



THE FLIGHTLINE



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

RRCC May Issue
Next Meeting May 16, 2021

WE ARE ON THE WEB
www.racinerclub.com

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Racine R/C Club Meeting Minutes

April 18, 2021

Time: 1:00 PM

Location: R/C Flying Field

Open Meeting - Welcome - New Members & Guests – Jim opened the meeting at 1:00PM. Chris Stein, Mike Stein's son, became a new member at the April meeting.

Minutes - Last Meeting – There were no changes to the minutes from the last meeting.

Reports

President- Jim Litwin informed the members that Ron Burden passed away on April 5th. A family member contacted Jim asking that all of Ron's RC stuff be donated to the club per Ron's wishes.

The family did not want anything back in return. With help from Jerry Rose items were sorted and arranged for display at the meeting. Some items were set up for sale and others were given away.

The total for items sold on Sunday was \$530.00 which was deposited in the club account. Jim ordered a missing pilot plaque for Ron.

Vice President- Roger Nickolaus was on vacation but informed Jim he had nothing to report.

Secretary/Treasurer- Bob Johnson
Current membership after dues collected at the meeting and to date.

Senior Members	37
Open Members	16
Junior Members	3
Total	56

Wisconsin Non-Stock Corp has been filed.

General Fund-Continues to be healthy. We are well positioned to deal with any expenses (planned or otherwise) for 2021.

News Editor-Dennis Vollrath had nothing new to report.

Field Chairman- Hoss informed members the log splitting was done and thanked all that helped out. Hoss also informed membership the 2021 grass cutting schedule is available for anyone interested to sign up. He went on to say the field is in excellent condition.

Tractor Chairman-Eric Armantrout informed membership he got the back up mower started, changed the mower decks, seat etc. There is an issue with the mower engagement lever, so a bungee cord was rigged as an interim or possibly a long-term fix.

The above was done as the cost from Huckstorf Diesel to repair the fuel injectors and pump was \$1,100.00. It was decided this was too expensive at this time, so the parts were picked up and we decided to go with the backup unit for now.

Web Master-Justin Francisco fixed an issue with the website making it easier for members to send emails.

Safety Officer-Dan Pozel had nothing new to report. It was great seeing Dan

back at the club!

Compost Director-Jerry Rose informed membership all is Ok with the compost site. Mark Bennis left instructions on how to deal with contractors (as discussed last meeting) which are published in the compost shed.

Old Business- Mower parts picked up. No rebuild. Cost for inspection labor was \$115.00.

New Business-Jim presented a discussion as to whether we should continue the insurance policy that covers our mower, tractor, rollers etc. The policy costs the club \$250.00 per year. The policy was initially taken out when the equipment was stored in the quasit shed located by HWY 20 which was unlocked. It only covers loss up to \$5,500 with a \$250.00 deductible.

Members voted to cancel the policy upon renewal which is in August.

New Pilots – None

Show & Tell – Ron Burdens stuff.

Raffle Drawing – A raffle was not held at the April meeting.

Close Meeting – Jim closed the meeting with a reminder that the next meeting is Sunday May 16th at the field at 1 PM.

JIM'S CORNER

Spring is here and we are getting some warmer weather, but the winds is coming along with it.

Everyone should have gotten an email message that went out advising about the "Tentative" schedule for the surfacing of the gravel road to our field.

Looks like preparations will be starting around the week of the 17th, with paving around the 1st of June, maybe! We will let members know by email messages as the work progresses, because there probably will be limitations on traffic on

the road while work is being done. We and Mt Pleasant don't know what the impact will be on the compost site. That could be a day by day situation, so figure on working your assignment unless you are specifically contacted about a change.

The field is in good shape. It's been rolled and cut numerous times and sprayed for weeds. Get out and enjoy it! A specific email message will be sent out asking for help in taking down the shelter sides. At this time it looks like Saturday, June 5 might be the date to do this, but

weather or other circumstances could alter that date.

Get your planes out and enjoy the field. We don't see as many members out on Sundays as we used to. Not sure why, but it's pretty safe; people are keeping their distances, and those who may have issues are staying home, so it is pretty

safe as mentioned before.

Our next meeting is Sunday, May 16th, at 1 PM at the field. See you then.

Fly Safe & Have Fun

Jim Litwin

President

Denny's Stuff

Things have been a bit busy around the Vollrath home lately. Seems we get much busier after we all have retired!

As for your newsletter editor, seems it is getting more and more difficult to write about something that has not been covered in the newsletters before in the past 17 years I've been writing the newsletters. Wow, where did those 17 years go ???

At any rate, one of our club members asked about discharging our electric model LiPo batteries down to storage voltage level.

For those not familiar with this issue, let's cover just what we are doing, and why we are doing it.

Starting off, most rechargeable batteries such as the Nicads, Nickel Metal Hydride, LiFe and A123's can be left in any state of charge desired. That would be fully charged, or any state of charge between perhaps 10% of charge to fully charged.

For the A123's, if they are stored at full charge, they will hold some 95% of their charge after a full year on the shelf. Personal experience of my fellow RC club members along with my self. And, A123's are not affected at all by being left at a fully charged state for days, weeks, months, or even a year or so.

However, many of our electric models are using those LiPo battery packs. These battery packs hold a tremendous amount of energy while fully charged. That becomes quite obvious for anyone that has ever observed a LiPo battery that has gone up in flames.

This type of failure mode takes place generally when the battery pack becomes extremely overheated internally. Or, when the battery pack has been damaged to where its internal cells start short circuiting.

What happens is the battery pack goes into a thermal run away, where the pack gets hotter. The chemical action speeds up due to the heat, making the battery pack getting even hotter, eventually resulting in fire. Not much will put such a fire out, since its fire doesn't need oxygen to burn up.

But, there are draw backs to packing so much energy into a small LiPo battery package. Outside of the obvious fire risk when the battery pack is pushed to hard, is what happens when the pack is left fully charged for a long duration.

To elaborate, these battery packs have what is called a very low internal resistance. That low internal resistance is what allows these LiPo battery packs to pack the ability to put out those very high currents for a short period of time, such as what is being done while flying a high powered electric model airplane.

It's easy to have an electric model's motor pull 60 Amps or more while flying. With a 6 cell LiPo battery pack, that represents 1 3/4 horsepower, more than the starter pulls in your automobile. But, a weak LiPo battery pack can and will limit the maximum amount of power your models brushless electric motor can put out at full throttle.

Here is where that LiPo battery "Storage Voltage" term comes in. A wide number of web sites have pointed out that the LiPo battery problem involves leaving them at full charge for days at a time.

Leaving a LiPo battery at full charge for extended periods of time winds up affecting the battery packs internal resistance. And, it doesn't take long. Leaving a LiPo battery pack at full charge for even one day does permanent damage to it.

No, leaving a LiPo battery fully charged overnight stand won't kill it, but it will increase the battery packs internal resistance by a little bit. Do it again, again, again, and the battery damage accumulates. Pretty soon, you will find that this battery pack won't turn the electric motor's propeller at the same RPM at full throttle.

This high internal resistance damage is not reversable, and can damage even a brand new battery pack after a few dozen flights over a few dozen days.

Many of our RRCC members may recall that I designed and built a LiPo battery analyzer that actually measured the internal resistance of our lithium type battery packs.

I sold over 150 circuit boards, partial kits, and fully assembled units over a period of a couple of years. That "BattIR" meter I designed was extremely accurate, to around 0.5% of the actual LiPo batteries

internal resistance. This BattIR meter quickly shows that it is easy for the internal resistance of a LiPo battery pack can increase by a factor of 10 due to being left at full charge. (Or to the battery pack getting old!)

That was a very highly labor intensive project on my part, and I've got no intentions of building any more of them. (This BattIR meter wound up being covered in the AMA magazine several years ago.)

So, that leaves the modeler with the problem of fully charging his battery packs, and traveling to our field. Only to find that it is to windy. Now, the modeler has a hand full of fully charged battery packs that must be brought back to the storage voltage. (Storage voltage is around 3.8 Volts per cell.)

Most LiPo battery chargers have the capability of discharging LiPo batteries back to the storage mode. BUT, they have very limited ability to do so.

So, lets cover what is involved in discharging our LiPo battery packs back to storage voltage.

If you have a battery pack that is capable of powering an electric motor at 1200 Watts for 6 minutes, it is going to take a very substantial device to discharge that battery pack to storage voltage.

I have a pair of Cellpro PL8 chargers that can discharge a LiPo battery pack at a maximum of 100 Watts. So, we have 1200 Watts for 6 minutes being discharged at 100 Watts, or it is going to take 12 times longer than 6 minutes to discharge that battery pack to storage level.

That is over an hour. With a half dozen packs, that is going to take most of the evening. The PL8 charger has an re-

generation function that allows the charger to discharge a LiPo battery pack, and feed that energy into a 12 Volt lead acid battery.

That results in using the LiPo battery pack to charge the car battery. This feature will discharge a bunch of LiPo packs to storage mode in an hour or two.

I also have a little Hitec RDX1Pro charger that has the ability to discharge a LiPo battery at a maximum of **10 Watts**. So, that charger is going to take a few days to discharge one big 6S LiPo battery pack down to the storage level.

What are the options?

They pretty much involve buying a dedicated high powered LiPo battery pack discharger. They are definitely not cheap. I searched Ebay and found one that can discharge a LiPo battery pack at a maximum of 200 Watts. This will discharge a big 6S LiPo battery pack in an hour or so.

With my electronic back ground, I could easily design a high powered LiPo discharger, but the parts would cost around the same as a commercial unit. (And, it would not be as pretty!)

At any rate, here is one unit I found on Ebay. FYI, I have zero experience on this unit, it's quality or anything else!

(Copy/paste the info below into eBay to find the unit. Price is around \$80.00 each)

SkyRC BD250 Battery Discharger & Analyzer RC LiPo Battery 250W 35A BD200

Let me know if you have any questions on this subject at our next RRCC meeting.

DennyV
RRCC Editor

Jim reports that we have a tentative schedule for the work to pave the gravel road to the flying field / compost site. As the work starts and progresses, email messages will be sent to keep members updated.

Please be aware that as some of the work progresses, access to the RC field may be limited or restricted. We will advise as it occurs.

WORK	DURATION	START	FINISH
SILT FENCE	3 DAYS	MON 5/17/21	WED 5/19/21
CULVERT	1 DAY	MON 5/24/21	MON 5/24/21
PULVERIZE/REGRADE	4 DAYS	WED 5/26/21	MON 5/31/21
PAVE	3 DAYS	TUE 6/1/21	THUR 6/3/21
RESTORATION	6 DAYS	TUE 6/8/21	TUE 6/15/21



WOOD SPLITTING DAY!
THANKS GUYS



Date	Time	Name(1)	Name(2)	Substitute	Date	Time	Name(1)	Name(1)	Substitute
04/07/21	12-2	Darrel Hossalla			08/11/21	12-2	William Bylsma		
04/07/21	2-4	Darrel Hossalla			08/11/21	2-4	Charlie Reich		
04/07/21	4-6	Terry Peterson			08/11/21	4-6	Gary Bokowy		
04/14/21	12-2	Roger Nickolaus			08/18/21	12-2	Bill Flannery	Chris Stien	
04/14/21	2-4	Roger Nickolaus			08/18/21	2-4	Charlie Reich	Chris Stien	
04/14/21	4-6	Terry Peterson			08/18/21	4-6	Gary Bokowy	Chris Stien	
04/21/21	12-2	Terry Peterson			08/25/21	12-2	Jerry Rose	Thomas Dremel	
04/21/21	2-4	Darrel Hossalla			08/25/21	2-4	Ray Fisher	Thomas Dremel	Jerry Rose
04/21/21	4-6	Jason Fisher		Stephen Knackert	08/25/21	4-6	Ray Fisher	Thomas Dremel	
04/28/21	12-2	Roger Nickolaus	Arland Matson		09/01/21	12-2	Carl Bergquist	Edward Witt	
04/28/21	2-4	Rich Smentek			09/01/21	2-4	Dennis Vollrath		
04/28/21	4-6	Jason Fisher		Charles Roberts	09/01/21	4-6	Dan Pozel		
05/05/21	12-2	Jason Fisher	Arland Matson	Stephen Knackert	09/08/21	12-2	Wayne Greisen		
05/05/21	2-4	Dennis Vollrath			09/08/21	2-4	Wayne Greisen		
05/05/21	4-6	Dan Pozel			09/08/21	4-6	Donald Parkinson		
05/12/21	12-2	Charles Roberts	Arland Matson		09/15/21	12-2	Richard Stapleton	Charles Brzezicki	
05/12/21	2-4	Carl Bergquist	Edward Witt		09/15/21	2-4	Richard Stapleton	Charles Brzezicki	
05/12/21	4-6	Raymond Redlin			09/15/21	4-6	Richard Stapleton	Charles Brzezicki	
05/19/21	12-2	Jerry Rose			09/22/21	12-2	Donald Parkinson		
05/19/21	2-4	Dennis Vollrath			09/22/21	2-4	Bill Flannery		
05/19/21	4-6	Eric Armantrout	Ron Dixon		09/22/21	4-6	Bill Flannery	Gerald Bublavay	
05/26/21	12-2	Matthew Holl			09/29/21	12-2	Douglas Karge		
05/26/21	2-4	Matthew Holl			09/29/21	2-4	Douglas Karge		
05/26/21	4-6	Matthew Holl	Manuel Gonzalez		09/29/21	4-6	Douglas Karge	Gerald Bublavay	
06/02/21	12-2	Charles Roberts			10/06/21	12-2	Buzz Paricka	Pete Luks	
06/02/21	2-4	Rich Smentek			10/06/21	2-4	William (Oz) Miller		Ron Dixon
06/02/21	4-6	Dan Pozel	Manuel Gonzalez		10/06/21	4-6	Donald Parkinson	Gerald Bublavay	
06/09/21	12-2	Jerry Rose	Jim Smith		10/13/21	12-2	Trygve Smalley		
06/09/21	2-4	Ray Fisher			10/13/21	2-4	William (Oz) Miller		Ron Dixon
06/09/21	4-6	Ray Fisher	Manuel Gonzalez		10/13/21	4-6	Stephen Knackert		
06/16/21	12-2	Charles Roberts			10/20/21	12-2	Trygve Smalley		
06/16/21	2-4	Rich Smentek			10/20/21	2-4	William (Oz) Miller		Ron Dixon
06/16/21	4-6	Justin Francisco		Dallel Hosssalla	10/20/21	4-6	Stephen Knackert		
06/23/21	12-2	Raymond Redlin			10/27/21	12-2	Buzz Paricka	Dennis Krzyzanek	
06/23/21	2-4	Raymond Redlin			10/27/21	2-4	Buzz Paricka	Dennis Krzyzanek	
06/23/21	4-6	Justin Francisco			10/27/21	4-6	Trygve Smalley		
06/30/21	12-2	Jim Litwin	Jim Smith		11/03/21	12-2	Stephen Knackert	James Martinich	
06/30/21	2-4	Jim Litwin	Jim Smith		11/03/21	2-4	James Martinich		
06/30/21	4-6	Jim Litwin			11/03/21	4-6	James Martinich		
07/07/21	12-2	Bob Johnson	Roger E Olsen		11/10/21	12-2	Paul Willems		
07/07/21	2-4	Bob Johnson	Roger E Olsen		11/10/21	2-4	Pete Luks		
07/07/21	4-6	Eric Armantrout	Ron Dixon		11/10/21	4-6	Jim Strelitzer		
07/14/21	12-2	Bob Johnson	Roger E Olsen		11/17/21	12-2	Paul Willems	Michael Stein	
07/14/21	2-4	Carl Bergquist	Edward Witt		11/17/21	2-4	Michael Stein		
07/14/21	4-6	Justin Francisco	Helmut Schmidtke	Roman Kirykowicz	11/17/21	4-6	Jim Strelitzer	Michael Stein	
07/21/21	12-2	Wayne Greisen			11/24/21	12-2	Paul Willems		
07/21/21	2-4	William Bylsma			11/24/21	2-4	Pete Luks		
07/21/21	4-6	Eric Armantrout	Ron Dixon		11/24/21	4-6	Jim Strelitzer		
07/28/21	12-2	William Wampler	Ronald Schroeder		12/01/21	12-2	Steven Navone		
07/28/21	2-4	William Wampler	Ronald Schroeder		12/01/21	2-4	Steven Navone		
07/28/21	4-6	William Wampler	Helmut Schmidtke	Roman Kirykowicz	12/01/21	4-6	Steven Navone		
08/04/21	12-2	William Bylsma	Ronald Schroeder						
08/04/21	2-4	Charlie Reich	Dennis Krzyzanek						
08/04/21	4-6	Gary Bokowy	Helmut Schmidtke	Roman Kirykowicz					