

# In The Box

The Official Newsletter of The International Miniature Aerobatic Club



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2018 IMAC World Championships

3D Printing

Column for Beginners - Pursuing Excellence

Much, Much, More!

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## Letter from the Editor

**Rich Whitlow**

This has been quite an exciting year!

I was blessed with the opportunity to travel to a new contest in El Paso, NATS and World's, along with our regular contests. It was a lot of miles, but the chance to meet and get to know so many new people was well worth the effort.

It brings to mind what experiences this great hobby (and even greater organization) presents to us, if we just allow it to happen.

We are moving to be a true International Organization. If you want them, you can have friends in IMAC in all corners of the world. We are blessed with the opportunity to fly with people from Europe, Asia, Australia, South Africa. When it comes to RC Aerobatics we are all the same. We all love the airplanes, aerobatics and the competition.

These are friends that are special, as very few people can say they know so many people around the world.

My wife and I also took a trip to the Holy Land for a wonderful pilgrimage that we have wanted to do for a long time. You know what? I had a friend there. That friend, Adi Kochav and his lovely wife Shiri, took the time to meet Susie and I for dinner and walk us around his city. This added an extra dimension to the trip that most people do not get to experience!

I cannot think of another hobby or organization that I have been apart of that has brought so many blessings and opportunities. I am truly grateful for all of the blessings that IMAC has brought me.

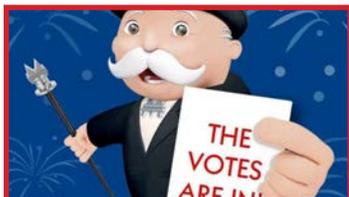
Rich Whitlow  
Newsletter Editor  
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# Letter From The President

Mike Karnes



## Congratulations to the New Board of Directors

Another election is in the books and we will start the year off with 3 new RD's.

I want to personally welcome Rich Whitlow the new SCRD, Ray Morton the new NCRD, and Primo Rivera the new SERD. I know all 3 of these fine men and know they will do good things for their regions and IMAC.

In a very close battle Doug Pilcher, the outgoing SCRD, won the vote for VP of IMAC for the next 2 years. We have already spoken and he has assured me that he is up for whatever IMAC needs him to do to help us move forward. Congratulations to all.

So with our 11 BOD members almost in place, we are fast getting all the Scale Aerobatic Rules ready, with all the new rule changes ready to print and be available for the International Judging School in Mesa, AZ in January of 2019. If you can, don't miss being at the first Judging School taught by the best instructors IMAC has to offer.

The new sequences are out and the Score Program sequence descriptions are being written for 2019. So, be sure to download a new copy so that you have new



correct K-factor values and new Freestyle file. By the time you read this the new membership cards will start going out to your mailbox. With your IMAC membership card you will receive a very nice figure 9 IMAC logo. This logo has a long lasting varnish to protect it should you choose to put it on your vehicle window.

Starting in 2019 I am going to try to get us back to feeling that (to steal a phrase from American Express) "Membership has its Privileges" In our Contest Standards and CD Guidelines it is highly recommended that ALL IMAC members receive a \$20 discount at registration. This has not always been followed by several CD's and it's not right to allow a non-member above Basic to fly in a contest at the same price. It is time to show your pride in being a member and show that IMAC membership is a valued investment. You can help make this happen, contact your CD, ARD or RD. Make receiving the IMAC discount an every weekend reality.

Hope the Holidays find you and your families close together and in good health.

Mike Karnes



# Notes from the Officers



**Vice-President  
Gil Major**

From the Desk of the Vice President

As I get ready for my last Board of Director's meeting to be held tomorrow night, 19 Nov 2018, I cannot help but reflect on the previous 2 years and my previous terms on the BOD.

As I wrote in my first article, IMAC is about being a volunteer! Whether you volunteer to run for office, volunteer to help with a local contest, or somewhere in between IMAC would not exist today without its volunteers. Everything from the Score Keepers, Score Runners, CDs, Cooks for the events, and even the BOD. Then there are the committees – the sequence committee, the rules committee, the membership committee all working behind the scenes to provide products to not only the BOD, but to the membership.

For the CDs out there, you know what it takes to put on a contest. For the competitors most of the IMAC CDs are already working the 2019 events making sure the field is scheduled, the score keeper is available, there is food, just to name the big things we look at. I, as a CD, am spoiled as my host field and I work all year every year towards four events, two of which are IMAC or IMAC like

events. I have it very easy as compared to all the other CD's who have to coordinate everything from lodging, camping, judges' tents, etc.

Then there is the AMA Scale Aerobatic National Championships, NATs, talk about an undertaking. And what about the worlds? What you saw in September was three almost four years of work by folks from all over the world; and, guess what, the BOD has already started work on the 2022 IMAC World Championships.

What I am getting at there are a lot of expectations out there for an organization manned by volunteers, very few volunteers. Most of the volunteers doing all the work being accomplished is being done by a very few people wearing multiple hats. As evident by the last election – all but a few ran unopposed meaning NO ONE volunteered to run for office. You may not like the way a local contest is run or a decision the BOD made, but they volunteered.

To kind of quote a USA president from the 1960s – ask not what IMAC can do for you, but ask what you can do for IMAC.

Volunteer and be part of the solution!



**Secretary  
Samantha McKinney**

What an amazing 2018 season! The 2018 IMAC World Championships was such an amazing event to top off the year! The week started out with the “Meet and Greet,” where all the pilots and staff had an evening of relaxation before the event kicked off. This was the beginning of new friendships and old friendships renewed! Flying began on Wednesday and due to Muncie weather, we only got two days of flying in. Freestyle was flown amongst rain showers. Saturday night's banquet brought us all back together to celebrate the week, the winners, and to announce the next 2022 IMAC World Championship in Italy! Great flying and congratulations to every pilot! A big shout out to Leasha Bull for all the social media coverage!

We weren't able to make our last trip to Muncie for the North Central Regional Championships. I was told it was a great event, but work commitments wouldn't allow us to go. We are looking forward to the 2019 season.

Thank you to everyone who voted in our 2018 Elections! We had a voter turnout

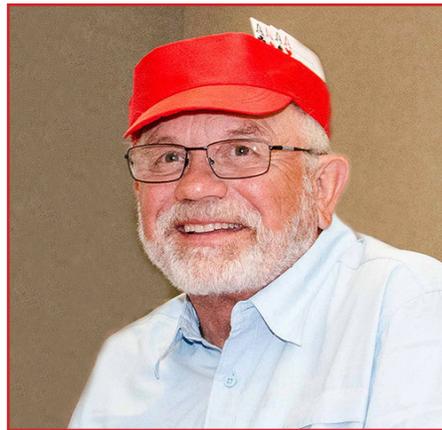
of 48% of our membership! Congratulations to all the new BOD members and we look forward to working with you!

The Board's number one goal for 2019 is to increase IMAC membership. The Board knows and acknowledges that the membership is declining. The Board reads your ideas and suggestions on the forums and threads. We thoroughly think about and discuss all of the suggestions. What we have to consider is that each suggestion must benefit IMAC as a whole, the six regions domestically and the International. What also must be considered is that the Board does not have a personal agenda; each Board member has their own opinions on each matter that affect their regions. The Board consists of 11 different board members that have the members' best interest at heart. Not everyone will agree on ways to increase our membership. Not everyone will agree on how the organization should be run. What we can agree on is that we all have the IMAC organization in our best interests and want the membership to grow!

The Board, itself, cannot increase the membership on its' own. We need your help! We need you, the member, to be our feet on the ground. You ask what I can do to increase the overall membership. Flyers can be sent to local clubs inviting them to the event and see what it's about. Basic Primers can be held to introduce them to the Basic sequence. Presentations can be given at local clubs introducing them to IMAC. Every IMAC member is our biggest advertiser. While practicing at the field, speak to a pilot on why you personally enjoy IMAC.

For a New Year's Resolution, I have a challenge for myself, each Board member, and all the members. I challenge each one of us to introduce a pilot to IMAC and get them to join. A pilot could be someone new to IMAC or a past IMAC member. If we each get one pilot to join, it would double our membership in 2019.

My family and I would like to wish everyone a Merry Christmas and a Happy New Year's!



**Treasurer  
Phil Vance**

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# 2018 IMAC World Championships

Rich Whitlow

The International Miniature Aerobatics Club (IMAC) is an AMA SIG that is a non-profit organization focusing on pilot education and maintenance of rules and guidelines governing the sport and promoting Scale Aerobatics. IMAC has grown to represent and organize scale aerobatic competition on a global level. In 2014 the first IMAC World Championships (IWC) were held at AMA National Flying Site. This event set a high bar for future IMAC events and all International flying competitions.

This year the 2nd IMAC World Championship was held again in Muncie, Indiana on September 4th through the 8th. The 2018 IMAC World Championships, once again, set a high standard for modern RC competitions.

79 Pilots from 18 countries travelled to Muncie, Indiana for the 2018 IMAC World Championships. Also, over 35 individuals travelled to Muncie to give their time and insure that these Championships exceeded the standards of the 2014 Championships.



The theme of the 2018 IMAC World Championships was “Continuing to Build International Friendships”. This theme was naturally carried-on by the pilots as soon as they arrived. Pilots, Crews and IWC Staff instantly began renewing old friendships and forging new ones. It is truly said that this sport introduces you to friends from all over the world.



The week started with practice on Monday and Tuesday. There were 2 sites at the AMA National Flying Site and other local fields that offered their sites for practice.

The Championship Event Staff included:

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

Tuesday afternoon a pilots meeting was held for the pilots and their crews. Safety was a big topic, as well as the itinerary and flying process that must be followed by each pilot and their crew. Each pilot not only had to worry about their flight times, but they also must participate in scribing and calling activities for the judges. All this activity made for busy days! Also, while the pilots met, the judges had a review meeting to refresh



rules and go over scenarios and how each scenario would be handled. This helped in many cases when a situation arose, and quick action and decisions needed to be made. The other crews met also, such as the scoring crew who had to set up the Scoring office and be prepared for when the score sheets started coming in.

After all the meetings were held, the Opening Ceremonies began. As appropriate this began with a “Parade of Flags”. Each country got to carry their flag onto the flight line while the National Anthem of their country was played. Each country was cheered with enthusiasm and many sang their anthems with much gusto! When the last of the countries was paraded in, all were welcomed and invited to participate in the Team Photo. This was a large group and the photo impresses on us the span of friendships that Modelling, AMA and IMAC have brought together. Once the picture was complete the teams were dismissed to continue visiting and preparing for the “Wheels UP” at 8am the next morning.

Wednesday began with a beautiful sunrise, little wind and low humidity. It could not have been better weather. The competition was held on two flying sites (AMA Sites 3 & 4). Each flying site had 2 flight lines. Unlimited and Advanced flew on Site 3 and Intermediate and Sportman flew at Site 4. That means that once the flying started there could be as many as 4 planes in the air at each site at one



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time (or 8 planes in the air total). That's a lot of coordination that needs to be done to keep that working smoothly. This coordination was done by the team of Flight Line Bosses:

- Randy Forster  
Flight Line Boss, Site 3, Line 1
- Skip Kixmiller  
Flight Line Boss, Site 3, Line 2
- Alan Batts  
Flight Line Boss, Site 4, Line 1
- Kevin Schmidt  
Flight Line Boss, Site 4, Line 2

One new benefit of the 2018 IWC, was the addition of web-based score posting. The pilots were given the web address where they could see the latest round's results and the current standings. This was an intensive process starting with the great team of seasoned Score Keepers, including:

- Phyllis Youngblood – Head Scorekeeper
  - Rhonda Vance – Assistant Scorekeeper
  - Samantha McKinney – Assistant Scorekeeper
  - Jenna Johns – Assistant Scorekeeper
  - Terri Foster – Assistant Scorekeeper
- The judges, doing the scoring were:
- Bill Teeter – Judge (Canada)
  - Charles Youngblood – Judge (USA)

- Henny Van Loon – Judge (Netherlands)
- Jim Daly – Judge (Canada)
- Peter Bryner – Judge (Australia)
- Rich Whitlow – Judge (USA)
- Emilio Moreno – Judge (Spain)
- Brad Davy – Judge (USA)
- Joe Ryan – Judge (USA)
- Peter Nesbeda – Judge (USA)
- Andrea Migliorini – Judge (Italy)
- Esther Gomez Viana – Judge (Mexico)
- Steve Stanton – Judge (USA)
- Michael Verzwylt – Judge (USA)
- Carlos Forero – Judge (Colombia)
- Peter Castine – Judge (USA)
- Paco Pineiro – Judge (Spain)
- Michael Roxberry – Judge (USA)
- Shane Snyder – Judge (USA)
- Nick McKinney - Judge (USA)



Another new addition for the 2018 IWC, was the addition of a “Social Media Director”. There were a lot of funny looks from people not knowing what a Social Media Director would do, but once the competition

began and everyone saw the dynamic reporting and posts made by Leasha Bull they at once recognized the contribution she was making. There were many interactions, interviews, news videos (such as the Weather Rock) and even some Musical Dance Interludes posted to Facebook for the enjoyment of all. This addition certainly added a lot to the overall atmosphere! She was everybody's friend and was sometimes greeted with a chant of “Tequila”!



With the first day in the books, the first day jitters worked out and everyone tired from a full day of flying, the Unknowns were given out for next morning and everyone packed up to rest, study their unknowns (even the judges!) and prepare for day 2 of the competition.

Thursday started out as a beautiful day. The early unknowns were flown, and the known rounds begin. Things ran very smoothly, and the flight lines ran ahead of schedule. This was a good thing, because the weather turned and flying had to be stopped for about an hour. Despite the weather all rounds were able to be flown and the day ended complete.

Friday morning was quite a different story. The pilots woke up to rain. This rain continued throughout the day. It was decided at 3pm that anyone who wanted to compete in the Freestyle Competition would be allowed to fly, rain or shine. The Freestyle portion of IMAC allows the pilot to put a routine to music, express the music artistically through their flying and show off their skills in precision and 3D flying. Many were skeptical that any pilots would take up this challenge, as it continued to rain. But Italy's own Saccha



Cecconi stepped up and flew the first Freestyle flight. This flight was met with a great appreciation of the crowd who had been waiting around in the rain! In the end 12 pilots braved the wind and rain and flew a Freestyle routine, with only one dead stick in the round. This was a great tribute to the pilots who braced the elements to show off their skill after travelling so many miles to get to this moment. Unfortunately, Freestyle was the only round flown, either Friday or Saturday. So, this round effectively ended the 2018 IWC Competition.



To wrap up the week, everyone met together to have an Awards Banquet and share the experiences gathered through the week. Steve Sides MC'd the event and Mike Roxberry blessed the food. Dinner was delicious and then the awards were given. Six trophies were given for each class and three trophies were given for Freestyle.

The winners were:

#### Sportsman

- 1st Place – Cayden Bruce (USA)
- 2nd Place – Sam Pankratz (USA)
- 3rd Place – Luke Young (USA)
- 4th Place – JJ Hedrick (USA)
- 5th Place – Ryan Crutchfield (USA)
- 6th Place – Philip Leister (USA)

#### Intermediate

- 1st Place – AJ Jaffe (USA)
- 2nd Place – Matt Komar (USA)
- 3rd Place – Jonathan Sabini (Italy)
- 4th Place – Carlos Bonachea (USA)
- 5th Place – Greg Dial (USA)
- 6th Place – Gordon Wilhelm (Canada)

#### Advanced

- 1st Place – Evan Turner (USA)
- 2nd Place – Mitch Johnson (USA)
- 3rd Place – Julian Giraudo (Argentina)
- 4th Place – Joshua McCreary (USA)
- 5th Place – Dean Bird (USA)
- 6th Place – Joseph Thibodeaux (USA)

#### Unlimited

- 1st Place – Jason Shulman (USA)
- 2nd Place – Kurt Koelling (USA)
- 3rd Place – David Moser (USA)



- 4th Place – Kal Reifsnnyder (USA)
- 5th Place – Nicolas Detry (France)
- 6th Place – Ty Lyman (USA)

#### Freestyle

- 1st Place – Marek Plichta (Czech Republic)
- 2nd Place – Kal Reifsnnyder (USA)
- 3rd Place – Saccha Cecconi (Italy)

After all the individual awards were given, awards for the top three finishing countries were given. These awards were calculated by the top three competitors of each countries raw score. This was across all classes. The Team winners were:

- 1st Place – Team USA
- 2nd Place – Team France
- 3rd Place – Team Mexico



All of the generous sponsors were thanked. Those supporting the

#### IWC were:

- Desert Aircraft
- DeeForce Aviation
- Diamond Computers
- Clover Creek Aerodrome
- Iton Industries
- Steve and Margaret Sides
- Steve Stanton
- AJ Aircraft
- Extreme Flight
- J&J Tailwheels
- Sew Busy
- Tower Hobbies
- Red Line Synthetic Oil
- Silhavy Aerosports

RTL Fasteners  
 McFueller  
 Jackson RC Club  
 JTEC Radiowave  
 Laundry & Tan Connection  
 Texoma RC Modelers  
 Best Western Hotels  
 Super8 Hotels  
 B&E Graphix  
 Scott McCormack

Next, the announcement that the 2022 IMAC World Championships would be held in Italy. There is much excitement about this upcoming event and continuing the tradition of the IMAC World Championships.

During the week, Shane Snyder worked



on getting video and putting together a Video Presentation of the week, showing the First Place Winners and a tribute to two individuals that we lost this past year.

As many know, we lost John Schroder before NATS. John was a great friend of IMAC, founder of Clover Creek Aerodrome and a great Champion of the IMAC Junior Pilots. Also, just a few weeks before the IWC we lost Allen Eklund, who was slated to be one of the Line Bosses. Allen was also a great friend



of the IMAC community and had many close personal friends at the IWC. These two gentlemen will be greatly missed but will be with us forever within our sport.

After the video, everyone mingled, took pictures with trophies, teams and friends and eventually headed back to their rooms to prepare for the trip home.

This event, though shortened by weather, was a tremendous event that brought a lot of people together to compete and just enjoy each other's company. It is a sign of the strength of our sport and the friend-



ships that it forges between us. We look forward to convening again in Italy, for the 2022 IMAC World Championships!



# Entering The Box

(A Column for Pilots New to IMAC)

Greg Hladky

## Pursuing Excellence

### Part 2: Attributes of an IMAC Pilot

Full scale pilots flying aerobatic routines have a grueling workout in flight. To excel at what they do means not only good practice sessions in the air but a good workout on the ground. With our feet planted squarely on terra firma we don't have to worry about the physical exertions of aerobatic flight, but we do have to work harder in some respects to excel at precision flying. We have to do some mental gymnastics that aren't required by full scale pilots flying from inside the plane.

As a relatively new pilot to IMAC I'm drawn by the many challenges that we face in each flight. It is not an easy sport! The rewards are worth the effort, though. IMAC builds confidence and skills that would not be easy to achieve elsewhere. The demand for perfection would be daunting, if not for the methodical approach that IMAC takes to building those skills.

Below are some attributes, or characteristics, that I think help an IMAC pilot excel at aerobatics. Anyone interested in flying with precision can develop them. These have been gathered from posts in The Hangar and from the pilots I've met while flying at contests.

#### • Good Judgment

– Safety is paramount, whether practicing alone at the home field or in front of a crowd in competition. It is easy to become complacent around planes we fly every day, but the danger they present are real. Remaining vigilant is necessary to avoid an accident or injury.

#### • Technical Competence

– Even if someone else builds the plane, a competent pilot needs to know each piece

of equipment on board and the setup of the radio, and how to adjust them if necessary at the field and in competition. A properly trimmed plane with good radio mixes is essential for success. Well defined switches and conditions (for spins, snaps, hammerheads, etc.) can take it to the next level. Competence also includes knowing the AMA safety rules, the current AMA scale aerobatics rulebook, the Aresti catalog (at a minimum the notation for your class), the dynamics of aerobatic flight, the effects of wind, weather and altitude, and the requirements for the class you are flying or judging.

#### • Ability to Think Inside the Box

– IMAC doesn't have an official Box, but flying scale aerobatics requires the ability to think on your feet and under pressure. We need to stay ahead of the plane, or think faster than the plane is flying. This is important not only for advancing skills and pushing your limits in practice but also for flying Unknowns in competition. Thinking ahead of the plane comes with practice. The more practice you have behind you the more your thumbs can take over the mechanics of the maneuvers, while you focus on keeping the plane on track and in the best position for judging. The competence that comes from practice will help you remain calm when a flight does not go as planned.

#### • Willingness to Take Reasonable Risks

– Every flight involves risk, and learning new skills in aerobatics requires a careful balance between increased risk and new rewards. We have to push the boundaries of our comfort within reason, which means keeping all of the above points in mind. Pilot safety and the safety of others is paramount when learning new aerobatic skills. It helps to remain detached from the planes we love to fly.

#### • Willingness to Practice Precision

– Unless someone is born with natural

talent on the sticks, improvement and new skills take time and effort. Trying new maneuvers, figures and sequences on the simulator first is a good first step. Once comfortable there, a pilot can move outside. This is a hobby, not a job, so we need to find ways to make practice fun and rewarding. I keep a mental picture of my goal: flying that perfect track in the sky with precision, grace and style.

#### • Trust in Your Caller

– Behind every good pilot stands a good caller. At contests it is critical to find a competent caller the pilot can trust, someone who can not only read the Aresti notation, but also provide some guidance when the plane goes off track. When it's a busy flight line or an Unknown, a spotter adds another layer of safety.

#### • Humility

– There is always something new to learn and someone with more skills and experience from whom to learn it. Accepting constructive criticism and not making excuses for less than stellar performances is a critical part of the learning process. There are many good resources for help, including experienced pilots in the upper classes, the IMAC website, mini-iac.org, and forums like Flying Giants and RC Groups. A good mentor can help newer pilots advance.

#### • A Good Sense of Humor

– In the end we can't take any of this too seriously. Take a deep breath, share a laugh, and learn to roll with whatever comes your way. If you're not having fun, you're in the wrong sport.

Comments are welcome. Send a letter to the editor with suggestions for future articles. Until then, stay tuned and fly right! (Or left, if Schedule C. ;-))

# The Beat of the Aerobat

Poetry by:  
Greg Hladky

Into the blue expanse of summer sky  
I throw my fortune and my hopes.  
With wings and wonder I survey  
the world above and need some time  
up there before descending back to earth.

Advancing throttle up I climb, rocket  
like and plumb, to check the heights  
of clouds and skill, rolling left, then  
right as in a dance, light  
with release from gravity.

Before my plane escapes my vision, too, I guide  
it over a graceful arch, until fast approaching  
ground is all I see, and while succumbing  
to the appetite of earth for things detached,  
roll again and again in defiance, cutting  
facets from the burnished blue.

Pushing hard to inverted flight, I see things  
from a different point of view. Pressure  
on the stick reminds me that up is down, and  
I must concentrate to follow a horizontal path.  
The Extra was made for this, I tell myself,  
and brace for more.

Throwing sticks to the corner I force a snap. In a burst  
of energy my wings become a blur. Like a wayward  
child nose and tail go off track and need correction.  
The stress on joints and structure is immense, yet  
my plane obeys with no complaint, rebelling  
only at my command to return wings level.



Like a metronome ticking over the rhythmic pounding  
of my heart I count my way through a hammerhead:  
“Throttle up and push, and, wait, and... release!  
1, and 2, and roll, and roll, and  
1, and 2, and throttle back... rudder!”

The plane pauses in mid-air – a sentry in the sky - then pivots  
on a point. Opposite aileron keeps me in a geometric plane,  
and earthward bound once more I resume the beat:  
“1, and 2, and roll: to canopy, and belly!  
1, and 2, and push!”

The lines and arcs I draw through weather fair and foul  
are my signature, the salient points of aerobatic discourse,  
a test of nerves and steel, the embrace of fear.  
Breaking through that wall, I emerge  
free to explore the boundaries of my craft.

I must look beyond the attitude of pitch, roll and yaw  
to see the art that I’m creating there  
from the power and pull of wings through air.

Holding a precise line against the force  
of Indiana winds or the vagaries of a Midwest storm,  
with sunburned lips, lack of sleep or  
a thousand other faults...  
ah, there is the rub.

It is no easy thing, and still I try  
to reach perfection, to control the direction  
I will fly in that endless summer sky.

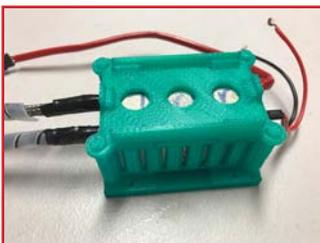
# 3D Printing

Kevin Turner

I am really excited to share some information and tips about one of my hobbies, 3d printing, and how I have used it in another hobby I love ..... Giant scale rc airplanes and IMAC !

I have been involved with RC airplanes about eight years and one thing i learned very quickly was that even an “almost ready to fly “ airplane still required a fair amount of work to get flying. I also learned that woodworking was not something I was very adept at . If you think about all the little things we still frequently fabricate when setting up a plane, the list is fairly long. Motor baffling, receiver mounts, battery mounts, fuel tank holders, fuel tubing guides, servo wiring guides are common items that we fabricate out of wood or other materials or purchase from other sources.

Most hobbyists don't have access to cnc machines or laser cutters for fabricating items but over the last few years 3d printing popped onto the scene and prices for printers have finally dropped into the range of affordability for hobbyists. While 3d printing is not perfect in all situations it is very versatile and in many cases your imagination is your only limitation. I have found that aside from items inside the plane that can be printed that even stick planes, wheel chocks, tailwheel holders can all be designed and printed fairly easily. The types of filaments used for 3d printing are pretty diverse. 3d prints can be very strong and rigid or soft and flexible depending on the filaments used for printing. Common rigid prints are done with PLA , ABS, or nylon and



flexible prints are usually printed using TPU filaments. If anyone is considering adding a 3d printer to the workshop here are a few things involved in making this happen. Firstly i must warn everyone that 3d printing can be a hobby all by itself.

I think it suits the hobbyist that enjoys tinkering and enjoys computers/software. It is a hobby that dovetails into RC very well, in my opinion but it is a lot to learn.



Let us imagine you have purchased a 3d printer (likely an impulse purchase that all of us RC enthusiasts have been guilty of ). In order to actually print something for your plane you will need to design the item in CAD software on the computer and export what is typically called an STL file . then import that file into another program called a slicer that will allow you to add further details needed by the printer which include print temperature, print speed, layer height, shell thickness, temperature of print bed, and location of print on the print bed. The slicer software then generates a GCODE file that is the final file the printer will actually use to print .

Now those previous few sentences sound fairly complex and i would say the learning curve for 3d printing is fairly steep at first. For anyone interested in 3d printing i would encourage them to try learning some basic CAD software skills first. The cheapest and easiest way to learn some basic CAD skills is to try the free online

cad software called tinkercad at [www.tinkercad.com](http://www.tinkercad.com). A five minute tinkercad tutorial on youtube is about all you need to get started. Once you feel comfortable designing some basic things then you have a few options.

1. buy a printer and download a slicer software to generate a gcode file and try to start printing your designs. (a good free slicer program is called Cura)
2. upload your designs to an online printing service and see what shows up in the mail.
- 3.... and the best option , find a buddy with a 3d printer and get him to print it for you !

There is a huge online community of 3d printing enthusiasts that enjoy uploading and sharing designs. Actually i would encourage anyone to check for files online first prior to designing something from scratch as often times someone has already designed an item that may work for you saving you the trouble or you can modify an existing design for your purposes saving time. A popular file sharing site is called thingiverse ([www.thingiverse.com](http://www.thingiverse.com)). I have uploaded several of my designs to this site under the username kevinjulieevan. Hopefully this information has been useful and anyone interested in the world of 3d printing is welcome to contact me at [kevin22@aol.com](mailto:kevin22@aol.com)

Kevin Turner

[www.tinkercad.com](http://www.tinkercad.com)  
[www.thingiverse.com](http://www.thingiverse.com)  
<https://ultimaker.com/en/products/ultimaker-cura-software>  
[www.shapeways.com](http://www.shapeways.com)

# Regional Champions!

## 2018

### Unlimited Regional Champions

Place	International Region	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	Adi Kochav (Israel)	Denis Dionne	Greg Hoke	Kurt Koelling	Shane Snyder	John Paul Takacs	Bryant Mack
2nd		Tyler McCormack	Jim Baker	Ray Morton		Dave Willwock	Santiago Perez
3rd		Juan (Sr) Velasquez	Kevin Wilson	Louis Matustik		Keith Bodeau	Kim Quenette

### Advanced Regional Champions

Place	International Region	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	David Delgado (Spain)	Yves Lemire	Don Gentry	Toby Silhavy	Hank Cooper	Brian Webb	Randy Dreyer
2nd	Ziv Sharoni (Spain)	Kirk Adams	Anthony Fandino	Mike Karnes	Cambize Shahrदार	Clark Hymas	David White
3rd		Earle Andrews	Billy Meadows	Frank Klenk		William Burgad	A.J. Jaffe

### Intermediate Regional Champions

Place	International Region	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	Horel Koriati (Israel)	Skip Messick	Carlos Bonachea	Mike Duggan	Dan Powell	Gale Vasquez	Cayden Bruce
2nd	Flemming Bollerslev (Denmark)	Bradly Davy	John Wolfe	Daniel Reichert	Rich Whitlow	Sean Mersh	Michael Marcellin
3rd	Kjetil Hansen (Denmark)	Joseph Adamo	Carlos Anaya	Robert Willis	Rudy Voldrich		Don Brown

### Sportsman Regional Champions

Place	International Region	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	Mel Nipkow (Switzerland)	Steven Brentson	Bill Daniel	Greg Hladky	Darin Schmidt	Ronald Morrison	David Bruce
2nd	Gabriel Proporato (Mexico)	Juan (jr) Valasquez	Randy Foster	Paul Deppe	Kevin Schmidt	Grant Schatz	Chuck Taylor
3rd	Eldad Mendez Fonseca (Mexico)	Dany Girard	Giovanni Recchia	Bert Garrison	Allen Delger	Bob Iverson	Danny Diaz

### Basic Regional Champions

Place	International Region	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	Daniel Nipkow (Switzerland)	Ron Grimm	Brent Bowen	Perry Van Meter	Tim Hughes	Jeff Borg	David Buhrman
2nd	Ben Cohen (Israel)	Dwight Warfield	David Beasley	Aaron Schrader	Ron Schroeder	John Takacs DO	Jerry Unruh
3rd		Donald Snyder	Devin Kavak		Jason Watts	Bill Stewart	Claude Aragon

### Senior Regional Champions

Place	Northeast Region	Southeast Region	North Central Region	South Central Region	Northwest Region	Southwest Region
1st	Bradly Davy	John Wolfe	Ray Morton	Hank Cooper	Dave Willwock	Mervin Ory
2nd	Skip Messick	Greg Hoke	Daniel Reichert	Allen Delger	Ronald Morrison	Bill Evans
3rd	Earle Andrews	Bill Daniel	Greg Hladky	Mark Thurman	William Burgad	Danny Diaz

# Toby's How-To

By: Toby Silhavy

This edition I will be talking about a very useful tool I first saw being used at the Nats several years ago by Frank Noll. Have you ever wanted to tune your engine and you didn't have a screwdriver long enough to reach through your cowl? Have you ever dropped a bolt inside your fuse that you can't reach or have you lost a servo extension way inside that wing that no matter what you do, you can't get ahold of? Fear no more, here's a very easy solution.



This driver is made from a 1/2" piece of dowel and a 2.5' piece of 1/8" music wire. I first cut a 3" piece of dowel and drill a 1/8" hole about 2.5" into dowel using a drill press. I also carve a notch on the opposite end of the drill hole. I use this notch to tell how far of a turn I'm adjusting my carbs.



I first start by placing some thick CA glue into the hole, then I push the handle onto the music wire. To form the point of the screwdriver, I grind the end to a point using a table grinder. You could also use a dremel tool for this, using a grinding wheel. Once you are satisfied with the shape of the screwdriver, I suggest you heat quench the end by heating up with a small blow torch until just the last inch of the screwdriver is glowing red hot, then quench it in some used motor oil. I would suggest doing this outside and only use about 5-10ml of motor oil. The quenching process can cause the oil to burn. Limiting the amount of oil is the best way to prevent a larger fire. Doing a heat quench increases the strength of the tip, and will reduce the chance of breakage during a hard twist of some bolt you can't normally reach. I've used this tool more times than I can count and you only need a small hole in the cowl to reach your needle valves.

After years of using this tool I've found a couple other uses for it. My number one thing I use this tool for is getting at dropped bolts inside of my airplane. I use neodymium magnets placed on the end of the screwdriver to pick up bolts and I've also used these magnets to help insert bolts that are hard to reach.



As seen, this is a 3/8" x 1/8" magnet and it will hold any 1/4" engine bolt I've used to date. Just place the magnet near the end of the driver. Another scenario I've used this screwdriver for, is to get at servo wires that have fell back into a wing or into the fuse. Take a 5" piece of masking tape or mylar tape and turn it inside out where only the sticky part is exposed. As seen, this is a 3/8" x 1/8" magnet and it will hold any 1/4" engine bolt I've used to date. Just place the magnet near the end of the driver. Another scenario I've used this screwdriver for, is to get at servo wires



My last tip is for all of you JETI radio pilots out there that use magnetic switches. If your magnetic switch placement cannot be close to the exterior of your plane (i.e. in the canopy a 1/2" or so), you can place one of the neodymium magnets on your magnetic switch key (place magnet near the hole on the key) and you can significantly extend the reach of your switch key.

Hope these simple tips help!

Toby Silhavy

"Chase the Dream, Not the Competition"



# Continuing Education

## Judging School

By: Ty Lyman  
Education Committee

By the time this publishes many of you will be knee deep into holiday planning, or snow depending on your locale, and there's a good chance that the 2019 IMAC season is but a distant flicker in the RC portion of your brain (okay, made myself laugh a little). However, the truth of the matter is that for some folks the 2019 season has been under way for months now.

As you are hopefully aware, 2019 ushers in a new rules cycle. With new rules comes the need to bring everyone up to speed on the changes that go into effect on January 1. As such, planning for the 2019 International Judging School kicked off back in June of this year. Thanks to the efforts of Doug Pilcher and Alex Dreiling, we are returning to the South West region in 2019 and will be convening in Mesa Arizona January 25 – 27. Our bi-annual International school is unique in that it consists of both a traditional judging school and a session dedicated to training judging instructors. The full day Friday session is designed to teach instructors how to present a judging class, introduce and discuss new rules or rules changes, and identify areas of the rules we may need further refine. Our Friday session will include members of the judging instructor team from all six

IMAC USA regions, Canada, Europe, and possibly South America. Saturday and Sunday we will conduct a traditional judging school open any and all. Saturday's classroom session focuses on everything from reading Aresti and the fundamentals of aerobatics flight to the finer points of judging the various Aresti family figures. On Sunday you'll get the chance to exercise your freshly minted, or refreshed, judging skills as we head to the Superstition field at East Valley Aviators in nearby Apache Junction.

Perhaps you're thinking to yourself, "I have and read the rulebook, why should I take the time to attend a judging school?" Or, "I've been to a judging school, why do I need to go to another?" Those are both excellent questions, and the answer to each revolves around the complexity of the task for which judges are responsible. Judging is a multi-layered, multi-dimensional task, in other words, it's complex. If I had a sawbuck for every time someone told me they always come away from a judging school having learned something regardless of how many they've attended I wouldn't still be chasing fortune with toy airplanes, but that's another topic. The classroom setting offers a chance for discussion and dialogue that

you simply can't duplicate by reading the rule book or looking at the online course. We interact, we engage, and we are able to present the material in a variety of different ways in order to facilitate as many different learning styles as possible. The importance of attending a judging school simply cannot be overstated.

IMAC cannot exist without our contestant judges, and the quality of the judging pool is a responsibility that rests on the shoulders of every single pilot who attends or plans to attend a contest. If you expect (and reasonably so) to be judged accurately and fairly as you step up to the pilot box, then you owe it to yourself and all your fellow pilots to take any opportunity possible to further enhance your own judging skills. There will be several opportunities to continue your judging education in the coming months so keep a watchful eye on your regional calendars. Or, take a proactive step and contact your regional director about organizing a school near you. If you can't make it to a school there are online opportunities, but no matter how you do it, make sure your judging skills are up to par for the 2019 season, oh, and it just may help your flying at the same time.



# Regional Reports

## International Region Adi Kochav



Knowing is not enough, we must apply.  
Being willing is not enough, we must do.  
Leonardo da Vinci.

Two years after IMAC created the International region and we are almost 100 members strong and more are registering each week.

We have 29 countries from all are international aeries/regions, Latin America, Europe and Asia/Pacific and with about 100 registered contests this year I'm sure we have made a lot of pilots happy.

Now, as we stand, after the IMAC World Championship 2018 that was conducted for the second time in a row in the USA, we see the spread of IMAC around the world.

IMAC as we know it is the leading Scale Aerobatics discipline of choice by hundreds of pilots around the world.

We would like to congratulate all the pilots that participated and competed in this one of a kind event. We know you've made enormous efforts and long voyages. Thank you!

Italy is getting ready to host the next IMAC Worlds 2022 in a beautiful countryside town, San Giovanni Rotondo and as I know Manrico, Sergio and all the Italian IMAC members it will again be an unforgettable event.

In 2020 for the first time we will have an IMAC European Championship, The 2020 Europeans in Italy leading by IMAC Italy President Sergio Russi and our European Aerie Director Manrico Mincuzzi.

As you all know the International Region has 3 sub regions, Latin America, Europe and Asia/Pacific.

These 3 sub regions will soon become regions of their own, what will make IMAC bigger and stronger than ever. By doing that we will be able to make the IMAC idea and vision more relative to the different countries that wants to fly Scale Aerobatics.

We have very motivated, passionate directors that lead and make the IMAC vision possible and accessible to every pilot around the world, Luiz A. Boche, Manrico Mincuzzi, Dan Carrol.

The International Region is also leading and testing a way to upload electronically the Scores from the judges with a Notomatic machine to our Score! Program, Dan Carrol from Australia is working day and night to make it happen, we will soon go out with our beta test and do some test trials in some contest.

Italy is using the system for a year now but we still need to make some changes.  
We will soon update you all about the results.

To begin with, we are dedicated to make the standardization of IMAC more relative by establishing an International boot camp which will be able to make actual boot camps by media or physically in the different countries IMAC is being flown in.

I would like to thank each and every country for their efforts and supportive over this year, thank you for your time and for flying IMAC, we never take that in granted, we appreciate it from the bottom of our hearts.

THANK YOU!

The countries that has IMAC league are,

IMAC U.K.

<http://imacuk.org/>  
<https://www.facebook.com/groups/1410610332555404/>  
Chris Huges President

IMAC ITALIA

<http://www.mini-iac.it/>  
<https://www.facebook.com/groups/1428548530793539/>  
Sergio Rossi President  
Manrico Mincuzzi Europe RD

IMAC AUSTRALIA

<http://www.scaleaeros.com.au/>  
<https://www.facebook.com/groups/275854699198915/?fref=nf>  
Michael Hobson President  
Dan Carrol Asia / Pacific RD

IMAC SWEDEN

<http://www.mini-iac.se/>  
[https://www.facebook.com/groups/253512894687257/?hc\\_ref=SEARCH](https://www.facebook.com/groups/253512894687257/?hc_ref=SEARCH)  
Mickael Scander President : [micke.scander@telia.com](mailto:micke.scander@telia.com)

IMAC ISRAEL

<http://imacflying.wixsite.com/mini-iac-israel>  
<https://www.facebook.com/scaleaerobatics/>  
Adi Kochav President and International RD  
IMAC JAPAN

<http://imac-japan.sakura.ne.jp/>  
<https://www.facebook.com/IMAC-japan-738230829529583/?fref=ts>  
Tomohisa Konishi Organizer

IMAC CHILE

<https://www.facebook.com/imac.chile?lst=100010252811988%3A100001817666659%3A1482686447>

IMAC BRAZIL

[www.imacbrasil.com.br](http://www.imacbrasil.com.br)

IMAC ARGENTINA

<https://www.facebook.com/IMACArgentina>  
Daniel Gallimberti President

IMAC PARAGUAY

<https://www.facebook.com/imacparaguay/>  
Luiz A, Boche President and Latin America RD

IMAC IRELAND

<https://www.facebook.com/ImacIreland/>

IMAC NORWAY

<http://www.mini-iac.no/>  
<https://www.facebook.com/groups/276541929040773/>  
Rune Haugen President and Nordic and Scandinavia coordinator

IMAC COLOMBIA

<https://www.facebook.com/imac.colomba/?fref=ts>

IMAC DANMARK

<https://www.facebook.com/groups/278359255527035/>  
Andreas Rune Fugl

IMAC CANADA

<http://www.wimac.ca/>  
<http://www.maac.ca/en/competitions.php>

IMAC SOUTH AFRICA

<http://largescale.co.za/>  
<https://www.facebook.com/groups/largescale-southafrica/?ref=bookmarks>  
Bruce Clarke President

IMAC FRANCE

<https://www.facebook.com/groups/144129372966910/>  
Alain Detry President

IMAC TURKEY

<https://www.facebook.com/groups/2085721854983413/>  
Burak Suel President

IMAC INDIA

<https://www.facebook.com/groups/834944340011558/>  
Virus Mane President

IMAC SPAIN

<https://www.facebook.com/groups/imac.spain/photos/>  
David Delgado President

IMAC CZECH REPUBLIC

Zdenek Steigl

IMAC GERMANY

William Kiehl

IMAC AUSTRIA

Stephan Mader

IMAC POLAND

Maciej Idczak

IMAC NETHERLANDS & BELGIUM

Henny van Loon

IMAC UAE

<https://www.facebook.com/abudhabircclub/>  
Joe Bracho President

IMAC SWITZERLAND

Daniel Nipkow



With the 22nd Annual Texoma IMAC Challenge RPS Finish completed on a cold November weekend we had quite the finish to 2018. With temperatures in the upper 20's in the mornings and wind chills of teens until the sun came out. This brought us to the balmy mid 40's with some wind chill still effecting us. We still had pilots battling out the points race to the end. This was a bitter sweet contest and end of the 2018 season for me. For the contest season, it marked the end of my position of South-Central Regional Director. My region members paid me an awesome while unnec-

essary and humbling thank you, in that they gifted me a custom set of Carden Wing Bags with custom embroidery from Sew Busy that is simply amazing! They also gifted me some funds to assure I am out and about in 2019 flying! And that is exactly my intentions. But the end of 2018 season this also marks the end of my position of SCRCD, which I was proud and humbled to be a part of. I want to thank each one of the South-Central members for their support over these last 5 years in their work and support of South Central! I could not have done 1/4 of what we achieved without the ARD's behind me and each SC pilot that supported and helped in so many ways over these last years. Coming in as RD in early spring of 2014 we had a mere 6 contests on the entire schedule. Because of the work by the individuals around me we have grown that contest count back to 10 contests thru the region and in 2019 our projected contest count is up to 13 contests! This is due to the "on the ground" work of the ARD's and the members of South-Central.

I also am grateful to Rich Whitlow and Kevin Schmidt for running for Regional Director for South Central as both were excellent choices, and welcome Rich to the Board of Directors. Rich has shown his dedication in so many ways to the region and IMAC already that I could not imagine a better fit to the region and IMAC and its path forward. I want to encourage everyone to support Rich as you have supported myself going forward. South Central will continue to grow and thrive with all of us behind him and his leadership!

In what one could call a very tight race for Vice President for the 2019-2020 term with myself and Kevin Garland, it was wonderful to see the membership voting numbers with nearly half voting for this race. Kevin is a young man I would like to work very closely with in the coming term. The goals the BOD have for this next term are extensive. Many of these goals have been worked on but with the IWC Championships in Muncie in September of 18, the work load was nearly all inclusive to a successful event and the hosting of 18 countries from around the world.

The Board of Directors have our work cut out



for us. We all know this and are excited to get back to just that work. In just the weeks since the IWC wrapped up, we have worked on some very new and exciting things to roll out to the membership for the 2019 season. And as the new BOD settles in with 3 new RD's being added, we have some fresh new perspectives and ideas to continue.

So, with the mark of the beginning of Winter, we all will be in the garages and workshops preparing for the 2019 season to begin. This will of course be started with the International Judging School in January. I encourage all that can make this school to sign up and to be there.

In last 5 years, I have made a point of being accessible to all. This will not change. My email and phone number are attached to my emails and thread posts and I encourage any and all to use it if you need something. Even if I am unable to help you with your questions, I will find out where to point you. It is my "Virtual" open door policy, and this will remain.

I hope all have a wonderful remainder of their holiday seasons around the world and look forward to the next time we meet or speak. You are all my extended family. That is what IMAC is to me. Not just people with the same interests but friends and family.

## Northwest Region Clark Hymas



## Southwest Region Alex Dreiling



We finished the year off strong in the SW! I would like to personally thank each and every one of the members in the SW for allowing me the opportunity to serve you for the last year. We have learned a tremendous amount together and I have learned from many of you how to operate a region the way it needs to be run.

I will be assembling an airplane here shortly that has been donated to our region as well as all the accessories to go with it from various members all over the US. This will help the younger generation to experience what we are all about. Kevin Garland came to me with this idea a couple months ago and I offered to put it together as long as he could find all the donations. In less than 24 hours we had enough people come together and donate everything that would be needed. Thank you to everyone that has helped!!

We finished the year off in Florence, AZ at the Felix Ranch SW Regional Finals. We



had 20 pilots come that were trying their hardest to move up or defend their spot for the Regional Points Championship. Congratulations to all the winners in each class. Each winner 1st through 3rd place will be receiving a glass trophy that is engraved with your class and placement. We also had a banquet at the Golf Resort near the field as a special thank you to everyone in the region and to get together somewhere other than the field to sit back and relax and enjoy each other. It was a great time and I thank you all that made it. Congratulations to all the winners!

Basic:

- 1st Place: David Buhrman
- 2nd Place: Jerry Unruh
- 3rd Place: Claude Aragon

Sportsman:

- 1st Place: David Bruce
- 2nd Place: Chuck Taylor
- 3rd Place: Danny Diaz

Intermediate:

- 1st Place: Cayden Bruce
- 2nd Place: Michael Marcellin
- 3rd Place: Don Brown

Advanced:

- 1st Place: Randy Dreyer
- 2nd Place: David White
- 3rd Place: A.J. Jaffe

Unlimited:

- 1st Place: Bryant Mack
- 2nd Place: Santiago Perez
- 3rd Place: Kim Quenette

I wish you all a happy holiday season and

I will see you all next year!

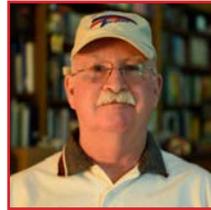
Here are some pictures from this year to enjoy!

Thank you,  
Alex Dreiling





### Southeast Region Steve Sides



Here we are near the end of the year and the end of IMAC 2018. Lots has happened since last quarter – most notably the 2018 World Championship held in Muncie just after Labor Day. It was an outstanding event that couldn't have been better except possibly for the weather the wiped out 2 of the competition days. One for the books to be sure and I'm already looking forward to the 2022 event in Italy.

As we all know the 2018 FAA Reauthorization has become law and includes some provisions that aren't favorable to IMAC and several other SIGs of the AMA – namely the 400' ceiling. From discussions with folks much more knowledgeable than I on the subject, I feel confident that some sort of accommodation will be reached to allow safe flight operations as we have conducted in the past. I'm not trying to say that all is great but I'm certain that it's way too early to say that the sky is falling. Being the optimist that I am, I think we'll be fine at the end of the day.

As 2018 wraps, I'm coming to the end of my tenure as Regional Director as it's time for me to step down. I want to thank everyone for the privilege of serving these past 4 years. I've thoroughly enjoyed my tenure and look forward to participating in the future as much as possible. Thanks to the many, many people who helped make these past 4 years special. Please join me in welcoming Primo Rivera as the new Regional Director in the 2019 season. I'm looking forward to helping Primo wherever I can going forward. There's already a few events on the calendar for 2019 including a new event at Hillsville, Ga. I haven't been to the field but I've heard good things and look forward to flying there.

### Flying and Judging Question

Rolling Circles. A pilot performs a 2 roll rolling circle – 1 roll in and 1 roll out. During the roll, you observe the aircraft maintains a nice flat circle as it is guided through the figure. Also observed is 4 hesitations total in the rolls and at least 2 roll rate changes. The circle appeared round and start and ended at the correct point. What score might you assign as the judge? 4? <4? 5? 6? 10 because anyone who can do that deserves a 10?

### North Central Region Jeff Maruschek



The 2018 North Central season has come to close. Our Regional Points Championships contest was held at the AMA IAC on September 15-16. We had 17 pilots and even though we had fog until PAST NOON on Saturday, we were still able to fly 5 full rounds and the unknown to fill out the contest. This was my first time as a Contest Director and I appreciate all of the help everyone was able to provide. Special Thanks goes out to IMAC President, Mike Karnes, who offered to not fly and be the scorekeeper. (so I could fly) Thanks so much, Mike!

Perry VanMeter, a new basic pilot for 2018 won his class for the season! We look forward to seeing you at many more contests, Perry!

Greg Hladky, 2017 NC Basic Champ, who has ONLY ever flown electric powered models in IMAC, won Sportsman this year with his Extreme Flight / 3D Hobby Shop 95" Extra 330!

Mike Duggan won his first Regional

### Northeast Region Brad Davy



Championship in Intermediate with a ~14 year old Carden that has flown more than it's fair share of North Central contests! It was built by John Boyko and was with another owner, former NCRD Ron Graham, before Mike acquired it last year.

Toby Silhavy won the Advanced class for 2018 with a 35% Yak that he designed and built himself! Amazing work, Toby!

In the Unlimited class, Kurt Koelling won the Regional Championship for the 8th year in a row. Kurt was flying the KAM Aero Extra 300 which he designed. KAM Aero is a new kit manufacturer started by Kurt and fellow North Central pilot, Cam McCausey.

In the Seniors class, Ray Morton wins 2018 for the 4th year in a row! Way to go, Ray!

As 2018 comes to a close, North Central will welcome in a new Regional Director for 2019-2020, Ray Morton! We are all excited to work with Ray for the next two years. I'd like to thank everyone who has helped me in the last two years to be your RD. There are many more, but I'll list a few that especially deserve my heartfelt thanks. Ron Graham, Kurt Koelling, Lou Matustik, Mike Karnes, Doug Pilcher, and Samantha McKinney.

See everyone next year! (the new plane is already on the build table)

Jeff Maruschek  
NCRD



# 22nd Annual Texoma IMAC Challenge

## Sherman, TX



### 2nd Annual Texoma IMAC Challenge

#### Basic Class

1st Place - Tim Hughes  
2nd Place - Brent Bernard  
3rd Place - Ron Schroeder

#### Sportsman Class

1st Place - Rhett Lambert  
2nd Place - Mikeal Smith  
3rd Place - Darin Schmidt

#### Intermediate Class

1st Place - Rudy Voldrich  
2nd Place - Rich Whitlow  
3rd Place - Dan Powell

#### Advanced Class

1st Place - Hank Cooper

#### Unlimited Class

1st Place - Shane Snyder

#### Seniors Class

1st Place - Hank Cooper  
2nd Place - Allen Delger  
3rd Place - Mark Thurman

# Upcoming Events

## January:

12th - East Valley Aviators Superstition Challenge - Apache Junction, AZ  
25th - 2019 International Judging School - Meza, AZ

## February:

2nd - Florida Judging School - Palmetto, FL  
16th - AMPS IMAC Challenge - Miami, FL  
16th - Winter Roundup at Felix Ranch - Florence, AZ



## March:

1st - IMAC Judging School - Hinesville, FL  
2nd - IMAC Judging School, Clover Creek = Toone, TN  
9th - Tuucson IMAC - Tucson, AZ  
23rd - West Texas IMAC Challenge - Odessa, TX  
23rd - The Cactus Classic - Apache Junction, AZ

## April:

6th - Grizzly Bear - Richland, WA  
6th - Hemet IMAC - Hemet, CA  
13th - Salinas IMAC - Salinas, CA  
27th - 2nd Annual SC-SW Smackdown - El Paso, TX  
27th - 1st Annual "Heath Green Sky Ranch" IMAC Contest - Hinesville, GA

# 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



Joe Thibodeau & his father David

## 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](http://www.mini-iac.org)