

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

I'm sure like many of us, the thought of attending a FAI World Championships (WC) seems very farfetched, especially when they are usually held somewhere in Europe or Australia. The cost involved, the logistics of traveling to a foreign country, finding a place to stay, etc., can turn into a very bad nightmare. However, to have a WC held in the U.S., the week following the 2024 U.S. Nationals (NATs), may be the only opportunity that many, including myself, would be able to attend. I had already made plans to attend and compete at the NATs. The great thing about this, is all I had to do is extend my stay in Muncie, Indiana an additional week and come up with the money to do so. The time needed for the additional week is not too much of a problem, I've been retired for almost 10 years. If I watch my spending habits, the cost shouldn't be a problem either. Could I do it? *This smells like an opportunity for another adventure!*

Planning began for these events back in October of 2023 once the rumors became true that the 2024 FAI World Championships (WC) would be held in Muncie, Indiana on August 11-17, 2024 and the U.S. Nationals (NATs) would be moved to August 4-9, 2024, the week before the WC. Sprinkled in between these two events would be a third event called the World Cup of the United States featuring F2A (Speed), F2C (Racing) and F2D (Combat), but no F2B (Aerobatics).

## Getting Everybody and Everything to Muncie:

For our so called "normal" NATs trip, if Brett Buck attends the NATs, he will make the 3-day drive to Muncie and will take along our planes and equipment for two others. It is just a matter of us getting our planes and equipment to Brett's place before he heads out to Muncie. Then, we would get on a flight and fly back to the Indianapolis International Airport (IND) in Indiana, rent a car, and drive to Muncie some 75 miles away and meet up with Brett when he arrives.

At the end of the NATs we reverse the process. We would get our planes and equipment to Brett at the hotel and he would make the 3-day return trip back to California. For the rest of us, we would drive back to IND, return our rented vehicle, fly back to California, and then pick up our planes and equipment at Brett's place when he returned.

But with the WC, an added layer of complexity wreaked havoc with our "normal" plans. For one, we had too many people, too many planes plus the additional week in Muncie. Several of us from California were looking forward to making our yearly trek to the NATs. This included Brett of course, along with Jim "Uncle Jimby" Aron, Dave Fitzgerald and myself.

Back in October of 2023, Dave qualified as a member of the U.S. Team at the Team Trials in Houston, Texas. I happened to share my adventure of traveling and judging for the first time at the Team Trials. You can read about this adventure on the [Flying Lines website](#).

After qualifying for the U.S. Team, Dave decided that he would also drive back to Muncie by himself to compete at the NATs and of course the WC. This decision was made because he wanted to bring two of his planes with him, his newer Thunder Gazer 3 along with a backup plane, Thunder Gazer 2, along with a boat load of equipment. This decision worked out well

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

for all of us. Brett would take his plane and equipment along with Jimby's stuff. My airplane, *Circulas 61e*, and equipment would go with Dave. Cool, we have all the planes and equipment getting to and from Muncie! *Step 1 complete...*

With Brett and Dave both driving to Muncie, Jimby and I would book a fly together on a United Airlines' redeye flight to get to the IND in Indiana. This resulted in saving a couple hundred dollars just in airfare. Jimby also insisted on renting a van, that he would pay for and we would drive together the 75 miles to get to Muncie. This would also make it easier to transport our airplanes and equipment while in Muncie and make it convenient to get back to the Indianapolis airport to catch our return flight back to California that has an early morning departure the day after the WC ended. *Step 2 complete...*

## Where Will We Stay?

This trip entailed locating a place to stay for almost 2½ weeks. Sharing a hotel for that length of time can be very difficult and very expensive. Then carrying planes and equipment through the hotel lobby and up to our room is a pain. Dave recommended that I should try and get the Airbnb house we used for the 2022 NATs, affectionately called the "Muncie House". It was important to try to reserve the Muncie House as soon as possible because houses in this area could be going fast, which I was able to do. The Muncie House is a large fully furnished 3 bedroom 2 bath home that can have up to 5 guest and is a 10-minute drive to the AMA site. This house has all the amenities of a large home, a fully equip kitchen, dining room, living room, laundry room, outdoor patio, garage, etc. We also found out that a hot tub has been installed since the last time we stayed there! To keep our cost low it is important that we have enough "guest" to fill the house for the entire duration and split the cost of house, thereby reducing our individual "living" expenses greatly over what it would cost to stay at a hotel. Plus we have all the amenities and the room of a large fully furnished home. Win-win!

Brett was only going to compete at the NATs for the first week or so, and then head back to California, so he chose to stay by himself at a hotel for that week. Dave, of course, would remain for the entire duration. Jimby and I would be competing at the NATs and wanted to watch the World Cup and WC. But somehow we both got roped into being Dave's coach and helper for the WC. Then, Paul Walker, the Assistant Event Director for F2B at the WC, was looking for someone to do "*calibration flights*" (warmup flights) for the judges at the WC and Dave quickly volunteered me. *Thanks Dave!*

In reality, I couldn't pass up this opportunity. There is no way that I would ever be good enough to be a member of any WC team. But to be able to put in a flight at a WC would be an outstanding privilege!

So I have Dave, Jimby and myself staying at the Muncie House. Then, word got back to me that Chris and Joan Cox were looking for a place to stay as well. They also would be attending the NAT's and the WC. Joan would be judging at both the NAT's and WC! Chris would be competing at the NAT's and is a member of the Canadian Team that would be competing at the WC. *Welcome to the Muncie House!*

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

So the Muncie House would be occupied by Chris and Joan Cox, getting of course the Master bedroom, Jim Aron getting the bedroom with a queen size bed and Dave and I sharing the last bedroom room that had two twin beds. The Muncie House is full! *Step 3 complete...*

## Practice Begins:

Practice for the NATs and WC began, in earnest, in late June with many sessions taking place in Napa, California and at the *Stunt Farm* in Elk Grove, California. We had a couple of "special" visitors for some of the practice sessions. Chris and Joan Cox came down from Canada and spent several days flying with Dave Fitzgerald and myself in Napa.



*Practice Session in Napa, California with Chris Cox, me and Dave Fitzgerald*

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024



*Practice Session in Elk Grove, California with Chris Cox, Brett Buck, Dave Fitzgerald and myself*

Chris' last day was spent flying with Dave, Brett Buck and myself at the Stunt Farm in Elk Grove, California before headed back to Canada later in the afternoon. Believe me, these practice sessions were some of the best and most intense practice sessions one could ask for.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024



*Chris Cox gets debriefed after a flight by Brett Buck and Dave Fitzgerald*

In July, Matt Colan and his wife Mattie, flew out from Texas to celebrate an early 5<sup>th</sup> wedding anniversary. Matt is the third member of the US Team that will compete at the WC in August in Muncie, Indiana. Dave, Matt and myself got together in Napa where Matt flew Dave's backup plane, Thunder Gazer II to see how it compared to his plane. Matt's setup for the WC is very similar to the Thunder Gazer II.

Matt was flying the Thunder Gazer extremely well and became very comfortable flying this plane after a handle adjustment. But sadly, while Matt was on his 6<sup>th</sup> and final flight of the day, the up leadout decided to let go at the third corner of the hourglass. At first I thought Matt was doing some combat maneuvers as the Thunder Gazer was turning some of the tightest outside loops I've ever seen a stunt ship complete! But we soon realize something was seriously wrong. Who said a stunt ship can't turn a five foot radius corner? Thunder Gazer II did! Sadly, after 4 or 5 outside loops the plane finally made contact with the asphalt.

Dave's Thunder Gazer II is 13 years old and had over 3,300 flights. The leadouts had been replaced several times. But this was one flight too many for the latest leadouts and the up leadout broke. I felt really bad for Matt. Though this was no fault of his own, it's never a good feeling to lose your own plane, but to be on the handle of someone else's plane, no matter if it's pilot error or a mechanical failure – is a miserable, gut-wrenching feeling. I'm sure the wine tasting that they planned to go to later that afternoon helped relieve the feeling!

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

The good news is that after a several days, Dave had his TG2 back together and was able to put in a couple of test flights. TG2 will serve as a backup plane, if needed.



*Some of the damage done to Dave's Thunder Gazer II*

All these practice session were very intense and required your full attention on everything from takeoff to landing to everything in between. When I say “everything” I mean everything! No lazy pull-ups or high pull-outs on any maneuvers, all bottoms at 5 feet, vertical over the top, etc. Nothing worse than to land your plane and having to answer the question, “Why weren’t your bottoms at 5 feet?”

## **Time to Try Some Different Batteries:**

Back in May I ordered six 6S 2800 mAh Lithium Ion (Li-Ion) batteries. In July the batteries finally arrived. I’ve been wanting to try these batteries for some time. There are a couple of benefits that Li-Ion batteries have over 6S 2800 mAh Thunder Power Lithium Polymer (Li-Po) batteries that I’ve been using. The biggest benefit is weight. Li-Ion batteries are considerably lighter than Li-Po batteries. *Some 2½ oz. lighter!* This is a considerable savings in weight. Supposedly, they also can be recharged 500 times or more and last longer. They are also less expensive and supposedly safer than Li-Po batteries.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

However, a disadvantage of the Li-Ion batteries is they run much hotter and require adequate ventilation around the battery compartment.

It took me a while to make up my mind to switch batteries as I had a hard time justifying spending \$300 for another set of batteries when I have batteries that work just fine. Then there was the issue of learning the nuances of Li-Ion batteries and modifying the battery mounting to hold these triangular shaped batteries in place.

To make it easier to charge Li-Ion batteries required changes to my Revolectrix™ Cellpro PowerLab 8 charger, which by the way, you can no longer buy. After several text messages, emails and a few phone calls to Will DeMauro, Will helped me get my charger in order by first finding what is known as a FUIM3 cable. This cable is no longer available from Revolectrix™ and is needed to allow me to add User Preset through my computer to charge Li-Ion batteries. Though this can be done using the on screen menus of the charger, it is a lot easier to do this on a computer. I scoured the internet high and low to try and find one of these cables, with no success. Will found an individual through an RC forum who makes “clone” FUIM3 cables and was able to get one and sent it to me.

Will also recommended that I download the latest firmware for the PowerLab 8 charger, which, strangely enough, is still available from the Revolectrix™ website. So my charging station is setup for Li-Ion and Li-Po batteries. Thanks Will!

Next came modifying the battery mount in my *Circulas 61e*. I wanted to somehow make sure that I could run either the Li-Ion or Li-Po battery if for some reason I needed to. After giving it some thought and measuring the new Li-Ion battery, it became just a matter of making a new battery plate. The current battery plate that I use for the Li-Po batteries is made of 3/32” plywood and is removable. I just made another battery plate and added some balsa supports to keep the battery centered in the middle of the battery compartment. So to switch to different batteries it just a matter of changing the removable battery plate which is very easy. I have plenty of room and can easily move the Li-Ion battery back or forward to change the C/G of the plane as needed.

The real bonus in this situation was the height of my new Li-Ion batteries and the Li-Po batteries are very close to the same! This allowed me to use the same battery hold-down clamp for either batteries. This was an unexpected surprise. Another Win-win situation!

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

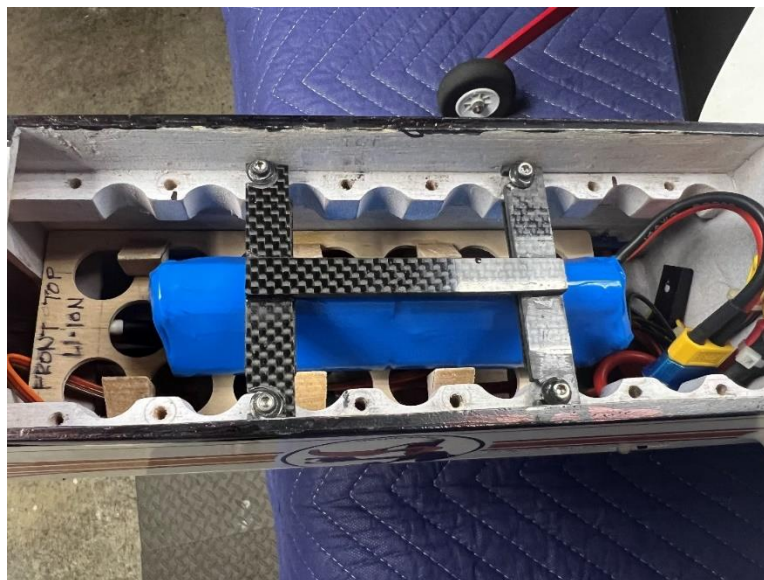
August 1 - August 18, 2024



*Li-Po battery plate (left) and Li-Ion plate (right)*



*Li-Ion battery on new battery plate*



*Battery hold-down clamp with Li-Ion battery in place*

The last remaining change needed to be made was to my Jeti Spin 66 Pro ESC. This entailed changing the Minimum Low Voltage Limit setting from 3.8v (for Li-Po battery) to 2.7v. This is another benefit of the Li-Ion batteries as they can run down to a lower voltage without harming them.



# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

I just need to remember to change it back to the 3.8v if and when I need to run the Li-Po batteries. However, after talking with Will DeMauro he recommended that I leave the low voltage cutoff at the 2.7v for both type of batteries. His reasoning was it might allow a plane to fly longer rather than stop the motor sooner. This might be the difference of saving a plane to fly another day and losing a Li-Po battery or losing a plane and a battery because of a crash. Also, this would also allow me to change between the two types of batteries just by changing out the battery mounting plate in my plane, which is very easy to accomplish.

It was recommended to “cycle” the new Li-Ion batteries through my battery charger at least two times (I did three cycles) and do some “half flights” or 2.5 minutes flights on each battery, which I also did.

## Now on to Testing Batteries:

On Tuesday July 17, Dave and I got together that morning in Napa do some testing. Dave had adjusted the flap ratio on this Thunder Gazer III and I wanted to do the “half flights” (2.5 minute flights) on each of the six new Li-Ion batteries. When we arrived at the flying site the wind was very brisk and the air was very bumpy. Each of us would be able to see how our planes would fly in these conditions plus I wasn't planning on flying the entire pattern in 2.5 minutes. So we had enough “bad” air to do our testing, which worked out well.

After each of my flights, I wanted to see how much “hotter” the Li-Ion would get. I purchased an infrared laser thermometer from Harbor Freight to measure the battery temperature after each flight. I wanted to put a “load” on the batteries so I did a reverse wingover, inside loops, a couple of inverted laps, outside loops, inside and outside square loops and triangles, doing only one lap between each maneuver. As soon as the plane landed, I'd pull off the top hatch and measure the temperature of the batteries. To my surprise the batteries measured between 92 and 96 degrees, which was very mild and the motor was even cooler. Holding the batteries in my hands was not an issues. The next test will be full flights to measure the temperature and find out the remaining battery capacity.

Two days later, the Li-Ion batteries appeared to work really well for the full duration of the flight. I did not notice any performance issues at all. However, when I pulled the top hatch off and undid the battery clamp, the battery was very hot! It was very difficult to hold on to the battery in my hand. Using the laser thermometer the battery temperature was between 145°F to 150°F. I was told that Li-Ion batteries run hotter than Li-Po's, especially new batteries, but how much hotter? After a call to Chris Cox, he wasn't sure what the temperature of his batteries were. So that evening Chris when out and flew and got a temperature reading of 112°F on his batteries. I wasn't close to that!

The strange thing was, later that night, I did a full charge of the batteries and put 2100 mAh back into the 2800 mAh pack. This meant that my remaining battery capacity was at 25%, which was fantastic! But how hot is too hot?

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

I also was able to check the recorded temperature of the Jeti Spin Pro 66 ESC with the Jeti box and found the ESC at 68°C or 154°F which was well below the 100°C or 212°F default setting for the ESC. So how could I get my batteries to run cooler?

Chris recommended some changes to the ventilation. So I made a couple of changes. The first change was to replace the 2" carbon fiber spinner with a small aluminum spinner nut. This allowed more air to enter around and through the motor. There was a weight difference between the 2" spinner, weighing 26 grams and the spinner nut weighing only 4 grams. That is a 3/4 oz. savings in weight. Great!

The second change involved enlarging the top inlet opening in the motor firewall. And third, was to block off some of the inlet opening on the bottom of the motor firewall, thereby forcing more air through the top of the motor and into the battery compartment. As a result this brought the battery temperature down to the 130°F-135°F range. Better, but is this too hot?

Before the next practice session, I removed the 3/32" plywood battery plate and replaced the plate with three 3/32" x 3/8" wide plywood strips to support the battery. This allow more air to get to the bottom of the battery. Strangely, this didn't reduce the battery temperature that I was hoping for. So I called Paul Walker from the flying field and asked "How hot is too hot for the Li-Ion batteries?" Paul stated that on a couple of his planes they are in the 140°F range and that he doesn't have any issues at that temperature. I told him that is where I was at and he stated that I shouldn't worry, that Li-Ion batteries have a heat range up to 200°F.

So with that bit of information, I stopped whittling on the firewall and will not worry about my Li-Ion battery temperature for now. So I have one more day of practice and then deliver my plane and equipment to Dave's house for transportation to Muncie and the NATs and WC.

The most outstanding aspect to changing to the Li-Ion batteries was that I was able to reduce the overall weight of my plane by 3.25 oz. This took my Circulas 61e from being a very good flying plane to a great one!

## Final Practice Day in Napa:

Saturday, July 27 was our last day of scheduled practice before leaving for Muncie. Only Brett, Dave and I showed up in Napa. Jimby has been working on a new plane for the NATs and it was still not finished. He remained at home to work on his new creation. Dave, Brett and I did all our flights and we are excited to get to Muncie and get out planes adjusted for L-Pad. After our practice session, I followed Dave to his house, where I prepared all my batteries and prepped my plane for the 3-day trek to Muncie by removing the landing gear, tail wheel and prop.

On Tuesday, July 30 Jimby, Jeremy Schultz, and I met at 8:30 am at the Napa field to get in the maiden flight on his new plane. Jimby had been tirelessly working 12-20 hours a day for the past six weeks trying to get this plane ready for the NATs. Finally, he was able to get it finished. However, he was down to only one day to see if this plane would make the trip to Muncie.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

This plane, Systema v3.e, is a new electric design. Several short flights were done to verify if the motor and battery combination would work, making sure the wing was level, along with a few other trim adjustments. Though it took us a while to get the wing level, the plane flew really well. The last flight of the day was a full flight that went really well. More flights and trimming would be done in Muncie. Now, Jimby had to deliver his plane(s) and equipment to Brett's place later that afternoon. Talk about cutting it close! *Step 4 compete...*



*Jim "Uncle Jimby" Aron and his new Systema v3.e*

## On to Muncie:

Brett and Dave started their separate 3-day trek to Muncie, leaving in the early morning on Wednesday, July 31. Their goal is to get to Muncie by Friday evening on August 2. Jimby and I will be flying out of SFO to IND on Thursday night (redeye) and arrive in Muncie sometime early Friday morning. If all goes as planned, our first day of practice for the NATs will hopefully be on Saturday, August 3 followed by another practice session on Sunday, then on Monday morning. The practice sessions for Saturday and Sunday will be in the morning and

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

in the evening. Appearance judging for this year's NATs will be held on Monday afternoon in the One-Eighty Building at 3:00 pm, followed by the Pilot's meeting.

## Meeting up in Muncie:

Jimby and I took the red-eye flight for SFO that departed Thursday night at 10:50 pm and we arrived at IND on Friday morning at 6:15 am. With the late departure flight, the excitement of traveling, trying to sleep on a plane (which is impossible), the 3-hour time change, we were both pretty tired. After we picked up Jimby's checked baggage, we headed over to the Budget Car Rental booth. We ended up waiting about an hour and a half for someone to show up at the counter so we could get the van that Jimby had rented. The van was really nice, a brand new 2024 Chrysler Pacifica that has all the assisted driving features. It took us 40-minutes to understand and turn off all these features so that we could drive the van normally. What a mess!

Finally we left the airport and were headed to Muncie. First stop, the 12<sup>th</sup> Street Café for some breakfast. We found out that the L-Pad along with the other areas of the AMA Site was not available for control-line flying as RC Aerobatics had the site for their NATs contest and Team Trials. Control-line would take over the L-Pad and the 600 x 600 grass area on Saturday. So we ended up watching RC Aerobatics for a couple of hours. I don't fly RC and I found it strange how our maneuvers are flown down to five feet and the bottom of the RC maneuvers look to be at 100 feet! I think flying the bottom of their maneuvers at five feet would be very interesting. I think the most exciting part of the morning was when a full-size helicopter made a very low pass over the L-Pad, but fortunately no one was flying in that area. It could have been a very bad situation if a RC aerobatic plane and a full-size helicopter collided.

Eventually Jimby and I went to the Farmhouse to check-in and get our gift package and to buy some hats and t-shirts. Then back to the L-Pad to see and talk with many of the control-line flyer who were just arriving.

It was good to see that Dave and Brett, all the planes and equipment arrived in Muncie Friday afternoon in great condition. All of us, along with Chris and Joan Cox met at the Muncie House at 4:00 pm to check-in and show everyone the workings of the Muncie House. Now it was time to put the planes together and get ready for practice on the L-Pad on Saturday.

*Step 5 complete...*

## Practice, practice, practice...

On Saturday morning it was time to hit the L-Pad for some practice. When we arrived, several individuals were already there and working out any last minute kinks. There are a couple of adjustments that we normally make for the air density of Muncie. This includes upping the nitro content for those running IC motors from the normal 10% used in Napa to 15% or for

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

Dave it was 20% nitro. The other adjustments included increasing the handle spacing to the next set of holes in the control handle and adding a touch of nose weight.

With all that done it was time to practice each day, in the morning and sometimes in the evening. We practiced all the way up to Tuesday morning before the Qualification Rounds would begin at 8:00am.

I believe it was Sunday morning when things were going good for me until my electric motor quite unexpectedly at the completion of the inside square loop. I was able to land the plane with no issues and began to troubleshoot the problem. I couldn't find any issues. Nothing stood out so I tried another flight. That was a big mistake! This time the electric motor stopped while I was inverted! I tried to whip the plane around inverted while moving toward the grass area next to the asphalt. I was doing well until I came up just a hair short and bounced the plane on the L-Pad just shy of the grass and then skidded on the grass. The damage was minimal, with the clear canopy getting scratched and the top of the rudder getting the worst of it. The only other damage was when one of the propeller blades broke off and somehow made a gouge in the upper access hatch, right on top where everyone could see it.

After checking out the ESC and Timer setting, they seemed fine. I did a ground test and when I plugged in the arming plug, nothing happened. I thought I would switch out the electrical components, the ESC, Timer, etc. But I had a situation where my spare components did not have the right bullet connectors. So it was back to Muncie house to work on the plane there rather than try to fix the unknown problem on the L-Pad.

Upon taking everything out, I discovered that the lead from the ESC to the battery connector was loose. When I touched it, it broke off. Thanks to Chris Cox, who just happened to bring along a soldering gun and some solder, I was able to make the needed repair. At the same time I changed the 3.5 mm bullet connector on the spare ESC that connects to the motor with 4 mm connectors just in case it needed to be replaced, along with some other modifications.

Later that evening we went back out to the L-Pad to give it a flight test. I would do a complete flight with no maneuvers, only level flight. The test flight went well. Now it was time to do some maneuvers. I did a couple of climbs and dives. Brett, who was watching, yelled out, "You need to find out sooner or later what it can do!" So I did a couple of inside square loops and then came the difficult part of flipping the plane inverted, which I was very hesitant to do. But I did a half loop into several inverted laps followed by some outside square loops. Phew! The plane was flying and working well, but it took a couple more flights to where I gained my full confidence in the electrical system.

Once we returned to the Muncie House, Chris Cox worked on the clear canopy, removing the scratches. He did a great job! I took out some sand paper to sand smooth the top of the rudder and I carried a small 1 oz. bottle of white dope to try and touchup the rudder. It was fine but you could tell something had happened to it. The damage probably cost a point or two on the appearance judging. But everything was fine.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

## Appearance Judging - Monday:

On Monday at 3:00 pm, at what is known as the One-Eighty Building, all the competitors with their planes gathered for Registration and Appearance Judging. This was the first time in the four NATs that I've attended where this building was used for this purpose. It had previously been used for many NATs. For me, it was great to experience this for the first time. It was a pretty impressive sight to see such a display of some of the most beautiful models at this contest. It took a while to get everyone registered. But once registered, we gave our plane to someone who would randomly place each plane on the floor of the large gymnasium. Over 70 planes were presented for judging. Once all the planes were registered and placed in the gymnasium, the door to the gymnasium were shut and only the appearance judges and support personnel were allowed inside.

All the competitors met in another room for the Pilots Meeting. During this meeting each pilot had to verify if they were in attendance and verify their AMA number to make sure it was correct. Once this was done, we were given final instructions and shown how the groups and flight order were randomly generated using a program developed by Howard Rush. At the end of the meeting each pilot would receive their circle assignments and flight order for qualifying.

Once the meeting concluded everyone gathered outside the gymnasium waiting for the gymnasium doors to open. The air was thick with anticipation, as we had to wait for what seemed like an eternity. Finally, the doors were opened and everyone was allowed to enter into to the gym, looking eagerly for the row where their plane would be located.

For me it was quite easy. Once I walked through the doors, there was my plane, front and center for all to see. You couldn't miss it or the label of the row that it was in. It was in the 15 point row. My goal was to get 16 appearance points, but due to the previous damage from the inverted landing during practice, I thought it was a fair decision.



*Circulas 61e on the 15 Point Row*

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

Then, it was the mad dash to the front row. Were there any 20 point planes? Who and how many were on the front row? We weren't disappointed. There were no 20 point planes this year, but 9 planes made it to the front, the 19 point row!



*Appearance Judging at the One-Eighty Building*

The great thing about being in the One-Eighty Building was there was plenty of room to walk around each row to look and take a picture of each plane. It was quite an unbelievable sight.

For me, one of the exciting moments was see Jim "Uncle Jimby" Aron's new plane on the front row! When his plane arrived at the NATs, it had exactly one full flight on it. I was in Napa on Tuesday, July 30th for the maiden flight. Jimby had put the finishing touches on the plane the night before. After several short 1 and 2-minute flights, we were able to get the wings level and make some timer adjustments. With the wind starting to pick up into the "danger" level, Jimby put in a fresh battery and did exactly one full pattern. And that was it! It was time to roll up the lines, load up the plane and his equipment back into his van, and head over to Brett Buck's apartment later that evening. There, Brett would load Jimby's plane and equipment, along with his plane and equipment, into his van and head out in the early morning for the 3-day trek to Muncie. Talk about cutting it close. I was just glad it didn't turn in to one of those Wile E. Coyote and Road Runner incidents!

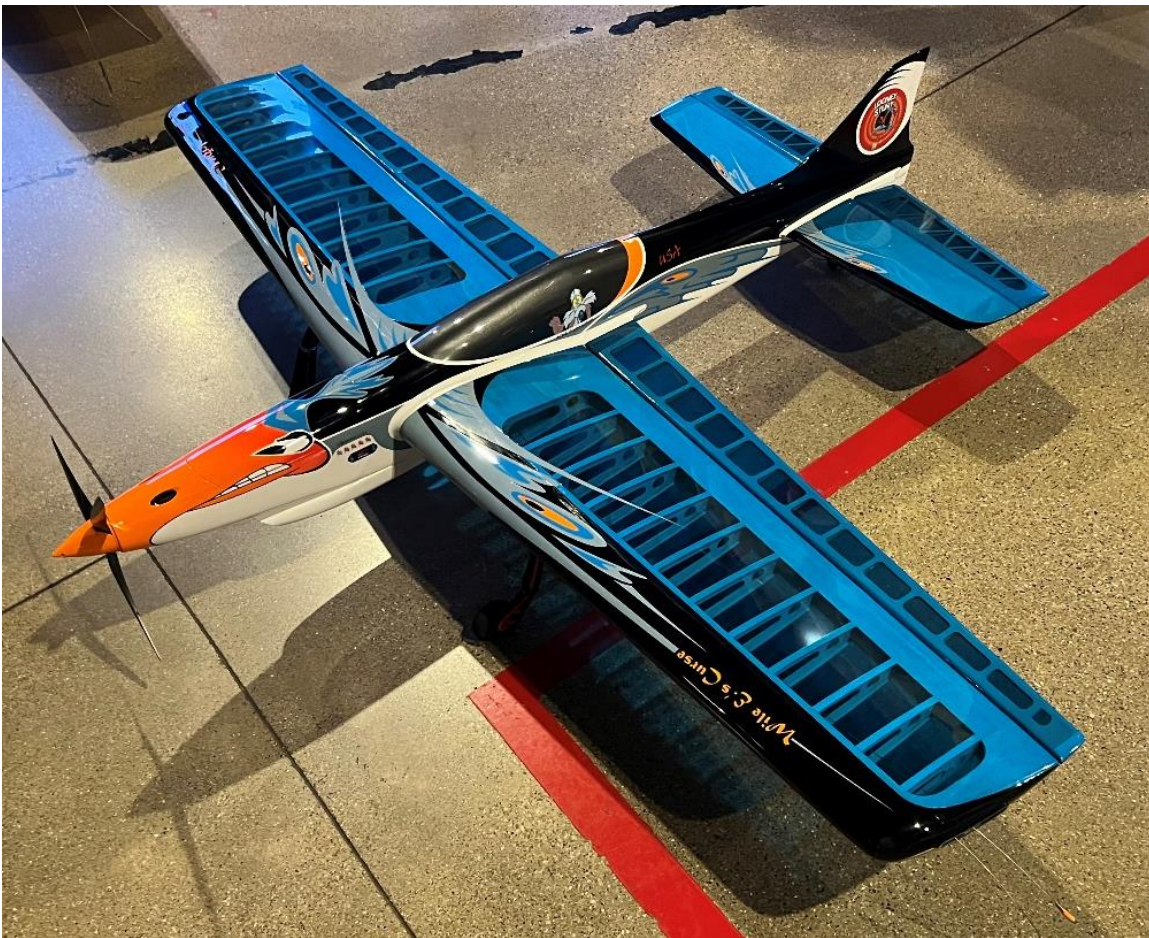
# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

Surprisingly, it was difficult to get to his plane as it seemed like everyone was gathered around it. Jimby's plane was truly outstanding and everyone was looking closely at this marvelous and unique plane.

There were many great looking planes in the front row, but Jim's *Systema v3e* stood out from among them all. I had the privilege of seeing this plane during construction and finishing. Jimby went through a lot of pain, frustration and the "why am I doing this" moments with this plane. That seemed to all melt away when you saw everyone there, just gazing at it. It truly is a work of art!



*Jim "Uncle Jimby" Aron's beautiful Systema v3e, Wile E's Curse*



# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024



Better yet, Jimby's plane would go on to win the Concours Award! But to win this award, the plane must make an official flight. I believed this requirement was change for the 2023 NATs when the winner of the Concours Award in 2022 choose not to fly his plane. The next day, after Jimby completed his official flight he was awarded the beautifully crafted Concours trophy. In talking with one of the Appearance Judges, the voting wasn't even close! He had received more than half of all the votes, with the other half of the votes going to all the other competitors combined. *Way to go Jimby --- All the aches, pains and frustrations paid off!*

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024



*Jimby with the Concours Award (Love the Tee Shirt!)*

## Qualifying Rounds – Tuesday & Wednesday:

On Tuesday morning was the start of Round 1 of qualifying. I went to install my backup Pavlo Kravchenko's 12.5 x 5.2 3-blade carbon fiber prop to do a practice flight and I heard a "crack" when I tighten up the spinner nut. Not good! Sure enough, the blade I was holding on to strangely cracked in the middle of the blade. That was my last Pavlo prop. I had to switch to my Igor's 12.25 x 5 3-blade prop which I've never used on this plane. So I did a practice flight, but found that my lap time went from 5.3 seconds down to 5.6 seconds. Too slow, but surprisingly the plane flew remarkable well in the calm morning air. But we knew the wind was going to pick up by the time I was scheduled to fly. Mind you, all this happened just before the qualifying round was to begin. Not quite in panic mode yet, Dave said he was available to help me, so we loaded my plane and equipment in this SUV and made a mad dash over to the grass practice circles to try and get the lap time down to 5.3 seconds. After adjusting the time for one-minute flights and increasing the base RPM each time we got the lap times down to 5.3 second laps. Now I just had to set my timer back to 5 minutes and 25

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

second flight time, which I did. But now I was concerned if my new Li-Ion batteries had enough capacity to handle the higher RPM. Oh well, no time to test, it's back to the L-Pad and get ready for my first official qualifying flight.

I was assigned to Group C, flying on Circle 4 for Round 1 and Circle 2 for Round 2. They add your best score on Tuesday with your best score on Wednesday. To qualify for the Top 20 they take the top 5 highest scores from each Group.

I put in a very good flight and scored 540.33 on my Round 1 flight on Tuesday. However on my Round 2 flight, the wind increase more than what I expected and could only muster up a score of 516.33. All said and done with what I just had gone through, I was very pleased with my flights for Day 1.

On Day 2 of qualifying, I put in a horrible first flight and only scored a 502.33. The wind was pretty aggressive and continued to increase by the minute. My two scores added together was 1042.67 which put me on the bubble or at the 5<sup>th</sup> qualifying spot. It was decision time. Did I score well enough to get into the Top 20? The nearest competitor was Len Bourel from Canada. His best score was 510.33 on Tuesday and he needed to score a 532 or better on his last flight to knock me out of the Top 20. I was scheduled second to last to fly in the final round and Len was last. The wind was blowing really hard, around 12-15 mph when Len needed to fly and those that chose to fly were scoring well below 500. So I made the decision at the last minute to pass on my second flight. Len flew a really good flight considering the conditions. I had to hold my breath as I waited for his score to be posted. Did I make a mistake by passing on my last flight?

Drum roll please.... Len scored a 522 on his last flight, coming up 10 points shy of knocking me out to qualifying for the Top 20. As a result, I qualified and made my first Top 20! This was one of my main goals I set after last year's NATs, which I couldn't attend. What a joy and satisfaction it is to make it!

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

C/L Precision Aerobatics AMA National Championships, 2024										
Event 322 (Open) Qualifications										
Contestant	Tuesday, Circle 4				Wednesday, Circle 2				Total Score	Place
	Round 1		Round 2		Round 1		Round 2			
	Flight Order	Score	Flight Order	Score	Flight Order	Score	Flight Order	Score	Best score from day 1 + best score from day 2	
Vincent Bodde	3	493	10	90	3	—	1	—	493	
Leonard Bourel	2	510.33	8	507.67	1	519	10	522	1032.33	24
Mark Hughes	1	427	6	490.67	8	487.33	5	480.67	978	33
Bob Hunt	4	549.33	3	542.33	7	531.67	4	—	1081	Q
Matt Neumann	5	530.33	5	—	6	518	6	—	1048.33	Q
Dennis Nunes	8	540.33	2	516.33	2	502.33	9	—	1042.67	Q
Kenny Stevens	7	538	4	—	10	536	8	—	1074	Q
Robert Storick	6	504.33	1	—	9	—	2	—	504.33	
David Tribble	10	519.67	7	502.33	5	—	7	424.33	944	36
Paul Walker	9	572.67	9	—	4	555	3	—	1127.67	Q

Score for Group C

But that's not the end! Tim Just is a great friend and competitor. We talk on the phone, if not every day, every other day. Both of our goals was to make the Top 20 this year for the first time. But we also wanted for one of us to win the Rookie of the Year (ROTY) award. To do that Tim had to place 5<sup>th</sup> or higher in his group. According to Tim, Paul Walker told him he needed a good last flight to qualify for the Top 20. Tim flew in the difficult conditions and scored a 525, improving his score over his first flight to qualify for the Top 20 in Group B. Truth be told, Tim didn't need to fly the last round, and he'd qualified for the 5<sup>th</sup> position from his first flight. Paul just wanted him to fly in the difficult conditions.

## Top 20 Day – Thursday:

So Tim and I are both in the Top 20. A secondary goal was for him or me to have the opportunity to capture the ROTY award. The problem was, that neither Tim nor I knew if there were anyone else in the Top 20 who could qualified for the ROTY award.

As with any Top 20 semifinals, the cream always rises to the top to qualify for the Top 5 Finals. This year was no exception. Dave Fitzgerald, Orestes Hernandez, Derek Barry, Paul Walker and Todd Lee made it to the Top 5 Finals.

So who was this year's winner of the Rookie of the Year? At 15<sup>th</sup> place, none other than Tim Just. *Congratulations my friend!*

Though I was disappointed in my first flight, my second flight was a good as I could do under the circumstances. I'm very pleased and happy for my friend and competitor to be the 2024 Rookie of the Year recipient. And a 17<sup>th</sup> place finish for me was a very good accomplishment for my first Top 20 and one of the many highlights of this year's NATs.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

C/L Precision Aerobatics AMA National Championships, 2024						
Event 322 (Open) Semifinals						
Contestant	Circle 3		Circle 4		Total Score	Place
	Flight Order	Score	Flight Order	Score		
Konstantin Bajaikine	14	554.33	5	548.33	1102.66	14
Derek Barry	17	580	3	564.67	1144.66	Q
Brett Buck	9	565	16	552.33	1117.33	6
Chris Cox	11	558	10	558.33	1116.33	7
Joseph Daly	20	567.67	1	546.67	1114.33	8
Steve Fitton	16	544	2	523.33	1067.33	16
David Fitzgerald	12	590.33	8	575.33	1165.66	Q
Joe Gilbert	5	558.33	11	547.67	1106	12
Orestes Hernandez	1	578	17	578.67	1156.66	Q
Christoph Holtermann	2	525.33	13	538.67	1064	18
Bob Hunt	7	549.33	20	559.67	1109	10
Tim Just <b>ROTY</b>	13	551.33	4	524	1075.33	15
Todd Lee	6	570.33	12	571.33	1141.66	Q
Jose Modesto	4	527	19	533.67	1060.66	19
Matt Neumann	15	530	6	529.33	1059.33	20
Dennis Nunes	18	540.33	7	524.67	1065	17
Mike Palko	10	552	15	556.67	1108.67	11
Howard Rush	8	550.33	14	555.67	1106	13
Kenny Stevens	19	559	9	553.33	1112.33	9
Paul Walker	3	579	18	570	1149	Q

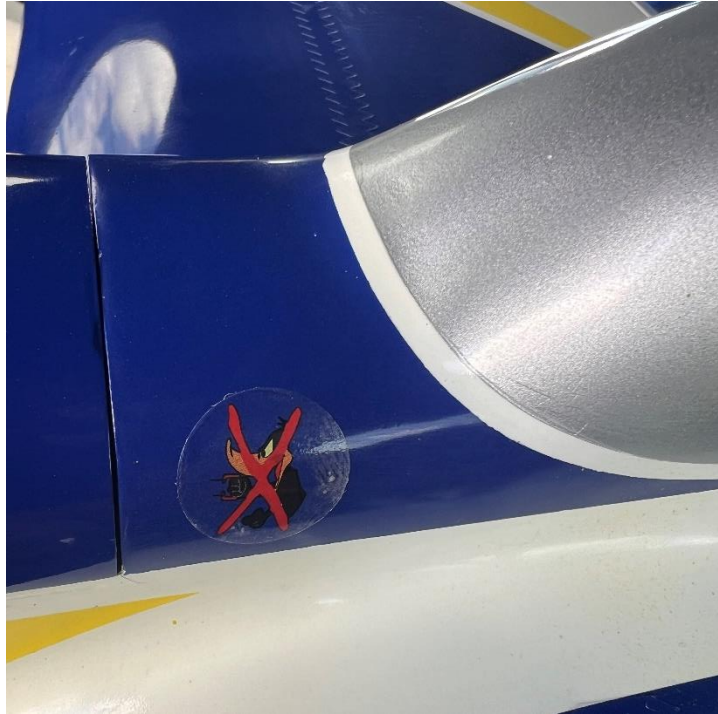
Score for Top 20

However, there is an evil twist from this year's Rookie of the Year winner. For those who do not know, Tim and I have competed against each other for several years now with one of us beating the other one on any given day at our local contest. It's a friendly rivalry that we enjoy immensely. So in the spirit of fun, Tim sent me a text message with this picture that has stirred the pot. Here it is:

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024



*Daffy Duck Kill Sticker*

Tim placed a Daffy Duck “Kill Sticker” near his canopy (thanks to Uncle Jimby) as a result of him finishing ahead of me at the NATs. I thought it was pretty cool. But then Tim must of felt bad for doing this, later that day after we all were eating lunch at the Chocolate Mouse restaurant in Farmhouse, Indiana and walking to the Candy & Stuff store down the street. Coleen Gilbert handed me a very special gift and said it was from your friend.



*A gift from Tim Just --- Isn't Daffy cool!*

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

This is a very special gift that caught me off guard and by surprise. It truly made for a great moment for me at from this year's NATs. *Thanks Tim!*

## Top 5 Finals - Friday

The morning started out pretty calm weather-wise. But the winds started to blow. With 3 rounds of flying it would have an impact on the flying. Though all the flyers in Top 5 Finals can fly in the wind, it still can have an effect on the outcome. For an in depth account of the action please read Matt Neumann's outstanding article in [NATs News, August 9, 2024 CL Precision Aerobatics](#).

## The 2024 NATs Comes to an End:

All the practicing, coaching, sweat and traveling is done. There were some great moments and some low points. As Brett Buck told me several years ago, strange things can happen at the NATs. And it certainly did for me and others. Adversity at the wrong time can make a sane person go insane and make easy things more difficult. But I wouldn't trade it for a moment.

One of the biggest surprises was seeing and flying on probably the most wonderful surface that one could ask for. The L-Pad was resurface and paved just prior to the NATs. No duct tape over cracks, no bumps! There were some wires in the asphalt that needed to be removed upon further inspections. But what a place to fly our planes!

Surprisingly, we also had some fine weather for the majority of this year's NATs with mild temperatures, some wind and a little rain. Thank goes to John Paris and his fantastic staff of volunteers for running such a great event. Now it's time to lick our wounds and get ready for next year.

## The 2024 World Cup of the United States and the 2024 World Championships:

The NATs usually ends on a Saturday, but this year it would end on Friday. There were two other events planned following the NATs. The 2024 World Cup of the United States was on Saturday the 10<sup>th</sup> and Sunday the 11<sup>th</sup> following the NATs. Then starting on Sunday the 11<sup>th</sup> was the beginning of the 2024 World Championships which would end on Saturday the 17<sup>th</sup>.

I did not get a chance to see any other the World Cup events featuring F2A, F2C and F2D (no F2B). So there nothing for me to write about those events. We were too busy helping David and the US team get ready for the 2024 World Championships.

It was great to see some terrific planes and some outstanding flying by many from foreign lands. As one individual called the F2B event, "*Shark Week*" this proved to be true. As there were many Yatsenko Shark's flown, along with some Cauldron's and Aurora's at the Worlds Championships.

# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

Of special note is the first ever, World Championships Concours Award winner. This was won by none other than Chris Cox of Canada and his beautiful Hellcat. *Way to go Chris!*



*First Winner of the 2024 Concours Award – Chris Cox of Canada and his Hellcat*

In the end it was Italy's Marco Valliera the winner of the 2024 F2B Individual Champion, with Orestes Hernandez from the USA in 2<sup>nd</sup> Place, followed by Xu Letong of China (a Junior) in 3<sup>rd</sup> Place.

The rest of the USA team finished with Dave Fitzgerald 4<sup>th</sup>, Matthew Colan 12<sup>th</sup> and Gabriel Alimov (Junior) finishing 20<sup>th</sup> overall.

In the Individual F2B Junior event, Xu Letong of China was 1<sup>st</sup> Place winner, followed by Gabriel Alimov of USA in 2<sup>nd</sup>, and Buyandorj Dashdorj of Mongolia finishing 3<sup>rd</sup>.

For the Individual F2B Female, Liu Zheng of China was clearly the 1<sup>st</sup> Place winner, followed by Nomin Nandintsetseg of Mongolia in 2<sup>nd</sup>, and Joanna Rakowska of Poland 3<sup>rd</sup>.

For the Team Awards, it was China 1<sup>st</sup>, USA 2<sup>nd</sup> and Japan 3<sup>rd</sup>.

For me this was a spectacular event to be a part of and to watch. But the best part for me was having the privilege of doing the calibration or warm-up flight in front of the 6 international judges on Tuesday morning. Then, later that week. Paul Walker asked me if I



# 2024 U.S. Nationals and World Championships

Muncie, Indiana

August 1 - August 18, 2024

would like to do another calibration flight on Friday, which I did. This last flight was the scariest flights of all the flying I did in Muncie. The winds that morning were blowing from 15-20 mph, with gust even higher! I did not know if *Circulas 61e* or I could handle it. We did and was able to get everything on the ground in one piece. This may be the only time that I can say that I've flown at the World Championships! What a unique privilege.

All the practicing, flying and coaching sessions has come to a bittersweet end. The 3:00 am alarm on Sunday morning came very, very early. But it was time for Jimby and me to make the hour and twenty minute drive to IND, turn in the rental van, and head to the TSA Checkpoint to catch our flight home.

What a fantastic adventure that I may never be able to experience and accomplish again. I hope you enjoyed my latest adventure. In the meantime, keep the wind at your back and your lines tight!

Enjoy,

Dennis S. Nunes