed to what the pattern will be.

Obviously the two members who were involved in the mid-air now have different versions of what happened, so there isn't much that can be done except to reinforce and remind everyone of the rules.

We are well into a good flying season, wind notwithstanding, so come out and have fun, AND FLY SAFELY!!!

President's Corner July

Well we have a new arrival at the field if you haven't noticed. Thanks to the generosity of one of our newer member, Tom Mignogna, we now have a 30 foot travel trailer to shield us from the elements in the future. Also, thanks to Felix Carbale and Harry Minnier for getting the trailer towed to the field and set up.

The trailer has heat, a working refrigerator and stove. Keys will be hanging in the pin box along with the handle for the truck. Our plan for the truck is to use it to store our lawnmowers. Tom Perkins feels we will be able to get both in once we clean out the inside.

If you use the trailer make SURE you lock it and put the key away!!! We don't want to have either a safety or vandalism issue on our hands. Also, please show respect for the trailer if you use it, and DON'T USE THE TOILET INSIDE!!! That's what Mr. Bob is for.

We are well into a good flying season, wind and now heat notwithstanding, so come out and have fun, AND FLY SAFELY!!!

EVENTS

Saturday August 5th Fun Fly at our field. This time we are hoping for some good weather, and not rain. Same format as before with a \$5.00 landing fee, that includes a ticket for food and a chance to win one of the prizes.

More Events

AMA District II Fly-In — Hosted by The Jersey Coast Sport Fliers

Saturday and Sunday August 12-13, 2006

Dorbrook Park 209 route 537, Coles Neck, NJ

Gates open 8:30 Flying starts 10am

For more information and directions contact Stan Berger Jr.
At 732 539-4180

Have you heard about these new Batteries?

New cells are now available made by A123 Systems and at present used in the DeWalt 36V tools. The following article has been copied from an Electrocal Article on the internet. The graphs did not copy, if you would like to see the complete article got to: <http://www.slkelectronics.com/DeWalt/index.htm>

DeWalt 36V Technology (A123 Systems) - revised 7/12/06

DISCLAIMER: These articles are the findings and opinions of one person. Long-term durability of these cells is not known for our application/construction techniques. Any cell technology that we use is potentially dangerous. Do not work with these cells if you do not have a healthy respect for them, or if you lack the requisite skills.

There has been a lot of hype over several months about a new cell technology being developed by A123 Systems and destined for use by DeWalt in their new, ultra-manly 36V tools. Well, they've finally arrived, and while not as good as the rumors implied, they are still a great deal for the money. We will refer to these new cells as "M1" cells per the manufacturer's designation. Another article covers dissecting DeWalt 36V units to build packs. Here, we will just look at the technical stuff

Although LiPo packs are becoming more and more prevalent, there are several shortcomings in the areas of

* safety * cost * output * durability * form factor

The new M1 cells appear to be a significant improvement in all of these areas.

SAFETY - LiPo cells have caused significant property damage due primarily to their tendency to burst into flame if overcharged. They are also subject to catastrophic failure if over-discharged or called upon to provide high current, e.g. momentary shorts. These failure modes are exacerbated by any unbalance between cells in a pack. The M1 cells behave differently from other Lithium technologies. The specified end of charge voltage is 3.6 volts rather than 4.2 volts. If the charging source for a conventional Li cell is greater than 4.2V, the cell will continue to accept energy, sometimes with disastrous results. The M1 cell, on the other hand, accepts very little additional energy above 3.6V.

From the A123 site:

"A123 materials are designed to ensure all the Lithium is fully extracted from the cathode when the battery is fully charged. As a result safety issues relating to overcharge are eliminated because there is no Lithium available to plate on the anode in an overcharged state. This is in contrast to conventional Li Ion cells, which only extract half their Lithium content when they reach their upper cut-off voltage. Conventional Li

Ion cells are easy to overcharge and once in this state they can continue to extract Lithium putting the cell in a dangerous mode and making it prone to fires and explosions."

COST - LiPo packs are very expensive for larger planes. I believe that the ultimate acceptance of electrics by the "glow" community hinges on "40-size" and larger planes. For many, the cost of LiPos is prohibitively expensive for these planes. I consider the 20C cells from reputable brands such as Kokam and Polyquest (Hobby Lobby "Twenty") to be the measure of cost for larger planes. By this I mean that a "good" LiPo cell in the 2- to 3-AH sizes is in the \$30 to \$50 price range. I reject the claims of "Chinese copies" that appear to be much cheaper. Right now, if you buy a DeWalt 36V power pack for list price, you will pay \$160 for 10 2.3AH cells. That's \$16 per cell. You've also purchased a large electronic speed control module and a lot of plastic. Once DeWalt gets their supply line filled, other OEMs should eventually be offering cells and/or packs at less than \$10 per cell. Considering that the M1 is equivalent to about two and a half NiMH cells, I think we've turned the corner on cost. The difference between the M1 and LiPo becomes a lot greater when you consider the ability to charge the M1 in less than half the time. For some, this means less packs to buy to fly as often as they would like.

OUTPUT - The main reason why LiPo packs can fly our planes for so long is that they are severely limited in how much current they can safely deliver. The paralleling of cells was necessary to supply the current levels we required. Thus the early 4P 8AH packs flew our planes for way longer than we could stand up and weighed almost as much as the NiCad packs they replaced. Newer cells boasted 15C and 20C continuous current and a premium price. A123 Systems specifies 30C (70A) continuous and over 50C (120A) for 10 seconds! Implied in these specifications is that these cells can handle heat better than LiPo cells.

DURABILITY - The aluminum and plastic bag construction of LiPo dictates careful handling just to avoid permanent damage. A drop on the ground or similar minor incident could destroy a LiPo. A plane crash could mean loss of a big dollar investment or even possibly a fire. The M1 cells are more like NiCad/NiMH sub-C cells in their durability.

FORM FACTOR - For many, the conversion from Ni to Li was difficult due to the the flat, rectangular shape of the LiPo cells and the inability to build packs in shapes to fit difficult installations. The M1 cells, though larger than sub-C cells, allow "conventional" pack construction of side by side, end to end, and "bricks" of stacked cell rows. I have successfully soldered cells end to end and so far have measured no performance degradation. The M1 occupies slightly less volume than a PQ2100 cell and slightly less than twice the volume of a GP3300 NiMH cell.

The new M1 cells are not as light as LiPo for comparable MAH capacity. Offsetting this is a much higher "C" rating, fast charge capability, ruggedness, much lower price, and, perhaps most importantly, safety.

Additionally, A123 Systems claims much longer life:

"A123Systems outstanding chemical stability and a flat plateau at a lower oxidation potential than other Li Ion chemistries provides our products with record life."

"Our batteries are uniquely engineered (pat. pending) so their internal resistance (impedance) will decrease with their use. This is the opposite effect to most Li Ion cells which experience a growth in their internal resistance as they are cycled at high rates or temperatures. This is a significant benefit in applications requiring long calendar life such as hybrid electric vehicles . ."

This remains to be seen, but the only way to find out is to try them. I am!

Although the charge method for M1 cells is incompatible with current LiPo chargers, it appears that the M1 chemistry is forgiving of overcharging. A123 Systems claims that less than one hour of overcharge will not affect cell life. That remains to be seen.