It's Time For Some

Propwash

Since 1978, the voice of the Imperial R/C Club

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JULY 2018

The IRCC President's Points

By Jerry McGhee – President

First off, I would like to congratulate IRCC member Ryan Roberts and his wife Jihan on the birth of their son Caleb who was born on July 1, 2018! If you happen to see Ryan at the field give him a hearty pat on the back! On behalf of the IRCC we wish you all much health and happiness and RC flying with young Caleb!

I created a new award last month called the "Lucky Duck" award. Richard Glazer was the inaugural recipient! His plane flew away, and it was brought back by good people and the plane was intact! If you happen to witness a "Lucky Duck" worthy moment let me know! I know Richard was very happy to see his plane back in one piece! Congratulations Richard!

National Model Aviation Day/IRCC Tri-Fecta Fun Fly/IRCC Family Day is Saturday August 11, 2018. We will kick the day off with a brief IRCC monthly meeting followed by kicking off the celebration of National Model Aviation Day and starting the Fun Fly. We welcome all IRCC members and their family and guests to come out and have a great day celebrating Model Aviation with the rest of America! David Raff will be spear heading the food part and Chris Trumble is our chief judge for the fun fly! Weather permitting it should be a fantastic day!

A question came up at the last club meeting regarding flying while mowing operations are underway. Per rule #15 of the IRCC, when a member is mowing the field, they have the authority to shut down flying operations. If you see some of our facility care-takers give them a big thank you as the field looks great! It has been raining a lot and they have been keeping up with the increased growth rate of the grass during this time. Every weekend I show up to the field it looks great and is ready to receive the bulk of the members who come to fly. Great job fellas!

After feedback from the members of the IRCC and discussion with the Executive Committee, I have decided to table the main runway paving project until March 2019. During this time, I will work with the Executive Committee to develop a "runway maintenance fund" utilizing revenue from our two upcoming events "Golden Age/Warbird Fly-in" this October and the "Florida eJet Fest International" in February 2019.

Lastly, I had an unfortunate flight failure with my gray F-4 Phantom on Sunday July 22. I expertly shut the engine down and managed to pancake the airplane near the bank, squarely in the pond scum in the Dillon alligator pond on the other side of the fence. The rescue operation involved the IRCC boat and I am very thankful to the members who jumped in to assist with the rescue! Larry McNeil volunteered his truck, Bill Pawl and Mark Rohlmeier were the "rescue swimmers" in the boat who took command of the boat and fearlessly went into the pond to get my jet. Surprisingly, none of the electronics got wet! So I've got that going for me! Thank you, Larry, Bill and Mark, for making the retrieval a seamless event and a bit of an adventure.

Get out to the field, be a friend, keep your wings level with the horizon and hit whatever you're going to hit as gently as you can! See you at the field!

Sincerely,
Jerry McGhee
President, IRCC

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IRCC MEETING MINUTES

Saturday July 7th, 2018

Recorded by Ian Clark – Secretary

The July monthly meeting of the Imperial R/C Club was brought to order at 9:00 am by President Jerry McGhee

Visitors and New Members: We would like to welcome new member Dave Mineo. There were no guests present.

Awards and Certificates: The Sportsmanship certificate for the month of June was given to Bill Pawl. The model of the Month certificate went to Jeff Hughes.

A new award called the Lucky Duck award was given to Richard Glazer after his model went down on the water ski property, northeast of our field. It was returned to him from personnel at the Ski School and he received it undamaged.

Minutes: A motion was made and passed to accept the minutes for the June 2018 meeting as posted in the club newsletter, Propwash.

Treasurers Report: Dan Hudson reported that we have a positive balance in the checkbook and any member is welcome to look at it.

Membership Report: Our membership is up to 93 full memberships and 14 juniors for a total of 107.

Field Maintenance Report: After mowing this week, Bill Pawl realized we need another set of blades for our tractor, and we need three sets for the zero-turn mower. A motion was made and passed to purchase the required blades.

Safety Report: When a member is mowing the field, they have the authority to shut down flying. This is per IRCC Rule #15.

Spectators and pilots need to stand at least 25 feet back from the main runway when anyone is flying.

It is also recommended that we don't stand in line with a running propeller. It is best to get behind the model.

All of the defective fire extinguishers have been replaced.

Instructors Report: Jeff Hughes reports that we finally have the new trainer and he has done over 39 training flights. With this new trainer, he was able to solo a pilot.

Newsletter & Website: Dave Raff reported that he is getting good content from members and asks that we continue sending him articles.

Bob Grahl discovered that the club website was down for a few days. It's back up now.

Old Business: Bill Pawl got three quotes for repairing the runway. They were presented to the club and now the Executive Committee will discuss it in detail, come up with a recommendation then post it in the club newsletter for a vote.

Our end of year banquet is still set for December 1, 2018 at the Imperial Swan Hotel. Please e-mail Richard Moffatt at righteousrichard@aol.com let him know how many will be in your party.

The AMA is still trying to wrap up the accident investigation at Florida Jets a couple of years ago. They are looking for any witnesses and pictures we might have of the incident.

Sailplane flying is being addressed. Steve Jaworski said they are ok with setting up their launching area near the North end of our field. Our mowing crew said they will accommodate them by keeping the field mowed in that area.

New Business: Futaba has left Tower Hobbies and is now a stand-alone business. They expect to be fully operational by July 19, 2018.

Future Events: Because of the family fun day and National Model Aviation day on August 11, 2018, it was decided to move our August meeting to the same day at 8:00am.

Dave Raff has a sign-up sheet for all attending. The club will provide chicken purchased from Publix and supply drinks. Members are encouraged to bring a covered dish.

IRCC MEETING MINUTES (Continued)

David DeWitt is the CD for the October Golden Age/Warbird Fly-in. Flyer to be published soon.

Jerry McGhee is the CD for our Electric Ducted Fan event next February.

Sportsmanship Award: Because of the excellent work with the club newsletter, Dave Raff was given the award for the month of July.

Plane of the Month: Moe Grandmaison brought in an airplane that he built from a PT-19 kit. He modified it and calls it a PT-18. It uses a .56 four stroke engine for power. Dan Hudson showed his 1/3 scale Cub built by Mason Benfield. It is powered by a DA 60cc gas engine. After much discussion the award went to Moe.

S.A.D. Patch: This month's nominees were: Gary Snyder for the loss of his Goshawk, Richard Moffatt for hitting the trees on the East side of the field, Art Duffy losing his F14 Tomcat & Mark Rohimeier for a botched take-off with an FMS A-10 EDF. Again, after careful consideration, Mark was awarded the patch.

50/50: This month Bill Pawl raised $145.00. Wayne Pontius was the winner and took home $77.50.

Special Note: We still had a few items from the Late Don LaPointe. They were auctioned off after the meeting.

The club would like to thank Mike Vascellaro for donating a Real Flight simulator that could be used when we visit schools.

A motion was made and passed to close the July meeting.

AWARDS & CERTIFICATES

Sportsmanship Award recipient for the month of June – Bill Pawl.

Plane Of The Month Award recipient for the month of June – Jeff Hughes.

S.A.D Award recipient for the month of June Mark Rohlmeier.

IRCC July 2018 Award Winner

MARK ROHLMEIER

As nominated by

A Raucous IRCC Member Audience

The July 2018 Society of Aircraft Demolishers "Aircraftus Fragmentum" was called to order by the President of the IRCC and the nominations began to spew like a river of lava as pilot turned on pilot in an epic and notable nomination free-for-all! A record four nominations were deliberated by the IRCC members.

1st Nominee was Gary Snyder's training sortie crash with his T-45; 2nd nominee Richard Moffatt's Arbor Day Massacre when he hit a tree; 3rd nominee Art Duffy's F-14 electronic jam out crash with garbage bagger clean-up in wild boar country on the NE side of the field. But of all the nominees, it is our 4th nominee, Mark "Trench" Rohlmeier's A-10 crash was the overall winner. As requested by the membership who were present and the rules of the SAD patch committee, the President of the IRCC himself proceeded to tell Mr. Rohlmeier's A-10 demolition as he gave his own account of the doomed plane!

Not since Maverick flew through Ice Man's jet wash killing Goose as there been a more controversial imaginary fighter pilot mishap than that of the tale I am about to tell you! It was a very hot day, "Trench" (a.k.a Mark Rohlmeier if you're skim reading) asked the IRCC Prez to ride shotgun in the pilot station so he could familiarize himself with landing approaches on the IRCC runway…easy day…so we all thought! Trench pushed the throttle forward and his twin 70mm FMS A-10 rolled down the runway. Winds were out of the east at 2mph, temperature was horrendous hot or 85 degrees with 200% humidity. Skies, absolutely clear.

It is said in all pilot communities, full-size, R/C and Imaginary Fighter Pilot worlds that the biggest waste of space is runway behind you and sky above you; nothing holds more true than what I'm about to tell you! Now…where were we in this story?…ah yes!...A-10 rolling down the runway to the east; as the jet picked up speed it began to drift to the left a little and as the speed increased the drift increased until the A-10 drifted off the runway (still on the ground and hit the grass at the edge of the runway) it was then that things went to "shouldn't be a problem" to "Holy Cow Looky There!"

When the A-10 hit the grass, the pilot hatch unexplainably ejected from the aircraft…on its own! With this sudden shift in the center of gravity the aircraft pitched up and began a steep 5 foot climb; it then abruptly pitched down in the immediate stall and aft CG condition and the gun of the A-10 then plowed into the field and dug a massive trench (thus the new call sign for Mark 😊) and the aircraft unexplainably pitched up again (probably from Mark) with all of the dirt from the new trench flowing over the forward fuselage and the wings of the aircraft only to be ingested into the twin ducted fans spinning at full throttle in what was a very cool image of the A-10 in a rapid vertical climb out with dirt spewing through the engines like a Space Shuttle lift-off from the Cape. But wait! There's more! The CG coupled with the lack of proper V speed caused the little headless jet to again stall with lots of forward kinetic energy (speed) and as the wingtip fell and touched the ground the aircraft responded with an epic record setting six to seven cartwheels across the field that would have made famed Romanian-American Olympic Gymnast Coach Béla Károlyi very proud! With each tumble of the jet parts dislodged and flung wildly from the centrifugal forces and punishing impacts with the Earth which created an awesome display carnage until finally the jet stuck the landing!

It is with great honor and pride that we offer this month's SAD patch to Mr. Mark "Trench" Rohlmeier as it is the seventh noted crash of the 2018 flying season at the IRCC; an award that we are all subject to earning at any given time in consolation for our stricken aircraft that we fearlessly launch into the skies in a constant pursuit of our Constitutional right to find happiness.

Thank you Mark for this offering! Until next month…

Sun City Center Writer's Club Friday, July 13, 2018

There is a difference between man and woman

This is a transcript of the individual diaries of a married couple on the same day.

Wife: Dear Diary,

Tonight, my husband was acting weird. We had made plans to meet at a nice restaurant after he got off from work. We were seated without him saying hardly a word. He stared at the menu with a blank look on his face before finally making a selection. I placed my order and went to the powder room. When I returned, he was just staring at his drink. I determined that since I had spent the day shopping with some friends, and was a few minutes late, he was peeved with me. However, he didn't mention it. As we ate, conversation wasn't flowing, so I suggested that we go somewhere quiet where we could talk. Sitting on a bench in the nearby park, he again had little to say, just staring at a few pigeons and squirrels nearby. I asked him what was wrong? He said "Nothing". I asked him if it was my fault that he was upset? He said, "I am not upset! This has nothing to do with you. Don't worry about it!"

On the way home, I told him I loved him. He smiled slightly and kept driving. I don't know why he didn't say "I love you too". When we got home, I thought I had lost him completely, as if he wanted nothing to do with me. He just sat there quietly and watched TV for a while before saying, "I'm going to shower and go to bed." He picked up his diary and retired to the study.

A short while later, I put on my nighties and went to bed with him, playing a little footsies. He just grunted and turned on his side, completely ignoring me. A short moment and he was sound asleep. I cried for a while, feeling my life is over. I got up and wrote in my diary. I don't know what to do! My life is a disaster!"

Husband's diary: "Big-Stik won't start! Don't know why!"

Submitted by George Nauck

IRCC TRI-FECTA FUN FLY

The events for this Club Fun-Fly are meant to be non-plane breaking events that any aircraft can do that will test your skill and your luck. Have fun, stay safe, keep your wings level and hit whatever you're going to hit as gently as you can. This Fun Fly will take place on Saturday August 11, 2018 at the IRCC on National Model Aviation Day.

TROPHIES and RIBBONS

Three events 1st, 2nd, 3rd place for each event with a ribbon for each place.
1st, 2nd, 3rd place trophies for overall combined scores to the top three finishers.

THE EVENTS

Event 1: Fly for 2 minutes
Event 2: Precision Landing
Event 3: Dice Takeoff & Loops

MAXIMUM POINTS PER EVENT:

EVENT 1: 100
EVENT 2: 120
EVENT 3: 100
TOTAL MAXIMUM NUMBER OF POINTS COMBINED: 320 Points

THE UNBENDABLE RULES FOR ALL EVENTS

1. Qualifications: Must be an IRCC member, must use the same plane for each event.
2. Scoring: In order for a score to be tallied at least one wheel needs to land on the runway prior to contacting the ground.
3. Any crash in any event will result in a score of Zero for that event. Contestant will finish with the points they have earned prior to the crash.

INDIVIDUAL EVENT RULES:

EVENT 1: FLY FOR TWO MINUTES

Time begins when the aircraft wheels leave the ground. Pilot commences to fly his/her aircraft for two minutes without the aid of any timer or encouragement from the crowd and/or by-standers. Detection of transmitter timers will result in a zero score. Time ends when the aircraft lands on the paved runway. Closest to the 2-minute time mark + or – (under or over the 2 minutes) will be ranked. Scoring is as follows:

1st – 100 points
2nd – 75 points
3rd – 50 points
4th and below – 25 points

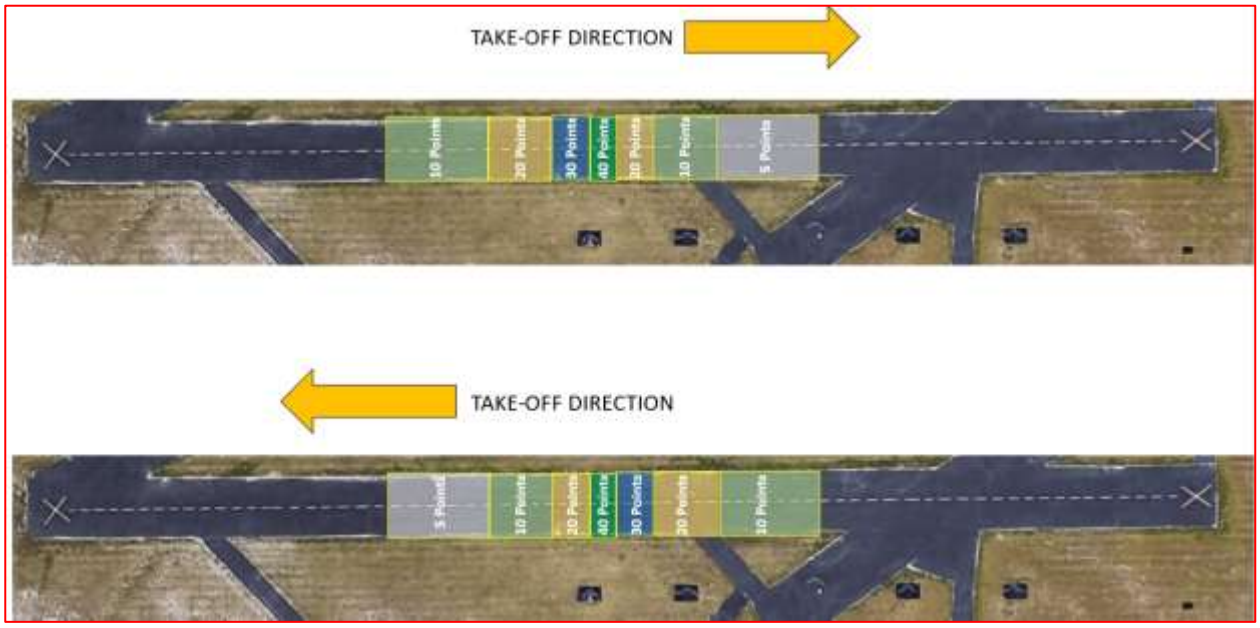
EVENT 2: PRECISION LANDING

Pilots will take off and make three touch and go landings with each landing being scored on the zone the wheel(s) touch into. IRCC Runway is 585 feet long. The scoring portion for this event will be 152 feet of scoring zones on the runway divided in 7 zones of 32' 24' 16' 8' 16' 24' 32'. The scoring can be determined so it matches with the other activities. In case of wind direction change, the direction of the take-off will determine the score sequence.

i.e. left to right take off. The score will be 10/20/30/40/20/10/5

One wheel of the main landing gear has to contact the scoring section of the runway and aircraft must maintain control after landing and remain in an airworthy condition.

There will be 3 scored attempts, the pilot will have to call the landing prior entering base leg. If pilot fails to land the score will be O and one attempt will be used. Any go around without touching the runway will result in a zero score.



EVENT 3: DICE TAKEOFF & LOOPS

Roll the dice, takeoff and do that number of loops and land. The shortest time wins. Time begins when aircraft becomes airborne, corresponding number of loops with dice roll is performed and time ends when aircraft lands on the paved runway.

Scoring is as follows:
1st – 100 points
2nd – 75 points
3rd – 50 points
4th and below – 25 points

During the May meeting, there was a brief discussion concerning LIPO batteries and their safety. With more and more people getting into electrics, the proper care and use of these high voltage batteries is something we all need to be aware of. The following is an article from ***Roger's Hobby Center***!

Introduction

Lithium Polymer batteries (henceforth referred to as "LiPo" batteries), are a newer type of battery now used in many consumer electronics devices. They have been gaining in popularity in the radio control industry over the last few years and are now the most popular choice for anyone looking for long run times and high power.

LiPo batteries offer a wide array of benefits. But each user must decide if the benefits outweigh the drawbacks. For more and more people, they do. In my personal opinion, there is nothing to fear from LiPo batteries, so long as you follow the rules and treat the batteries with the respect they deserve.

This guide was written after many hours of research. It is as accurate as I can make it without actually being a chemical engineer (though, in researching this article, I did talk to a few of them). That said, this guide isn't intended to be taken as definitive. It is a living document, and as common knowledge regarding LiPo batteries changes, so too will this guide.

Let's first talk about the differences between LiPo batteries and their Nickel-Cadmium and Nickel-Metal Hydride counterparts.

LiPo Batteries Vs. NiMH Batteries

Pros

Much lighter weight, and can be made in almost any size or shape.
Much higher capacities, allowing them to hold much more power.
Much higher discharge rates, meaning they pack more punch.

Cons

Much shorter lifespan; LiPos average only 150–250 cycles.
The sensitive chemistry can lead to fire if the battery gets punctured.
Need special care for charging, discharging and storage.

Pros

Longer lifespan than LiPos, usually into the 1,000 cycles range
Much less sensitive, and doesn't usually pose a fire risk
Simpler chargers and routines required for use.

Cons

Much heavier and limited on size.
Lower average capacity, and less efficient overall.
Lower discharge rates; they lack tremendous punch.

What Do All the Numbers Mean?

The way we define any battery is through a ratings system. This allows us to compare the properties of a battery and help us determine which battery pack is suitable for the need at hand. There are three main ratings that you need to be aware of on a LiPo battery.

Cell Count / Voltage * Capacity * Discharge (C) Rating

Voltage / Cell Count

A LiPo cell has a nominal voltage of 3.7V. For the 7.4V battery above, that means that there are two cells in series (which means the voltage gets added together). This is sometimes why you will hear people talk about a "2S" battery pack - it means that there are **2** cells in **S**eries. So, a two-cell (2S) pack is 7.4V, a three-cell (3S) pack is 11.1V, and so on.

About Nominal Voltages

I thought (mistakenly) that this was common knowledge, but after a handful of emails on the topic, it was clear I needed to clarify what nominal voltage is.

Nominal voltage is the default, resting voltage of a battery pack. This is how the battery industry has decided to discuss and compare batteries. It is not, however, the full charge voltage of the cell. LiPo batteries are fully charged when they reach 4.2v/cell, and their minimum safe charge, as we will discuss in detail later, is 3.0v/cell. 3.7v is pretty much in the middle, and *that* is the nominal charge of the cell.

In the early days of LiPo batteries, you might have seen a battery pack described as "2S2P". This meant that there were actually four cells in the battery; two cells wired in series, and two more wired into the first two batteries in parallel (parallel meaning the capacities get added together). This terminology is not used much nowadays; modern technology allows us to have the individual cells hold much more energy than they could only a few years ago. Even so, it can be handy to know the older terms, just in case you run into something with a few years on it.

The voltage of a battery pack is essentially going to determine how fast your vehicle is going to go. Voltage directly influences the RPM of the electric motor (brushless motors are rated by kV, which means 'RPM per Volt'). So, if you have a brushless motor with a rating of 3,500kV, that motor will spin 3,500 RPM for every volt you apply to it. On a 2S LiPo battery, that motor will spin around 25,900 RPM. On a 3S, it will spin a whopping 38,850 RPM. So, the more voltage you have, the faster you're going to go.

Capacity

The capacity of a battery is basically a measure of how much power the battery can hold. Think of it as the size of your fuel tank. The unit of measure here is milliamp hours (mAh). This is saying how much drain can be put on the battery to discharge it in one hour. Since we usually discuss the drain of a motor system in amps (A), here is the conversion:

1000mAh = 1 Amp Hour (1Ah)

I said that the capacity of the battery is like the fuel tank - which means the capacity determines how long you can run before you have to recharge. The higher the number, the longer the run time. Airplanes and helicopters don't really have a standard capacity, because they come in many different sizes, but for R/C cars and trucks, the average is 5000mAh - that is our most popular battery here in the store. But there are companies that make batteries with larger capacities. Traxxas even has one that is over 12000mAh! That's huge, but there is a downside to large capacities as well. The bigger the capacity, the bigger the physical size and weight of the battery. Another consideration is heat buildup in the motor and speed control over such a long run. Unless periodically checked, you can easily burn up a motor if it isn't given enough time to cool down, and most people don't stop during a run to check their motor temps. Keep that in mind when picking up a battery with a large capacity.

Q: Why do we use voltage, and not capacity, to determine how charged a battery is?

A: The reason we use voltage, and not capacity to determine how charged a battery is stems from our *difficulty* in measuring capacity. Voltage is simple to measure — if you've ever used a voltmeter to measure a AA battery, you understand how trivial it is to measure voltage.

Capacity, however, is nearly impossible to measure accurately. We can measure how much energy is going into a battery (at least somewhat accurately), but we can't measure how much is actually *in* the battery.

Think of it like beakers of water. For voltage, the beaker is transparent, and we can easily see the amount of water in the beaker in the same way we can measure voltage whenever we like. On the other hand, we have the beaker representing capacity, and it's opaque — we can't see through it, and so the only way to know how much is inside is to empty it and measure the water (energy) as it's leaving the beaker (battery).

Because amperage and voltage are intertwined, as we will discuss later in detail, the voltage of a battery does correlate, approximately, to the capacity left in the battery, and while there are times when the voltage can deceive you, in general, it's okay to rely on voltage as our primary measure of how full a battery is.

Discharge Rating ("C" Rating)

Voltage and Capacity had a direct impact on certain aspects of the vehicle, whether it's speed or run time. This makes them easy to understand. The Discharge Rating (I'll be referring to it as the C Rating from now on) is a bit harder to understand, and this has led to it being the most over-hyped and misunderstood aspects of LiPo batteries.

The C Rating is simply a measure of how fast the battery can be discharged safely and without harming the battery. One of the things that makes it complicated is that it's not a stand-alone number; it requires you to also know the capacity of the battery to ultimately figure out the safe amp draw (the "C" in C Rating actually stands for Capacity). Once you know the capacity, it's pretty much a plug-and-play math problem. Using the above battery, here's the way you find out the maximum safe continuous amp draw:

50C = 50 x Capacity (in Amps)
Calculating the C-Rating of our example battery: 50 x 5 = 250A

The resulting number is the maximum sustained load you can safely put on the battery. Going higher than that will result in, at best, the degradation of the battery at a faster than normal pace. At worst, it could burst into flames. So, our example battery can handle a maximum continuous load of 250A.

Most batteries today have two C Ratings: a Continuous Rating (which we've been discussing), and a Burst Rating. The Burst rating works the same way, except it is only applicable in 10-second bursts, not continuously. For example, the Burst Rating would come into play when accelerating a vehicle, but not when at a steady speed on a straight-away. The Burst Rating is almost always higher than the Continuous Rating. Batteries are usually compared using the Continuous Rating, not the Burst Rating.

There is a lot of vitriolic comments on the Internet about what C Rating is best. Is it best to get the highest you can? Or should you get a C Rating that's just enough to cover your need? There isn't a simple answer. All I can give you is my take on the issue. When I set up a customer with a LiPo battery, I first find out what the maximum current his or her application will draw. Let's look at how that works.

Let's assume that our example customer is purchasing a Slash VXL R/C truck. That motor, according to Traxxas, has a maximum continuous current draw of 65A and a burst draw of 100A. Knowing that, I can safely say that a **2S 5000mAh 20C LiPo** will be sufficient, and will in fact have more power than we need. Remember, it has a maximum safe continuous discharge rating of 100A, more than enough to handle the 65A the Velineon motor will draw. Similarly, the Burst Rate of 150A easily covers the 100A the motor could draw.

However, the ratings on the motor aren't the whole picture. The way the truck is geared, the terrain the truck is driving on, the size of the tires, the weight of the truck... all of these things have an impact on the final draw on the battery. It's very possible that the final draw on the battery is higher than the maximum motor draw. So having that little bit of overhead is crucial, because you can't easily figure out a hard number that the truck will never go over.

For most applications, a 20C or 25C battery should be fine. But if you're driving a heavy truck, or you're geared up for racing, or you have a large motor for 3D flying applications, you should probably start around a 40C battery pack. But since there is no easy way to figure this out, I encourage you to talk to your local hobby shop to have them help determine which battery pack is right for your application.

That should be enough for now. Look for this article to continue next month!

Announcement and Coming Events

SATURDAY, SEPTEMBER 8TH

STARTING AT 9:00AM

GRAVES RC
Orlando, Florida

9TH ANNUAL SWAP MEET

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