



2018 - Volume 1

In The Box

The Official Newsletter of The International Miniature Aerobatic Club



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Letter from the Editor

Rich Whitlow

Welcome to a new IMAC year! I hope that everyone had a great holiday season and happy new year!

What you see here is a project that I have wanted to take on since I got active in IMAC 3 or 4 years ago. I say active, because I have been a stealth member since the late 90's. I have watched from afar, while staying busy with work and family doing all the great things we do when our children are young. My main activity with them was coaching. I have coached them all, but finished by coaching High School Tennis for 7 years, including 2 state titles. Then life came to a screeching halt! Kids went off to college. With my life back, I started flying again and started competing in IMAC and some Pattern. I am hooked.

I have created Newsletters for our home clubs over the years. Starting with a Dot Matrix printer and lots of stamps. More recently I publish them in inDesign and create pdf's to send out and I store them online on IS-SUU, a simple publication site. This newsletter will be hosted somewhere amongst the IMAC Website (mini-iac.org). I will leave that up to our Web specialists!

What I envision for this newsletter is an avenue for everyone to submit what's going on in their area and show us some pictures, report on their events and let us see their current competition planes. It's a Newsletter for us, the Members.

I also see this as a chance for the Board of Directors to communicate what is going on. There is so much that happens behind the scenes that we don't have to worry about. Sometimes, we think that things are ignored or not discussed. But, in reality they are debated, strategized, planned and, if appropriate, executed. So, we can see, not just the results, but some of the action behind the scenes.

To do this, I need YOUR input. You don't have to be a journalist or terrific photographer. I'm not. I am just willing to try!

Another feature I would like to add is "Letters to the Editor". Write me and let me know about what you think about the Newsletter, IMAC or just RC in general. Keep it civil and I will try and print it!

Send anything you would like to contribute to imacinthebox@gmail.com.

Rich Whitlow
Newsletter Editor
imacinthebox@gmail.com



Letter From The President

Mike Karnes

2018 The Year of the Worlds

As the cold set in at the end of 2017, working on what was to happen for IMAC in the New Year was well on its way. Team USA had been named and began to organize under the direction of Ray Morton. Ray was asked to be Team Manager so that all the details the team might encounter were dealt with. David Moser was voted by the team members to be Team Captain. Congratulations to both, I know the team is in good hands and will make us all proud.

The Event Team headed by Steve Sides has been meeting monthly and things are starting to come together for us to assemble in Muncie for the second IMAC World Championship in September. Adi Kochav, the International Director has been in close contact with those outside the US making sure they have all the information needed to make the trip. As of right now he has commitments from 10 countries plus the USA and Canada. It's starting to get exciting and I am really looking forward to the 2nd World Championship.

Score Gets another Facelift

Needing to address some issues the members were asking to see in our scoring program. The first item was to take the next steps to flight line data input directly to the score program. Unlike the program that the pattern guys use, you will be able to use your own phone. What pattern uses cost thousands of dollars making it non cost effective for an organization of our size. The Aussies are testing it now.

Next was to be able to show at the contest how well you were flying based on the total points possible or PP for short. Because PP shows how close you flew that



round by the percentage of points possible. It lets you see how you compared to the others in your class as judged by the same set of judges, pretty cool. Normalization made it harder to see this because of the advantage points the round winner got. As a bonus this PP that we created also gave us an easy way to track how pilots compared to other pilots. It was thought it could be some interesting data to follow. So the World Standings tab was added to the webpage. Yes it is not perfect and if we view it like reading a horoscope, in the end we can have fun with it and razz our buddies.

Good Luck in 2018 and have a great IMAC season





Letter From The Vice-President

Gil Major

IMAC is not just an AMA SIG promoting scale aerobatics; IMAC is an organization of volunteers from the competitors volunteering their time to teach the new guy, to the CDs putting on the contest, the folks working on the committees, and the Board of Directors; there are well over a hundred folks formally making IMAC work and the rest of the membership informally. There are two things all these folks have in common- they love scale aerobatics and they all have families, friends, jobs, and other clubs, even fly other AMA disciplines to include Pattern.

Members of IMAC are all volunteers! The Dad who brings his child over to you and asks questions about your aircraft and what you were doing with it during the last flight – you, with pride, tell him all about our Sport; you are now a volunteer as you are helping promote Model Aviation, the AMA, IMAC, and next weekend you will be there helping this father & child family learn how to fly or even how to do a loop or roll correctly.

The point is we [IMAC] are a club of people from all walks, of life all personalities, and all parts of the world. We don't talk politics or money; well there is always the conversation about how much the spouse thinks you paid for the new airplane or new motor. IMAC and model aviation cross geopolitical boundaries bringing people together from different parts of the world, different geopolitical backgrounds, and girls can even beat boys.

With any organization or group, it is the volunteers, all of us, keeping the organization together. People like Phil Vance – has IMAC ever had another treasurer? The BOD keeps changing but Phil is always there available day and night to answer questions, to not only the BOD, but to you about your log on, your membership



renewal, to name a few. Shane Snyder who made some sweet exotic wood judging sticks at no charge. Wayne Matthews – 15 - 20 years of teaching, being the IMAC Secretary, IMAC President & Sequence Committee. Ty Lyman who spends at least 30 hours a week helping with training slides, rule interpretation, and the monthly Red Book Review. John & Tina Schroder taking in and teaching kids from all over the world the finer art of scale aerobatics. Clark Hymas who stepped up to replace Mike Verzwylvelt as the NW RD who was in the job for I think 8 years. Mark Leesburg, does not compete anymore, but is known for showing up at the Youth Masters to help kids learn. Corey Ford who drove 12 hours one way to help a club put on an event. Not to forget or slight anyone, these are just a few examples of volunteers.

We are all volunteers in one way or another all wanting the same thing, TO FLY and COMPETE in Scale Aerobatics. We all volunteer at different levels, different levels of time, and in different ways. The next time you are at the flying field trying to get the 1½ Negative Snap, opposite 2 of 4 to work out look around to see if there are some of these other volunteers at the field with you; thank them for what they are doing to promote and move IMAC forward, and appreciate what they do no matter how little or how much.

-Gil



Secretary's Report

Samantha McKinney

Happy New Year! IMAC has such a great year in store for 2018! Here are some of the major events for IMAC in 2018.

With some of the regions beginning their season, many members have noticed that there is an addition to the score program, Percentage of Perfection, or PP. With adding PP to the score program, there is also a feature on the website that shows the PP throughout the whole IMAC organization. This tab can be found in the headings on the IMAC website. Keep in mind, that the PP is only based on the Known sequences. With PP, this created a scoring system for the International Region.

The 2018 Scale Aerobatics NATS will be held in Muncie, Indiana June 26-29, 2018. This is an event that brings all 6 regions together not only to compete, but to spend a week with your "IMAC family." Doug Pilcher, SC Regional Director, will be at the reigns again this year. There will be a format change to a 4-day, normal drops for 2018, along with some evening events for everyone to enjoy. Follow this event on the IMAC website, in the Forums, "2018 Nats," for all the latest news and information.

The 2018 IMAC World Championships will be held in Muncie, Indiana September 4-8, 2018. As being a spectator at the 2014 IMAC Worlds, this is an amazing event! Being a part of the 2018 Worlds Event Staff, I am excited and honored to be a part of such a great event that brings this International organization to life! Follow the IMAC Worlds on their website, www.imacworlds.com. Congratulations to all the pilots of Team USA and the World!

The IMAC Board of Directors is currently working on several different projects, such as incorporating



IMAC, 2019 National Judging School, and Marketing IMAC just to name a few. I encourage everyone to stay up-to-date with the IMAC through our website, www.mini-iac.org.

-Samantha





Treasurer's Report

Phil Vance



2017 YEAR END OPERATING STATEMENT

IMAC REVENUES

Membership Dues	21,848.67
IMAC Regions	740.00
Red Book Sales	494.00
AMA NATS	2,296.50
IWC Registration	2,820.00
IWC Sponsorship	3,605.00
IWC Website (Testing Of PayPal Links)	425.00
TOTAL 2017 INCOME	<u>\$32,229.17</u>

IMAC EXPENSES

Regional Expenses	5,569.09
IWC	159.00
AMA Nationals	8,684.51
President's Awards	102.00
GoToMeeting Account	295.00
Regional Judging Schools	158.68
National Judging School (2017)	6,525.77
Office Expenses	97.11
Postage/PO Box Fee	167.82
Shipping	40.80
Printing	397.00
Trade Shows	1,932.27
Software/Upgrades	139.99
Website (Maintenance)	3,531.00
Website (IMPACT Software-Training Link)	119.88
IWC Website Test (Testing Of PayPal Links)	425.00
TOTAL 2017 EXPENSES	<u>\$28,344.92</u>

Hello everyone! I am excited about being a part of IMAC's first Newsletter.

My name is Phil Vance and I have served as your Treasurer on the IMAC Board of Directors since 2004. I am currently serving my eighth term and am the longest serving Board member. I have been interested and intrigued by airplanes my entire life and remain active in this hobby. I have served two terms as president, three years as newsletter editor and eighteen years as treasurer for my local club, the Winston-Salem Radio Control Club, located in Mocksville, NC.

I first began competing in Precision Aerobatics over 30 years ago. In 1999, my interests turned solely to IMAC. I have been the Contest Director for numerous Precision Aerobatic, IMAC and IMAA competitions at several local clubs.

I was Co-Director for the Scale Aerobatic NATS in 2004 and 2006 then the Event Director in 2007, 2008 and 2009. Beginning in 2010, I took on the role of IMAC NATS Coordinator and have held that position through 2017. In 2014, I was the Assistant Event Director for the inaugural IMAC World Championships and will fill the same position in the 2018 World Championships. I've been married to my lovely wife, Rhonda, for 21 years, and she has supported me in every endeavor in this great hobby.

I am an avid member of IMAC and passionate about its growth worldwide. I plan to continue overseeing all IMAC Finances and utilize my experience for the betterment of this organization!

2017 Surplus/(Deficit)	\$3,884.25
ADD: 2016 Retained Earnings	\$ 39,998.97
12/31/2017 Ending Balance	<u>\$43,883.22</u>

An Interview With the 2017 King of IMAC Nats, David Moser



InTheBox: How did you get into RC?

David: I grew up around planes hanging from the ceiling at my Dad and Grandparent's house. At the time, they were not flying as much. I started asking questions about them and one day my grandpa pulled down a PICA 1/5 scale Waco he built painted in dark red for me to look at. I asked to clean the dust off of it and the next week he bought me a Tower Hobbies Trainer. My dad immediately jumped aboard and showed me every aspect of a model airplane and with his coaching and training I soloed within a day. The rest is history! I could write a book just on this question alone.

InTheBox: How did you get into IMAC?

David: In 1999 at our local field in Lantana, FL, called The Skyhawks, there were two guys who would come out with Godfrey Extras. Their names were Richie Breines and Mike Zubriky. I would always watch them call maneuvers for one another and would consistently ask questions about what they were performing. They convinced my family to take me to compete in Basic at the next event in the little town of Christmas, FL. I had an aileron servo strip out during the second round and, during repair, a man came over and introduced himself as John Schroder. My life changed forever.

InTheBox: Who were your biggest influences in RC and IMAC?

David: My family, Dad, Grandpa, and John Schroder are the first people that come to mind. Growing up and progressing through the ranks they were always supportive. I am beyond thankful! They have countless hours in coaching and training me for whatever event we are preparing for. This is my favorite question because there have been numerous people who have helped me. Which is why I love IMAC, there is always room for improvement and many people willing to help you.

InTheBox: What do you like best about IMAC?

David: The People. The IMAC community is second to none. Your biggest rivals can also be your best friends. After 20 years of being involved with IMAC, I have seen many people come and go. However, most everyone who has pursued other interests, I am still in contact with. You meet and share similar passions with some really great people. A great example of this is John Schroder and I's friendship. I had the honor of being the best man at his wedding.

InTheBox: What is the one biggest thing that contributed to your success?

David: Practice, practice, practice! Always striving



to be the best that I can possibly be. I know how to listen and take constructive criticism from judges and my fellow competitors. John Schroder has been my coach since the day we met and I have to credit him for much of my success and knowledge for scale aerobatics. I am very lucky to have such a great man as my role model!

InTheBox: What do you consider some of your greatest achievements?

David: I would consider having won my first Unlimited National Championship in 2016 my greatest achievement. And along with it, I was awarded the Bill Bennett Cup. Up until then, I had enough National second place plaques to make a 1 on the wall. Haha! Having moved up to Unlimited in 2004, it took me 12 years to accomplish this. But, I never gave up. In a way, I'm glad it took me that long. I have so much appreciation and respect for it and what it takes to achieve it.

InTheBox: What do you consider when selecting a competition plane?

David: I consider what will best suit my flying style. I flew a Dalton Extra300ML for 6 years and what a wonderful design it is. Then one day, I flew a Carden Extra 300 126" which almost flew identically, but with one huge advantage. The airspeed. I was able to "flow" through a sequence with more ease and breathing room. It was more like a tractor in the sky maintaining the same airspeed throughout the entire flight. That is the plane I have won the last two National Championships with and will be continuing to compete with.

InTheBox: How much do you practice and what is your routine?

David: I do not practice as much as people probably think I do. Once a month or so during the off season to knock the dust off. I like flying other things like Scale, Gliders, Horizon Hobby BNF products, etc., to have fun and expand my portfolio. When IMAC season rolls around, and or a big event like the Nationals, Worlds, Tucson, Clover Creek Invitational, I will put in a lot of time and practice to prepare.

InTheBox: What does a day in the life of David Moser entail?

David: I am the Farm Manager here at Clover Creek Aerodrome and much of my time throughout the day goes into maintaining the property. I absolutely love it! Occasionally, at the end of the day, we will go out to the hangar and get in a couple flights before sunset. I spend many

of my evenings down in the workshop building, trying to improve my skills in that part of the hobby.

InTheBox: What interests do you have outside the hobby?

David: Fishing! I absolutely love fishing. My grandfather is a guide down in South Florida and naturally I became an angler myself. I have always been huge gamer. When I was a teenager, I would travel around the United States with a team going to MLG (Major League Gaming) tournaments for Halo2 and Call of Duty. I am also a sports fanatic. Go Phins! Go Canes! Go Rays!

InTheBox: If you could do one thing for the rest of your life, what would it be?

David: Exactly what I am doing now. I'm outside most of time, looking after 200 acres and maintaining the property with John. There's an unexplainable satisfaction that comes when mowing the Bermuda grass out here. There's a hangar within walking distance with assembled airplanes to fly. A workshop to build and fix things. And best of all there is always something to do! Never a dull moment. I am blessed with where I am currently in life and wouldn't trade it for anything.

InTheBox: Anything you would like to add?

David: IMAC has given me so much joy and fulfillment in my life and the opportunity meet some great people. It has taught me that some things in life do not come so easily. That dedication and practice do pay off. That there is always room for improvement and to never give up. I hope to one day give back to IMAC as much as it has given me.



The IMAC Competitor

By: Toby Silhavy

Hello out there in IMAC land, my name is Toby Silhavy. This will be my first How To article on how to build, set-up, fly, and maintain your IMAC aircraft. A little about myself, I have been flying R/C since the late 70's and have been flying competitively since 1986. I have been active in IMAC since 2000 and have been involved from instructing new IMAC competitors all the way to being a NATS judge. These articles are intended to teach some of my techniques on how to be an active competitor. Enough about me, lets get to it.

With the advent of carbon fiber development, we can now implement this technology into the building of our planes. It not only makes the plane stronger, but it also makes the plane much stiffer. What does that mean for an IMAC competitor? Well in simple terms, your plane will last longer and your control response to a given input will be much more crisp. I try to implement carbon fiber into my wings, elevators, stabs, and rudder. There are a few ways to add carbon fiber. Carbon veil is a tissue like material that is impregnated with epoxy and goes between the foam and the balsa sheet that is being applied to the foam. This can be an expensive option, but it will make a very stiff wing and is often implemented on high stress wings like those used on q500 race planes.

My preferred method is to use carbon fiber strips or square tubes. To be able to use these materials we must integrate them into the foam body they are being applied to. We first must have the proper tool to integrate the carbon fiber into the foam. The carbon fiber I'm currently using is 0.5mm x 10mm x 1m and you can obtain these from such places as alofthobbies.com or cstsales.com. So, in all of my parts I need to cut a 0.5mm x 10mm slot. I decided the easiest way to do this was to take a piece of 1x2x6" pine and rip a thin strip that was 10mm wide and 0.5mm deep.

On top of this strip I glued some 40-50 grit sandpaper with some CA glue. Now I need to cut some straight slots into the foam. I generally use a thicker builders square or larger ruler and

It generally takes 5-8 firm passes to get the foam sanded trench to be formed. You want the trench to be slightly thicker than the carbon fiber strip you are applying (remember you are going to be placing glue in the trench)

Here, I am applying two carbon fiber strips on each side of the rudder (this is a 102" yak55sp).



I apply West-Systems epoxy on the foam trench then apply the carbon fiber strip directly on top of the foam. I apply West System on my foam then place everything in a vacuum bagger system for 18 hours of cure time.

You can use the same technique using polyurethane glue (such as gorilla glue). One technique I have used when applying polyurethane glue directly to foam is to heat a bowl of water for 2 minutes, then place the bottle of polyurethane in the water for several minutes. This will help thin the glue and make it much easier to spread on the foam or onto the laminating balsa sheeting. I would suggest using small bottles of polyurethane glue as placing the glue into the heated water seems to reduce the lifespan of the glue and it will thicken up in a few months.

Well everyone, hope this article helps and see you at the next contest.

Remember-Chase the Dream, Not the competition.

-Toby



Anatomy of a Caller

By: Rich Whitlow

It's not unusual at a contest to hear someone asking, "hey, would you call for me?". For the veterans, they may know what they are getting when they ask, but many times it's a toss-up.

So, what makes a good caller? Does everyone need the same input from a caller? The short answer is no. Everyone has a different expectation and need from a caller to get the best out of their sequence.

Many veterans who practice a certain way may just want someone to call out the names of the maneuvers and be there in the event there is a memory lapse or short panic attack. But, a lot of pilots need more than that to get the most out of their flying.

To make this simple I will approach this as caller for a newer pilot flying Basic or Sportsman. You can adjust from here, based on the needs of the pilot that you are calling for.

When I agree to call for a pilot, I will ask some basic questions to get a feel of what he/she expects and needs. I will ask them if they have any write-ups that they are used to. If they are used to hearing the maneuvers in a certain way, I will make sure and use that same wording. But a lot of pilots will have nothing but the Aresti. So, I suggest that you be proficient with reading and interpreting the Aresti figures. You don't want to be fumbling through trying to read the figures when your pilot is trying to complete their sequence!

Assuming we have that new pilot who doesn't know what he/she wants and needs, I take the following approach.

1. I want to establish myself early as a steady calming voice in the ear of my pilot. I want them to feel that no matter what happens, I will be in their ear to provide guidance and support.

2. I prepare the pilot for the upcoming box entry. I ask if they would like a trim pass or if they are ready to enter the box on the next approach. I ask them to let me know when they are ready to enter the box. To help prompt the pilot and keep them on track, I will clearly ask the judges if

they are ready. Once I have this response and the pilot has indicated they are ready, I will call in the box, even if the pilot does so himself.

3. Next I call the name of the maneuver. For example, "360 Degree Aerobatic Turn". Then I will describe the maneuver and any easy things that the pilot can use to keep the deductions to a minimum. I will say something like, "Roll to a 60 - 90 degree angle and hold that angle as you begin the turn. Establish your turn radius and keep it constant. Watch your altitude." Etc..

4. As the pilot approaches the end of the maneuver I will try to give something to indicate the exit, such as "roll out of the turn to upright and make sure you exit parallel with the runway".

5. Before they end the maneuver, I will say something to get them ready for the next maneuver. I don't want them to end the maneuver without being sure what comes next. Let's say the Hammerhead is next. I will say something like "Now set yourself up for your Hammerhead at the right side of the box"

6. Then after they approach the correct location I will start the description again. But, I try to be careful not to start too early. If they are center box and I start calling "pull and establish a vertical upline", I find the newer pilots will dutifully follow instructions and pull right there. Even if I mention to do it in the far right side of the box.

That all being said, I try to look ahead and guide the pilot to set themselves up to be at least in a position to perform the maneuver well and safely, whether it is done well, or not. For example, "Immelman, pull a big half-loop and get high enough to set yourself up for your spin. When you complete the half-loop, 1/2 roll out to an upright exit and get ready for the spin."

So, what happens when something goes wrong? The pilot misses something or rolls the wrong way or, whatever. This, in my opinion is where a caller really earns his money! One major mistake or zero, does not kill a sequence. But, a panic move or just quitting could. I will immediately lead

the pilot to positioning for the next maneuver. I will use a firm and steady tone. I am taking charge for a moment. I will IGNORE any comments made by the pilot and start putting the corrections in play. "Roll to upright and setup for your loop" or "Make a 180 degree turn and head in the other direction and setup for your Hammer". I just want to get them there and move to the next maneuver with the least amount of deductions, and not let them dwell on the mistake.

If the mistake is too severe and a single turn and roll will not get them back. Then, I use the break and talk them through getting back into position. This is not the time to discuss breaks and break penalties. Judge the wits of your pilot and when they are back in position and ready, I will let the judges know "back in the box" and have them fly the previous maneuver and continue on. If it gets too severe, never forget...Save the Plane!

Once all of this is done, the pilot relaxes and concentration breaks and the adrenaline starts the sticks shaking. So, I like to make sure I am there for landing line-up and talk them through it, if needed. I don't feel like my job is done until the plane is safely back on the ground!

I realize that there are many preferences and with many pilots I will just be brief and stay out of the pilot's way. But, I think we have to be prepared to be there for the pilots. I find that the caller experience affects a great deal what the pilot feels about the round and the contest. If they feel supported, they come away much more confident and willing to go on the next round or contest.

I just want the best experience for the pilot. I want the competition to be good and the experience to be fun. With just a little help from a good caller, an experience can be greatly enhanced.

Rules Committee

The Rules Committee and the Board of Directors have been working on four recommendations to the Scale Aerobatics Control Board (SACB) for the 2019-2020 Rules cycle. In addition to the proposals from the Rules Committee, there were three Requests for Action from IMAC members. Below are the four proposals from the Rules Committee, approved by the IMAC Board of Directors for review by the IMAC membership.

The Rules committee recommended that the three RFAs from the members not be forwarded to the SACB for the following reasons.

RFA-10, Promote Electrics in IMAC competition, was flawed in that it proposed a different standard for electric powered vs. gas powered planes. The Rules Committee and the BOD believe that all pilots in a competition should be held to the same standard, not differing standards based on propulsion. However, the committee and the BOD are proposing a modification

to section 11 that will make it easier for a contest director to opt for single sequence rounds in the contest without having to seek a deviation.

The second member RFA, RFA-11, proposed that when a three judge panel is used, one judge giving a zero would be overridden by the other two judges, and the average of the other two judges score would be assigned. This proposal was rejected because the committee and the BOD believe that judging must be a completely independent action, including awarding of zeros. Despite many pilots perception, we believed that more often than not, the pilot giving the zero saw something that was missed by the other two judges, and that eliminating that zero would not be fair to the other competitors in the same class. Further, the low score would be easily retained by the judge awarding a 0.5 instead of a zero, which again reinforces a judge awarding a score other than the score the pilot earned.

Finally, RFA-12 proposed a significant rewording of the Snap Roll criteria, including removing references to “autorotation.” Both the committee and the BOD believed the proposed rewording would cause more confusion, not less, and the removal of the reference to “autorotation” would create issues for pilots that

receive zeros. We believe the current perceptions regarding snap rolls can be adequately addressed through continued education, judging schools, and judging clinics in connection with competitions.

IMAC: The Cool School of Scale Aerobatics By Greg Hladky

If you have a curious mind, you know that learning is a lifelong pursuit. After more than a century of flight the field of aviation alone provides so much to discover, to wonder about and to learn that a single lifetime seems inadequate to cover it all. The International Miniature Aerobatic Club (IMAC) is just one Special Interest Group (SIG) among many in the AMA that aims to satisfy a very specific interest in aviation: scale aerobatics. As a new competitor I like to think of it as the cool school, complete with classes, great instructors, students, friends, and the most challenging exams you will find anywhere!

Although not a school in the traditional sense, with classrooms and text books, IMAC provides all the tools and support needed to learn firsthand what scale aerobatics is all about. By breaking competition into five classes, beginning with Basic and moving up through Sportsman, Intermediate, Advanced, and Unlimited, IMAC introduces increasingly more challenging maneuvers that build on the skills learned



in a lower class. The best pilots can take those skills, add some creative choreography and music, and put on a 3D show in the Freestyle event. What makes IMAC fun is that the real learning takes place, not in a stuffy classroom indoors, but outside, where you can put principles into practice. There you can fine tune a precise aerobatic machine and test your flying skills against the backdrop of an ever changing sky. How inspiring is that?!

Modeled after full scale planes competing in the International Aerobatic Club (IAC), IMAC sets the rules and provides the events that allow RC pilots to improve and test their skills, and to compete with others in a friendly atmosphere. At every event I have competed in I have found experienced pilots willing to help, and not just on the flight line, but in the online forums as well. (That saved me from almost giving up on IMAC after witnessing a rare mid-air collision – but more on that next time.) IMAC also provides the judging schools, both online and in actual classrooms,





skills, marking the achievement of personal goals; it can be a serious competition to be the best in your region, country or the world; or it can be simply time outdoors with friends and family doing what you enjoy most.

Whether doing one or all of the above, I have found IMAC has given new purpose to my flying. It has inspired me to not only be a better pilot, but to be a better person, to give back what so many have given me. It has provided me with a unique challenge unrivaled anywhere else in the RC world.

In the next issue I'll address the F-factor, the fear new pilots face going into competition. Until then, stay tuned and fly right! (Or left, if Schedule C. ;-))

that cover all the criteria by which a figure is judged, including many of the elements found in the Aresti catalog.

The precision with which scale aerobatics must be flown may seem overwhelming to a new pilot, especially when looking at all the ways points can be deducted. Half point deductions begin with just a 5 degree deviation from wings level, or horizontal, 45 or 90 degree track. That's less than one second on the clock! That level of precision, however, is what makes IMAC challenging and builds camaraderie among its pilots. Once you have flown your first sequence well, and can repeat that in front of judges, you can be proud of achieving something few other RC pilots have. You can say that you have earned your wings as a scale aerobatic pilot.

IMAC unites people from diverse backgrounds with a common interest: flying scale, aerobatic planes. This is an amazing accomplishment, given how divided the U.S. and many countries are today over politics and religion. In IMAC we aren't brought together by what we fear or hate, but by what we love. We have a common passion for aviation and the challenge of precision aerobatics.

As Bill Teeter (ARD Ontario) reminded me recently, IMAC can be many things, depending on what you want to get out of it. It can be a school for learning aerobatics; it can track the progress of your aerobatic



Greg Hladky started flying RC gliders in 1980 off the coast of California. He earned his full-scale wings as a Naval Flight Officer in 1988. After a fifteen year break to raise two children in Cincinnati, Ohio, he returned to model aviation in 2016 and completed his first full year in IMAC as a Basic pilot in 2017.

Tips On Building Model Aerobatic Aircraft

Part 1

By: Cambize Shahrदार

It would be my honor and pleasure to share information I have learned in the past 6 years on building a 35% or 40% aerobatic aircraft. For this 1st part, we will discuss preparing to build. This may be overlooked, but if you have never built an aerobatic airplane or if you plan to in the future, I can share with you what will really help to get it done.

The first thing you will need will be support from your family and loved ones. IF you are not living with anyone, then you can skip this paragraph. IF you do have people who live with you, then you may want to consider some way to build your model in an area of your home that no one travels through and that is away from where others sleep. If you have a basement or garage, that works great. However, be aware that if you do have a basement, be sure that the doors are big enough so that you can bring your model out once you are done with it. Another consideration to think about it, that as you build, you will generate a plethora of balsa dust. This can be overcome by using a well-ventilated room and a shop vac. You can also turn on the shop vac and collect the dust as you sand. If you have access, then using a sanding box is even better. And if possible, to use a micro-particle air purifier or box is another way to decrease the dust and particles that will be created. Additionally, building requires uses of glues and other liquids, some of which are flammable, therefore try to avoid keeping these in the house once you are done with them.

Next requirement is a build table. The build table has to be big enough that the length of the fuselage will fit over it. Sometimes, this can be just long enough, so that the motor box hangs over the end of the table, but everything behind it has to be on the table. Another consideration for this table is, that it has to be completely flat and true. I cannot stress the importance of this. DO not build on a plastic table, like the ones they sell at Walmart. These tables are not flat. Your model will not fly well if you build it on a plastic table. The table can be made of wood, or some even have a slate of granite or glass to build on. Whatever it is, make sure you use a long straight edge to assure it is straight and true and level. Another tip, if you build your own table or have one made of wood, it is critical to check it before you build, and also any other following days that you are still building

on it, since heat and humidity can warp the wood surface. If you plan to build your own table, look into something called a torsion box. This is a way to build a table that the top will more than likely not warp over time. One last tip on a table: If you have an old table or a door, and it is not straight, then you can go to Lowes or Home Depot and purchase MDF wood panel, that is ¾" thick or 1" thick. This has to be cut to the same dimension as your surface. Then, you can place shims under it to make it straight. For shims, you can use craft paper.

Now, the fun stuff, let's talk about tools. What tools you have available or what you will need is important to make something difficult easier. The important power tools to have are a drill press, band saw, disc and belt sander, and a bench-top spindle sander. These do not have to be the bigger machines; they can all be the smallest ones out there. Very important to also have different types of saws and a miter box. One of the saws I am referring to are the Japanese type saws that have a sharp cutting surface on both sides and are flexible. These are great for cutting thru balsa. I use one with very fine teeth and another one that has more coarse teeth. Other saws to use are coping saws and a hack saw. Some other tools to have are incidence meters, long straight edge, long rulers, and a long level, over 80".

Finally, I will discuss adhesives. Glues that I like to use are clear aliphatic glues. The one that works well and sands well is the Gorilla Glue brand of wood glue. It is white and once it cures, it is clear. For a polyurethane glue, my favorite is Elmer's Brand. Difficult to find, but if you can get it, works better in that it is less viscous than the Gorilla brand. Epoxy glues needed include Hysol, 30 minute epoxy, and epoxy resins like West or ACP. Lastly, important to have thin and medium CA glue.



The Importance of Pre and Post Flight Inspections

By: Dan Powell

I have always performed basic pre and post flight inspections on my planes. The importance of these inspections became extremely clear after witnessing 2 crashes due to inadequate inspections and 2 saves due to good inspections in the same weekend.

The first crash was due to not checking aileron deflection after the engine was started. The pilot checked throws started engine then on takeoff the ailerons had no response and the plane did a slow roll to its demise. Inspection revealed an aileron connection that was loose and failed under the vibration of the engine. The second crash was a plane that had just had the radio reprogrammed. Basic preflight was done on low rates. The pilot flew 5 minutes, switched to high rates, and then the first pull to vertical the plane snapped into the ground. Investigation revealed that in high rates the expo was set wrong and one elevator half would reverse at full deflection. In both instances a through preflight inspection would have saved the day.

Here are examples of two saves in the same weekend due to adequate inspections. The first save was noticing that on high rates one aileron moved slightly different than the other. Apparently the outbound servo was not working correctly. While troubleshooting on the ground the suspect servo locked at full deflection. The second save, on a different plane, was discovered during post flight inspection. While removing the wings and inspecting the aileron linkages it was noticed that one of the hard-points had worked totally loose in an aileron. Further inspections revealed that two more were also loose.

After that weekend I interviewed a few pilots as to their pre and post flight inspections. The following is a list compiled from this feedback. The list is not intended to find absolutely everything and there may be other items that you would want to add.

o Preflight

While assembling your plane try not to be distracted. Distraction sets you up to forget crucial steps, such as wing bolts. If a spectator or other pilot is talking or asking questions either wait until the conversation is done or politely ask he or she to hold their questions until you have completed assembling your plane.

o Assembly

- o Look for loose wires
- o Manually move surfaces looking for slop
- o Slightly tug on surfaces to check for loose hinges
- o Inspect tank and fuel lines for leaks

- o Look for loose bolts
- o Tug on engine to determine if mounts or firewall is loose
- o Install wings
- o Make sure all wing bolts and servo connections are completed
- o Fuel plane with canopy off so you can watch the fuel tank and identify any issues or leaks
- o Install Canopy
- o Check all batteries

o Prior to flight

- o Check batteries again
- o Turn on transmitter and check transmitter battery
- o Ensure you are on the correct model
- o Place all transmitter switches into your take-off setting
- o Turn on plane and listen for any servos fighting each other
- o Check the deflection of all surfaces on highest rate sometimes problems only occur at full deflection
- o Check the different flight conditions in your radio (the switches you plan to use during the flight)
- o Start and listen to your motor, does it sound different? Was it harder to start than normal?
- o Now check all your control throws on high rate again with the engine running
- o Return switches to takeoff condition
- o Enjoy your flight

Post Flight Inspection

- o After each flight
- o Did anything seem wrong or different during the flight? If so investigate
- o Inspect for bolts that may have loosened
- o Check for loose covering
- o Manually deflect surfaces to inspect for loose linkages
- o During Disassembly
- o Look for any wires that may have come loose
- o Check every control surface and linkage connection
- o Check batteries, note how much battery was used
- o Look for loose bolts
- o Clean any oily residue from plane
- o Smile to celebrate a job well done

-Dan

The 2017 Presidents Award

By: Rich Whitlow

There is an award that not everyone is aware of. It's the *IMAC President's Award*.

The *IMAC President's Award* is IMAC's highest honor and is presented to those individuals whose devotion, service and commitment to the sport of scale aerobatics is judged exceptional. It is awarded at the sole discretion of the current IMAC president and presented annually at the US Scale Aerobatics National Championship.



In 2017 the award was given to a well-deserving individual, Doug Pilcher.

Doug currently serves as the South Central Regional Director. He is a hands-on leader that travels many miles to make sure that there is always support for new contests, makes sure that there is always a score-keeper, helper, judge or whatever the contest needs.

Doug also makes sure that any newcomer is welcome. When I decided to become more than a



member, but move to competition, he spent more than an hour on the phone with me making sure that I was comfortable and prepared for my first competition.

Doug also helps with just about everything IMAC. He was last years Nats director, he helps with the website, he is very active with the Board of Directors and works on many of the 2018 World's duties.

Behind the scenes Doug is always there making IMAC the best that it can be, This is a well deserved award, given to a fine IMAC member and great person.

Congratulations Doug!



Score Program Update

By: Rich Whitlow

This year a lot of work has been put into revising the Score Program.

This update was the brain-child of Adi Kochav, the International Director. Adi would like to establish a Regional Points System for the International IMAC Members.

This International Competition with Perfection Points System (or ICWP) would have to overcome some mighty big hurdles. One of the biggest being the size and vastness of the International Region. There are contests in Australia, Israel, Italy, England and many, many other countries. So, the conditions can be vastly different, number of contestants can vary greatly and something was needed to help competitors get a true comparison for a Regional Point System,.

So, this year the Score program introduced a feature or report that includes the “Percentage of Perfection”. That way there is a base value that can be used to compare the results of contests across the world.

This Percentage of Perfection is a raw value of judged scores that is weighted with the K-Factors of the maneuvers themselves. So, the actual factored


score is divided by the maximum possible score and a “Percentage of Perfection” is derived. For now, this is only for the knowns.

This inclusion was not a quick, easy fix. There were close to 20 revisions that were evaluated across the globe. Dan Carroll, in Australia, handled the coding and putting together the program. Mike Karnes, Doug Pilcher and Kurt Koelling handled the checking and re-checking of the math, and functionality. And Roy Borrow to incorporate it within the mini-iac website.

The results are the new Score Program. We will get our first good look of this program at the first Webinar to review it, on February 5, at 8 pm EST.

For now this program will give the world a Ranking System, but the USA will only use this as an informational and a reference of how they are doing against the rest of the world. This is a great tool to help quantify for yourself how you match up with other IMAC pilots around the world, using again, just the kept knowns.

A big thanks to all of those who worked on the project. Look on the IMAC website and watch the results come in.

Region <input type="text" value="---"/>	Class <input type="text" value="---"/>	PP Avg 
SW	Unlimited	88.081
SW	Unlimited	85.904
SW	Intermediate	80.227
SW	Intermediate	79.903
SW	Intermediate	79.464
SW	Intermediate	79.133

2018 IMAC World Championships

This year, 2018, is a special year for IMAC. This is the year that we hold The IMAC World Championships. Competitors from all over the world will be descending onto the AMA Official Flying Site in Muncie, Indiana and compete for an opportunity to be named the best in the world.

The World's (or IWC) was organized and run by Wayne Matthews in 2014. It was a



tremendous event and the current event team knows that they have big shoes to fill to make the 2018 IMAC World Championships even better than 2014.

The teams consists of:

Steve Sides - Event Director
Phil Vance - Assistant Event Director
Mike Karnes - Contest Director
Doug Pilcher - Operations Manager
Rosie Pilcher - Assistant Operations Manager

This team is working tirelessly to make sure that this event is a great event that the Competitors will remember for a lifetime. Doug Pilcher told me that his first email on this event was back in November of 2016. They have been planning and developing ever since then.

They have put together a great team under them to make sure that the World's Event runs smoothly.

Phyllis Youngblood - Head Scorekeeper
Rhonda Vance - Assistant Scorekeeper
Samantha McKinney - Assistant Scorekeeper
Jenna Johns - Assistant Score Keeper
Randy Foster - Flight Line Boss
Skip Kixmiller - Flight Line Boss
Alan Batts - Flight Line Boss
Allen Eklund - Flight Line Boss

With the need of multiple flight lines running at the same time, the AMA Site, plus these great volunteers will make that possible.

Another very important and key factor of making the World's a success is the Sponsors. There are many levels of sponsorship, from Bronze all the way up to Platinum. So, when you come across a sponsor, make sure they know how much IMAC appreciates their support. This is a small community and we all depend on each other to keep the community thriving.

So, who is competing in this great event? We have pilots coming from Australia, Austria, Canada, Colombia, France, India, Israel, Italy, Norway, Paraguay, United Kingdom, USA, Sweden and Venezuela. This is quite an impressive showing. The pilots list as of this printing is:

Team Australia:
Advanced - Chris Stuart
Unlimited - Mark Easton

Team Austria:
Unlimited/Freestyle - Werner Kohlberger

Team Canada:
Team Manager - Lee Prevost
Sportsman - Steven Ruxton
Sportsman - Rick King
Sportsman - Darren Bowman
Intermediate - Daniel Laliberte
Intermediate - Gordon Wilhelm
Advanced - Henry Piorun
Unlimited - Denis Dionne
Unlimited - Claude Vallieres
Unlimited - Lee Prevost

Team Colombia:
Sportsman - John Fredy Rueda Ariza
Intermediate - Antonio Rodriguez
Intermediate - Nicolas Martinez
Intermediate - Carlos Anaya
Unlimited - Ramon Dezubiria

Team France:
Team Manager - Alain Detry
Sportsman - Mathieu Glory
Intermediate - Matthieu Rigodanzo
Unlimited - Nicolas Detry

Team India:
Intermediate - Harshil Mane

Team Israel:
Sportsman - Amit Doron
Intermediate - Guy Alon
Unlimited - Adi Kochav

Team Italy:
Team Manager - Manrico Mincuzzi
Intermediate - Jonathan Sabini
Advanced - Manrico Mincuzzi
Unlimited - Sacha Cecconi

Team Norway:
Unlimited - Magne Hegstad

Team Paraguay:
Advanced - Luiz A. Bosch

Team United Kingdom:
Unlimited - Thomas David

Team USA:
Team Manager - Ray Morton
Sportsman - Ryan Crutchfield
Sportsman - Sam Pankratz
Sportsman/Freestyle - JJ Hedrick
Sportsman/Freestyle - Cayden Bruce
Sportsman - Philip Leister
Sportsman - Luke Young
Sportsman - Guy McIntire, Jr.
Sportsman - Dan Powell
Sportsman - Gale Vasquez
Intermediate - Carlos Bonachea
Intermediate - David Herron
Intermediate - Terry Pellerin
Intermediate - Joseph Adamo
Intermediate - John Wolfe
Intermediate - Matt Komar
Intermediate - Greg Dial
Intermediate - Clark Hymas
Intermediate - AJ Jaffe

Advanced - Evan Turner
Advanced - Mitch Johnson
Advanced/Freestyle - Joshua McCreary
Advanced - Earle Andrews
Advanced - Joseph Thibodeau
Advanced/Freestyle - Toby Silhavy
Advanced - Cam Shahrदार
Advanced - Tim Cooper
Advanced - Dean Bird
Unlimited/Freestyle - David Moser
Unlimited - Kurt Koelling
Unlimited - Jason Shulman
Unlimited - Ty Lyman
Unlimited - Kal Reifsnyder
Unlimited - Will Berninger
Unlimited - Rick Byrd
Unlimited - John Paul Takacs
Unlimited - Spencer Nordquist

Team Venezuela:

Intermediate - Vincente Bortone
Unlimited - Carlos Silva

These competitors worked hard to qualify and will be in top form, as they come into the World's competition.

The judges for this event also come from throughout the world.

Bill Teeter - Canada
Charles Youngblood - USA
Henry Van Loon - Netherlands
Jim Daly - Canada
Peter Bryner - Australia
Rich Whitlow - USA
Emilio Moreno - Spain
Brad Davy - USA
Joe Ryan - USA
Peter Nesbeda - USA

These judges will be there to allow the competitors to compete and not have to worry about flying times, along with time being in the judging chair.

The Championships will be held on Tuesday, September 4, 2018 through Saturday, September 8, 2018. The contest will be conducted using 2017-2018 AMA RC Scale Aerobatics Rules.

The pilots will fly both Known and Unknown sequences throughout the contest. The Sequences will be the 2018 Known Sequences, published on the IMAC Website (www.mini-iac.org) The Scores will be normalized for all rounds, before any scores are dropped. Each flight line will have a minimum of 3 judges. This will give a good variety of scoring that will help in making a smooth and evenly judged event.

There will be an official hotel for the Pilots to stay and a large meeting room to accomodate meetings and gatherings. Rosie Pilcher is working hard to get this finalized and will be published on the websites.

There will be social gatherings along with the contest, so that the pilots can relax and everyone can enjoy the legendary camaraderie that IMAC is known for.

So, congratulations to everyone that has qualified for this event. This will definitely not be an event to miss.

If you are not competing and have the opportunity to travel to Muncie, Indiana to spectate, you won't be disappointed. This is going to be a great event.

Education

By: Keith Cannon

With all of the rules we as judges have to remember in order to correctly apply deductions, some simple tips and tricks can help us simplify that task and allow us to concentrate on the finer points of judging. One of the fundamental deductions that we must constantly apply is angular error. Angular error is defined in this context as any deviation from wings level, deviations from standard roll positions, and deviations from prescribed flight path.

Trying to list all of the things that would qualify as an angular deduction would take a very long document. In general, they can be broken down into a few categories.

First is wings level horizontal flight. Anytime we are flying the wings must be level and we must be flying horizontal to the true horizon. When the flimsy calls for a radius to be flown the wings must remain level from the perspective of the pilot inside the airplane. The only time the airplane should ever break “wings level” is during the course of a prescribed roll element. When the flimsy calls for a 45, 90, or 135 degree line to be flown, that angle is compared against the true horizon.

The second main category of angular error is rotational elements. With rotational elements, the rotations must start and stop wings level. In the case of hesitation rolls there must also be intermediate pauses at the prescribed angles (eg 2 of 2 would pause at 180 degrees). Rotational elements also include spins and snaps. Angular error is measured from the final point, regardless of whether it was under or over rotated. When there are multiple roll elements on a single line, each roll element is judged independently for its particular criteria.

Now that we have defined what angular errors are, how do we apply deductions? Per the AMA Scale Aerobatics Rule book, for every 5 degrees of observed

error, there is a ½ point deduction. It really is that simple. If the angular error exceeds 90 degrees, the figure must be graded a zero. Now that we understand the rule and how it should be applied here are a few examples:

- 1) **Aerobatic turn, the established bank angle 55 degrees – ½ point deduction.**
- 2) **Stall Turn, plane is flying with a cross wind and blows 20 degrees off track – 2 point deduction**
- 3) **Flying wings level horizontal line. Aircraft track is 10 degrees from horizon – 1 point deduction**
- 4) **Full snap roll goes 375 degrees – 1.5 point deduction**
- 5) **8 point roll, each point is off 5 degrees (Remember each point should be 45, 90,180 (or some variant such as 225) and roll rate is based on previous segment) – 4 point deduction.**
- 6) **Vertical up line into the wind, plane flies at 100 degrees rather than 90 – 1 point deduction**
- 7) **45 downline is at 35 degrees – 1 point deduction**
- 8) **1 ½ positive spin, airplane overrotates 15 degrees – 1.5 point deduction**
- 9) **1 ½ positive spin, airplane overrotates 95 degrees – Zero (Anything over 90 is zero)**
- 10) **360 roller with 1 roll to the inside, air plane dips 10 degrees and then climbs 10 degrees – 1 point deduction. The deduction is only applied for the error and not the subsequent correction.**
- 11) **360 roller, roll element ends with 15 degrees of turn remaining. – 1.5 point deduction.**

2017 IMAC Nat's

By: Rich Whitlow

The IMAC Nat's was a great event, with the top pilots squaring off in a great 4 day event.

The AMA Flying Site in Muncie is a great location with many amenities. There is also the bonus of the AMA Museum and facilities for a great banquet.

Congratulations to all of the competitors and winners. With the Worlds in 2018, the top 3 finalists in all categories (Sportsman up) earned a ticket to worlds.

If you get an opportunity to attend Nat's or Worlds in 2018, it is a trip worth taking!

Finalist and World's Qualifiers

Sportsman

1st - Sam Pankratz
2nd - JJ Hedrick
3rd - Cayden Bruce

Intermediate

1st - Kobe Cantin
2nd - Carlos Bonachea
3rd - David Herron

Advanced

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

Unlimited

1st - David Moser
2nd - Kurt Koelling
3rd - Jason Shulman

Bennett Cup Award Winner - David Moser



Italian Cup

By Manrico Micuzzi



This competition has been designed to be an IMAC open international event capable to attract many pilots from several countries. We wanted it to be a full IMAC event offering all flight classes except the basic, in order to become a point of venue for all the pilots seriously involved in IMAC.

We started in Bergamo, North of Italy, in 2015 with one flight line that has been capable to attract 33 pilots from 7 Countries. This has been a relatively small event that has enabled us to also test our organizational capabilities.

In 2016, we moved to Caorle, very close to Venezia, within a great airfield that has an 800m runway and large hangars. At this location, we have been able to install two simultaneous flight lines and to attract 45 pilots from 9 Countries. Here, for the first time, we have also created a National Award, a big challenge cup that went to the best performing National Team. At this competition, the Austrian Team definitely won the Cup.

Caorle 2016 has been the first truly IMAC Open International competition ever implemented in Europe. This event has definitely propelled the interest for IMAC in all the countries, paving the way for future progress.



Since then, National coordinators have been nominated in each of the European Countries and more organizational support has been provided. In 2017, in Europe, 61 semi-scale aerobatic competitions have been implemented using the IMAC regulations. Some of them were called European Acro Cup, some involved FAI for the



CURRENTLY REGISTERED PILOTS
IMAC ITALIAN CUP 2018
CAORLE JUNE 1-2-3

Austria - 7	Germany - 6	Slovakia - 1	United Kingdom - 3
Denmark - 2	India - 1	Spain - 1	
Czech Rep. - 4	Italy - 24	Sweden - 2	
France - 2	Israel - 1	Switzerland - 2	

Sportsman	Intermediate	Advanced	Unlimited	Free Style	
Guillermo Ricotti	Willi Muhlbauer	Luigi Corona	Sacha Cecconi	Sacha Cecconi	IT
Angelo Casamento	Harshil Mane	Sergio Rossi	Mattias Johansson	Cristian Fierabracchi	IT
David Vinjau	Matthieu Rigodanzo	Manrico Mincuzzi	Per-Inge Dyplin	Adi Kochav	IL
Roberto Bracchi	Andrea Migliorini	Franco Antognazza	Martin Brandmuller	Andreas Kauer	DE
Pietro Di Biaggio	Andreas Kauer	Alessandro Nicodemo	Marco Mazzucchelli	Andreas Wildauer	AU
Mathieu Glory	Flemming Bollerslev	Cristian Fierabracchi	Thomas David	Mattias Johansson	SE
	Brian Andersen	Massimiliano Pierazzo	Steve Hartley	Per-Inge Dyplin	SE
	Petr Pokorny	Frido Schilcher	Marian Mader	Martin Brandmuller	AU
	Milan Brecka	Alberto Rodano	Wolfgang Krahofer	Jozef Lukac	SK
	Gianluca Pacifici	David Twilley	Stefan Vogl	Wolfgang Krahofer	AU
	Roland Fendl	Paolo Mazzetti	Jerome Savioz	Marco Mazzucchelli	IT
	Javier Falco	Hans Wallner	Marek Plichta	Stefan Vogl	DE
	Andreas Wildauer	Francesco Forte	Jiri Sotola	Jerome Savioz	CH
	Giuseppe Culatti		Alexander Raff	Marek Plichta	CZ
	Roberto Russo		Emilien Galley	Marian Mader	AU
			German Brevers	Alexander Raff	DE
			Tobias Warzecha	Thomas David	UK
			Jozef Lukac	Emilien Galley	CH
			Paolo Longhi	Harshil Mane	IN
			Adi Kochav	Rigodanzo Matthieu	FR
			Luca Friggeri	David Twilley	UK
			Gernot Bruckmann	Gernot Bruckmann	AU
				Gianluca Pacifici	IT
				Tobias Warzecha	D

implementation of the Unlimited Class, that they call F3M, while many others have been full IMAC competitions.

From 2018 we will establish Caorle as an annual IMAC venue for all European Pilots. We already closed the registrations at 56 pilots from 13 Countries. Registrations had to be closed because we had about 30 other pilots on the waiting list.

At this next edition of the event, we will have a very strong International Judging team and we are preparing for an improved organization. During the three competition days, each pilot will be able to fly 4 known and 2 unknown sequences and also have the chance to participate in two freestyle flights.

This competition format is becoming the standard that we intend to replicate in other European countries. At

the moment we are working on a Spanish edition and possibly a French one. Hopefully, we will implement one also in the Czech Republic. The problem is that we have to find the appropriate local airfields able to accommodate for two simultaneous flight lines and making available the hangar facilities for our many large airplanes.

A pilot from India will participate to the 2018 IMAC ITALIAN CUP, we hope that in the next years, other pilots from other continents will consider to make a nice vacation in Europe and to participate to one of these Cups. The future seems to be quite engaging for IMAC in Europe.

-Manrico



International Regional Report

Adi Kochav

The international region was created a year ago to give the international Scale Aerobatic community the opportunity and the ability to fly IMAC according to the IMAC criteria, as for the growth of Scale Aerobatic pilots around the world. There are now 70 members from more than 17 countries that fly IMAC.

Last year, 2017, the International Region had more than 40 contests on all 3 Sub Region, Latin America, Europe and Asia.

By doing that, we will have the benefit to standardize IMAC worldwide, so no matter where you go to fly and compete Scale Aerobatic,



the pilot will always have the ability to have full accessibility, flight record and advantage among other pilots.

The International Region is now having his 3 sub regions, which are Latin America with Luiz A. Boche from Paraguay/USA as the ARD, Europe with Manrico Mincuzzi from Italy as the ARD and Asia with Dan Carol from Australia as the ARD.

As part of us being a full region in IMAC, we will operate a point system in our region as well. This point system is based on the Percentage of Perfection method and will be effective from January 1st 2018.





Northeast Regional Report

Brad Davey



The 2018 Season is slowly shaping up. With Worlds in early September, we're working on the late season contests. Last year the State College contest coincided with the first home game for Penn State, making hotel rooms rare and expensive. Jon is thinking about September 8-9, which puts it right on the heels of Worlds. Bill Bouchard wants to have Lums Pond in the Spring, and I'm waiting to hear from him on proposed dates. We're planning a one day Judging School again in Parkton on May 12, so you should be seeing that on the schedule soon. We're also looking at another Basic Only contest at PGRC. Dave Deacon will be taking the lead for that this year. Also not on the schedule yet is the Regional Finals at Black Dirt. We are planning for September 22-23.

The Canadians have got their traditional contests on the schedule, and I recommend anyone willing to put in the travel try to take the opportunity to visit our northern brethren.

If anyone knows potential IMAC pilots in Western PA, Central and Western NY, or Western MD, let us know. It would be great to start holding some contests



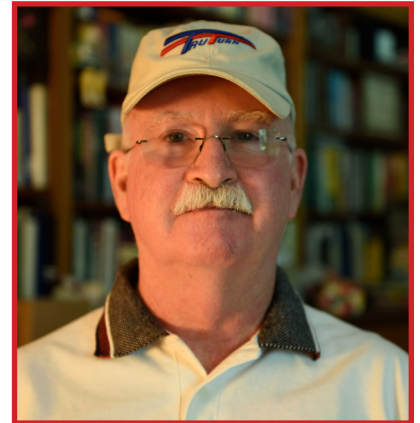
in those parts of our regions. It would also be great to find more venues in the northern states. That means we need pilots to step up and hold contests. IMAC is about competing, so please let me know if you have any ideas, and let me know how we can support potential new contests.

I'm looking forward to the new season, and hope to see many of you at our Northeast opener in Hagerstown, April 28-29.



Southeast Regional Report

Steve Sides



Still pretty cold in some areas of the SE although the Florida guys are getting plenty of flying time. I've been shoveling snow, so not much flying going on here in Greensboro.

The 2018 season is getting ready to kick off in the SE. We held our first Judging school in Bradenton, FL with a bit of a twist. We were lucky enough to get a field that also had classroom facilities onsite. So rather than running the traditional classroom session of Saturday followed by the practical on Sunday, the class and practical portions were mixed – a couple hours in the class followed by a demo of the topic just discussed. Looking for feedback from those in attendance to see how it was received.

The first SE contest will be AMPS Aerobatic Challenge in Miami the weekend of February 17th, so if you want to get your flying season started sunny Florida might be the place to do it.

Judging and Flying question. On a spin entry, the aircraft nose rises about 15 degrees as the plane forward speed decreases. In addition there is a crosswind causing the aircraft to weathervane slightly (about 10 degrees) into the wind. The track of the aircraft remains constant throughout the spin entry. When the aircraft stalls the nose drops about 10 degrees and then the autorotation of the spin begins. Any deductions? If so, how much?

As everyone knows IMAC is again hosting the world's IMAC pilots in Muncie right after Labor Day. We currently have 15 countries registered for the event with commitments from a few more. We expect

pilots from as far away as Australia, Japan, and South Africa. We're heavily into the planning stages for this event which promises to be one of the highlights of the IMAC year. The US team has been selected and getting ready for the event.

As everyone knows it takes a lot of time, effort and funds to bring off an event of this size. I'm asking for everyone to think about supporting this event by whatever means possible. I'm particularly asking for monetary donations that can be made directly through the IMAC World Championship website at this link [SPONSORS - IMAC WORLDS - SEPTEMBER 4-8 2018 MUNCIE IN USA](#). We can accept Paypal and of course checks. All the details are there! Thanks in advance!





South Central Regional Report

Doug Pilcher



We had a great 2017 competition year. We brought in some new competitors, welcomed back some old friends and all battled for the “Golden Ticket” and be qualified for the 2018 IMAC World Championships. Congratulations to everyone who qualified.

But, not only did we have Worlds qualification, but we also still had our Regional Points Race, which was very close to the very end. A special congratulations to all of our Regional Points winners.

Basic:

1st Place - Darin Schmidt
2nd Place - Allen Delger
3rd Place - Ed Kranz

Sportsman:

1st Place - Dan Powell
2nd Place - Rich Whitlow
3rd Place - Rhett Lambert

Intermediate:

1st Place - David Herron
2nd Place - Greg Dial
3rd Place - Mark Thurman

Advanced:

1st Place - Cambize Shahrdrar
2nd Place - Jason Priddle
3rd Place - Hank Cooper

Unlimited:

1st Place - Rick Byrd
2nd Place - Lyndel Roe
3rd Place - Bill Cunningham

These are the guys that make it to at least 5 contests and support the Regional Contests.

That all being said, we have a great year coming up. We have a couple of new contests brewing.

SC - SW Smack Down IMAC - Horizon City, TX

Bayou Bash IMAC - Baton Rouge, LA

I encourage you all to support these contests. These contests are in areas that have not had a contest in a while and we are starting to grow IMAC in these areas again.

Also, we have the Nat's and Worlds. Our region plays an integral part in these contests and we have a great group of competitors that will be travelling to Muncie for these events.

Lastly, don't forget that the core of what we do, lies in judging. As a judge and as a competitor, we need to be sharp on the criteria of judging. Not only does it make us better judges, but better IMAC pilots, as well. We will be holding our South Central judging school in Sherman, TX on Feb 24th & 25th. Make plans to be there!



Northwest Regional Report

Clark Hymas

The 2018 season is approaching quick and will be underway before we know it. With that the Northwest judging school is less than a month out and will be held the weekend of the 3rd and 4th of March. This year we have a new location for the classroom portion; it will be at the Shiloh Inn, in Richland Washington. With this brings a slightly different approach than normal. We will start at 8 am and I am able to set things up the night before so we aren't scrambling get the classroom together. We also won't be pushed out the door at 4 pm. There will be a catered lunch for \$15 a person. There will also be coffee and doughnuts provided. The practical portion will be Sunday at Higgins Field.

Looking back at my experience in IMAC, I flew my first contest at the regional final in 2012. I, like a few that asked questions from this year that flew a couple contests without attending a judging school had many of the same questions as to why they placed where they did. Spring of 2013 I attended my first judging school not for the intent of me learning how to judge but to figure out what I needed to do to fly better with less deductions. I learned all I could and probably retained 15% by the first contest. As time went on with a few extra years of judging school, contests, and judging I have become much more familiar with the criteria we are judged against.

The season will kick off the first weekend of April with the Grizzly Bear held at Tri-Cities Radio Control Modelers in Richland WA. The end of April will be the Spring Fling at Higgins Field kicked off with a potluck Friday evening followed by the Boise contest the 19th and 20th of May. If any of you would like to



get together for a weekend of flying before the season starts or any of the weeks between contests just let me know. I don't need a good excuse to go flying, any excuse will do.

-Clark





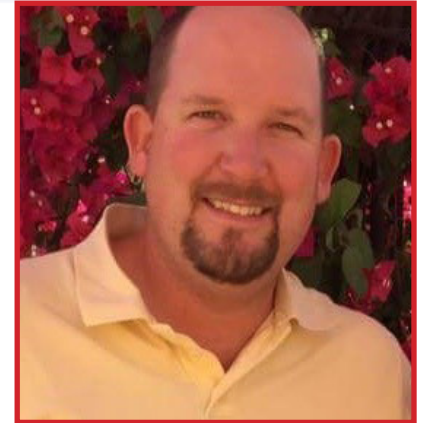
Southwest Regional Report

Alex Dreiling

Welcome to 2018!

I would first like to introduce myself as Alex Dreiling. I have recently volunteered to take over as Regional Director for the Southwest. I have been flying IMAC since 2014 and have loved absolutely every single aspect that comes with it. Not only do you learn how to fly precisely but you get to progress and test your abilities every time you fly. More importantly, I cannot imagine my life without the people that I have become friends with over the past few years through IMAC. If anyone would like to contact me I welcome all feedback.

Congratulations to those who qualified for the World Team from our region at the Worlds Qualifier in El Centro CA. Ryan Crutchfield in Sportsman, AJ Jaffe in Intermediate, Dean Bird in Advanced, and Spencer Nordquist in Unlimited. I would also like to congratulate Cayden Bruce who has qualified at the 2017 Scale Aerobatic National Championships! He will be representing the Sportsman Class.



We have officially started the year off with our first contest of the year in Apache Junction AZ at the Superstition Challenge. There was also a mini judging school held the day before the contest hosted by Dean Bird. We had 37 pilots in total and it was outstanding weather the entire weekend.

Thank you to all who participated and made the long trips to come. Congratulations to those who won!

We would like to thank the scorekeeper Jennifer May who kept the rest of the region updated with posting the scores online via the Southwest Facebook group. Here are some pictures from the contest:

Southwest Regional Qulaifiers



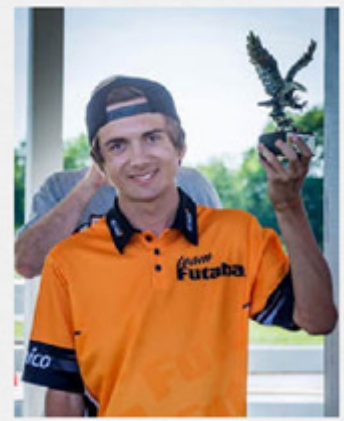
Ryan Crutchfield - Sportsman



AJ Jaffe - Intermediate



Dean Bird - Advanced



Spencer Nordquist - Unlimited



Hope to see everyone soon! Have a great year!
-Alex

The next contests coming up that you will not want to miss are:

Winter Roundup at Felix Ranch	February 17, 2018	Florence, Arizona
Coachella Valley-Palm Springs IMAC	March 3, 2018	Coachella, California
Tucson IMAC 2018	March 10, 2018	Tucson, Arizona
Sun Valley Cactus Classic	March 24, 2018	Phoenix, Arizona
Hemet 2018 IMAC	April 7, 2018	Hemet, California
Salinas IMAC	April 21, 2018	Salinas, California
SC-SW Smack Down IMAC	April 28, 2018	Horizon City, Texas
Oakdale IMAC "Spring Fling"	May 5, 2018	Oakdale, California
Colorado Judging School	May 19, 2018	Northglenn, Colorado
Bear Mountain Spring IMAC	May 26, 2018	Arvin, California



North Central Regional Report

Jeff Maruschek

2017 Wrap-up:

The NCFR closed its 2017 season in Muncie, IN at the AMA's International Aeromodeling Center this past September 23-24th. There were 27 pilots in attendance with 11 of them competing for the final spots on the 2018 Worlds Team.

The event was sponsored by Desert Aircraft and Hitec/Multiplex USA with \$100 DA gift certificates and Gernot Bruckmann Multiplex Extra ARFs for the 1st and 2nd place RPS finishers for each class.

Intermediate pilots Rob Willis and Jeff Strauss hosted a Saturday evening Brisket dinner for everyone to enjoy after the Saturday evening unknowns.

The final results of the main contest are located in the event archives here: http://www.mini-iac.org/Portals/0/EventArchive/2017/306/report_results.html

Guy McIntire in Sportsman, Matt Komar in Intermediate, Toby Silhavy in Advanced, and Will Berninger in Unlimited all earned spots on the 2018 Worlds team representing NCFR. Kurt Koelling will also be representing our region at the Worlds as he earned his spot during the 2017 NATs. The final results of the Worlds Qualifier are located in the event archives here: http://www.mini-iac.org/Portals/0/EventArchive/2017/463/report_results.html Congratulations to the 2018 United States World Team!



2018:

The NCFR's 2018 contest schedule is almost complete with 14 approved contests and one/maybe two more still to be scheduled. We're also welcoming two new contests in 2018. First, a Basic-Only contest, the Airmaster's IMAC Basic Primer (<http://www.mini-iac.org/Event-Details/PID/538>) is near Cincinnati, OH on July 7th. Second, the Northeast Wisconsin IMAC Challenge (<http://www.mini-iac.org/Event-Details/PID/515>) will be held on July 21st-22nd in Hilbert, Wisconsin. This contest is set right before the start of EAA in Oshkosh. If you're heading to EAA, come up a weekend early and compete!

Finally, two quick reminders. First, Mike Karnes will be holding North Central's Judging School at AMA HQ on April 21st. Information is here: <http://www.mini-iac.org/Event-Details/PID/480> Finally, just so everyone is aware; due to scheduling changes at the IAC, the 2018 NC regionals will be held on September 15th-16th. This has caused Ray Morton to move his Flying Cardinals IMAC Challenge earlier in the year to June 9th-10th. Keep up to date with the current North Central schedule here: <http://www.mini-iac.org/Regions/North-Central-Region> See everyone in the Spring!

-Jeff

Upcoming Events

February:

- 5th - Score Training - Online
- 10th - Score Training - Online
- 10th - Score Training (International) - Online
- 17th - AMPS Aerobatic Challenge - Miami, FL
- 17th - Winter Roundup at Felix Ranch - Florence, AZ
- 18th - Gauteng Regional Competition - Gauteng, SA
- 18th - Moonta 1 - Moonta Bay, South Australia
- 24th - Coota Shootout - Cootamundra, New South Wales
- 24th - SC Judging School - Sherman, TX



March:

- 3rd - Northwest Judging School - Richland, WA
- 3rd - Coachella Valley-Palm Springs IMAC - Coachella, CA
- 10th - Judging School at Clover Creek - Toone, TN
- 10th - Tucson IMAC 2018 - Tucson, AZ
- 17th - 8th Annual Ocala IMAC Contest - Ocala, FL
- 17th - Noosa North Shore - Teewah, Queensland
- 23rd - Ktziot First Time 2018 - Nitzana, South Israel
- 24th - North Carolina Area Judging School - Lexington, NC
- 24th - Sun Valley Cactus Classic - Phoenix, AZ
- 24th - Wings Over Wangratta - Wangratta, South Australia



April:

- 7th - SW Florida Aerobatic Challenge - Arcadia, FL
- 7th - Lost Squadron IMAC - Wrightsville, AR
- 7th - Grizzly Bear IMAC - Richland, WA
- 7th - HEMET 2018 IMAC - HEMET, CA
- 20th - First Coast IMAC Contest - Jacksonville, FL
- 21st - North Central Judging School - Muncie, IN
- 21st - Salinas IMAC - Salinas, CA
- 21st - Dalby Dash - Dalby, Queensland
- 21st - Capel Classic - Capel, Australia
- 28th - 2018 Pegasus FMAC IMAC Classic - Hagerstown, MD
- 28th - SC - SW Smack Down IMAC - Horizon City, TX
- 28th - Higgins Field Spring IMAC - West Richland, WA
- 28th - MAAA Nationals (IMAC East) - West Wyalong, New South Wales

May:

- 5th - Oakdale IMAC Spring Fling - Oakdale, CA
- 5th - The Scottish IMAC Classic - Stranraer, Dumfries and Galloway, UK
- 12th - Bayou Bash IMAC - Baton Rouge, LA
- 19th - Central Indiana IMAC Challenge - Muncie, IN
- 19th - Colorado Judging School - Northglenn, CO
- 19th - The Cashmoor IMAC Classic - Blandford Forum, Dorset UK
- 18th - BARKS IMAC Challenge - Boise, ID
- 26th - 18th Annual Columbus IMAC Challenge - Galena, OH
- 26th - 8th Annual Mid MS RC Club IMAC Challenge - Byram, MS
- 26th - Chinook Winds IOPENER - Aldersyde, Alberta
- 26th - Bear Mountain IMAC - Florence, AZ