



PROP WASH

November 2017 / Issue 11

Last Meeting

Nov 16, 2017

Membership: 37
In Attendance: 12
Guests: 2

Topics

Raffle
LZRC Stickers
2018 Dues
Business Cards
Indoor Flying
Meeting with Carl
Neighbors
Upcoming R/C Events?

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Next Meeting

Thursday
Dec 14, 2017
7:00 PM

@Marc's

For this month's meeting, we returned to Marc's place to review club status and partake of some pizza and refreshments. We were pleasantly surprised to be joined by our friends & past club mates, Dan Gaston & Mike Sommers!

As promised, I gave a brief demonstration on electric power system measurement, and the effects of different battery packs and props. I really appreciate the feedback and participation I received. If you'd like to see more technical demonstrations, let me know. I'm sure we could come up with more interesting topics, and maybe more volunteers to share their experience. When the weather is bad, we may not be able to learn from flying, but this doesn't limit what we can learn from each other!

Attendees agreed to continue meeting at Marc's in the off season, since it's easy to conduct business and discussions. But, the offer of another off-site meeting remains, if the group decides they'd like to meet elsewhere once in a while.

Our **raffle tickets** are reportedly ready, but Jim Hawkins was not able to attend and provide them. We expect them to be on-hand at the next meeting. Marc kindly donated an ElectricFly YAK 55 3D ARF, which we raffled off during the meeting. Congrats to Norm on the win, and a fun little winter project!

Dan Martinez provided a stack of new **LZRC stickers**, in both black and white versions, which we will provide to members in 2018, instead of vehicle parking tags. They look very nice. Thank you, Dan!

2018 membership dues may be paid at any time, and some members submitted payment during the meeting. Our target deadline for current members is still March 2018, but earlier payment is helpful for planning, since our budget will remain tight for next year. Reminder: AMA memberships are expiring in December for many of our members. So, if you are not sure of your status, be sure to check on it soon.

Members still agreed not to set a roster size limit at this time, since there has been no sign of any issues. We will all monitor this as the club continues to grow.

If anyone would like some **LZRC business cards** to hand out to folks who may be interested in joining our club, or just wish to be included on our mailing list, let me know. I can print as many as we'd like. Again, the cards include our logo, field address, website address, AMA charter #, and contact info for me and Bill.

We had another discussion on **indoor flying** for this winter, but did not make much progress on possible locations. However, Perkins Family Gym (managed by Norwalk Rec Center) was determined to be too small. If you are interested in indoor flying, or have any candidates in mind, please let us know.

The officers had a pleasant **meeting with Carl Krueger**, the owner of our flying field, to ensure he has no concerns, and that we are meeting his expectations. He confirmed that he has received no complaints, and has no issues regarding our activities. We assured Carl that the club would present a small gift to our immediate neighbors. In addition to taking good care of the property, this is all Carl has asked of us for its use. Thanks again, Carl!

Though no further upgrades are planned for the **access lane**, it will ultimately be redirected around the left/west side of the big tree. If you've been to the field lately, you may have noticed the field was plowed closer to the tree recently. Other changes are expected with the lane, and we will try to keep you updated as they occur.

Carl was kind enough to offer a 15' finish mower attachment, if it would help us maintain the field. However, we do not currently have a tractor that could pull it. But it's something to keep in mind for next summer. He also said an entrance gate may be considered, if trespassers become a problem. Lastly, if we wish to have a soil sample tested to potentially improve grass growth, he said it only costs about \$10, and he may have a sampling tool we can borrow.

On the first weekend in December, Bill & I delivered greeting cards containing a gift card to six of our immediate **neighbors on Thompson Rd.** We were able to chat briefly with the four that were home, who were very friendly and appreciative. No complaints were made, but we provided a business card and encouraged them to contact us if they ever witness anything of concern.

The only **R/C activity** I'm aware of in December is Eagle Squadron's indoor gatherings (details below), so the Events page remains MIA for this month. If you know of any activities our members may be interested in, please let me know, and I will help to promote it.

Eagle Squadron's Indoor Flying (Sunday's from 6:00pm to 9:00pm)

December 3,10,31; January 7,14,21,28; February 4,11,18,25; March 4,11,18,25
Location: St. Joseph Convocation Center. 333 Thoman St. (SR 61), Crestline, OH
Small electric aircraft only; AMA required
\$10 /season (Eagle Squadron members); \$5 /day for non members

We decided to pull our next meeting ahead one week, to help avoid holiday conflicts. So...

Our **next club meeting** is planned for **Thursday, December 14** -- 7:00 PM at Marc's.

I hope to see you there!

Jeff Williams
Secretary, LZRC



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Tech Tip Electric Motor Specs



When choosing a brushless motor for your craft, there are a couple specs that are particularly crucial to recognize...
Size and KV.

Size is often stated as a 4-digit value that may appear in the model number. But unfortunately, there is no single standard followed by all manufacturers, which can make comparisons a little complicated. For some brands, this number pertains to the stator (coil windings) size, but for others it is the size of the outer motor case. Regardless, the first two digits refer to diameter, and the last digits are length. Yet another method used is the "glow equivalent" rating, comparing it to the size of a (internal combustion) glow motor. e.g., "15-size" is marketed to be comparable to a 0.15 cu. in. engine. Motor size correlates with overall power, but also weight. So, for best performance, these factors must be balanced, depending on your objective.

In practice, KV (RPM per Volt) is how fast the motor tries to rotate for each volt supplied. With no load (no prop installed), the KV achieved should be close. However, different props present different loads, so the actual RPM (with prop) can vary greatly. This is crucial for matching your motor to a battery and prop size. Lower KV typically yields less speed, but more torque. This affects prop selection, since larger props tend to require more power/torque to turn. So, lower KV motors are generally associated with larger props & aircraft, and sometimes slow fliers & 3D craft, designed to move large volumes of air over the control surfaces, using a relatively large prop.

When a larger battery pack (higher voltage) is used, the motor will try to turn faster in accordance with its KV.

Since more power is required to turn a prop faster, a motor must work harder to turn the prop at the higher speed. This generates more amperage/wattage, which results in higher temperatures for the electrical components (motor & ESC). So, to maintain reasonable efficiencies, it's common to install a smaller prop if increasing pack voltage.

Though brushless motors provide a relatively wide operating envelope in terms of prop selection, their efficiency & effectiveness are greatly influenced by their size & KV. Employing a battery or prop that exceeds the motor's design intent may only result in inefficiencies that limit performance and/or flight duration... or it may lead to catastrophic failure (or shutdown) of systems due to overheating or over-stress.

Classifieds

Great winter project!
Hyperion Enigma 3D (ARF)



New in Box!

Pre-covered balsa + light ply
37.8" wingspan, 21 oz. flying weight, Carbon fiber landing gear, Thrust vectoring motor mount (included option)

Recommended hardware: (4) 9-12g servos, 2218 motor (1000-1200KV), 25A ESC, 10x4.7 prop, 3S battery (1000-1800 mAh)

I've assembled one of these ARFs without issues.
The quality was excellent.

\$50

(For \$20, I will include a new motor that is a perfect fit)

Hyperion Enigma 3D "Night Flyer" (BnF)

I'm also selling the Enigma I built, which includes:
LemonRx DSMX receiver/stabilizer, HiTec servos,
Hyperion 2218 motor & 30A ESC.

It is also thoroughly illuminated, ready to bind & fly.
(I'll take \$20 off if you don't want the included Rx)

Looks & flies great!

\$125

For just \$25 more (\$150), I will throw in the ARF kit listed above, for a complete spare airframe!



Contact: Jeff (JeffreyWilliams@aol.com)