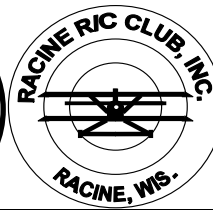




THE FLIGHTLINE



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

RRCC February Issue
February 20, 2022 Newsletter

WE ARE ON THE WEB
www.racinerclub.com

Club Officers

President

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Bob Johnson 847-421-5494
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field@racinerclub.com

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Racine R/C Club Meeting Minutes

January 16, 2022

Time: 1:00 PM

Location: R/C Flying Field

Open Meeting - Jim opened the meeting at 1:00PM. 21 members present.

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

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

Reports

President- The Milwaukee RC Association 2022 Swap Meet and Auction will occur on Sunday January 30th at the Washington County fairgrounds from 8:30AM to 2PM. Flyer printed in the newsletter. Contact Hoss if you want to help at the Swap Meet by volunteering some time.

Thank you goes out to Jerry Rose for installing an outlet receptacle on the north side of the shelter area to plug our generator into. This eliminates a lot of wire that needs to be run along the ground and eliminates potential issues.

Vice President- Roger Nickolaus had nothing new to report.

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

Senior Members	26
Open Members	12
Junior Members	_1_
Total	39

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

otherwise) for 2022.

2022 Tax Exempt has been filed with the state of Wisconsin

2022 AMA Charter paperwork has been submitted to the AMA. New charter will arrive soon for posting in the club and copies sent to board members.

For members renewing their membership via mail, please remember to include a self-addressed stamped envelop with your payment for returning your 2022 membership card

News Editor-Dennis Vollrath had nothing new to report.

Field Chairman- Hoss thanked Jim for helping dig out the snow from the wood pile so we can access wood for burning. He also thanked Jim Smith for donating a chain saw to the club.

Tractor Chairman-Eric Armantrout had nothing new to report.

Web Master-Justin Francisco reported our website and Facebook have been updated for 2022 (bylaws, application etc.). Justin asked for emails with photos showing new builds and anything interesting that our 300 followers may want to read about.

Safety Officer-Dan Pozel had nothing new.

Compost Director-Jerry Rose will have the compost signup sheet at the meeting and again in February. Jerry asked for list of members that are interested in being a sub should you not be able to make your committed compost time you have a place to go to get a sub to fill in for you. Remember it's each members responsibility to arrange their sub if they can't make it.

Old Business- Nothing to report

New Business – Next month we will be voting on 2021 award winners. Usually, the awards are presented at an awards dinner in early March. The question is

whether or not we have a banquet dinner given the current COVID situation. A show of hands at the meeting would indicate we will as all 21 members present indicated they are interested in attending.

Roger contacted the Roma Lodge and Infusino's for pricing and availability. He will have updates for us in February. Mike Stein said we could have the banquet in his airplane hangar if need be.

Justin informed the members of a Fun Fly in Durand, WI at a corporate airfield by the name of Komro Instruments on July 8th and 9th. There are typically 40 to 50 pilots at this fun fly, and it is a lot of fun. Camping is allowed and there is a hotel in the town of Durand. Durand is located approximately 20 minutes southwest of Eau Claire (approx. 4hrs 20 minutes from Mt Pleasant).

Justin also suggested we consider a Sunday in June for a "War Bird" fly day. This would be regional event and Justin confirmed there would be a large group of pilots interested. To be discussed again at the February meeting.

New Pilots – None

Show & Tell – Herbert Ludowieg showed a gas fueling station he built with electric pump. Dennis Vollrath has a new meter he designed that shows signal output from the Hall Pick Up and power input for those gas motors to help with engine failure diagnosis.

Raffle Drawing - LJ Francisco won \$28.00. Did he or did he not buy lunch for his dad!!

Close Meeting – Jim closed the meeting with a reminder the next meeting will be February 20th.

FYI (Battery charger Warning!)

FYI, most chargers on the market these days will warn the user if the balance wiring between the battery and the charger is wrong. The Multi-4 charger just continues as though nothing is wrong.

We just found out that the older Cell-Pro "Multi-4" charger does NOT give a warning on some miswiring. Worse, the Multi-4 charger can and will wind up

just charging one cell out of a two cell A123 receiver pack if the balance wire wiring is wrong.

Pushing the Multi-4 "button" several times while it is charging the receiver battery pack **WILL** show just how many cells are being charged, along with the voltage on each cell.

Word to the wise!

JIM'S CORNER

While this winter has been somewhat mild, the winds and mixed field surface conditions have reduced the winter flying. Spring is coming, so hang in there!

At our upcoming February 20th club meeting, we will be voting for the recipients of the 2021 flying year club awards. The awards will be presented at the annual awards banquet. The awards are:

**Sportsmanship
Craftsmanship
Instructor
Golden Propeller**

The Club 2022 Banquet is scheduled to be held:

Date: Saturday, March 5, 2022
Location: Roma Lodge, 7130 Spring Street, Mt. Pleasant
Time: 5 PM Arrival / Fellowship Mixing
6 PM Meal
Cost: \$ 25 per person

Sign up & payments for the Banquet will be collected at the upcoming Sunday, February 20th club meeting by Roger Nickolaus, Vice President.

Membership dues for 2022 can be paid at the upcoming meeting to Bob Johnson, Secretary/ Treasurer. The dues amount has not changed for this year. Also note that the padlock codes will be changed on March 1st. Your new membership card will have the 2022 year code on it.

Jerry Rose, the clubs' Compost Site director will have his signup roster for those of you who need to sign up for this year's compost site duty. Remember, it's a 6 hour commitment, which can be done in 2 hour segments.

If you have a winter building project you would like to share with the membership at the meeting, please feel free to bring it. I know that some of the planes being built are quite large, and we'll save them for the spring/summer outside meetings.

Hope to see you at the upcoming meeting on February 20th.

Fly Safe & Have Fun
Jim Litwin
President

DENNY'S STUFF

This is a continuation on my series of electrical terms used with most everything nowadays, including our transmitters, receivers, servos, electric powered models, the list is endless.

Last is the "Triangle" of terms used with electricity, namely "Resistance" used with the "Voltage" and "Current" terms.

The Voltage term is listed as "Volts" or "E". The current term is listed as "Amperes" or "I". The Resistance term is listed as "Ohms" or "R".

So, what does an electronic resistor look like? On the small end, they can vary from a resistor so small it takes a big magnifying glass to see them at all. And, on the large end, in the electrical power field, I've seen some that were the size of the living room in your home.

(A bit off subject, but those huge resistors can be used to limit ground fault current values on a fault current between the high voltage phase wire to the system neutral conductor. Not often seen now days.)

Going back to our Jacobson Lawn Mower, we have the hydraulic pump as the source of the energy, the hydraulic motor as the "User" of the energy. There is also mechanical resistance to the flow of the hydraulic oil, namely the hydraulic hoses themselves. Should Roger build up another log splitter, he needs to select the proper size of hydraulic hose between the hydraulic pump and the hydraulic cylinder.

Using a 3/8 inch or larger diameter hydraulic hose won't affect the operation of the log splitter. But, if Roger uses a

hose with an internal diameter of 1/16 inch, that WILL affect how the log splitter works. That too small of a diameter hose kind of represents the resistor term in electronics.

Now, for a little mathematics. As previously mentioned in this series, the Voltage, Current, and Resistance are interrelated, for DC or battery power anyhow. If you know two of them, you can calculate the third. Here are the formula's.

$$E=IR$$

$$I=E/R$$

$$R=E/I$$

As an example, for calculating resistance, if an unmarked resistor draws 0.2 Amps when subjected to a 12 Volt car battery, its resistance is $12/0.2$ or 60 Ohms.

In electricity, just about everything carrying current has some value of Resistance. The function of a resistance value, or resistor can be almost anything. Some resistance values are required in electronic circuitry like a receiver, light bulb, electric heater for your home, you name it.

Some resistance values are not wanted, such as the internal resistance of a battery, the resistance of the wire of a long extension cord, even the resistance of the cable wiring for the cable connection to your TV.

Some examples, using a 100 foot #18 gauge extension cord for an outside LED type Christmas Lights on your home would be OK, since those LED's do not pull very much current.

But, using that same 100 foot long extension cord on my AC powered 120 Volt

1.5 horsepower electric wood chipper will cause real problems. That would be the result of too much resistance in the 100 foot long extension cord for the much higher current pulled by the electric wood chipper's motor.

Moving on to our RC stuff, we have those receiver switches and servo extensions. And, we need to have very low resistance values associated with the conductors and connectors in those wires.

Lets do an example. Pick up three different three foot long servo extensions with #20, #22 and #26 wire.

A typical servo like the Hitec 645MG unit will pull peak currents of around 3.5 Amps at maximum load.

Those Electrical wire tables show that six feet (Both red and black wires) of #20 wire will have a resistance of 0.06 Ohms. #22 Gauge wire will have a resistance of 0.096 Ohms and the #26 wire used in those micro airplanes will have a resistance of 0.24 Ohms.

Using the $E=IR$ formula.

The #20 gauge wire carrying that 3.5 Amps will have a voltage drop of:

$E=IR$

$E=3.5 \text{ Amps Times } 0.06 \text{ Ohms}$

$E = 0.21 \text{ Volts}$ for the servo extension voltage drop.

Doing the same calculation shows #22 gauge wire will have 0.33 Volts drop.

And, the #26 wire will have 0.84 Volts drop.

So, the typical #20 or #22 gauge servo extension of a few feet in a 60 cc gasser won't make much difference in servo performance when it is powered by a two cell A123 pack.

Even a three foot #22 servo extension will still deliver around 6.3 Volts to the Servo when powered by that A123 receiver pack.

Now then, a number of the RRCC club members have purchased one of my SwitchIR meters that directly measures the resistance of those servo extensions and/or receiver switches.

Some of the RRCC members have found servo extensions in their inventory that measured over 1000 Milli-Ohms, or one Ohm. That one Ohm is several hundred times higher than the servo wire itself.

At the servo peak current of 3.5 Amps, that one Ohm resistance represents a 3.5 Volt drop, or one half the voltage of your A123 receiver battery pack. That can and will cause a crash.

So, what is wrong with a servo extension with resistance values of one Ohm or so? Those very high servo extension or switch wires are always the result of a lousy improperly done terminal crimp job on the servo wires. That is something that my SwitchIR meter readily will identify.

I've sold a number of those meters, both to RRCC club members, and to readers of the www.rcgroups.com web page. Their tests have resulted in a number of the users tossing out some of their old servo extensions.

For me, I will not use ANY servo extension, or receiver switch harness without first testing it with my SwitchIR meter. That includes servo extensions I've made myself.

Previously, I mentioned that just about everything involving electricity has some resistance. Well, in the past few decades, those brilliant guys have found

some wire conductors will have zero resistance when cooled down to less than 450 degrees F below zero.

A piece of superconductor wire of perhaps #24 gauge wire size can carry over 1000 amps!

They are called superconductors, something that is used in those MRI machines found in some of the hospitals around the USA.

The magnetic field on those MRI machines can suck in an oxygen tank from half way across the room. That can be fatal to anyone that happens to be undergoing testing inside the MRI machine.

So far, I've covered the terminology of a DC or Direct Current circuit, found in battery powered and similar equipment.

The terminology of an AC or Alternating Current circuit is much more complex,

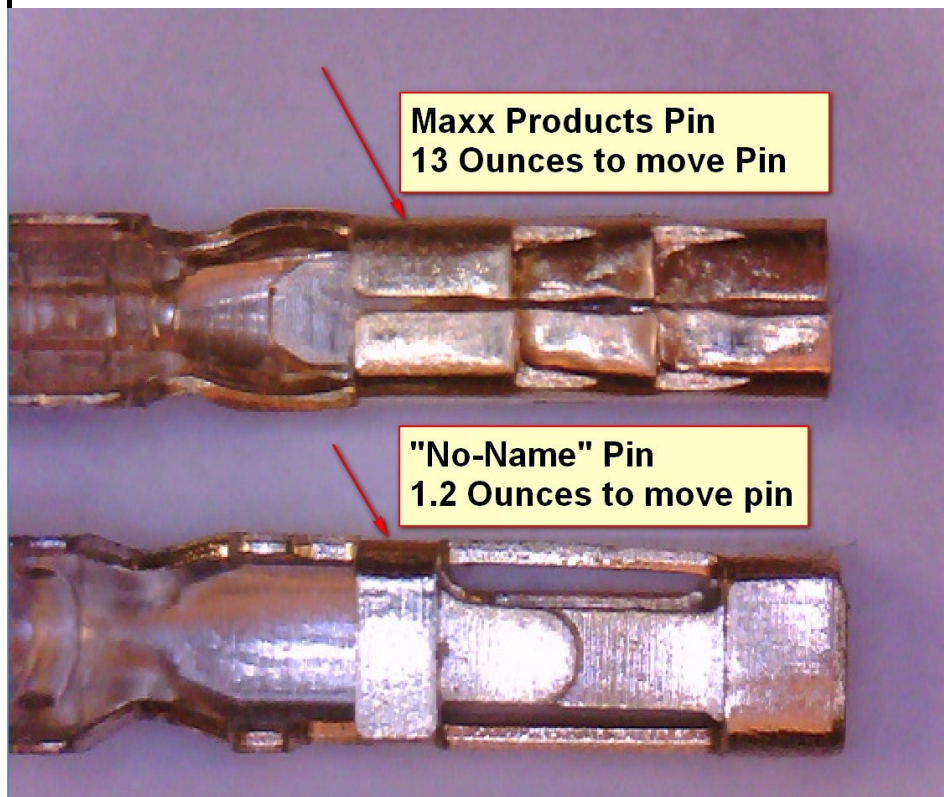
where the Voltage and Ampere levels don't always allow an easy calculation of the power level.

I'll cover that very briefly later on. But at this time, if you ever see an you tube advertisement selling some thing that plugs into an outlet, guaranteed to cut your electric bill in half, don't waste your money.

What they are selling is a simple 50 cent capacitor with a plug that has a price tag of \$50.00. AND, they do not and can not work. At all.

Next time, we will cover Energy, milliampere hours, Watts and similar items. Further down the line, I'll cover what those numbers mean in the various LiPo and A123 chargers we all use in our RC models.

The hardware used in the various suppliers of servo cables can vary from really cheap to quality materials.



The photo to the left shows the contact of the Maxx Products servo connector pin versus the much cheaper pins commonly used in many other servo connectors. It only took 1.2 ounces of force to move the male pin into the female pin as shown in the photo.

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	Time	Name(1)	Name(2)	Substitute	Date	Time	Name(1)	Name(2)	Substitute
04/06/22	12-2	(Hoss) Hossalla			08/10/22	12-2	Bob Johnson		
04/06/22	2-4	(Hoss) Hossalla			08/10/22	2-4	Bob Johnson		
04/06/22	4-6	Justin Francisco			08/10/22	4-6	Roman Kyrkowicz	Helmut Schmidtke	
04/13/22	12-2	Roger Nickolaus			08/17/22	12-2	Raymond Redlin Sr		
04/13/22	2-4	Roger Nickolaus			08/17/22	2-4	Jim Smith		
04/13/22	4-6	Justin Francisco			08/17/22	4-6	Wayne Greisen		
04/20/22	12-2	Roger Nickolaus			08/24/22	12-2	Terry Peterson		
04/20/22	2-4	(Hoss) Hossalla	John Boticki		08/24/22	2-4	Dennis Vollrath		
04/20/22	4-6	Justin Francisco			08/24/22	4-6	Wayne Greisen		
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		
05/18/22	2-4	William Bylsma	Dennis Krzyzanek		09/21/22	2-4	Buzz Paricka		
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		
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 Kyrkowicz	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 Kyrkowicz	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			11/30/22	12-2	Ronald Hayes		
07/27/22	2-4	Richard Stapleton			11/30/22	2-4	Ronald Hayes		
07/27/22	4-6	Richard Stapleton			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		