



THE FLIGHTLINE



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

RRCC April Issue
April 10, 2022 Newsletter

WE ARE ON THE WEB
www.racinerclub.com

Club Officers

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Racine R/C Club Meeting Minutes

March 20 16,2022

Time: 1:00 PM

Location: R/C Flying Field

Open Meeting - Jim opened the meeting at 1:00PM. There were 20 members present.

Welcome - New Members & Guests – No new members at the March meeting. Joey Stein, Mike Stein's son, was present as a guest.

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

Reports

President- New advisory/warning signs were installed around the field fence area at all entry points. Thank you to Eric Armantrout and his wife Laura for making the updated aluminum signs. Total cost to the club was \$180.00 plus \$10.00 for attachment wire.

Jim pointed out the updated language used on the signs as well as our written agreement with the village of Mt. Pleasant. RRCC has exclusive rights to use the property as our flying site.

The purchase of a new wood burning stove was made to replace our current stove which has multiple cracks and a rusted out chimney stack. The stove cost was \$200.00. A thank you goes out to Trygve Smalley for his help finding the stove in Franksville and transporting it to the field.

Vice President- Roger Nickolaus was on vacation in Florida. Jim reported there were 38 people that attended the awards banquet. Some were disap-

pointed with the food. Others had no issue. Guess it's a matter of expectations and personal taste. We can keep this in mind as we plan next years banquet.

Secretary/Treasurer-Bob Johnson
Current membership as of the January meeting.

Senior Members	37
Open Members	16
Junior Members	1
Total Members	54

Our general Fund-Continues to be healthy. We are well positioned to deal with any expenses (planned or otherwise) for 2022.

Our annual donation to the Mt. Pleasant Recreation Department was made for \$250.00 to sponsor a softball and tee-ball team.

For members renewing their membership via mail, please remember to include a self-addressed stamped envelope with your payment. A copy of your AMA card is appreciated as well.

News Editor-Dennis Vollrath had nothing new to report.

Field Chairman- Hoss mentioned he will be rolling the as soon as the weather permits.

Tractor Chairman- Eric has nothing new to report.

Web Master-Justin Francisco mentioned Facebook activity remains strong..

Safety Officer-Dan Pozel had nothing new.

Compost Director-Jerry Rose asked members to sign up for compost duty af-

ter the meeting.

Old Business- Nothing to discuss.

New Business – The banquet cost turned out to be a little less than what we collected. Tom Wapner did not attend, and his payment of \$25.00 will be refunded.

There is still a little over \$100.00 remaining and it has been suggested that these funds be used to fund a pizza party for members in the future. Discussion and motion were made and approved to proceed with the use of the above funds as stated. This activity will be documented in the monthly ledger.

Another suggestion was forwarded for the continuation of a raffle prize at the banquet that was started this year by Rich Smentek. To ensure that the raffle prize does not come from the membership dues it was suggested that the monthly raffle proceeds are to be used to fund the raffle prize at the banquet. A motion was made and approved to move forward with the used of the raffle proceeds.

New Pilots – None

Show & Tell – Rich Smentek brought his new Mirage electric ducted fan jet. Nice job Rich! Herbert Ludowieg showed his new OS five-cylinder radial motor that will be going on a 90" Waco. Pete Redel showed his new electric jet he received as a gift from his son. (Editors Note: That tiny jet was an absolute acrobatic model under Petes finger controls!)

Raffle Drawing – No raffle this month
Close Meeting – Jim closed the meeting with a reminder the next meeting will be Sunday April 10th.

JIM'S CORNER

It's beginning to seem more like spring. You know; rain, wind, poor flying conditions! Anyway it is getting warmer and we are turning the corner.

As I write this article we are getting ready for the compost site season. There is a new person overseeing the compost operation with the Village of Mt. Pleasant.

I will report more on this at the upcoming meeting, but I have had numerous communications with him. He's been very responsive and easy to work with. We should be in good shape.

The compost site actually opened on Saturday, April 1st, with our club members starting on Wednesday, April 6th. For us it's the same old, same old stuff!

I say it every year, but I will say it again here; now is the time to start checking out your flying equipment. By this, I mean batteries, fuel pumps, fresh fuel, wheel collars tightened, servos all working properly.

It seem that every year members show up at the field to try and fly, and then find something not working properly. Check these things out and home, save yourself

the aggravation at the field, and be able to actually fly when you make the trip to the field.

It would be helpful for the field maintenance / parking lot maintenance, if when the grass is soft that you not park on the grass area parking on the south side of the field (down where the larger planes are usually at). It is always softer there in the spring, and ruts being made in the grass make mowing later a real challenge.

We have had low membership attendance at the past few meeting; maybe due to the weather and limited flying abilities, but we would like to see more of you at the field, if even just to B.S. and solve the world's problems!

Our next meeting is a week early due to Easter occurring on our normal 3rd Sunday of the month. So hoping to see you at the field, Sunday April 10th at 1 PM. Maybe the weather will be nice for some flying!

Fly Safe & Have Fun
Jim Litwin
President

DENNY'S STUFF

Well now, we've covered the basic stuff about electricity, including Voltage, Amperes, Ohms (Resistance) and Watts (Power)

Lets take a look at those brushless motors that just about every electric model airplane is using today.

If you've ever peaked into the motor windings of these brushless motors, you may have noted that the copper wire inside is pretty substantial. One of my gi-

ant electric motors has a wire gauge on the order of #13 copper wire.

If you connect that motor winding directly to a LiPo battery, you have an absolute dead short circuit, and smoke will quickly result.

So, just what is limiting the current input to that brushless motor????

Surprise surprise, it turns out that internally, every motor, AC or DC is an AC motor. On the common DC motors found in kids toys and countless other

applications, they all have brushes and commutators. These components form a mechanical switch that changes connections to the rotating part many times per revolution of the rotating part.

Without that brush/commutator, these DC motors simply would not work.

As for our brushless electric motors, that brush/commutator combination has been replaced by an electronic switching device, otherwise known as the ESC or Electronic Speed Control.

A few readers of this thread may be aware that a three phase electric motor used in industry has three wires on its AC input. What is called a three phase AC voltage, when connected to the three phase electric motor will cause the motor to spin. The RPM of that motor depends on the motor's winding configuration.

Most of them turn at 1800 RPM, with a few turning at 3600 RPM or 1200 RPM. Giant motors of perhaps 500 Horsepower or more (Much more) may turn at 900 RPM or even lower. Years ago, I saw a 5000 Horsepower electric motor that turned at 180 RPM. It was the size of a living room.

So, our brushless motors do have three wires on them. And, if you connect them to a suitable three phase AC source of 5 or 10 Volts, they will turn over at a very low RPM. Yes, I've done this at work before retiring.

But, our ESC controls DO NOT provide a three phase power source for our brushless motors. Rather, they are connecting battery power to just two of the motor wires at a time.

The ESC uses the third motor wire to determine where the ESC does switching to

the next set of motor wires. And, it does this some 60,000 times per second.

We are still connecting that brushless motor to the battery through the ESC. And, the winding resistance of that motor is pretty much a dead short circuit. What is going on here?

The answer is every electric motor is also an electrical generator. If you connect an digital multimeter to a pair of wires of your brushless motors three wires, then spin up that motor with an electric drill, you will measure an AC voltage being generated by that motor.

In fact, I've actually taken two brushless motors, and hard wired their three wires together. If you connect one motor to a battery operated drill, that motor becomes a three phase generator. And if things are just right, that driven motor will cause the other motor to spin over at exactly the same RPM. Interesting. I have made a YouTube video of this.

[Three Phase Alternator and Motor - YouTube](#)

Now, when the brushless motor is spinning up from the ESC, that same brushless motor is also generating a reverse voltage counteracting the ESC voltage output.

That reverse voltage is determined by how fast the motor is spinning. When that reverse voltage matches the output voltage of the ESC, that is what limits the maximum RPM of that motor.

As the RPM of that motor drops because of the propeller load, that reverse voltage drops a bit, resulting in more current being delivered to the motor. If that motor shaft is stalled out, you do have a short circuit. And, quality ESC controls will recognize that, and kill power to the motor. And, cheap ESC's don't!

RACINE RC CLUB 2022 CALENDAR

January 1	Saturday	9:00 AM	New Year's Day, "First in the Air" Event
January 16	Sunday	1:00 PM	Club meeting - Flying Field
February 20	Sunday	1:00 PM	Club Meeting - Flying Field -
March 1	Tuesday		Lock codes changed
March 5	Saturday		Banquet
March 20	Sunday	1:00 PM	Club Meeting - Flying Field
April 6	Wednesday	12 – 6 PM	Club Compost Duty Starts
April 10	Sunday	1:00 PM	Club Meeting - Flying Field
May 15	Sunday	1:00 PM	Club Meeting - Flying Field
June 4	Saturday	8:00 AM	Shelter take down
June 12	Sunday	1:00 PM	Club Meeting - Flying Field
July 17	Sunday	11:00 AM	Club Picnic at Field - No Meeting
August 21	Sunday	1:00 PM	Club Meeting - Flying Field
August 28	Sunday	9:00 AM	RC Club "Open House"
Sept 18	Sunday	1:00 PM	Club Meeting - Flying Field Get proposed rule changes submitted
October 1	Saturday	Noon	Deadline for submission of Proposed Field Rule & By-Law Changes
October 1	Saturday	8:00 AM	Shelter setup
October 16	Sunday	1:00 PM	Club Meeting - Flying Field
Nov13	Sunday	1:00 PM	Club Annual Meeting - Election of Offic ers; Vote on proposed Field Rule & By- Law changes
Dec 7	Wednesday	12 – 6 PM	Last day Club Compost Duty
Dec 18	Sunday	1:00 PM	Club Meeting - Flying Field – Establish- Membership Dues schedule for next year
Jan 1, 2022	Sunday	9:00 AM	New Year's Day, "First in the Air" Event & Noon lunch (Electric Sunrise - Gas/Glow 9:00 AM)

**The following RRCC members have volunteered to be a substitute for
compost duty. Contact them to work out the details**
Steve Knackert 262-497-2824 Justin Francisco 414-484-4574

Date+K2 0129A1: KA1:K3 9	Time	Name(1)	Name(2)	Substitute	Date	Time	Name(1)	Name(2)	Substitute
04/06/22	12-2	(Hoss) Hossalla	Gerald Bublav		08/10/22	12-2	Bob Johnson		
04/06/22	2-4	(Hoss) Hossalla	Gerald Bublav		08/10/22	2-4	Bob Johnson		
04/06/22	4-6	Justin Francisco	Gerald Bublav		08/10/22	4-6	Roman Kirykowicz	Helmut Schmidtke	
04/13/22	12-2	Roger Nickolaus	James Martinich		08/17/22	12-2	Raymond Redlin Sr		
04/13/22	2-4	Roger Nickolaus	James Martinich		08/17/22	2-4	Jim Smith		
04/13/22	4-6	Justin Francisco	James Martinich		08/17/22	4-6	Wayne Greisen		
04/20/22	12-2	Roger Nickolaus			08/24/22	12-2	Terry Peterson	Matthew Holl	
04/20/22	2-4	(Hoss) Hossalla	John Boticki		08/24/22	2-4	Dennis Vollrath	Matthew Holl	
04/20/22	4-6	Justin Francisco			08/24/22	4-6	Wayne Greisen	Matthew Holl	
04/27/22	12-2	Charles Roberts			08/31/22	12-2	Terry Peterson		
04/27/22	2-4	Rich Smentek			08/31/22	2-4	Dennis Vollrath		
04/27/22	4-6	Dan Pozel			08/31/22	4-6	Wayne Greisen		
05/04/22	12-2	Steve Knackert	Bill Flannery		09/07/22	12-2	Terry Peterson		
05/04/22	2-4	Rich Smentek	Bill Flannery		09/07/22	2-4	Dennis Vollrath		
05/04/22	4-6	Dan Pozel			09/07/22	4-6	Dan Pozel		
05/11/22	12-2	Charles Roberts	Paul Willems		09/14/22	12-2	J Fisher		Steve Knackert
05/11/22	2-4	Rich Smentek			09/14/22	2-4	James Houtsinger		
05/11/22	4-6	Charles Roberts			09/14/22	4-6	Eric Armantrout	Ron Dixon	
05/18/22	12-2	Steve Knackert	Dennis Krzyzanek		09/21/22	12-2	Buzz Paricka	William Wampler	
05/18/22	2-4	William Bylsma	Dennis Krzyzanek		09/21/22	2-4	Buzz Paricka	William Wampler	
05/18/22	4-6	Trygve Smalley			09/21/22	4-6	Bill Flannery		
05/25/22	12-2	Michael Stein	Douglas Karge		09/28/22	12-2	Buzz Paricka	William Wampler	
05/25/22	2-4	Michael Stein	Douglas Karge		09/28/22	2-4	James Houtsinger		
05/25/22	4-6	Michael Stein	Douglas Karge		09/28/22	4-6	Arland Matson		
06/01/22	12-2	Jerry Rose			10/05/22	12-2	Charles Brzezicki		
06/01/22	2-4	Jerry Rose			10/05/22	2-4	Charles Brzezicki		
06/01/22	4-6	Trygve Smalley			10/05/22	4-6	Charles Brzezicki		
06/08/22	12-2	Chris Stein	Paul Willems		10/12/22	12-2	Donald Parkinson		
06/08/22	2-4	Chris Stein			10/12/22	2-4	Donald Parkinson		
06/08/22	4-6	Chris Stein			10/12/22	4-6	Donald Parkinson		
06/15/22	12-2	Jerry Rose	Dennis Krzyzanek		10/19/22	12-2	Herbert Ludowieg		
06/15/22	2-4	Ray Fisher			10/19/22	2-4	Herbert Ludowieg		
06/15/22	4-6	Ray Fisher			10/19/22	4-6	Herbert Ludowieg		
06/22/22	12-2	Steve Knackert	Arland Matson		10/26/22	12-2	Carl Bergquist		
06/22/22	2-4	William Bylsma			10/26/22	2-4	James Houtsinger		
06/22/22	4-6	Trygve Smalley			10/26/22	4-6	J Fisher		Steve Knackert
06/29/22	12-2	Pete Luks		Steve Knackert	11/02/22	12-2	Jim Litwin		
06/29/22	2-4	William Bylsma			11/02/22	2-4	Jim Litwin		
06/29/22	4-6	Roman Kirykowicz	Helmut Schmidtke		11/02/22	4-6	Jim Litwin		
07/06/22	12-2	Pete Luks		Steve Knackert	11/09/22	12-2	Carl Bergquist		
07/06/22	2-4	Jim Smith			11/09/22	2-4	John Boticki		
07/06/22	4-6	Bob Johnson			11/09/22	4-6	James Strelitzer		
07/13/22	12-2	Raymond Redlin Sr	Paul Willems		11/16/22	12-2	J Fisher		Steve Knackert
07/13/22	2-4	Jim Smith			11/16/22	2-4	John Boticki		
07/13/22	4-6	Roman Kirykowicz	Helmut Schmidtke		11/16/22	4-6	James Strelitzer		
07/20/22	12-2	Pete Luks		Steve Knackert	11/23/22	12-2	Carl Bergquist		
07/20/22	2-4	Eric Armantrout	Ron Dixon		11/23/22	2-4	Arland Matson		
07/20/22	4-6	Eric Armantrout	Ron Dixon		11/23/22	4-6	James Strelitzer		
07/27/22	12-2	Richard Stapleton	Peter Redel		11/30/22	12-2	Ronald Hayes		
07/27/22	2-4	Richard Stapleton	Peter Redel		11/30/22	2-4	Ronald Hayes		
07/27/22	4-6	Richard Stapleton	Peter Redel		11/30/22	4-6	Ronald Hayes		
08/03/22	12-2	Raymond Redlin Sr			12/07/22	12-2	Steven Navone		
08/03/22	2-4	Ray Fisher			12/07/22	2-4	Steven Navone		
08/03/22	4-6	Ray Fisher			12/07/22	4-6	Steven Navone		