



THE FLIGHTLINE



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

RRCC June Issue
June 12, 2022 Newsletter

WE ARE ON THE WEB
www.racinerclub.com

Club Officers

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Racine R/C Club Meeting Minutes

May 15, 2022

Time: 1:00 PM

Location: R/C Flying Field

Open Meeting - Jim opened the meeting at 1:00PM. 22 members present.

Welcome - New Members & Guests - No new members or guests present.

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

Reports

President- Jim Litwin had nothing new to report this month.

Vice President- Roger Nickolaus had nothing new to report.

Secretary/Treasurer- Bob Johnson

Current membership as of the May meeting.

Senior Members	38
Open Members	17
Junior Members	<u>5</u>
Total	60

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

Newsletter Editor- Dennis Vollrath was unable to attend.

Field Chairman- Hoss confirmed the shelter sides will come down Saturday June 4th. All available members should try to show up and lend a hand. Grass cutting roster will be sent around for volunteers to sign up. The field was recently cut and rolled. There will be no weed killer this year due to

weather issues.

Tractor Chairman- Eric reported all equipment is in working condition.

Web Master-Justin Francisco had nothing new to report.

Safety Officer-Dan Pozel had nothing new.

Compost Director-Jerry Rose reported the village is erecting a new building at the compost site with an overhang for protection when it rains and shade from those hot sunny days.

Old Business- Nothing to discuss.

New Business – It was brought up that the plane stands for the large-scale planes need replacing. A motion was made to make them at a cost not to exceed \$750.00. The motion was passed. Hoss and Roger volunteered and asked for additional members to lend a hand. Timeline TBD.

The Joe Nall event was smaller this year with less attendees than years passed. There was more flying time overall and

the members that attended from RRCC had a great time.

Tom Dremel changed his status to “non-flyer” and donated the difference in dues of \$10.00 to the club. Thank you, Tom.

New Pilots – None

Show & Tell – Jim asked those that attended Joe Nall to comment on the experience. Justin mentioned the seminars for aerobatic plane setup was very good and extremely useful.

Justin is building a new 140” Red Bush Master. He showed the main gear tires which definitely gave us an idea as to how large this plane will be!

Raffle Drawing – \$26.00 was taken in this month. Jim Houtsinger won \$13.00.

Close Meeting – Jim closed the meeting with a reminder the next meeting will be Sunday June 12th at 1:00PM. It will be one week earlier due to Father’s Day.

JIM’S CORNER

I can confidently say that winter is behind us, and the nice weather has returned. It has been breezy / windy, but at least there is no snow.

If you have been to the field lately you will note that the grass is in pretty good shape. It is being cut twice a week and swept to keep it looking as good as it is.

As I write this article, we are preparing to take down the shelter side this weekend. It has not been used too much lately with the warmer weather, so the time is here to take down the sides.

The farm field to the west of our field has been planted in corn again, so landing approaches from the west will again be interesting later in the year. The fields to the east have as of this date not been tilled or planted. Unknown what is happening, but there are lots of corn stalk stubble standing up, so if a plane goes in there, you can expect some damage.

Hoss and Roger Nickolaus, with help from Jim Smith & Chuck Roberts, built new setup tables for the big planes, and put new carpet padding on the smaller plane tables. Really looks good.

From those I have talked to, the new compost site shed with the shade canopy is working out quite well. The old shed is gone.

Our June club meeting is being held a week early, due to Father’s Day falling on our normal 3rd Sunday meeting date. We do this so you don’t have to feel guilty coming to the field on Father’s Day, or missing the meeting due to family obligations.

Hope to see you Sunday, June 12th, at 1 PM at our next meeting.

Fly Safe & Have Fun

Jim Litwin
President

DENNYS STUFF

Well now, this series of articles has covered a range of subjects concerning our model airplanes. Time to wander off the subject for a bit. **(I'm running out of ideas for the newsletter!)**

Brushless motors: A few of the RRCC members have several of these motors in their model airplanes. And, they may have noted that they all have three wires entering the motor windings. And, reversing any two motor windings between the motor and the ESC will cause the motor to run in an opposite direction.

Just like a three phase motor found in heavy industry. Some of us may have noted that some of the overhead power-lines also have three wires, with a system ground wire below the three overhead cables.

It takes a three phase alternator to generate the three phase voltage that appears on those overhead lines.

Those alternators can range from the unbelievably large steam turbine/alternators found inside the electric generating plant such as the WE Energies one found on highway 32 near county line road.

And, they range down to the alternator found in just about every automobile, truck, pickup, 18 wheel tractor, you name it. Yes, those alternators are three phase units, with a three phase bridge rectifier located inside the alternator housing.

Even those inverter small generators you can find at Generac, Harbor Freight and many other places have a three phase alternator inside that is converted to DC by a three phase bridge rectifier. Then converted back to AC power by the elec-

tronics inside the generator.

And, there are a few countries worldwide that have ONLY three phase power for power to everything, including private homes.

So, what is so great about three phase power? Well, the answer can easily fill a full sized book.

Some of the basics involves those residential power lines that feed most of the homes around here. There is a power transformer near by that steps down the high voltage of 4800 VAC, 7200 VAC or 14,400 Volts AC down to the 120/240 Volts AC found in your homes.

You can not just connect this 120 or 240 VAC power to a simple electric motor and expect it to run. That motor has two windings, a start winding and a run winding.

The start winding is only connected for a fraction of a second to get the motor spinning. Once the motor hits full speed, that winding is disconnected by a centrifugal switch found inside the motor. You can often hear that switch change position a few seconds after the motor is shut off.

This configuration works OK for the smaller motors, but isn't practical when you have motors of 10 or 20 horsepower or larger (much larger)

Here is where three phase power comes in. These three phase motors do not require a starting winding. They are self starting. The only thing inside a three phase motor is the spinning armature, two ball bearings, and the winding. Nothing else.

You can get three phase motors from

perhaps a half horsepower, to a motor as big as your house. (Yup, I've seen them)

But, there are other useful things about three phase power. There is electrical current flowing through both the overhead high voltage cable on the power lines AND an equal amount of electrical flowing back through the neutral cable located below on the same power cable.

This doesn't affect the average home owner much, but that current through the neutral cable very definitely affects the dairy farmers.

That current flowing through the neutral cable for 10 miles or so results in a voltage drop across that 10 miles of cable. And, the poor farmers dairy cows might have 20 Volts AC between the milking machine and the floor the cows are standing on. Their T*** get shocked.

The only solution is a large isolation transformer feeding the farmers milking building.

But, in three phase power, properly set up, there is a phase shift between the voltage on the three overhead cables. That phase shift is 120 degrees. These cables are referred to "Phase A, Phase B and Phase C" in the industry.

Now, the good stuff on three phase power. Properly setup, for a given example of a 14,400 Volt overhead three phase power line carrying perhaps 250 Amperes on all three phase lines, there is NO current flowing on the fourth system neutral cable!

The 120 degree phase shift on that three phase power winds up with 120 Volts AC between one phase to neutral and 208 Volts AC between the three phases of a 120/208 VAC three phase power for the home.

Same for the 14,400 phase line overhead. Its 14,400 Volts between the overhead line and the system neutral, and 24,700 volts between any two of the overhead power lines.

Now then, I've been writing the RRCC newsletter since 2004, and am running out of ideas. If you don't want more of this type of subject, please submit building projects, photos, and anything similar to your newsletter editor for publication !!!

Back to those brushless motors.

An actual three phase motor will have fixed RPM's, like the common 1800 RPM, or less common, 3600 RPM and 1200 RPM. The really huge motors may run at 900 RPM, 600 RPM and so on.

Obviously, that would not work on our RC models. So, they are three phase motors whose rotation speed is controlled by the Electronic Speed Control (ESC) connected to it.

At any given instant of time, only two of the motors three wires have power connected to it via the ESC. The third wire has some voltage on it generated by the third coil of wire and the magnets surrounding it.

The ESC uses that instantaneous voltage on the third wire to determine how, when and what polarity to connect power to the other two wires. This switches several dozens of time through each of the three wires for each revolution of the motor shaft.

So, when the motor is turning at perhaps 8000 RPM, that switching is taking place at many thousands of times per second. The microcontroller computer chip inside the ESC is rather busy!

Spring 2020 Tear Down Crew





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	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 Kyrkovicz	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 Kyrkovicz	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	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 Kyrkovicz	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			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		