



2018 - Volume III

In The Box

The Official Newsletter of The International Miniature Aerobatic Club



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John Schroder Scale Aerobatics National Championships

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Much, Much, More!

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Letter from the Editor

Rich Whitlow

Well, we have made it to the third issue and we are still here! I hope everyone has been enjoying the newsletter.

On top of our regular contests, we have had a very special Nat's. The "2018 John Schroder Aerobatic Championships". This was not only a great contest, but a great tribute to a dear friend of us all. Read all about it later in the issue.

We also have preparations going for the 2018 IMAC World Championships. This is going to be a grand affair! We will have an opportunity to visit with our friends from all over the world. This is a unique opportunity for us to get together, compete, see old friends and make a lot of new friends.

Don't forget the Letters to the Editor. Voice your opinion, tell us a story of something that has happened during the season, tell us about your plane, radio, other equipment, something you like, something you dislike... this is your platform for thoughtful, opinion-based writing. So, here is the plan. We have this issue and we will have one more issue this year after the Worlds. Send me your write-ups on events and Letters to the Editor. Let's finish off the year with the BANG!

As a last message, don't forget why we love IMAC. Appreciate the people and the organization. There are so many people behind the scenes that put in so much effort to make sure that this great organization continues to function and we have a chance to enjoy the competitions.

We aren't guaranteed tomorrow, so please enjoy today!

Rich Whitlow
Newsletter Editor
imacinthebox@gmail.com





Letter From The President

Mike Karnes

Elections are Coming

Hard to believe it's been two years. September is just around the corner and it will be time to start thinking about the 2019-20 election of officers. Every position on the board is open for nominations. That includes the 4 executive positions, and the 7 regional positions. If you think you have what it takes. Step up and be nominated. Enter the running to be on the board of directors. Recently some have spoken up that they know a better way. Talk to your friend and nominate each other.

You can look for my posts in the "members only" section of the mini-iac.org website. Starting in September Nominations will open around the middle of the month. Keep coming back.



R/C Scale Aerobatic Pilots invade Muncie, IN
By the time this newsletter is out most of us will have traveled to Muncie to put on the IMAC WORLD CHAMPIONSHIP. All I can tell you is WOW do we have a lot planned to tickle the taste buds.

Be sure to hunt down Leasha Bull our roving Social Media Director. I am sure if she talks to you she may have something FREE for participating. Just follow NO STALKING ALLOWED.

Friday and Saturday the 21 Freestyle Guys from around the World are going to close the day with showing off their flying abilities to some strange and different music selections (LOUD MUSIC)

For those that purchase Banquet Tickets, Special Door Prizes will be available for those feeling lucky.



Notes from the Officers



**Vice-President
Gil Major**



**Secretary
Samantha McKinney**

What a whirlwind summer it has been! My son started back to school. We have just about a month before the North Central region season will be wrapping up. I am never ready for the season to end, but we always meet up with everyone throughout the winter.

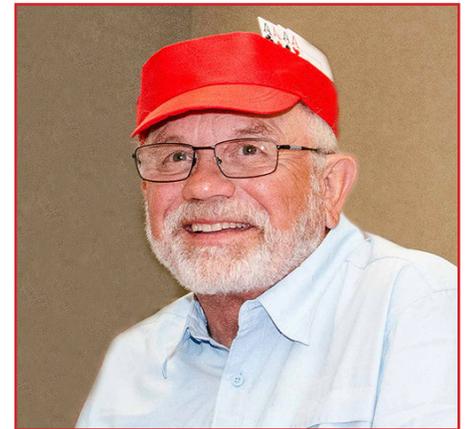
The 2018 John Schroder Scale Aerobatics Nationals wrapped up at the end of June. What an amazing commendation to John and Tina Schroder, a leading light in the IMAC Community! We had a few rain delays and low ceilings, but we ended the week with 14 known and 3 unknown rounds. The score team survived on brownies and chocolate! I scored my tightest contest ever with the first and second place in advanced being 0.1 point difference between them! Great flying Mitch and Conner!

The event staff is finishing up the details for the 2018 IMAC World Championship. The community of Muncie has been amazing in showing their support the IMAC Worlds. Pilots, be sure and keep up with your team managers and the IMAC Worlds website (www.imacworlds.com) for updates and the schedule of events. Don't forget the Meet & Greet on Monday, September 3 at the Courtyard Muncie from 5:00-7:00 p.m. Come meet the event staff, pilots and their families, mechanics, and helpers!

I would like to thank everyone who has submitted their concerns and ideas to the RDs and BOD members. All of this DOES NOT go unnoticed. We are currently looking into these ideas and concerns to see how to implement

in our 6 regions domestically and internationally.

For the rest of the 2018 season, I pray for good health, safe travels, and great flying!



**Treasurer
Phil Vance**



Painting A Spinner

Cam Shahrदार

If you have an aluminum spinner and would like to paint it, I always wondered how can it be done and make the paint stick to the aluminum reliably?

SO after doing research, I discovered this primer. It is called SEM self-etching primer.

This is what I did:

First, you need to sand down the spinner and scuff it up. I used 120 grit.



Once it was fully cured, after 48 hours, then I sanded the primer down with 220, very lightly, to scuff it up, then I applied my epoxy black gloss paint.



After this, I then cleaned it thoroughly to remove all debris and let it dry.

Then, I applied three coats of the

Waiting 5 minutes between coats, then waited 48 hours:

What I have discovered is that this primer really sticks well to the aluminum. I am confident it will not bubble up or peel off.

Entering The Box

(A Column for Pilots New to IMAC)

Greg Hladky

Pursuing Excellence

Part I: Why I Fly IMAC

As a Navy Flight Officer in training in the 1980s, I sat in the back seat of an A-4 Skyhawk (TA-4J to be precise) while the pilot flew through combat maneuvers. Experiencing the g-forces that occur when pulling out of a dive or turning rapidly at high speed made me appreciate what aerobatic pilots experience when they compete in the International Aerobatic Club (IAC). Flying with precision through these difficult maneuvers while experiencing high g-forces takes tremendous skill and physical strength. Watch the 2010 Unlimited World Champion Renaud Ecalle fly his Free Program, with a 9g push from inverted at the beginning of the sequence, and you can begin to appreciate the art of scale aerobatics.

IMAC, the International Miniature Aerobatic Club, is inspired by and modeled after the IAC. The word “miniature” is a bit of a misnomer. Indoor micro scale RC planes are closer to what I think of when I see that word. The typical IMAC plane is a giant scale model of the full-scale planes flown in the IAC, and they are often 35-42% in size. My Extra 330SC is small at 30% scale, but it's precise enough to be competitive, even on a windy day. (More importantly, it's small enough to fit into my Chevy Volt.)

I was drawn into the world of scale aerobatics when a fellow AMA club member invited me to fly at an IMAC contest in 2016. I had recently built a 55” Great Planes electric Extra 300SP. I was flying it as a typical sport pilot, doing a loop here and a roll there. My flights were unplanned and spontaneous. That was fun, but I wasn't learning new skills, or improving on the ones I had. I had no goal for my flights and lacked the confidence to push beyond my comfort zone.

That changed dramatically with only one week to prepare for my first RC (IMAC) contest.

I flew more in that week than I did in a typical year. Even though I already knew basic maneuvers, such as a loop, roll, hammerhead or spin, I had to learn how to fly them in one continuous sequence. There were a couple new figures to learn as well, such as the Teardrop and Humpty Bump. In Basic, the entry level class in IMAC, the figures and roll elements are not difficult by themselves. The challenge is to fly them with precision, and to connect them smoothly into a sequence that remains parallel to the runway, regardless of the wind.

So, enough about what IMAC is and how I got into it. The topic here is why fly IMAC?

The attraction - almost an obsession for me - is the pursuit of excellence in the art of aerobatics, and the payback in new skills and confidence. We all know that anything worthwhile takes effort. It is relatively easy to be a “jack of all trades” by applying a little effort. Without much effort though, we remain “master of none.” To really master something takes a commitment. It takes great effort. In the case of scale aerobatics, it takes practice and attention to detail. The contests that IMAC organizes provide the incentive to make that effort. It pushes me to try a little harder than I would on my own.

Whether the wind is dead calm or blowing twenty miles per hour, or the temperature is down in the 40s or up in the 90s, I head to the field to fly. The more exposure to various weather conditions, the better prepared I will be at a contest, when the weather inevitably will be less than ideal. I practice my sequence hundreds of times until my fingers know the maneuvers almost on their own. Then I

tackle new sequences I have never flown before. These are called Unknowns. They are introduced in the Sportsman class and are different at every contest. Handed out the night before they are flown, the Unknown sequence presents a unique challenge. There is no opportunity, nor are you allowed, to practice the Unknown ahead of time. There may be figures in the Unknown that I have never flown before, or a new sequence of figures, or figures with a new combination of roll or snap elements. This is the challenge that pushes me as an IMAC pilot to go beyond my routine, to go outside of my comfort zone, and build new skills. It is a bit frightening that first time, but it is a great incentive to advance upward. It's what keeps scale aerobatics new and interesting.

The confidence that comes with learning a new skill is invaluable. Before I got into competition, when I flew only occasionally, I would feel a sense of foreboding, or fear, every time I headed to the field. I couldn't shake the fear that I might lose my plane that day. My thumbs would shake when I flew, especially if I had to fly with guys watching behind me, waiting to see if I would slip up and put my plane in the ground. As much as I loved to fly it always bothered me that I could not get over that fear. The idea of getting into competition seemed unthinkable.

Flash forward to a recent practice session. It was a hot but beautiful Saturday in July at my home field. No one wanted to bother with the heat, so I had the field to myself. I grabbed an old Unknown from my IMAC binder, studied it for a while, then went out and flew it. After a couple flights practicing Unknowns a visitor drove in and introduced himself. He was interested in getting into the hobby. I showed him my plane, the electric-only 95” Extreme Flight Extra 330SC, which he really liked. (We talked about what an appropriate trainer plane would be and

where he could purchase one.) Then I invited him to join me at the flightline for my next flight. I took off, flew an Unknown, then my Known sequence, calling out each maneuver as I performed them. No shaking thumbs, no fear of crashing. Just the confidence that comes from practice and refined skills. After nearly eleven minutes (on battery power!) performing more than twenty aerobatic figures with slow rolls, point rolls, snaps, inverted flight, inside and outside loops and climbs to 900 feet AGL, I performed

my customary slow victory roll, then entered the landing pattern and greased the plane back on the runway for one of my best landings, taxied back to the pits, and shut her down.

The visitor, a retired gentleman, was impressed. He said I flew “like a pro” and was thrilled he had an opportunity to witness a private airshow after arriving at what looked like an empty airfield. It was not a perfect flight by IMAC standards, but it was a thrill for me to be able to

demonstrate just how amazing this hobby can be, how advanced the technology has come, and how much fun it can be to soar through the sky with grace and precision. It was the highlight of my day and exemplified so well why I fly IMAC.

In the next issue I’ll conclude with Part 2. Comments are welcome. Until then, stay tuned and fly right! (Or left, if Schedule C. ;-))

Practicing Alone

By: “Dangerous” Dan Powell

When starting or advancing in IMAC the advice often given is “Find another pilot to practice with”. This isn’t always as easy as it sounds. For many of us we are the only ones in our respective clubs that fly IMAC or if there are others your schedules don’t match so it’s difficult to fly together. I have heard “I wish we lived closer”, and “I have nobody to call for me” more times than I care to remember. A flight with an upper-class pilot giving you feedback or a flight at a contest is better than 20 flights on your own but we as pilots have to deal with the cards we are dealt. My favorite saying is “The answers to your questions lie in the bottom of your fuel can, now go find them.” Let’s advance through adversity and determine a method to improve when practicing alone.

For starters you will need to be able to

fly the whole sequence from memory. If this is your first time flying a new known sequence review the Aresti, memorize the first 2-5 maneuvers, and make a flight with just what you have memorized, then add another 1 or 2 next flight until you know the whole sequence. Now fly it the opposite direction. Nothing worse that practicing a sequence L-R to have the winds at your contest force you to fly R-L.

Now that you know the whole sequence work on positioning, example. I need altitude for this spin, the cross box humpity presents better to my right, come on throttle before the snap...etc.. Try different throttle settings, different positioning, different radiuses etc. Determine what you think your best sequence is.

Have a plan, without a plan you are “insane” meaning doing the same things over and over again and expecting different

results. It does no good to fly a maneuver wrong over and over again. Fly with an open mind, be critical of yourself. By now you should have a good idea of what your weaknesses are. For me it was the loop from inverted with 4 point roll and the ½ reverse Cuban in the intermediate sequence. You can make a mini sequence (figure 1) consisting of just your weak maneuvers. With weaknesses known have a plan. Here is my typical 5 flight plan.

Flight 1---3 intermediate sequences then reflect on weaknesses

Flight 2---1 intermediate sequence, remainder of flight a mini sequence(Loop from L-R Cuban on R Loop R-L Cuban on L...repeat)

Flight 3---3 intermediate sequences, Did Cubans and loops improve? If not what parts are you struggling with?

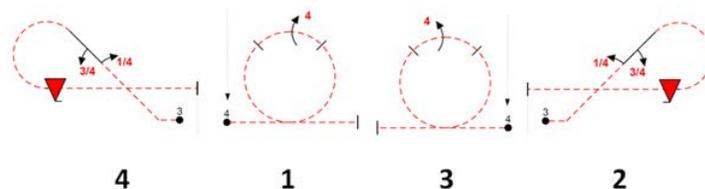


Figure 1: Sample Mini Sequence

Now that you have found the bottom of your fuel jug a few times lets go to a contest. Don't sweat the contest to me its more about fun and fellowship than the scores. If you arrive on practice day ask another pilot to call for you and give you feedback, take notes. Ask a second pilot to call and give feedback they may see things differently again request honest constructive feedback. Repeat this throughout the weekend. For example, at my last contest feedback was I was pinching the last quarter of my loop and sinking when flying inverted. So now I will continue to practice loops but with a plan not to pinch the last quarter and burn a few tanks inverted.

Another take away from a contest is your raw scores. These will be available from the www.mini-iac.org website a day or so after the contest. Analyze your scores with

an open mind and don't think "why did they give me that score", "why they zero me there". Take the scores as constructive feedback and use it to make you better. Look at the 2-3 maneuvers that you received the lowest average score on. What is common? Say its maneuvers with loops or partial loops. Is your loops round? Do you have flat spots? Is your radius changing? Say its maneuvers with rolling elements or point rolls. Are you stopping at the right point over rotating under rotating, etc? What maneuvers do you fly well sometimes and poorly others (not consistently)? Use this info to develop a plan (sound familiar yet?).

It's not required, but if you are a numbers nerd like me, or know a numbers nerd do a statistical analysis of your scores. Below is a sample of a statistical

analysis(Figure 2). The first chart "lost K factored" is k-factor multiplied by 10(perfect) subtracted by actual score average multiplied by k-factor. This gives you the average amount of points you lost per maneuver. This is the most important chart. The second chart lost Raw is just 10 minus your average score without considering K-factor. The last chart "STDEV" or standard deviation shows what maneuvers are the least consistent. Meaning they are sometimes flown well but not always. So, based on my analysis in Figure 2., I need to practice my mini sequence Figure 1 more but now with the knowledge gained from the contest that the last quarter is being pinched in the loop. Armed with info on practicing on your own, go find the bottom of your fuel can, but most of all have fun.

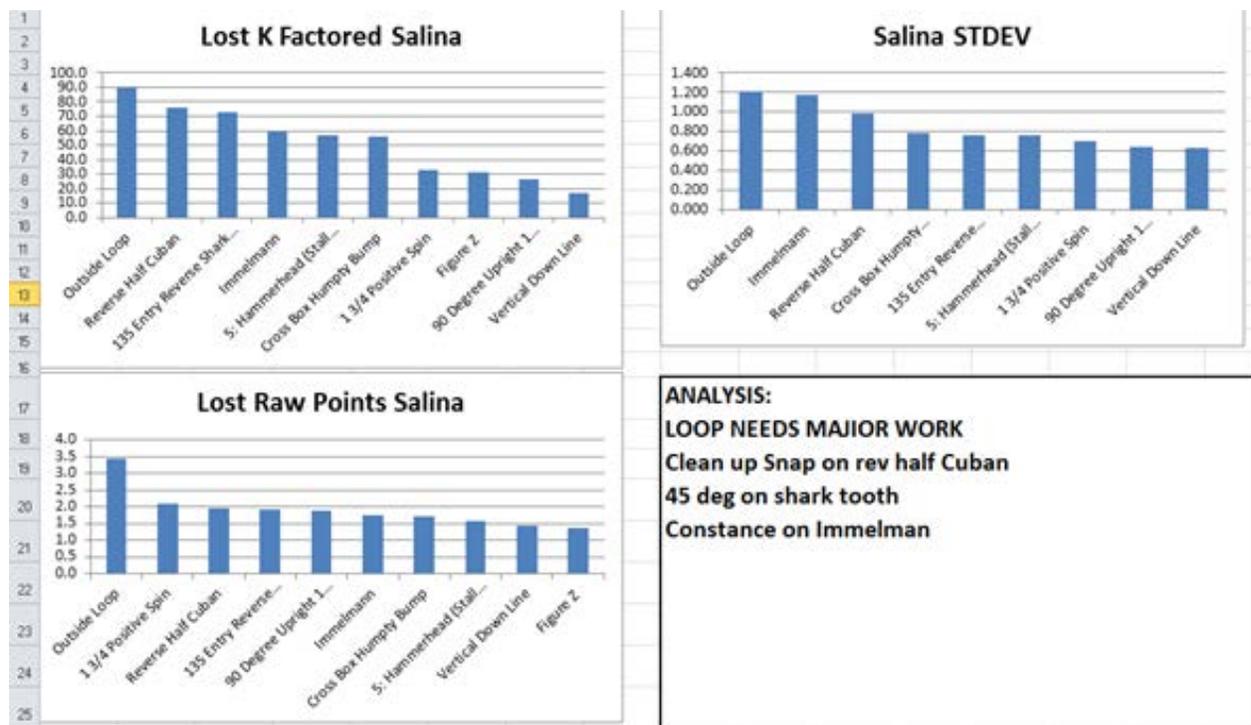


Figure 2: Score Analysis

Toby's How-To

By: Toby Silhavy

This month we are going to delve into a task a lot of Imac's hate to do. To be honest, I use to hate doing this task myself until the day I had to teach my son Isaac how to do it. What is it you ask? Dun Dun Dun....**PROP DRILLING!!!!** Many people dread doing this task and rightly so. Let me explain to you this simplified task (after much thought). First you must know how many holes you need. To do this take your prop hub washer off.



As you can see for this Desert Aircraft 100L it has six bolts holding the prop on. I then use my trusty DA prop drill jig to see which holes will need to be drilled. As you can see there are 12 holes on the jig, so I used a marker to identify which holes matched up exactly over my prop washer. If you don't do this, I guarantee you will someday "accidentally" drill seven holes instead of six. One mistake I see people make is they start drilling the holes using the jig by simply holding the jig over the propeller. This will ensue a lot of drift from one hole to the next. Making it difficult to screw the prop bolts into the engine. I use two methods to make sure my jig doesn't wander on the prop as I drill it.

First, I use blue painters' tape or better yet use silver duct tape to attach the jig over the prop. I usually place my jig where if you drew a line down the center of the prop (tip to tip) you would locate two holes over the center of said line (see picture).



Some modelers will position the holes different depending on their engine starting preference. I usually like my prop to be in the 1 o'clock or 2 o'clock position. Now it's time to start drilling the prop. I will give a note of precaution; in that many of the carbon fiber props and even some wood props, contain very irritating materials and you should always wear protective gloves, eyewear, and a respirator.

I use a drill press that has been set 90 degrees to its work surface. Some might use just a simple drill but I find you get more accuracy using the drill press. If you use a portable drill I would suggest using the tallest drill jig you can find like the DA drill jig shown above. It will help you drill a more accurate hole instead of an oval.



After the first hole is drilled, insert a dowel rod into the first hole. This helps keep the jig from turning on the face of the prop. Using the tape and dowel rod has helped me consistently drill props for years. Note that I use a spill board under my prop while on the drill press.



As stated before, the aftermath of drilling props (dust, debris) can be dangerous.



I generally use a small shop vacuum that has a filter to remove this from my drill press area. Once you have drilled all six holes, you should have a cleanly drilled prop. If you find your props split on the opposite side of the prop, use a spill board as I have pictured here and keep in mind you will have to sharpen drill bits more often (or replace) when drilling through carbon fiber.

I usually make myself a kit that has my prop drill jig, dowel rod, drill, and drill bit in a zip lock baggie in my emergency field kit in case a fellow competitor needs a new prop drilled at a contest.

Quick tip....

Place your unused Cyanoacrylate (CA glues) glues in a ziplock bag and refrigerate (out of the reach of little ones) for maximum shelf life. Let glue warm up to room temperature for an hour before first use.



Until the next time....

Judges, entering the box

Toby Silhavy

Chase the dream, NOT the competition

Red Book Review

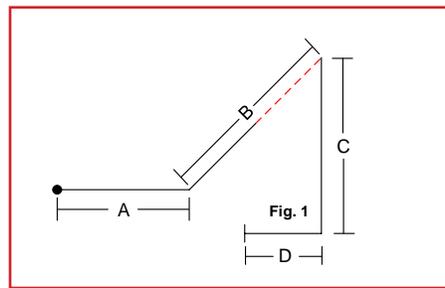
Lines & Radii

By: Ty Lyman
Education Committee

As judges and pilots alike, there are innumerable aspects of aerobatics flight to which we must dedicate our attention. However, there are a couple fundamental criteria that sometimes get lost among the intricacies and complexity of a full sequence. These two components of flying and judging are so important that the Scale Aerobatics Rule Book dedicates an entire chapter to them alone. Chapter seven covers these fundamental components of aerobatics and is divided into two parts: 7.1, which details Lines and Line Lengths (figure 14), and 7.2, which covers Loops and Part Loops. Given that these are the essential building blocks of nearly all base figures in the Aresti catalog, a brief review can be quite helpful from time to time.

Simple though as they are, lines are integral to every single figure flown in Scale Aerobatics sequences. Whether internal parts of base figures, or entry and exit lines, it is not possible to escape the influence of these basic yet fundamental components. With that in mind, let's cover a few of the rudimentary procedures for handling lines from both the piloting and judging sides of things. One of the basic tenets of aerobatics flying is that all figures begin and end with horizontal lines. From a judging perspective, the length of the exit line is pre-determined as one fuselage length. Upon completion of that line, the aircraft is now on the entry line of the following figure. Entry lines consist of the length of line flown between the completion of the previous figure, and departure from horizontal flight for the geometric portion of the figure in progress. Entry and exit lines are in some ways the obscure part of the figures; they are easily overlooked, yet crucial to accurate scoring and judging. More obvious are the internal lines integral to many of the base figures in the Aresti catalog. Internal lines are those contained within figures and found between two part loops.

The internal line is an important concept to grasp due to the judging implications of placing roll elements on them. Additionally, there are cases where two or more internal lines within figures must have equal lengths. This is where knowing the Aresti catalog becomes critical not only to judging, but also being able to properly execute your figures for the best possible score. Any figures in Family One – lines, shark's tooth, figure N, etc. – need not have matching line lengths.



For example, in Fig. 1, lines A, B and C may all be different lengths; D is complete after one fuselage length. Conversely, all lines within Family Three figures must be of equal length. I note this because Family One and Family Three figures share many of the same geometric characteristics but are treated quite differently with respect to line matching criteria. As such, make certain you are aware of which you are judging, or flying. Much like Family Three, any of the hesitation loops from Family Seven – square loop, diamond, etc., - have internal lines that must all be equal in length. Families Five, Seven, and Eight also all contain internal lines as

key components of their figures, and in most cases (note I said “most,” not “all”) those lines are not required to be of equal lengths. Had enough of lines? Oh, but there is more.

As you well know, lines within base figures may have roll elements added to them (Family Three figures are exceptions as no roll elements are permitted on these figures). Regardless of the family and whether or not internal line lengths must match, whenever an internal line has a roll element placed upon it the line lengths before and after the roll length must be equal. Building on the example in Fig. 1, when we add the requisite roll element in order to properly complete the depicted figure we add an additional layer of line criteria to the judging task.

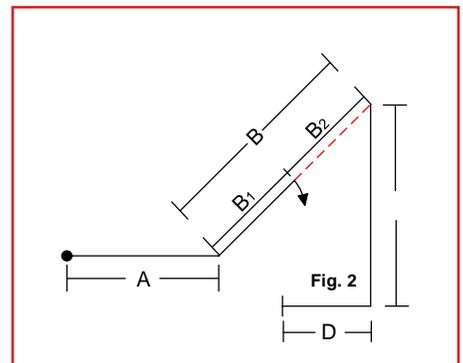
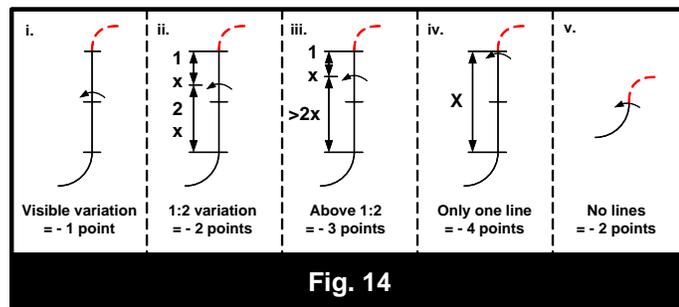
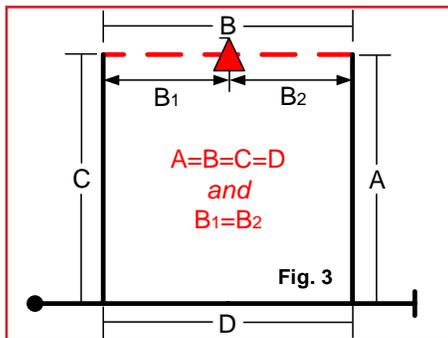


Fig. 2 shows us that line B is now bisected and is composed of B1 and B2. While Line B does not have to be equal in length to any other line in the figure, lines B1 and B2 must be equal in length to each other.



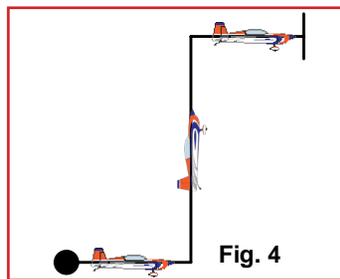
Of course, there are cases when an internal line must match the other lines in the figure (square loop) while also having roll elements placed on it. In those circumstances, the line length rule as depicted by Fig. 14 applies not only to the line bisected by the roll(s), but also to all the internal lines which must be equal in length.



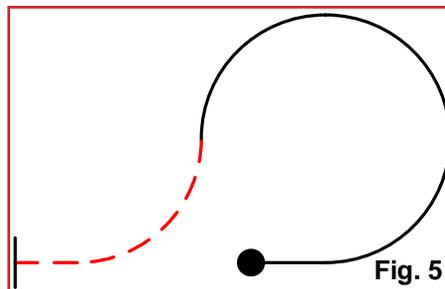
As Fig. 3 illustrates, all four legs of the square loop must be of equal length, and the two line lengths on either side of the snap roll must be of equal length. All of the line length requirements in Fig 3 are subject to downgrades as stipulated in Figure 14. As you can see, something as seemingly simple as a line can get complex in a hurry, and that's only one of the two fundamental building blocks we're talking here. It's rather like stating the obvious, but you cannot have multi-line figures without also having part loops with which to connect those lines.

The general criteria for judging part loops and full loops are the same: Maintain a constant, wind- corrected radius, and start/stop on a defined line. In the case of part loops the start and stop lines may or may not be horizontal lines. For example, a pull to vertical starts on a horizontal line and ends on a vertical line. The loops must also maintain the same vertical plane (i.e. not corkscrewing in or out) and maintain wings level. The deduction for a change in radius is 1 point per occurrence. Entry/Exit lines, drifting from the vertical plane and wings not level are deducted at 1/2 point per 5 degrees. It is to be noted that the size of the radius is not a judged criterion. For the uninitiated, making sense of the Aresti catalog can be somewhat of a challenge. The various geometric depictions don't always represent the manner in which the figure

is required by the rules to be flown.



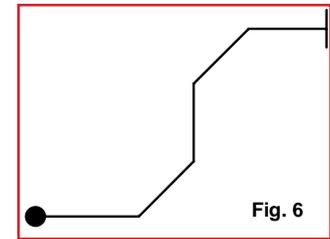
A perfect example of this divergence is a simple vertical line (Fig 4). The Aresti illustration depicts a figure where there are two 90 degree corners. However, in reality those "corners" are in fact part-loops and must be flown as such with a constant radius. There are numerous 90 degree corners depicted throughout the Aresti catalog, and in every case those hard corners are to be flown as smooth and constant part loops. Anytime a judge observes a change in radius or interruption to a part loop there must be a downgrade assessed for that radius change. Perhaps one of the more confusing aspects of judging part loops is determining when radii are required to match and when they are not. The simple rules of thumb are:



- Figures in which the loop portions are depicted as round require that those part loops have matching radii (Fig 5 – 3/4 loop and 1/4 loop must have equal radii). The downgrade for not matching radii is 1 point per occurrence.
- Figures in which the part loops are depicted as "hard" or corner angles do not require the radii to match one another (Fig 4 – Entry and exit radii may be different, but must be constant and uninterrupted).

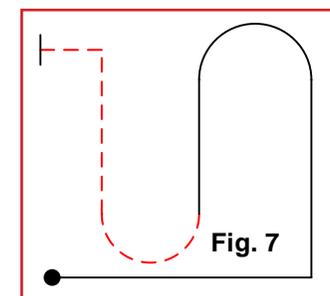
Naturally, there are a few exceptions to these rules and it is imperative that judges are aware of them and have a strong

enough understanding of Aresti to recognize these situations.



The entirety of Family 3 figures are depicted with hard angles, however, all radii within any Family 3 figure must match (Fig 6). Likewise, several Family 7 figures are also illustrated using the hard corner drawing yet must have equal radii within the figures (Family 7.4.3.x to 7.4.6.x, or hesitation loops – square loops, diamond loops, 8 sided loops).

Similarly, there are also exceptions to the convention that rounded corners within a figure must match.



Family 8.8.1.x – 8.8.8.x (Double Humpty Bumps) depicts two rounded half loops in each figure, yet the radii of the half loops may be different with no downgrade (Fig. 7 – Radii of two 1/2 loops may be different.)

Hopefully this little excursion through some of the finer points of our most basic, yet important, flying and judging bases has left you better equipped to perform them in both the air and the chair. Of course, if you want to review the pertinent rules in their natural habitat, feel free to pick up your copy of the 2017 – 2018 Scale Aerobatics rules. The topics covered in this article begin on SCA – 30. If you don't have a copy of the rulebook, you can download one at www.mini-iac.org under "Downloads" then "Rules."

Ty Lyman and Keith Cannon

Regional Reports

International Region Adi Kochav



South Central Region Doug Pilcher



The South-Central train is ever steaming forward. Next up we are in Abilene Texas for the 3rd Annual “Wings Over Abilene 2018” and looking like a great contest with the same great hosts! We have a very busy end of schedule in 2018 to finish up the summer and fall. Line up continues with the IWC 18 Worlds Championships in Muncie Indiana where we have from South Central, competing

Sportsman

Rhett Lambert
Dan Powell

Intermediate

Greg Dial

Advanced

Cambize
Shahrdar

Unlimited

Rick Byrd

Upcoming Events

Wings Over Abilene	08/18/2018	Abilene, TX
IWC 18 World Championships	09/04 - 09/08/2018	Muncie, IN
Shreveport Sharks Club 4th Annual IMAC Challenge (Gumbo)	09/22/2018	Shreveport, LA
Kansas State IMAC Challenge	10/06/2018	Hillsdale, KS
Pampa IMAC	10/27/2018	Pampa, TX
22nd Annual Texoma IMAC Challenge RPS Finish	11/10/2018	Sherman, TX
2019 International Judging School	1/25/2019	Mesa, AZ

At the core of the South-Central Pilots is just the love of Scale Aerobatics! Our reach is ever growing thru out the reach of our region. And dedication to the region is shown from our ARD's to the pilots and comradery and the building up and helping of our new members. Coming in and up from Basic and learning the art of “Flying against one's self” in Scale Aerobatics. At the end of the day that is what we strive for. Yes, points matter to us all. Let's face it, without a point race to keep us competitive there is no bench mark. But the South-Central pilots are also flying against themselves. To ever improve on their last flight. And each one of our upper-class pilots mentoring and coaching our new guys and teaching them that we are here to have fun. Spend time with each other and build relationships and friendships and yes, improve our skills, fly the rounds and earn the points.

The summer/winter ends in Sherman Texas for our 22nd Annual Texoma IMAC Challenge and RPS finish. This takes place on 11/10 and 11/11 and caps off a tremendous 2018 Season.

I would like to say, as this ends nearly 5 years of very proud service to South-Central and trying to help IMAC as a whole

in anyway able. It will indeed be my last year as Regional Director of South Central. A position I was both intimidated to take on, but proud to be a part of and hope that I helped even just a little to build on a region I am honored to be a part of. Anything we as a team accomplished can only be attributed to some amazing Area Regional Directors that also worked tirelessly and unselfishly to support our region. To include some amazing SC members! I am not going anywhere and might just dust off some planes and my thumbs and get back into the “Race” myself.

And we turn around and we are back to the 2019 start of “IJS” being held in Mesa Arizona at the end of January. The international schools are a “cannot miss event” to expand and grow our sport and bring consistency to judging of our great sport. If you have never attended an International School, I highly recommend it as it quite an experience and collection of some the finest instructors we have ever had in IMAC.

Doug Pilcher
South Central Regional Director

Northwest Region Clark Hymas



Southwest Region Alex Dreiling



Randy Dreyer wrote the below article, that I thought would be interesting for those new to IMAC.

IMAC Newbie Beginner's Guide

So you have seen a few of your club members practicing IMAC at your home field or happen to attend one of the local contests and you're thoroughly intrigued but nervous about stepping off the curb. I was for sure! A good friend of mine and fellow IMAC Member Greg Frazier introduced me to giant scale aircraft when he invited me to the 2007 Tucson Aerobatic Shootout! I've been hooked ever since.

The Basic Class

If you're totally new to precision aerobatics this is the perfect foundation to start. No need to join at this time but a good starting point to figure out if the shoe fits! Reach out to one of our members and get a "Basic Know Sequence" from any year. Ask for some pointers while you're at it. There is also great educational material at your fingertips if you visit the Education tab on the IMAC Home page <http://www.mini-iac.com/Education>. The Basic Known Sequence will

have 10 basic maneuvers that you probably already know how to fly. There are lots of ways to learn the sequences, just figure out what works for you. If you have a Real Flight, it's a great tool for practice and muscle memory. I used to spend quite some time in years past practicing numerous maneuvers and elements. In fact, I really need to get back to it! A few suggestions would be to fly each maneuver by itself, or fly three maneuvers at a time and then link them together. There's no wrong way, just do it!

The best thing about the Basic Class is you can compete with any plane in your hanger! Ugly Stick, Pattern Plane, RV-4, foam Profile, you name it and you can fly it. No need for that costly 40% with a 4 cylinder motor, that's just plain overkill for sure. We have a Club Member in the Southwest Region that flies in the Basic Class with a .90 size glow plane and he does just fine!

Couple of other pointers when practicing, make sure you're at least 50 yards away or further from the deadline at all times when practicing. The deadline is usually the far side of the runway and during a contest you must stay away from this point of reference due to safety reasons as you can well imagine. If you cross it during a contest you'll get a zero for that maneuver, if you cross it again you'll zero that round and be asked to land. The Contest Director "CD" will end up speaking to you at that point to insure you understand the expectations of competing safely. Safety is paramount! We must all be in control of our planes at all times. We have all heard the saying, "the pilot flies the plane, and the plane doesn't fly the pilot!" Think about it..... we all know someone out there like that, and we don't want to be that person!

Rudder, rudder... and um..... more rudder! This can't be stressed enough, learn to use your rudder. You see that same pilot mash his left stick to the firewall on takeoff, and the plane heads down the runway with reckless abandon in whatever the last heading was! Don't be that pilot. Learn to control your plane all the way down the center of the runway with finesse. Whether the wind is blowing you in or out, that rudder is there to keep you

parallel to the runway at all times. The rudder is your best friend for precision flying.

Also, Bill Adams wrote a very informative article on "Airplane Set Up" which is a very good read and he has very beneficial practice tips as well! Check it out!

Contest Time

So you have been feverishly practicing your sequence for months, burning fuel like it was a free commodity, linking all 10 maneuvers together, and you're feeling pretty comfortable with your routine.

It's time to step off the curb and make the jump. Sign up for a contest and make it happen! You don't need to be an IMAC member to participate but you must have a current AMA card. You won't get regional points for the Southwest Region until you join; but this is a good time to figure out if this is for you.

If you can, a lot of pilots will show up to the contest the day before to acclimate themselves to the new field. It is very beneficial to learn the field's crosswinds throughout the day and get comfortable with landing at a new runway.

Another benefit of showing up early is often times the CD will allow early sign-ups on Friday. This is such a nice touch to get this out of the way because Saturday morning goes really fast before wheels up.

The Big Day is Finally Here

Saturday morning is finally here, you're excited, nervous and full of energy even though you didn't sleep a darn wink the night before! Get there early, even earlier than you think. Time flies Saturday morning. There's a lot going on, sign-ups, announcements, people visiting, music playing and the vibe in the air is genuine excitement! Take your time assembling your plane and do your best not to be distracted. Check and recheck all your controls, make sure you fuel up (I have forgotten before) and it would behoove you to pre-start your motor to insure you won't have any issues when it's your time to fly.

Pilot's Meeting

There is a pilots meeting every morning. The CD will go through his expectations on the day's events with specific instruction. He'll speak about safety, deadline instructions, starting/retrieving your plane, judging and flight order to name a few. Your flight order will be posted on the applicable line you will be flying from. Typically, there will be two flight lines depending on how many pilots are in the contest. Basic and Sportsman pilots usually fly together from the same line, and your name will be posted on some type of board, so you know the flight order. Huge point to make here. One of the most time-consuming efforts of a contest is getting 2 scribes for each round of flying. Scribes are needed for each judge as they write down scores after each maneuver. People often shy away from this essential task instead of making themselves available. This task is mandatory to insure the contest is progressing in an expeditious manner. It's also a valuable learning tool for all new pilots. This is such a beneficial learning point for the Basic pilot. Volunteer when possible and act like a sponge absorbing everything that is going on!

Rounds 1, 2, 3 and 4.

This is hard for new comers to grasp so I'll do my best. Saturday we typically fly two rounds, one in the morning and one in the afternoon. The 1st round in the morning you fly your known sequence 2 times and in the afternoon for the 2nd round you will fly 2 sequences as well. Sunday morning for round 3 is considered the "Unknown" round. This round is for your upper classmen, Sportsman thru Unlimited. They receive an Unknown routine Saturday afternoon when the flying is completed. This is a brand new sequence that they must learn by memorizing it with a stick plane and their caller. That's it! No computers, no Foamies or flying of any kind, they must memorize it in their heads. They fly the Unknown, round 3, Sunday morning. They only fly the Unknown sequence 1 time, so the Basic pilots mimic the 3rd by only flying 1 sequence as well. On Sunday afternoon for round 4, we go back to the standard two sequences.

I hope my diagram helps.

Saturday	AM Round #1 "Known"	PM Round #2 "Known"
Basic thru Unlimited	Fly your sequence 2 times during the same flight	Fly your sequence 2 times during the same flight

Sunday	AM Round #3 "Unknown"	PM Round #2 "Known"
Basic	Fly your sequence 1 time to mimic the upper class flying their unknown	Fly your sequence 2 times during the same flight
Sportsman thru Unlimited	They will fly their unknown sequence 1 time only.	Fly your sequence 2 times during the same flight

Time to Compete

So here you go, all the reading, set-up, practice, maintenance, questions and more question are all coming to fruition! Stay calm and fly on! One thing that will have most likely been discussed by the CD during the morning meeting is, "keep the lines moving"! Your CD does this by stressing the need to take off and have wheels in the air before the pilot ahead of you is done with his/her last maneuver in his/her last sequence. You will be expected to loiter out of the way of everyone in the designated area. Usually to the left or right of each end of the runway. Couple more points to put in the front portion of your cranium. Taking off, there is nothing more annoying than a pilot taking off with a full throttle setting! There's absolutely no reason what so ever to do this. All of our planes can easily take off with quarter throttle. It's just about nerve racking when you're flying or judging and "that guy" blasts down the runway full throttle totally distracting your concentration. Don't be that guy!

Also, after you're in the air you are limited to "turn around" maneuvers only. Half Cuban w/ half roll, Reverse Half Cuban w/ half roll, Immelmann's and Split S w/ half rolls, no full rolls of any kind.

Please see the "Download" tab on the IMAC site for the Official Rules <http://www.mini-iac.org/Downloads>

Okay, the pilot ahead of you lands, and it's your turn. Your caller will hand the judges and scribes your score sheets while you do a few trim passes. After you feel comfortable with your plane's position your caller double checks with the judges to make sure they're ready and informs them you will be "entering the box". At this point in time, when you are ready to start your sequence, you MUST announce to the judges, loud and clear "in the box". This establishes that you are being judged from that point on until you complete all 10 maneuvers. After your last maneuver you must state loud and clear, "out of the box". This lets the judges know you're done. This communication must happen before the start of each sequence and after you complete your last maneuver with wings level as well. If this is not followed you can be zeroed for each round you do not comply.

(editors note: The latest rules require a verbal signal, such as "In The Box" at the beginning of each sequence. But a verbal "Out of the Box" is not required. Judging will end after one plane length at the end of the last maneuver.)

In the Box

So, you're finally in the box, your palms are sweating, your knees and hands are shaking, you can't remember the next maneuver! LOL.....you're having fun, right!! This is very common for all of us, don't worry, it will subside after ten years or so. Pilots do numerous things to calm down before a flight, music, meditation, push-ups and even chewing gum! Enjoy your first contest and don't expect too much out of yourself, and you won't be disappointed. All things come in due time and remember, you have to walk before you run.

Saturday after the competition is completed the upper classmen will receive their Unknown Sequences for Sunday morning. If you're Sportsman or above, no flying or computers of any kind till after the contest on Sunday.

Sunday

Sunday morning the Basic class will fly their 3rd round with 1 sequence only. This round goes super-fast, so be ready and in the air for the judges. Your upper classmen will be flying their 3rd round Unknowns, and it's very exciting to see everyone scrambling to learn their routines before they fly. Everyone has their stick planes out feverishly putting it through its paces trying to remember what's next. You'll often see three pilots flying their stick planes in unison, like synchronized swimmers in a pool while one person is calling out the maneuvers for them! Great fun for sure! Sunday afternoon for round 4, everyone is back to flying the last round with 2 known sequences.

It's a Wrap

It's all over but the crying or celebration depending where you end up. The scores will be tallied, and the CD will get the trophies out and ready for the awards presentation. This is the time when everyone gets together to celebrate their achievements or lick their wounds and have a good ole time with jokes and plenty of laughter!

Closing

I know this was very longwinded and I missed a plethora of additional information but hopefully this gives you a good snip it of what to expect. Read, ask questions and burn fuel with the dedication to strive to be a better pilot and stop aimlessly boring holes in the sky! Strive to get a 10 but don't get all wrapped up in the scores. Remember this, fly well enough you don't give the judges a reason to downgrade you!

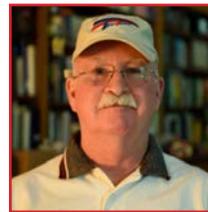
Thanks for reading, hope you like it!

Best regards,
Randy Dreyer

Northeast Region Brad Davy



Southeast Region Steve Sides



Just finished up the 8th contest of the 2018 season with 3 more points contests on tap before the Regionals cap off the season. The SE Regionals will again be an invitational event open to SE pilots that have accumulated Regional points during the season. Jacksonville will host the contest this year and I think a nice event.



I just came back from what is probably my favorite season event – the Youth Masters – held at Triple Tree Aerodrome. For those not familiar with this event, it's a chance for youngsters 16 and under to learn about – and fly – precision aerobatics. This event is headed up by Kent Porter and Donnie Bryans, and they enjoy lots of help from in and out of the IMAC world. The aircraft flown are an array of 35% gassers provided by in not any particular order. Extreme Flight, Tom and Kal Reifsnnyder, Pilot Models (Chief Aircraft), Donnie Bryans, JR (Horizon Hobbies), Futaba (Hobby Co), Desert Aircraft, Aircraft International, McFueeler and Triple Tree Aerodrome. I'm sure I have left someone out but not intentionally. Also helping out is an army of youngsters, young adults who have aged out of the program and several not-so-young adults in various capacities. Triple Tree not only hosts the event but also provides lunch on both Saturday and Sunday for everyone. This year there were some full scale aircraft rides given as well.



Saturday starts off welcoming everyone and helping the newcomers relax a bit. Afterward IMAC instructors go over the Aresti for the 2 classes that are flown – Basic and Advanced (sequences provided by Ty Lyman). Thrown in for good measure are some tips on how to fly the figures better. Next everyone heads to

the flight line for a demo of what the sequences should look like when flown and the pilots get a hands-on familiarization flight. Each pilot is critiqued on his/her flight with tips on how to improve.

Next up is a precision aerobatic contest with IMAC judges recording the scores over the balance of the day. After dusk when dinner is finished and free flying over comes the “Foamy Freestyle” competition. Open to all the competitors they put their foamies through the paces to music – either theirs or something Kent comes up with – in the dark illuminated only by the floodlights of the pavilion. As you might imagine the flying space is pretty tight and often the planes go out of the lighted area but the pilots don't seem to mind.



Sunday morning and the final contest round is done, scores tabulated and awards presented (Awards provided by John Bradley at Athens Trophy Shop). John Sharpless created unique 1st Advanced and 1st Basic award. There are awards for the top 3 pilots in both classes and Freestyle for both classes. And there's one other award for Sportsmanship. The Sportsmanship award is presented to the person with the best sportsmanship display over the weekend. It is not to only the pilots but open to all – parents, volunteers, and competitors. This year the award was presented to Jeremy Jackson.



The Youth Masters is held the last weekend of July each year at Triple Tree and if you get a chance please try and attend. I think you'll thoroughly enjoy the event.

Judging and Flying Question

On some combination looping figures in Aresti Family 8 that have 2 internal partial loops, the radii of the main loops have to match such as P loops and 1-1/4 Reversing loops. Deductions are applied if the pilot fails to make the loop radii the same. In the same family are double humpties (Family 8.8). These figures have 2 internal loops as well.

What is the deduction if the pilot does not make the double humpty loop radii the same ?



**North Central Region
Jeff Maruschek**



An interesting Li-Po and Li-Ion Comparison

Here's a metaphor I came up with that explains how I think about the Li-Ion vs LiPo for Rx power discussion.

Disclaimer : I'm not a battery chemistry expert. I'm an IT professional that plays with electronics in my spare time. If I'm wrong or inaccurate, please let me know.

Note: to avoid confusion, when I say 'our RC planes' I'm talking about RC high performance aerobatic airplanes with digital servos which are 50+cc in size. (flown aggressively)

Let's pretend that flying our RC planes is like driving on the freeway. Most of the time you're driving at 65mph but every once in a while you need to pass a car... sometimes you need to pass a FAST car. Sometimes you need to get to 90mph from 65mph as quickly as possible. (if you haven't figured it out yet, the passing of the cars is representing hi deflection maneuvers like snap rolls, pop tops, etc etc) Let's assume that passing another car that is already traveling at 80 mph is equivalent to drawing 20A of current in our airplanes' servo buses.

Let's take a Li-Ion 2600 that is good for a 11A (4.23C) discharge, weighs 3.3 oz and costs \$38. (with a Deans plug) Let's use our imaginations and pretend this Li-ion pack is a 2014 Honda Civic LX which has 143hp, weighs 2750 lbs and costs \$18,000. It also has a 5 star safety rating.

The 2014 Honda Civic is an amazing car. Rated one of the safest cars in it's class. It's dependable and Honda has a reputation as a respectable company.

A stock base model Honda Civic can drive at 65mph with no problems...and can pass people when it needs to...however, it takes a little bit longer to pass the real fast cars...and the engine begins to struggle when it gets to say about 85-90.

Lets take our Honda Civic / Li-ion comparison and bring in a 30C 2S 2200 Lipo that is good for 66A (30C) discharge, weighs 4.5 oz and costs \$15.50.

Let's do some math to figure out what the specs of a car would be that could represent our LiPo battery.

POWER:

$$(4.23C/143hp) \times (30C/xhp)$$

In this relational equation, we'd be looking for a car with 1014 hp!!!

So, to make this a little more believable, let's downgrade our Lipo and make it 20C.

$$(4.23C/143hp) \times (20C/xhp)$$

x now equals 676 hp.

WEIGHT:

$$(3.3 \text{ oz}/2750 \text{ lbs}) \times (4.5 \text{ oz}/x \text{ lbs})$$

We're looking for a car that weighs 3750 lbs

Let's find a CAR!!

Let's find a car that has 676 hp and weighs 3750 lbs.

How about a 2013 Ford Shelby GT500. It has 662hp, weighs 3845 lbs, and costs \$55,000. The GT500 has a 4 star safety rating. (The Civic is safer)

COST:

We have to approach cost in a slightly different manner. Let's compare the cost difference between the Li-Pos and Li-Ions above and factor in the cost of the Civic. We can find what our GT500 would cost!

$$(\$38/15.5) \times (\$18,000/\$x)$$

$$\$x = \$7342.11.$$

What if a 2013 GT500 cost only \$7400?

If your goal was to drive on the highway and you NEEDED to pass people sometimes. Why on earth would you pay so much more for for a Base model Honda Civic LX?

SAFETY:

The civic is in fact "safer" than the GT500, but both cars are fueled by explosive gasoline. Both cars can explode, it's now just a question on how easy or hard either car is to ignite. Some might also think that since the GT500 is much faster, it's inherently more dangerous and "less safe".

Li-Ions and Li-Pos are VERY much the same, but not completely. I think the Crash Test Rating of cars is at least somewhat comparable to the "safety" of LiPos and Li-Ions. BOTH can explode, both can vent flames, etc etc. I would like to have more information on the EXACT differences in safety between the two battery types....however....I'm not really concerned AT ALL. Why?

Mainly because I trust Li-Pos. Mainly because I've never had a Li-Po catch fire. (that I didn't intentionally set) Mainly because for the first 5 years of my RC experience, I flew ALL electric airplanes and have owned and charged at least 50-100 different LiPo batteries. No venting. No danger. I am a FIRM believer in the saying, "LiPos aren't dangerous. People with LiPos are dangerous."

So...if, when you read this, you feel that Li-Ions are "safer" then Li-Pos in a way more pronounced than simply using a Crash Test Rating metaphor, I ask that you explain to me with facts to help me understand.

In the end, I ask you to think to yourself and answer honestly the following two questions:

1. Would driving a GT500 65 miles per hour for 95% of the time make you feel

less safe than doing the same in a Honda Civic?

2. In the year 2014, are you actually AFRAID of 2S 2200 LiPos? So much that you'd rather pay so much more for a Honda Civic?

CONVENIENCE:

Let's talk about the storage charge requirement of LiPos. Let's equate this to having to check the oil level of your car. On the Civic, it's a small motor and you REALLY don't need to check your oil OUTSIDE of every 3,000 - 5,000 miles when you have to change it no matter what. Let's assume that with our Mustang, we are required to just CHECK the oil at the end of the day and add oil if it's too low. (We can equate adding oil to storage charging batteries because discharging and charging is the exact same action on our part...just pressing different buttons on a charger.

Is that convenience reason enough to pay so much more for a Civic?

CONCLUSION:

In this metaphor, keep in mind that the Power, Cost, and Weight of the battery to car comparisons are factual and based on real numbers. This is a very accurate comparison.

The highway driving scenario, safety rating, and convenience are more conceptual comparisons and are admittedly open to debate.

ENOUGH OF THIS METAPHOR!

Here are my final and honest non-metaphorical thoughts and opinions:

Safety revisited:

Li-Pos are safe. Learn to handle them correctly and take care of them and they're safe. Li-Ions are safer. That doesn't automatically make Li-Pos UNSafe. Li-Ions being "safer" is not a big enough reason (to me) to use Li-Ions in our planes. If it is to YOU, that's your decision and you will pay for it in certain ways. (more voltage drop, more money, longer

charging times, and slightly lighter battery packs)

Convenience revisited:

I baby my Li-Pos. I have no problem taking them out of a plane to charge. (I do it in my electric planes all of the time... you probably do too.) I have no problem keeping them at a storage charge if I'm not going to use them for more than a week. The storage charge requirement is thus not a reason for me to use Li-Ions. If it is for YOU, that's totally fine and you will pay for that convenience in certain ways (more voltage drop, more money, longer charging times, and slightly lighter battery packs)

Longevity:

People claim that Li-Ions (particularly Fromeco Relions) last a very long time with little to no storage loss. Fromeco claims the life of their Relions is two years. We all know that Fromeco under rates a lot (this is a good thing) and that figure is probably just to be safe.

Many of those same people also have the notion the Li-Pos don't last as long in comparison.

Let's be careful about that assumption and look at some more numbers.

A Relion 2600 running 7A is actually (based on 4.23C) running at 63.6% (7 divided by 11) of its capacity. Double up 2600s and you're running both packs at 31.8% of their capacity. (7 divided by 22) Those numbers look just fine.

Let's do the same with Li-Pos:

A Glacier 30C 2S 2200 running at 7A is running at only 10.6% of its capacity. (7 divided by 66) Double up the LiPos and they're churning at only 5.3% of their capacity!

Ask ANY electrician and I bet they'll tell you that an electrical component running at 5.3% has a MUCH better chance of lasting a long time compared to something running at 31.8% capacity.

In my personal experience....I have

a pair of 4 year old Thunder Power 2S 1350s that have only been used for Rx power in various 50cc planes that still act as new. They've never been pushed in the least bit...and they still work wonderfully.

Load Checking:

What about load testing Li-Ions? For everyone who claims this is one aspect that makes Li-Ions a better choice and more reliable....please read the following very carefully:

drumroll.....

You can load test a LiPo. There's nothing stopping you. The Fromeco 8-ball doesn't have a Li-Ion only connector on it. The 8-ball won't blow up if you hook it up to a Li-Po pack.

Load testing is not a special characteristic of Li-Ion batteries.

It's a good idea, I'll give you that!! In fact, I think I'm going to order an 8-ball myself. (however...load testing is in no way shape or form something that makes Li-Ions better or worse. It's not a feature of the chemistry...it's a procedure!)

In the end, there is no right or wrong. There is only a better choice based on your own situation.

I hope/wish that this write-up makes you at least THINK about what you want in a battery and the actual differences.

I ask that you weigh the options and make the decision for yourself based on some real numbers.

Jeff Maruschek
North Central Regional Director

The John Schroder Scale Aerobatics National Championships 2018 Muncie, IN



As most of us are aware, with the loss of our friend John Schroder, the AMA and the IMAC Board got together and dedicated the 2018 Nats to John, naming it the 2018 John Schroder Aerobatic Championships. This is only a small symbol of John represented and meant to IMAC and the AMA.

Sunday and Monday there were arrivals, and they had the opportunity to practice on Sites 3 & 4. As the Clover Creek crew arrived, many had the opportunity to greet them, give their condolences and share stories of John.



Monday evening, everyone gathered for the pilots meeting. Even with the technical difficulties, the event staff was able to go over the schedule of the contest, do a judging review, give some miscellaneous instructions and create the pilot order. The Unknowns were then passed out and the meeting was adjourned.

On Tuesday the day started with an early pilots meeting where the safety standards were explained. Then everyone lined up on the runway and the Clover Creek kids, led by David Moser all took

to the air to the sounds of John Schroder's favorite song, "The Spirit in the Sky". After the song concluded, the planes landed one by one till only "Loose Change" remained. "Loose Change" was expertly flown by David Moser for a few more passes, then landed to the reverent silence of the crowd. It was truly one of the more touching tributes I have witnessed.



After the tribute was over, the first Known Round was begun. Two Known rounds were completed and part of the first Unknown before the rains came. The flying was complete for the day. Once it was determined that there would be no more flying the Second-Day Unknowns were passed out.

Wednesday began late, as the rains lingered and there were some low flying clouds. But, once the rounds started there was a lot of flying. Many rounds were complete till there was not enough light to start a new round.

Thursday morning brought in the heat. We got an early start and had a complete day of flying with a slightly earlier stop-



page to get ready for the Banquet.

Before the banquet, everyone got an opportunity to spend some time in the AMA Museum. One noticeable addition to the exhibits, was a restored Skybolt that was donated by IMAC members, Tom and Kyle Pirrone. This plane was a past Aerobatic Champion and was restored by Tom to be exhibited in the museum.



The Banquet started with a prayer and everyone got some of the delicious food. Once everyone had a chance to get their meals the program began. Starting with some pictures of the week, so far. There were several great shots that were enjoyed by everyone. Next, a special presentation was given to Tina Schroder. A score sheet that included John Schroder was printed with all 10's. Every competitor signed the score sheet, in honor of John.

Next, Tina assisted in giving everyone their Commemorative Plaques for participating the 2018 John Schroder Aerobatic Championships. There were some tears and lots of hugs given.



After all the plaques had been given out, Mike Karnes, IMAC President, gave a speech and introduced the Recipient of the 2018 President's Award, Ty Lyman. As a lot of you know, Ty selflessly gives his time and talents to IMAC to make sure that everything continues to run smoothly and that everyone has what they need for running their contests. There was unanimous agreement in the room that the award was well deserved. Ty gave a nice, and humble, speech with the acceptance of his award.



Finally, after all the speeches were complete, the Final Unknowns were passed out and Michael Landa was introduced. Michael has created a new Organization called "Learn, Build & Fly", where he envisions bringing Aviation-centric learning into the schools. He then introduced a fundraiser/Auction that was being held. There were several airplanes, a DA engine and some Jerseys. All items donated for this worthy cause. David Moser turned Auctioneer and the auction was a profitable success.



Saturday started again early, with the heat back in full force. An extra round of knowns was flown, to help make up for the missed rounds earlier in the week. In the end the results were as follows:

Sportsman:

- 1st Place – Rhett Lambert
- 2nd Place – JJ Hedrick
- 3rd Place – Michael Landa

Intermediate:

- 1st Place - Sam Pankratz
- 2nd Place – Terry Pellerin
- 3rd Place – Skip Messick

Advanced:

- 1st Place – Mitch Johnson
- 2nd Place – Conner Barnes
- 3rd Place – Joseph Thibodeaux

Unlimited:

- 1st Place – David Moser
- 2nd Place – Kurt Koelling
- 3rd Place – Kal Reifsnnyder

Freestyle:

- 1st Place – Kal Reifsnnyder
- 2nd Place – JJ Hedrick
- 3rd Place – Rhett Lambert

Bennet Cup Award:

David Moser

The Schroder Cup Award:

Rhett Lambert

Once the dust settled and everyone was packed up to go, it was very apparent that this was a special year at the IMAC Nats. Even with the IWC looming, there was a great crowd of pilots and friends sharing with each other their joy for the sport. The John Schroder Scale Aerobatics National Championships 2018 is in the books.



Lost Squadron IMAC

Wrightsville, AR

Everyone was excited to have the opportunity to fly at the Lost Squadron IMAC, since its original date was rained out.

This is a great contest put on by an enthusiastic club that enjoys having the contest at their field.

The contest drew 20 pilots from all over the region.

The contest was great fun, and everyone looks forward to returning next year.



Lost Squadron IMAC Results

Basic Class

1st Place - Tim Hughes
2nd Place - Jason Watts
3rd Place - James Barfield

Sportsman Class

1st Place - Mike Cooper
2nd Place - Guy Alon
3rd Place - Kevin Schmidt

Intermediate Class

1st Place - Dan Powell
2nd Place - Phillip Knight
3rd Place - Mark Thurman

Advanced Class

1st Place - Hank Cooper
2nd Place - Cam Shahrदार
3rd Place - Greg Dial

Unlimited Class

1st Place - Lyndel Roe
2nd Place - Shane Snyder

Seniors Class

1st Place - Phillip Knight
2nd Place - Mark Thurman
3rd Place - Hank Cooper

Freestyle Class

None Flown

House Mountain IMAC

Corryton, TN



House Mountain IMAC Results

Basic Class

1st Place - Ron Snyder
2nd Place - Herb Johnson
3rd Place - Scott Andelson

Sportsman Class

1st Place - Thomas Burroughs
2nd Place - JJ Hedrick
3rd Place - Alex Fredrickson

Intermediate Class

1st Place - Luke Young
2nd Place - Sam Pankratz
3rd Place - Charles Youngblood

Advanced Class

1st Place - Evan Turner
2nd Place - Mitch Johnson
3rd Place - Joshua McCreary

Unlimited Class

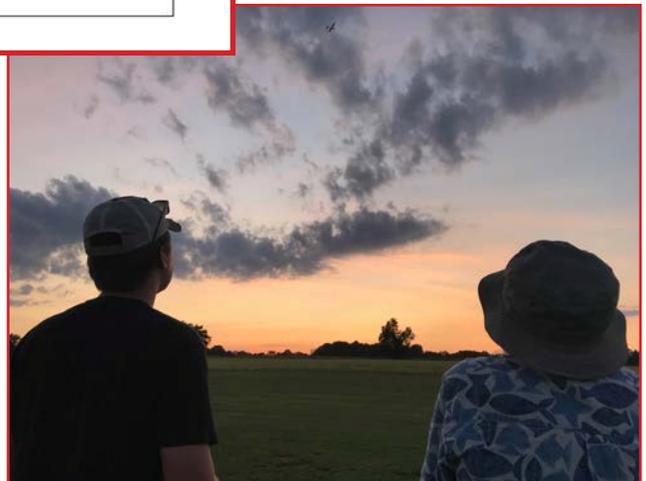
1st Place - Kal Reifsnnyder
2nd Place - Joseph Szczur

Seniors Class

1st Place - Charles Youngblood
2nd Place - Steve Sides
3rd Place - Donald Martin

Freestyle Class

1st Place - Joseph Szczur
2nd Place - Joshua McCreary
3rd Place - JJ Hedrick



Wings Over Abilene IMAC

Abilene, TX

13 Pilots showed up to Abilene to compete, and some to help themselves get ready for IWC.

The weather was good, and even had some overnight rain on Saturday to make Sunday a very pleasant flying day.

The competition was good, and the races were close.

This was a great contest put on by the Abilene Radio Control Society and everyone had a great time and are looking forward to coming back next year.



Wings Over Abilene IMAC 2018 Results

Basic Class

1st Place - Tim Hughes
2nd Place - Jason Watts
3rd Place - Ron Schroeder

Sportsman Class

1st Place - Mike Cooper
2nd Place - Darin Schmidt
3rd Place - Allen Delger

Intermediate Class

1st Place - Craig Rideout
2nd Place - Dan Powell
3rd Place - Rich Whitlow

Advanced Class

1st Place - Hank Cooper
2nd Place - Cam Shahrdar

Unlimited Class

None Flown

Seniors Class

1st Place - Hank Cooper
2nd Place - Allen Delger

Freestyle Class

1st Place - Dan Powell

Upcoming Events

August:

3rd - Plum Islan IMAC - Newbury, MA
4th - 2018 Mile HI IMAC Challenge - Strasburg, CO
4th - Strangnas Modelifygares IMAC 2018
4th - The Bristol IMAC Bash Up - Bristol Bath/North East Somerset UK
11th - Central Carolina IMAC - Randleman, NC
11th - The Cincinnati IMAC Burnit Challenge - Harrison, OH
11th - Stetson Flyers IMAC Weekend - Ottawa, Ontario
11th - mcNair RC Scale Aerobatics Competition - Didbury, Alberta
11th - Ward Hendricks IMAC Shootout = Oakdale, CA
17th - QLD State Championships - Maryborough, Queensland Australia
18th - ESAC Ace Ortley IMAC Challenge - Hurlock, MD
18th - Mid-Michigan IMAC Contest - Jackson, MI
18th - Wings Over Abilene - Abilene, TX
18th - Silver Hills IMAC - Athol, ID
25th - 2018 North Central Regional Championships - Muncie, IN
25th - Wagga IMAC - Wagga Wagga, New South Wales Australia
25th - IMAC Nationals 2018 - Grantham, Lincolnshire UK
25th - Starmoen 2 - Hedmark, Norway

September:

8th - American Turf Flyers Fall IMAC - Broken Arrow, OK
8th - Salinas IMAC II - Salinas, CA
15th - CMJ Hobbies Late Summer IMAC - Roberta, GA
15th - Viva Las Vegas IMAC - Las Vegas, NV
15th - Modena - IMAC Italia National Competition - Sassuolo, Modena
22nd - Black Dirt Northeast Regional Finals - Goshen, NY
22nd - Sharks Club 4th Annual IMAC Challenge - Shreveport, LA
22nd - Northwest IMAC Regional Final - West Richland, WA
22nd - Fyresdal 2 - Vestfold, Norway
22nd - Victoria State Championships - Newbridge, Victoria Australia
29th - Mocksville Fall Classic - Mocksville, NC
29th = Toowoomba Spring Rumble - Westbrook, Queensland Australia



October:

6th - Kansas State IMAC Challenge - Hillsdale KS
6th - Yenda Benda - Yenda, New South Wales Australia
6th - WA State Championships - Whiteman, Western Australia
6th - IMAC Italia National Event - Rovigo, Italy
11th - Annual Fall Ocala IMAC - Belleview, FL
17th - Tucson Aerobatic Shootout - Tucson, AZ
27th - Pampa IMAC - Pampa, TX

November:

6th - Southeast Regional Championships - Jacksonville, FL
10th - 22nd Annual Texoma IMAC Challenge RPS Finish - Sherman, TX
15th - ASAA National Championships - Newbridge, Victoria Australia
17th - Best in the West Shootout at Felix Ranch - Florence, AZ

Why Join IMAC?

The International Miniature Aerobatic Club (IMAC) is an organization dedicated to sport of radio-controlled Scale Aerobatic competition. IMAC operates under the auspices of the USA's Academy of Model Aeronautics (AMA) with a designation as the Special Interest Group (SIG) for R/C Scale Aerobatics. While it's origin is American, the scope of IMAC operations now extends to over 15 countries throughout the world and continues to grow daily.

IMAC members are people just like yourself that love to fly scale aerobatic planes. Like any worthwhile endeavor it takes focus, energy and passion to succeed in this sport. As a pilot, you spend hours learning sequences, tuning your plane, or learning how to do the "perfect" spin entry. You pack up and head out to a contest all ready to compete head to head with your fellow pilots. It's great so far but think about it...what is going on behind the scenes?

- * Who organizes this stuff?
- * Who sets the standards so that all events operate on the same level playing field?
- * Who helps write and maintain the rules that we all fly by?
- * Who develops the judging schools and training programs?
- * Who actually writes, refines, and publishes the known sequences you so diligently practice?

It's IMAC – International Miniature Aerobatic CLUB

Yes a CLUB...people like yourself all contributing to the sport with their time, resources, and passion. If you are serious about flying scale aerobatics, IMAC membership is your way of giving back to the sport.

Yes...you get benefits like discounts off entry fees at every event and the ability to compete with other pilots in your class across your IMAC region for annual bragging rights. You get access to the full IMAC website including contest calendars, buy/sell classifies at no charge, and a full forum for sharing information with your fellow pilots

Without an international organization like IMAC, the sport of scale aerobatics as we know it may disappear! All of the activities of the organization are focused on making the sport better whether through national judging schools, holding monthly phone conferences, working with the website, working with vendors that contribute to IMAC and these activities cost money. As a not-for-profit organization, IMAC depends on it's members. Regardless if you are in the US/Canada or somewhere in the rest of the world, the sport needs you to be part of the CLUB



Join with the rest of us and support scale aerobatics!

If you fly even a few events throughout the year, you get your money back through event entry fee discounts but more importantly - you support the sport. It doesn't get any better than that!

www.mini-iac.org