THE FLIGHTLINE

RRCC 56 YEARS

RACINE R/C CLUB, INC. RACINE, WIS.

AMA CLUB 668 SINCE 1968
RACINE RADIO CONTROL CLUB INC SINCE 1968

RRCC September Issue
September 15, 2024 Newsletter

WE ARE ON THE WEB
www.racinercclub.com

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Racine R/C Club Meeting Minutes
August 18th, 2024
Time: 1:00 PM
Location: R/C Flying Field

Open Meeting - Jim opened the meeting at 1:00PM. 16 members in attendance.

Welcome - New Members & Guests – Craig and Gene from the Rock Valley RC Flyers came up to look at Eric's jet.

Minutes - Last Meeting – There were no changes to the published minutes.

Reports

President- Jim Litwin informed the membership of a call he received from someone that asked for an RC Airplane fly over at his families wedding. Obviously, there was no flyover!

Vice President- Roger Nickolaus reminded everyone of the open house to be held at the field next week.

Secretary/Treasurer-Bob Johnson reported our checkbook balance remains strong, and we are well positioned for any planned or unplanned club requirements.

Current membership as of this newsletter.

Senior Members	35
Open Members	10
Junior Members	3
Total	48

Newsletter Editor - Dennis Vollrath had nothing new to report.

Field Chairman - Trygve Smalley asked for members to step up with helping mow the field. Log splitting will be coming up soon.

Tractor Chairman - Eric Armantrout reported all equipment is running. Eric will be welding new parts onto the base of the mower. Finding new replacement blades for the mower is getting more difficult.
Web Master-Ron Hayes had nothing new to report.
Safety Officer-Darrell Hossalla reminded everyone to taxi away from the pits when returning after a flight.
Compost Director- Chuck Roberts was not present. Jerry Rose is stepping in for Chuck with calling members to remind them of their compost duty during Chuck's illness.
Old Business- Nothing to discuss.

New Business – Set up for the open house next week. Signs, banners etc. will be displayed. The Sky Ranch fly in is next week.
New Pilots – John Bolt signed off in August.
Show & Tell

Raffle Drawing – Terry Peterson won the club raffle. $22.00 total was taken in. $11.00 went to the club.
Close Meeting – Jim closed the meeting with a reminder our Open House is scheduled for Sunday August 25th.

JIM'S CORNER

The weather has really been kind of nice lately. High in the 90°s and then some cooler days. The wind seems to be around more. Guess fall is around the corner. With the coming of fall, comes the annual issues pertaining to the club. That is, Proposed Field Rule and By-Law changes, and the election of club officers.

With regard to proposed Field Rule and/or By-Law changes, club members must: Submit their proposed changes, in writing (or email message), to the club Secretary. The club Secretary must receive your proposed change by noon of Tuesday, October 1st. The proposed changes shall be as you want the change to read. It would also indicate what you want eliminated if that is the case. The proposed change cannot be amended, nor changed after submission. The proposed change will be published in the October & November newsletters, and voted on at the November meeting. The club officers will meet, as per club bylaws after all submissions have been received, to discuss, and possibly submit proposals of their own as a collective body.

Also note, that at the November meeting, club officers for 2025 will be elected. Nominations can be made up to the time of the election vote is taken. This is your chance to get involved in the club activities. If there is something you would like to see run differently, this is your chance to submit your name, and run for an officers position. I would encourage anyone interested in running for a club officer position to review the job descriptions for these positions as published in the club handbook, pages 14-15, Section 4.08 "Duties of Officers". Let the campaigning begin!

I have not, as of the printing of this Newsletter, polled the current officers as to who is willing to stand for office again. During the October meeting, we may ask incumbent officers of their intent to run again or not so as to let members give greater thought about running for an office.

On another subject, as many of you know, Chuck Roberts, our Compost Director, has been having some difficult medical issues, and so for the past month or so, and until the end of the year, Jerry Rose has assumed the Duties of Compost Director. He is the one who will be calling to remind you of your

upcoming compost duty. Thanks Jerry for stepping up to help.
I would like to give a special "Thank You!" to club member Ray Fisher. We have been spraying the gravel areas, including the visitor's area, with "Roundup" weed killer to try and knock down the weeds. We also tried burning with a propane torch. It wasn't working. Ray said he had something that might work. Told him to give it a try, and it ***REALLY*** worked. A second application was done this week, as I write this newsletter. He has to let us know what the magic ingredient is, but a big thank you to Ray. The weeds met their match.
Our next club meeting is on Sunday, September 15th at 1 PM at the field. We will go over some of the material described above, and answer any questions. Hope to see you there.
Fly Safe & Have Fun
Jim Litwin
President

DENNYS STUFF

Well now, it is currently the first week in September, 2024, and the summer is quickly disappearing! The older we get, the faster the time goes by.

Little off topic, I've been looking at YouTube and other places at those gigantic container ship engines. Those things are unbelievable, a typical engine has over 100,000 Horsepower, while only turning at around 120 RPM.

The unit I looked at is a 12 cylinder 2 stroke diesel unit with each piston measuring 3 feet in diameter, with a 9 foot stroke.

EACH cylinder has around 8000 Horsepower, and those engines burn one gallon of fuel on each revolution of its 300 ton crankshaft.

Our club members may have seen your editors giant scale 91 inch wingspan 23 pound, 4500 Watt Corvus flying the past few weeks.

That model flies quite well, but it absolutely does not like ANY cross wind landings. Doing so causes bounces down the field, resulting in a bent landing gear.

First time that happened, I had to disassemble the model's internal battery installation to gain access to the landing gear bolts, a real pain in the ***.

Well, I had another cross wind landing last week, and bent the landing gear again. Dang.

Really didn't want to spend 3 hours pulling the landing gear out of the model, mounting the LG in my bench vice, and bending it straight again with a 15 inch Crescent wrench, with a lot of grunt!

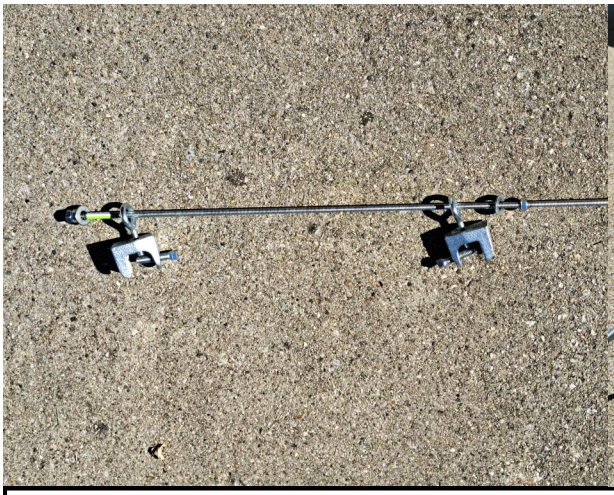
Maybe there was a way to bend it back while the LG was still mounted in the model?

A trip to the hardware store got me two I-Beam clamps, two 1/4 Eyebolts, a 1/4-20 threaded rod, some washers and nuts.

This whole contraption was bolted to the models LG, and the threaded rod was spun up with my impact screwdriver.

This worked out very well, the whole retweaking the LG took about 15 minutes.

The photo on the next page shows the materials, and a view of the contraption as it was used with the model sitting on its wheels in my garage.



Yeah, it's likely much safer to pull the LG from your model, clamp it into a bench vice, and re-tweak it with a big wrench. But, in this case, it worked, and worked very well.

More off topic, your editor is one of many RRCC club members with hearing issues. I had a pair of $2800 hearing aids for four years now, and its rechargeable batteries were fading away.

The hearing place wanted $250 **EACH** to replace the rechargeable batteries. And, I had to send them in. I replaced them my self in less than a minute. Total.

The hearing aid place tried to sell me a pair of hearing aids for $5500. Got the heck out of that place.

Bottom line, I found a very good pair of hearing aids at Amazon, Hearivo QV Pro for $309 for a pair. They worked out very well, better than the original $2800 units I still have.

So far, I'm aware of two people that have purchased this aid, with several more interested in our RC club.

I've been getting questions lately on our receiver battery packs, and what that "C" value indicates, and just how to set up a charging procedure for them.

Any battery on the market now days, including alkaline, lead acid, LiPo, LiFe, A123, Silver Oxide, LiIon have the following features.

Total MilliAmpere hour capacity
Voltage
Maximum current rating
Internal resistance
And a few other things.

The voltage on any battery is quickly measured with any decent digital multimeter. They range from the lowly (but very useful) Harbor Freight $7.00 units to my $$$$ Fluke 87V meter that goes for over $400.00. All of them will do a very good job in measuring the voltage on these battery packs.

Now, it's common knowledge that these Lithium type batteries, such as LiPo, LiFe and A123 packs have balancing connectors on them.

On a two cell battery pack, you will have a black (maybe brown) wire, a center wire and a "top wire".

The balance plug will have the back side of the pins exposed to make it fairly easy to measure each cell of your battery.

Typical voltage on a LiFe or A123 cell is 3.30 Volts DC as measured by those

meters listed above

Other options to measure the individual cell voltages is one of those RC Wattmeters, available in Amazon, and many other RC supply houses.

FYI, there is little relation between the voltage on each cell of a LiFe or A123 battery, and its remaining MilliAmpere Hour capacity. Those LiPo batteries DO have a good relationship between the individual cell voltages and the state of charge of the battery pack.

Typical voltage measurements, an Alkaline cell measures about 1.5 Volts, an LiFe about 3.3 Volts, a receiver battery around 6.6 Volts, automotive battery, around 14 Volts, a home outlet, 120 Volts, dryer outlet, 240 Volts, overhead power lines 4800 Volts, 13,200 Volts.

Transmission steel tower voltages, 138,000 Volts, 238,000 Volts, and higher.

UhOh

Just mentioned something on batteries. MilliAmpere Hours. ????

As previously mentioned in this newsletter, batteries have voltage, current capability, maximum current, internal resistance, MilliAmpere Hour capacity and a bunch of other stuff. And, we have that "C" function.

Starting out, what is "Current"? Any electrical circuit, be it your toaster oven, automotive head light, flashlight, engine starter, receiver battery and the list goes on, will pull current out of what ever is powering it.

That power supply could be a 120 or 240 Volt outlet in your house, an automotive Lead Acid battery, down to the batteries we use in our RC models.

Typical current values range from extremely low currents pulled by a battery powered wall clock up to 15 or 20 Amps in your typical outlet your house.

Engine starters pull around 120 Amps on a 12 Volt car battery; The starters we use on our gasser models pull around 15 Amps on a 15 Volt battery.

The receiver/servos in our models pull around 3 or 4 Peak Amperes of current, with the giant scale 120 cc gassers, substantially higher than that.

As a comparison, the electric motor in my previously mentioned giant scale Corvus pulls a measured 130 Amps at 35 Volts. That is 3 times more power than the starter in your car/truck!

So, we have discussed Voltage, Current, but what the heck is MilliAmpere Hours?

We have "Ampere Hours" with a lead acid deep cycle battery measuring around 120 Ampere Hours.

Ampere Hours is just that. A given amount of current flow, multiplied by the number of hours it has been flowing.

As an example, if you have a toaster oven pulling 12 Amperes, and it is on for 15 minutes, it pulled 12 Amps times 1/4 Hour, or 3 Ampere Hours.

If you have a 2200 MilliAmpere Hour LiFe battery pack, and you pull 600 Milliamperes out of it for three hours, you pulled 600 ma times 3 hours or 1800 MilliAmpere Hours.

Or, same thing, 2.2 Amp Hours times 3 hours equals 1.8 Ampere Hours.

Now then, you have the maximum current that a battery is designed to handle.

An automotive deep cycle 120 Ampere Hour battery will have big problems if you pull more than around 25 Amps out of it for hours at a time. (It should last 120/25 or 4.8 hours) Do that a half dozen times, and your $200 battery has turned into a bunch of dead lead.

Those A123 and LiFe batteries are designed to handle these deep discharges, and do it a thousand times. LiPos can't do it as many times, perhaps a few hundred or more times.

OK, maximum discharge or charge currents? The maximum charge or discharge rating of any battery refers to a percentage of its total Ampere Hour Capacity.

What???? Take an example.

Those A123 cells have a rating of 40 Amps maximum current. With a nominal Ampere Hour rating of 2.5 Ampere Hours, that 40 Amps is 16 times higher than the 2.5 Amp Hour rating.

It just so happens, we just described how that "C" term is calculated. Just divide the maximum current by the Ampere Hours to get "C".

Using some 6th grade math, you get

C = Max current divided by Amp Hour capacity.

Or C = Max Amps/Amp Hours.

This "C" value is quite useful in determining the quality of a battery purchased for these electric motors in an RC model. Problem is, those C specifications is often set by the battery company sales department, NOT the Engineering department.

Case in point, one battery seller, Maxx Amps lists an 8 Ampere Hour battery with a 150 C rating. A quick calculation shows that is 1200 Amps. And, their battery uses #12 wire.

That 1200 Amps on #12 wire will vaporize the wire in a split second. Yeah, I've tested it.

Now, for proper charging current for these battery packs. If you are using those A123 cells in your receiver pack, they are rated for a maximum charging current of 10 Amperes, provided the wiring to the battery pack is at least #16 gauge wire.

If you are charging these A123 packs through the servo connector, limit the charging current to a maximum of 3 Amps, or the rating of the servo connector itself.

In general, any Lithium battery can be safely charged at the "1C" charge current. So, if you have a 2200 MilliAmpere Hour LiFe battery, that is the same thing as 2.2 Ampere Hours.

And, a charging current of "1C" would be a charging current of exactly 2.2 Amperes. And a 6000 Mah LiPo can be safely charged at 6 Amperes. You can charge at lower currents, that "1C" is just the maximum safe charging level.

There is a lot more information that I can cover on these batteries. Let me know if I should continue more information on the batteries we use and depend on for the October newsletter.

Denny Vollrath
RRCC editor.

Compost Duty Roster

Date	Time	Name(1)	Name(2)
08/07/24	12-2	John Boldt	
08/07/24	2-4	Gary Bokowy	
08/07/24	4-6	Ed Jenkins	
08/14/24	12-2	Ed Jenkins	
08/14/24	2-4	Marv Tridle	
08/14/24	4-6	Dan Pozel	
08/21/24	12-2	Terry Peterson	
08/21/24	2-4	Doug Krage	
08/21/24	4-6	Ed Jenkins	
08/28/24	12-2	Don Parkinson	
08/28/24	2-4	Wayne Greisen	
08/28/24	4-6	Gary Bokowy	
09/04/24	12-2	Bob Johnson	
09/04/24	2-4	Marv Tridle	
09/04/24	4-6	Gary Bokowy	
09/11/24	12-2	Bob Johnson	
09/11/24	2-4	Wayne Greisen	Bob Johnson
09/11/24	4-6	Doug Krage	
09/18/24	12-2	Marv Tridle	
09/18/24	2-4	Wayne Greisen	
09/18/24	4-6	Eric Armantrout	Roman Kirykowiez
09/25/24	12-2	James Martinich	
09/25/24	2-4	James Martinich	Jim Houtsinger
09/25/24	4-6	James Martinich	
10/02/24	12-2	Jim Litwin	Gary Anderson
10/02/24	2-4	Jim Litwin	Jim Houtsinger
10/02/24	4-6	Jim Litwin	Roman Kirykowiez

01/21/24	Sunday	Club Meeting		07/22/24	Mon-Sun	EAA Kid Venture
02/18/24	Sunday	Club Meeting		08/03/24	Saturday	Bong Eagles Free Flight
03/02/24	Saturday	Awards Banquet		08/03/24	Saturday	Marks Float Fly
03/17/24	Sunday	Club Meeting		08/04/24	Sunday	Circle Masters
04/01/24	Monday	Change Lock Codes		08/10/24	Saturday	Electrons Boy Scouts
04/06/24	Saturday	Model Engine Collector		08/15/24	Thur-Sat	Fon Du Lac War Birds
04/14/24	Sunday	Club Meeting		08/18/24	Sunday	Fon Du Lac Fun Fly
05/19/24	Sunday	Club Meeting		08/18/24	Sunday	Club Meeting
06/01/24	Saturday	Shelter Tear Down		08/24/24	Sat-Sun	Circle Masters Demo
06/01/24	Saturday	Circle Masters		08/25/24	Sunday	Open House
06/08/24	Saturday	Fon Du Lac Fun Fly		09/07/24	Saturday	Electrons Fly/Swap
06/09/24	Saturday	Club Meeting		09/08/24	Sunday	Watertown Demo
06/22/24	Saturday	Sky Ranch		09/14/24	Sat-Sun	Electrons Pattern
07/06/24	Saturday	Bong Old Timers		09/15/24	Sunday	Club Meeting
07/06/24	Saturday	Pebble Creek Flyers		10/05/24	Saturday	Shelter Set up
07/07/24	Sunday	Electrons Scale		10/19/24	Sat-Sun	Maker Faire
07/13/24	Saturday	Astrowings Charity		10/20/24	Sunday	Club Meeting
07/20/24	Saturday	Rams Helicopers		11/17/24	Sunday	Club Meeting
07/21/24	Sunday	Electrons Electric fly in		12/15/24	Sunday	Club Meeting
07/21/24	Sunday	Club Picnic – No Meeting				

Tentative 2024 Schedule