

# Another Adventure – Paint Masks and Tucson, AZ

By: Dennis S. Nunes

February 6, 2024

How do you get from this?



To this?



Continue on... Another adventure begins!

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## ***Introduction:***

When I decide to write about an adventure that I have experienced, I like to select an event or topic that I have experienced for the first time. This adventure using vinyl paint masks in the finishing of a control line model airplane was probably one of the most difficult, frustrating, underestimated, excruciating, and satisfying adventures I've had to date.

When it comes to designing a new paint scheme for my model airplanes, or anything to do with model airplanes for that matter, I usually follow the "KISS" principle. For those who may not be familiar with this principle, KISS is an acronym for **Keep It Simple Stupid**. That's because every time my brain tries to go into a "deep thinking" mode, I usually find myself getting in over my head and into trouble.

Add to this the fact that I was trying to get ready for the Southwest Regionals contest in Tucson, Arizona, made this adventure even more exciting. More on that later.

Let the adventure begin...

## ***A bit of history:***

When I was a kid, we didn't put fancy finishes on our combat planes or rat racers. And if we had any other type of plane, the finish was usually just done in clear with no color at all. I remember when we joined a local model airplane club back in the late 60's we were able to purchase clear butyrate dope from our local club for seventy-five cents (\$0.75) a quart, and we paid the same for a quart of butyrate thinner! The only requirement was that you had to provide your own quart jars! Today a quart of dope from Aircraft Spruce & Specialty Company will cost you about \$23 plus shipping! Things certainly have changed.

I had my share of Sterling *Ringmasters* and Carl Goldberg *Busters*, but just about all of them were covered in silkspan and finished in clear butyrate dope with no color. As we got adventurous, we'd go to our local hobby shop and buy a 1 oz. bottle or two of AeroGloss color dope and would brush on a color stripe or two using masking tape to outline the shape. Nothing fancy, just straight lines.

As we progressed, we would buy an 8 oz. can of AeroGloss dope and brush a single color on to the entire model. All of our dope finishes were brushed on. No one had a spray gun, or if they did, they didn't know how to use it.

As we looked at the various model airplane magazines and saw pictures of beautiful airplanes, we could only dream that someday we might build such a plane. The problem for us, or me in any case, was that I had no idea how to go about it, or how much work was involved to accomplish such a feat.

When I returned to this hobby back in 2015 after a 40+ year break, I still had very little knowledge or experience with what it took to have a nice finish on a model airplane. But what we do have today that we didn't have back then is — *The internet*.

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Web sites such as *Stuka Stunt Works*, *Stunthanger*, *PAMPA*, *Facebook* and *YouTube* have tons of information not only on finishing, but on everything one needs to know about model airplanes but is afraid to ask.

My problem was that there seemed to be way too much information. Very quickly I became overwhelmed trying to figure out the best method for me. It was still a 'trial- and-error' type scenario. Again, the KISS principle had to be applied in my case.

Today, one of the greatest benefits a modeler can have is knowing people who have the experience and knowledge to go about prepping, and/or painting a model airplane, and also have the willingness to help and to teach. Knowing someone with a bit of graphic art experience doesn't hurt either, since I have no experience in this area at all.

I happen to be very fortunate to know and have access to one of the most prolific builders and graphic designers in precision aerobatics, and he lives close to me (If you consider 75 miles close). His name is Jim Aron (a.k.a. Uncle Jimby) and his *Systema v2.e*, the Concours d'Elegance winner at the 2019 Nats, is as beautiful as they come.



*Jim Aron's Systema v2.e*

## ***When did this adventure get started?***

In July of 2022, I started construction of *Circulas 61e*, a full-size fuselage version very similar to my *Circulas 61e Profile* that was destroyed at the Las Vegas contest in November of the same year. I believe it was in September of 2022, while taking a lunch break from flying at the "Stunt Farm", a private flying site in Elk Grove, California, that I asked Jimby if he would be willing to help me with the graphics on my latest version of *Circulas 61e* that was under construction. He agreed to help me but with one stipulation: While he would "*listen*" to suggestions, he wanted a degree of autonomy in the process.

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I gave him free rein to do whatever he wanted to do. But “I” also had one stipulation. We would use a white base color and try to incorporate four trim colors that were on a golf polo shirt that I had. We both agreed.



*The 4 trim colors from my golf polo shirt  
Turquoise, sort of a Magenta, Orange and Dark Blue*

## ***Let the games begin:***

Well, it became very clear almost immediately that I did not fully grasp the entire process involved. It was a very rude awakening. In my mind, it was just a simple matter of making up some masks, slapping them on the model, spraying some paint, applying a clearcoat over everything, and I’m done. Right? WRONG ... Oh so very wrong!! In the words of the famous radio broadcaster Paul Harvey,

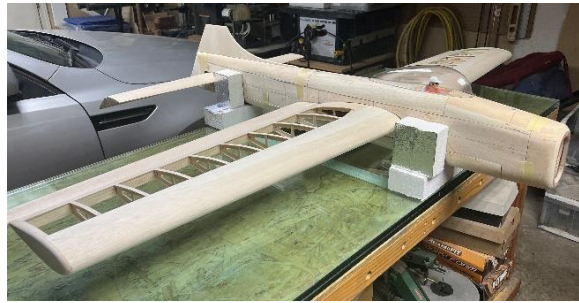
## ***“Now for the rest of the story...”***

In December of 2022, I was about three-quarters of the way through construction of *Circulas 61e*. I sent Jimby my CAD file that he used as a base with his CorelDraw graphic design software. He started the meticulous work on the graphics. As mentioned earlier, I wanted to use a white basecoat with the four colors that were on my golf polo shirt.

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*Circlus 61e under construction*

I received the preliminary rendition on December 28, 2022. It literally took my breath away. Jim continued working on the design, making some minor adjustments, refinements, and adding a few more details. After about 30 versions, the graphics looked fantastic. But something was not right. We knew, or at least I knew, we had the graphic layout that we wanted, but the colors were not working the way I anticipated.

I thought about the seven other Circlus series planes that I painted using only two simple trim colors, red and black on a white basecoat.



*Circlus 61e Profile and Circlus 46 IIe Profile with simple paint scheme*

So, I asked Jimby how difficult it would be to change the four-color palette to a three-color palette with the three colors being red, black and orange.

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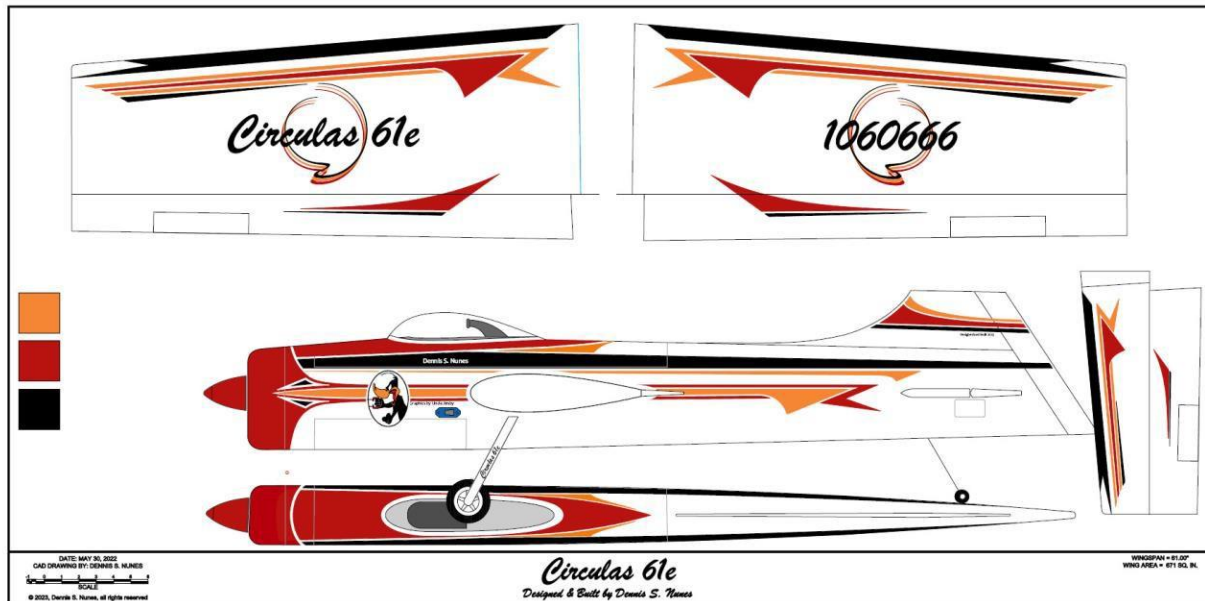
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He agreed and said that would be an easy change without affecting the main graphics.

In January of 2023, I received the first file from Jimby with these new colors. I knew right away we were on to something. He liked the new colors and continued to refine the graphics.

In July of 2023, some 7 months from when Jimby started the design process, having gone through some 60+ iterations, we had a “final” version of the layout.



*Final Version – September of 2023*

However, before creating the files that would be sent out to the company making the vinyl masks, we needed to make sure that the vinyl masks would “fit” the plane. This required taking *Circulas 61e* to Jimby’s place. He printed the full-size graphics on to several sheets of 8½ x 11 size paper, where we cut and taped them together. This would have been a lot easier if we had access to a large-format color plotter, but we didn’t. We spent an entire day just making sure that the graphics fit as they were intended, and if they didn’t, we made the necessary changes to the files. This was critical because during the design process, we were using 2D views of the model, which could be deceptive.

By printing out the graphics and temporarily placing them on to the model, you begin to see issues that hadn’t appeared when working with the 2D views. But the biggest advantage you gain is that you get a fantastic idea of what the finished plane will look like.

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*Color prints of the graphics on paper temporarily taped to plane*

## ***Time for a break:***

To me, the beauty of electric powered planes is the ability to do test flights before putting on the final finish. This was something I couldn't do with my IC powered planes because the fuel and oil would degrade the unfinished surfaces. In June of 2023, the construction of *Circulus 61e* was completed and finished with a white basecoat. I wasn't too sure how this plane would perform and wasn't sure if I wanted to invest more time and effort into putting on the final trim colors because the plane came out a little heavier than I expected. I really needed to know if the plane would be competitive or not. I didn't want to find myself putting the proverbial 'Lipstick on a Pig'.



*Lipstick on a Pig*

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The maiden test flight was successfully done on June 25, 2023. I was very pleased with how *Circulas 61e* flew. Even the remaining battery capacity was better than my *Circulas 61e Profile*, with the average remaining battery capacity at around 24%-28%.

With Brett Buck present for the maiden flight and for a few flights thereafter, we made several trim changes. Brett recommended installing an adjustable rudder, which was later added. The good news was that after the flying session, everyone deemed that *Circulas 61e* was worthy of being finished with Jimby's paint scheme!



*My New Circulas 61e prior to a test flight in June of 2023*

The only problem was that July is when our contest season kicks into high gear. Everyone is busy preparing for various contests, especially the Nats. So, I decided it was time to take a break and hold off applying the final colors on the airplane for the time being.

It ended up that I couldn't make it to the 2023 AMA Nationals in July due to my wife and me celebrating our 50<sup>th</sup> wedding anniversary. The Bob Palmer Memorial contest in Southern California was held in August. The Meet n' Meat contest in Napa, California took place in September. Then in October, there would be my adventure to Houston, Texas to judge at the FAI Team Trials.

At the end of October, there was the 43<sup>rd</sup> annual Golden State Stunt Championships (GSSC) and finally, the Las Vegas Top Gun Challenge in early November. I decided to hold off putting on the final colors and fly *Circulas 61e* with just the all-white base coat at all these contests. I wanted to see if this plane (and I) could handle a contest.



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At the GSSC, word got back to me that Paul Walker saw one of my flights and stated, “*That’s the best flying plane he’s ever had!*” I couldn’t argue with that, for Paul was correct. *Circulas 61e* flies extremely well. Every time I flew this plane we got better and better. So, after the Las Vegas contest in November, no more flights. It was time to remove all the electrical components and hardware and do some touch up and prep work on the airplane and get it ready for Jimby’s color scheme.

## ***Houston, we have a problem...***

In August 2023, Jimby received the vinyl masks and put them away until we were ready to start the final process. For some reason I decided to look at what we thought would be the final PDF version of the color scheme. Something didn’t look right but I couldn’t put my finger on it. Then BOOM — It hit me right between the eyes! The name “*Circulas 61e*” on the top inboard wing panel was misspelled as “*Circulus 61e*”.

When did this change happen? I went back to the very first file that Jimby sent me and saw it was misspelled all along. Neither he nor I caught it during the graphic design process. Now I had to call Jimby and share the bad news. He looked at the vinyl masks that he had received and sure enough, it was misspelled. So, he had to order new masks just for the name and part of the logo. Today, we still can’t figure out how the name came to be misspelled, but it was.

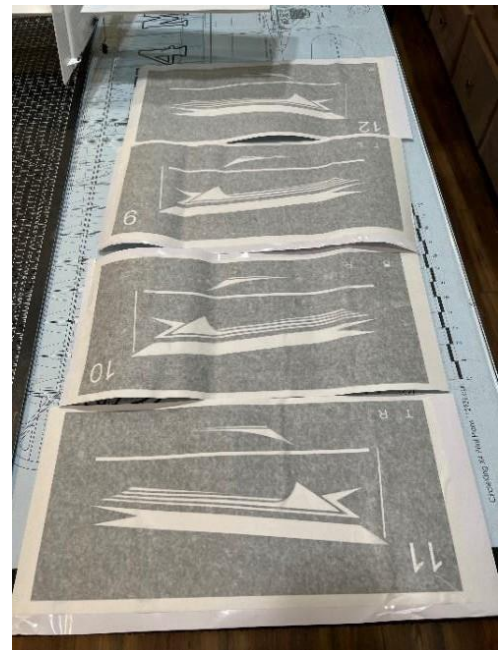
## ***Finally, we can start the finishing process:***

For those like me who may not fully understand what vinyl paint masks are, I’ll try to explain it the best I can. They are very thin vinyl films that are 3.2 mil in thickness attached to kraft paper with a rubber-based adhesive applied by the vinyl manufacturer.

A large-format computerized vinyl cutter is used to transfer the graphic design (Jimby’s file) to the vinyl, and not cut through the kraft paper. When complete, an adhesive transfer sheet is placed on the vinyl side opposite the kraft paper backing to keep the graphic in place when the kraft paper backing is removed.

To use the vinyl paint masks you remove the kraft paper backing and place the vinyl on to the surface to be painted. *Circulas 61e* required 16 separate vinyl paint masks.

In late December of 2023 Jimby and I got together and started working on placing the vinyl paint masks on to *Circulas 61e*.



*Finished Paint Masks for the graphics for the Stabilizer & Elevators*

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*Applying the Paint Masks to the Stabilizer and Wing*

We spent 3 days applying the paint masks to *Circulas 61e*! The first day we spent 11 hours, the second day another 12 hours, and the last day another 9 hours. A total of 32 hours were spent just putting on the vinyl paint masks! However, we still needed to tape off areas before we were ready for paint. This took me several more days to complete before a drop of paint would touch the plane.

Why did it take us so long to place the paint masks on to *Circulas 61e*? Good question.

These masks had to be placed on the plane very accurately and not just on one side. Both sides of the rudder, stabilizer, elevators, fuselage, flaps and the wing needed to match on each side. The logo with the plane's name is placed on the top of the inboard wing and the logo with my AMA number is placed on the top of the outboard wing. This involved a total of 6 separate masks, one for each color used in the logo on the inboard wing and 3 more for the outboard wing. This would require placing them in an exact location in order to have the spacing between each ring equal. Two of the masks had to be placed on the wing after the first trim color was sprayed on. This was extremely difficult. Keep in mind, we are not dealing with flat surfaces like a sheet of glass or a computer screen. With an open bay wing construction, the covering is not flat, it sags between each rib and this makes it difficult placing the masks accurately.

With the vinyl paint masks in place, it was time to mask or tape off all the areas that would not receive any color, i.e., the white areas. So... another trip to Jimby's was in order. We began by masking all the white areas with paper and tape. Since red would be the first color to apply, we masked off, separately, the orange and black areas.

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*33 hours later and the paint masks are on. Not done yet!*

All the back-masking took an additional two and a half days to complete. So, to summarize; we applied the first twelve masks (with still four to go for the logos), masked off all the areas to remain white, back masked the areas designated for orange and black and took a deep breath. How long did this take? *It took roughly 50 hours to complete!* All of this before a drop of colored paint would touch the plane.

To say I was surprised by how long it took to do just this, is a huge understatement. But we couldn't stop now.



*Some 50 hours later, Circulas 61e is ready for Red*

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## ***Wintertime is not a good time to be painting:***

Wintertime may be a good time for building, especially if you're indoors in a heated environment. But it is definitely not a good time to be painting, at least not in Stockton, California, where the morning temperatures are in the high 30's, and the highs are in the low 50's in the afternoon. Working in an uninsulated and unheated garage, the temperatures are a little bit higher, but not much.

The biggest issue we had to deal with was humidity. Stockton is located next to the "The Delta", where the Sacramento and San Joaquin Rivers converge. This creates an extremely dangerous condition from December to the end of February where we have what is known as *tule* (pronounced "tool-ee") fog. Or as I call it, Killer Fog. Visibility can drop down to zero! And of course, the humidity goes sky high.

Then, whoever said, "It never rains in California" ... They lied! It rains a lot more than you think it does. Yes, for a couple of years we have had drought conditions. But for the last several years, we have had plenty of rain. However, once it rains, along with the cold temperatures, nothing ever dries out, which only contributes to the humidity.

Well, Jimby had half a wing panel from a crashed plane that he uses to test paint. He wanted me to take it home along with some leftover scraps of the vinyl mask to test the vinyl and make sure that the butyrate dope, thinner, and retarder that I was using would not dissolve or attack the masks. Testing the vinyl went well except, of course, I had an issue with blushing, especially with the clear dope that had retarder in it. This was due to my uninsulated and unheated garage temperature being in the 40's, and the humidity being around 85%, the worst conditions you can have for spraying butyrate dope.

It was now January 2024. February 3<sup>rd</sup> & 4<sup>th</sup> would be the Southwest Regionals in Tucson, the beginning of our contest season. So, I wasn't able to wait for spring to finish painting *Circulas 61e*. A call was made to Dave Fitzgerald who lives in Napa, where the temperature and humidity conditions are a little better, but not by much. What Dave has that I don't, is a huge multi-car garage with a heated workshop and paint room that we call the Garage Mahal. Dave was more than willing to assist us in creating an environment for spraying butyrate dope. By the way, Dave uses dope on all his finishes for his Thunder Gazers. He was a tremendous help with the nuances of a dope finish, and he's very experienced at using vinyl paint masks.

## ***On the road ... Again:***

On January 10, 2024 it was off to Dave's workshop in Napa, California. With *Circulas 61e* in the back seat and the trunk of my car loaded with butyrate dope, thinner, spray guns, and everything else you can think of. I was on the road ... again.

Jimby and I showed up at Dave's workshop around 10:30 am. It was raining, but very lightly. Dave wasn't sure if we should paint because of the light rain. I told him, "Paint is going on today no matter what." Dave had everything setup and the heaters were going.

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We wiped down the plane with Windex. Dave being a “dope man”, knows the ins and outs of achieving a successful dope finish. He shared some great information and gave me a crash course in spraying dope. What a fantastic lesson!

We started by testing my Harbor Freight airbrush. Unfortunately, it just did not put out the volume of paint needed and the paint was going on too dry. So, we switched to Jimby’s Iwata airbrush. It was having difficulties as well. Then Dave brought out his 50-year-old Binks airbrush and that did the trick. We used my one-gallon lacquer thinner can as a test piece and of course, that can will never be the same again. Once we had the airbrush dialed in, it was time to start putting paint on the airplane. The first trim color to go on was red. Adding a very small amount of retarder to the dope took care of any blushing problems.

The beauty of having Dave around was that he gave me valuable lessons on how the dope should look when sprayed on, as well as spraying technique. This was something that I had had trouble with in the past and Dave’s advice was invaluable for successfully applying the trim colors. Again, the side of my lacquer thinner can will never be the same!



*The first trim color ... Red*

After some lunch, we looked everything over and found a few areas that needed a bit more paint. As we were waiting for the paint to dry, Jimby brought in a finished test wing for his new airplane, Systemra v3.e, that he wanted to experiment with some new techniques using automotive paint. His testing went very well.

Around 6:00 pm we decided to start preparing for the next trim color ... Orange. This involved removing tape from those areas that were masked off earlier, and removing part of the vinyl masks for the logo on the top of the inboard and outboard wing panels. Jimby then left and headed home. I didn’t know what to expect as Dave showed me how to remove the vinyl masks very carefully. The logo has some very thin paint lines and we were worried about those lines not sticking to the basecoat and peeling up as

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we removed the masks. Removing the vinyl masks went very well and the thin lines stayed in place and looked fantastic.

By 7:00 pm, it was time to call it a night and eat some dinner. We also thought it would be a good idea to let the red paint dry overnight. Dave and his wife were kind enough to put me up for the night rather than having me drive back to Stockton, some 75 miles away. This allowed Dave and me to get an early start the next morning.

Dave and I were up and in his workshop by 8:00 am. Jimby eventually joined us around 9:00 am.

We back-masked all the red areas that were painted the day before. Jimby had to do his magic and precisely place the next masks for the logos. Using the registration marks made in the vinyl masks as a guide, and having an accurate eye, Jimby placed them exactly where they needed to be.

After a thorough look at the entire plane, we had to make sure of 3 things. First, did we uncover all the areas that-needed to get orange paint? Second, did we make sure that all the red trim color was completely covered by back-masking? And third, did we make sure that all the taping and masks had adhered to the plane? Once we were certain of these things, we were off to the paint room to spray the second trim color ... Orange.



*The second trim color ... Orange*

By noon, the orange trim color was done and needed to dry. We decided to take a break and go to lunch at a nearby Mexican restaurant.

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When we returned from lunch, we checked out the plane. The orange paint looked really good and was fairly dry. Despite the margaritas at lunch, we decided to carefully remove the tape to expose the areas where black, the third trim color, would go.

Once done, a very strange thought came to mind. Could we spray the black and orange all in the same day? Could we back-mask over the orange after waiting only a couple of hours for the orange to dry? We decided to go for it. “No guts – no glory” somebody once said. Boy, that’s a dumb saying!

Once all the back-masking was done over the orange, we still had to remove the vinyl masks used for the orange over the logos and place the new vinyl mask for the black on top of the freshly painted orange. Would any of the orange trim color peel off with the tape or mask when we were done? Drum roll please...



*The third trim color ... Black*

## ***It's confession time:***

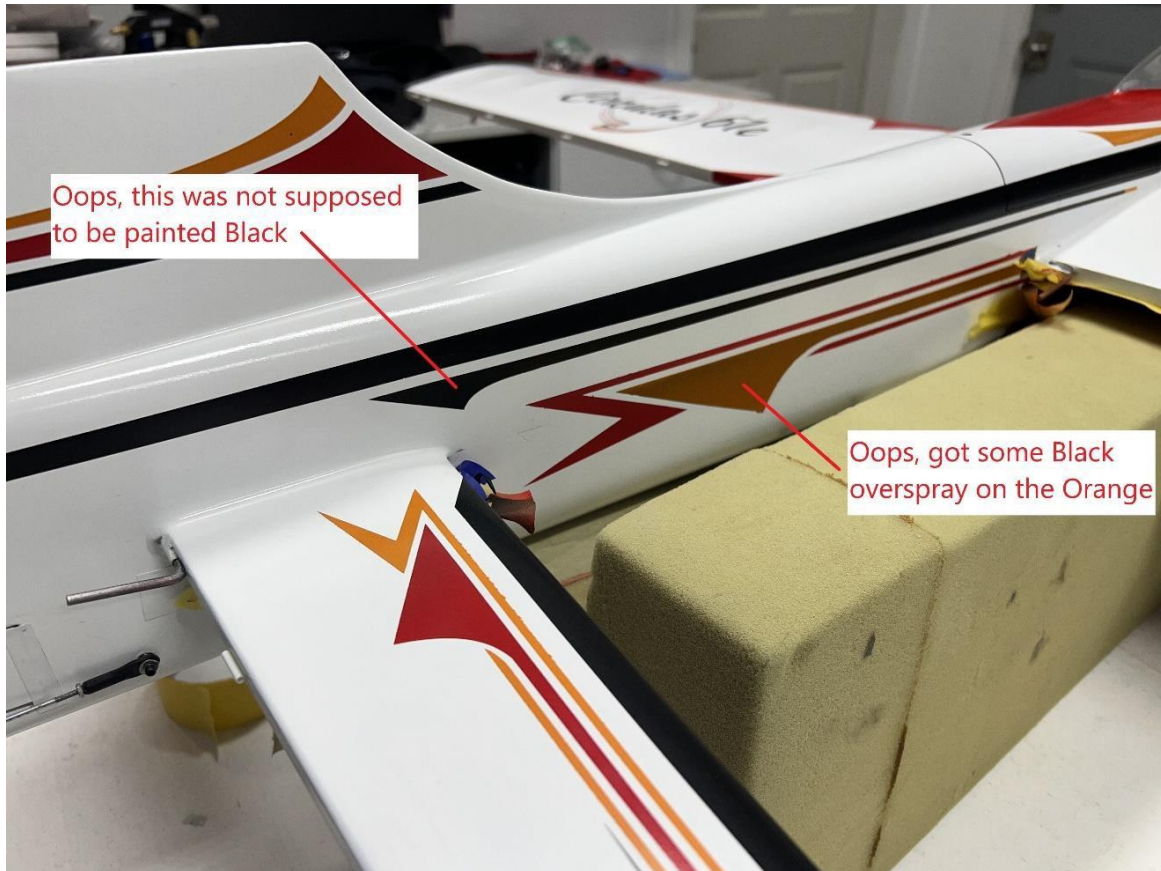
At each step Dave, Jimby, and I would inspect the plane very carefully to make certain that the areas to be painted were ready, and the areas NOT to be painted were back-masked. For some strange reason, we didn't carefully check the rear outboard side of the fuselage. As you probably guessed by now, we forgot to mask some of the freshly painted orange areas. I don't know if we were overconfident, or just too tired, or too excited to put on the final trim color. Anyway, after we sprayed the black trim color and

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allowed it to dry, we started removing all the back-masked areas and soon discovered that we (or I) had some black paint over the freshly painted orange, and some overspray on the rear of the fuselage! My heart sank and I began wondering if I had destroyed the paint job. What would we do now?



*Oops... I have black paint and overspray where it's not supposed to be!*

Dave and Jimby started to address the problem, but first they had to convince me that I hadn't destroyed the paint job. They convinced me by telling me to "back off from the ledge", that everything was fixable. They showed me what I had to do, and said that I would be able to take the plane and fix it at home. Whew, what a relief!

Once we removed all the tape and vinyl masks, besides the areas where we painted black over orange, there were some very small areas of overspray where tape or vinyl masks didn't completely stay down.

Next, Jimby showed us a trick for how to remove overspray and paint flash from the edges of the newly applied paint by using a bowl of water, a small dish of Comet Power Cleanser and a piece of paper towel. The trick is to dampen a folded piece of paper towel and dip the edge into the water. Squeeze out some of the excess water. Then dab the corner of the dampened paper towel into the dish of Comet. Next you rub the



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mixture over the affected area very lightly. Voila ... The overspray and paint flashing disappear before your very eyes. What a fantastic tip!



*Dave removes the final vinyl mask and Jimby shows us a great tip!*

## **What were the results?**

It was about 5:00 pm when we decided that the black trim color was dry enough to start the cleanup process for *Circulas 61e*. How did the trim colors come out? Would Jimby's graphic design look as good on the plane as it did with the color printouts on paper? Did we try to do too much too soon? More importantly, was it worth all the effort that the three of us put in for the two long work days? See for yourself.



*Circulas 61e with all the back-masking and vinyl masks removed*

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It was around 6:00 pm when Dave asked Jimby and me if we wanted to eat dinner and spend the night. Jimby's very stern words were, "NO, WE ARE GOING TO FINISH THIS TONIGHT, PERIOD!!" How long would "tonight" be? It was a mystery at that point.

Jimby wanted us to get the plane to a point where I could finish up the cleanup process and understand how to make the necessary repairs on my own before applying any clearcoat. At about 8:00 pm, Dave went to the house to get something to eat and came back with a plate of food which he ate in front of us. But Jimby and I were not deterred. We remained focused on the work at hand and were not going to stop until Jimby said we were done.

It was 10:00 pm and all three of us were very tired. Jimby said the magic words, "It's good enough." Finally, we were done. Remember, Dave and I started at 8:00 am that morning with only a short break for lunch at the fine Mexican restaurant. This made for an extremely long 14-hour day. It was time to quit. By now, my back and feet were killing me. After we cleaned up the workshop and paint room, I loaded *Circulas 61e* and my painting stuff into my car. It was time to make the 1½ hour drive and head for home. Jimby and I finally left Dave's place at 10:30 pm and headed our separate ways. What a day!

As we were leaving the workshop for the final time, Dave turned around and said, "Wasn't this fun?" I think if Jimby or I had had a gun at that moment we would have shot Dave! But in hindsight, in a sick sort of way, we did have a fun time.

## ***Time to fix and repair:***

I got home just a few minutes before midnight. I unloaded everything and put the airplane into the house and placed it on our dining room table. I could barely walk as my back was really hurting. Before I left Dave's house, he suggested that I let *Circulas 61e* sit for an entire day and not touch it, which I did. I really had no choice as my back was really bothering me. I slept most of the day anyway. I was pretty worn out.

Now it was time to go over the entire plane and look for areas of overspray and paint flash using Jimby's new tip. I was very pleased that I found only one small area, about the size of a nickel, where the white basecoat had lifted from pulling the vinyl mask and tape off. I was also surprised at how little overspray we had. A few of the edges needed to be touched up, but nothing I couldn't handle. It was also time to address the worst area where I had accidentally painted over the orange with black on the sides of the fuselage.

I ended up cutting the extra vinyl mask material into 1" wide strips and placed them about 3/32" above and below the edge of the black stripe that needed to be removed. Next, I took a small piece of 800 grit wet and dry sandpaper, using it wet, I proceeded to very carefully sand off the black paint. It didn't take much finger pressure to remove all

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the black. My main concern was that I didn't want to go through the orange into the white basecoat and through to the bare wood. Thankfully, that didn't happen. Now all that was left to do was to mask off the area and spray a little of the orange paint.



*What the orange stripe looked like once the black was removed.*

Because my Harbor Freight airbrush didn't work very well, I purchased a "Paasche VL-3AS" airbrush set that comes with .55,.75, and 1.05 mm spray heads from Amazon. Hopefully, this will solve my issue when it comes to spraying dope.



*Paasche VL-3AS airbrush set with .55,.75, and 1.05 mm spray heads.*

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It was time to address the area where the white basecoat had lifted. Of course, it hadn't lifted in an open area, free of any of the trim colors. No, it lifted right next to the black, orange, and red trim colors. So not only did the white basecoat need to be fixed, but so did all three trim colors as well. This involved taping and repainting those areas.

## ***Using a paint stand:***

Why didn't we use a paint stand when painting the trim colors? Dave has a very good paint stand with various mounting plates. But all the mounting plates are for his IC planes with hardwood motor mounts, and nothing for holding an electric plane. I could have made a mount that would have bolted to the electric motor mounting bulkhead, but this would have, in my opinion, put too much stress on the front bulkhead to support the weight of the entire plane.

So in between fixing some of the paint issues and waiting for the new airbrush to arrive, I devised a way to use his paint stand. I happened to have a length of 1/2" (5/8" OD) copper pipe that fit very nicely through the hole for the electric motor in the front bulkhead, and I used a small 3/8" thick block of wood with a hole that matched the outside diameter of the copper pipe. The wood block was temporarily attached to the rear bulkhead in front of the leading edge of the wing. This allowed the weight of the plane to be distributed over two bulkheads rather than just the front bulkhead.



*Mounting Assembly for the Paint Stand*

# Another Adventure – Paint Masks and Tucson, AZ

By: Dennis S. Nunes

February 6, 2024

I was hoping to have *Circulas 61e* ready for the Southwest Regionals (SWR) in Tucson, Arizona, on February 3rd & 4<sup>th</sup>. However, it was taking longer than expected to touch up all the areas. Then with rain in the forecast and Dave's work schedule, it appeared very unlikely that the plane would make the SWR. I really didn't want to hurry this process. It's not that *Circulas 61e* is a 20-point airplane, but I really wanted it to look appealing to the eye, as Jimby had done an excellent job with the graphics.

After almost two weeks of touch-ups and finally applying a few decals, *Circulas 61e* was ready for the clearcoat. I received a phone call from Dave wanting to know where I was with the touch up work. He stated that he was available on Tuesday, January 23<sup>rd</sup> and that the rain was supposed to stop. So, we scheduled that day to spray the first coat of clear. We wanted to wait a minimum of 24 hours between each coat of clear. This would require several trips to Napa.

In the back of my mind, I was wondering if there was enough time to have *Circulas 61e* ready for the SWR. Because it was an electric powered plane, it might be possible. With an IC powered plane, I wouldn't even give it consideration. But it would depend on the weather and Dave's work schedule.

On Tuesday, David and I got together and did some flying in Napa in the morning. Afterwards, we headed to his house to spray on the first coat of clear. Jimby would join us later that afternoon.

We were able to mount *Circulas 61e* on to Dave's paint stand. The only issue was that we had no way of locking the plane into position. So, while I was spraying, Dave or Jimby would turn the plane into position and hold it by the leadouts while I sprayed. Though kind of crude, this was a lot better than placing the plane on two sawhorses as we did for spraying the trim colors.

After spraying the first coat of clear we left the plane to dry in the paint room. Then we went over some electrical information with Dave who was working on a new layout for a fuselage for his Thunder Gazer 3. Dave's Thunder Gazer 3 is a fully take-apart plane, and his goal is to make another fuselage in order to use an electric motor for power. So rather than build an entirely new plane, he would take



*Circulas 61e on the Paint Stand ready for the clearcoat*

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the wing and tail from the current IC plane and put these into a new fuselage.

Later that evening, after helping Dave with this new fuselage layout, I gave Jimby a lesson on how to braze control horns as he was making some very sophisticated horns for a couple of new planes. The day was long but went really well.

Later that evening, after dinner, *Circulas 61e* was dry enough to handle and I was able to load it into my car and head home. The next day I would do a light sanding of the entire plane and have it ready for the second coat of clear.

Of course, when sanding you find areas where the clearcoat was not quite thick enough and you either sand through the trim colors, and/or through the white basecoat. This happened on the black trim on the leading edge and on some of the cap strips of the wing. I was able to touch up those areas at home, and I applied more clear dope as well.



*Circulas 61e after the first coat of clear prior to sanding*

It was time for another trip to Dave's workshop to use his paint room and equipment. I was hopeful that this would be the last trip. I arrived at Dave's house on Monday, January 29, at 4:00 pm, four days before we were to leave for the SWR. Right away we prepped the plane for a coat of clear. At around 5:00 pm, the second coat of clear was applied. It didn't take long to spray that coat on, but it was determined that another coat of clear would be needed. I would end up spending the night at Dave's house so we could get an early start the next morning. Dave and I got up early the next day to start the sanding process at 7:00 am. After a bunch of sanding, some touch up, and a thorough cleaning of the airplane, we were ready for the next coat of clear. Finally, at 1:45 pm, the plane was ready for what hopefully would be the last coat of clear.

After spraying on the final coat, we looked over the plane and were extremely pleased with the results. After allowing a couple of hours for the clear to dry enough to be handled, it was time to load everything up in my car and for me to head for home.

By the way, have you ever traveled with a freshly painted butyrate dope airplane? My 1½ hour drive proved to be very interesting as the dope was "gassing off" while I was driving!

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No problem, with 45-degree air temperature, you just roll down the windows and turn the heater on full blast.

## ***Could I pull this all together in such a short time?***

Now the question came up, would I have enough time to get *Circulas 61e* back together and debut the new finish at the Southwest Regionals in Tucson? I had less than 2½ days to do some sanding, polishing, and installing the motor and electrical system back into the plane. I also had to install the “doodads”, such as trip strips, tail wedges, and I had to seal the hinge lines for the flaps and elevators.



*Circulas 61e still on the paint stand after the final coat of clear. Looking good!*

Just before leaving Dave’s home, he recommended that the next day, Wednesday, I should sand the entire plane with 1000 grit wet/dry sandpaper used wet. After that, the following day, Thursday, give the plane another sanding, this time with 2000 grit sandpaper. This would be followed by some rubbing and polishing.

Early Wednesday morning I looked the airplane over. Because of the lack of time, and because the final coat looked so good, I decided to only give *Circulas 61e* some minor sanding of the areas that had had some overspray with 2000 grit wet/dry sandpaper used wet. Then, I would softly polish those areas by hand. This would give me the time needed to get the plane together and check everything out thoroughly before any flights. At least that was “my” plan.

After some light sanding and polishing of those areas, I installed the motor and all the electrical paraphernalia. Later that morning, I received a text message from Dave

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asking how I was doing with the sanding. I told him what I did. After that, I received several more text messages “*suggesting*” that I should sand and polish the plane as we discussed.

The main reason for not wanting to sand and polish the airplane was my concern and fear that I might sand through the clear coat and need to do more touch up work, which I really didn’t have time to do. Dave “*convinced*” me to go ahead with the sanding and polishing. So, on Wednesday afternoon I started the sanding process beginning with the bottom of the plane. I figured that if I messed up at least it would be on the bottom and not the top.

But instead of using 1000 grit sandpaper as Dave recommended, I decided to take a very conservative approach and only use 2000 grit sandpaper. Though it took a little longer to cut through the clear coat and create a smooth flat surface, I felt comfortable that this would prevent me from sanding completely through the clear coat. It worked out very well, although it took longer to sand.

I started with the underside of the outboard wing. Once the sanding was done, I applied some “*Turtle Wax Premium Polishing Compound*” with an application pad and then used my 6” polisher with a polishing cloth. I worked this into the finish and allowed it to dry for a couple of minutes. This created a fine film over the entire surface. Next, I wiped the surface with a microfiber cloth.



*Circulas 61e after sanding and polishing the clear coat*

WOW! I’ve never had a plane shine so brilliantly. I was so excited that I had to show my wife. I couldn’t wait to do the entire plane! I ended up sanding and polishing into early



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Thursday morning. At 1:30 am, it was off to bed. Everything hurt; my back, my feet, my neck, and my fingers. I don't think I have any more fingerprints left on my fingers!

At 6:00 am, I got my rickety old body up and was at it again. By 1:00 pm, I had sanded and polished the entire plane. *Circulas 61e* looked astounding! There were still a couple of areas that needed some work but I was out of time. I still needed to add all the "doodads" to the plane such as the trip strips to the wing and stabilizer, elevator wedges, and I had to tape the flap and elevator hinge lines. And of course, I had to allow some time for my body to heal.

## ***Time to get packing for the Southwest Regionals in Tucson, AZ:***

With all the doodads installed, it was now time to strip both *Circulas 61e* and my *Gladiator* of their landing gears, tail wheels, and props, and get them ready for transportation. I also had to get all my flight equipment together. It's kind of a pain when you have an electric plane that has very specific equipment (battery charger, power supply and Lipo batteries) and an IC plane that requires different equipment (fuel, syringes and NiCad starter). So, more stuff to put in the proverbial "Ten pounds of you know what into a five pound bag!"

Also, I still needed to pack some clothes and get some sleep. Dave had to work Thursday and had a late-night return flight from New York coming into San Francisco International Airport. From the airport, he would head home and get a couple of hours of sleep. Then he'd load his plane and equipment, leave his house at 3:00 am, and be at my house by 4:30 am. This meant that I would be doing most of the driving to Tucson and Dave would get some much-needed sleep.

Once Dave got to my house, we loaded his SUV with my two planes and equipment, a backpack and a duffle bag full of clothes for the weekend, and it was off to Tucson, Arizona and a wonderful, long, 13-hour, 830 mile drive.

## ***What happened in Tucson, AZ?***

We arrived at the Airbnb rental at around 7:00 pm. Brett Buck and Jim Aron were traveling together and arrived in Tucson about 30 minutes later. Jimby, Dave and I decided to go out and have some dinner at the local BJ's Restaurant & Brewhouse. Brett decided to go to bed as he had done all the driving. After a good dinner, it was back to our respective places and off to bed.

Dave and I decided to get up at 6:00 am the next morning. We got ourselves ready, loaded his SUV, then went off to McDonalds for some breakfast. We got to Christopher Columbus Park at 7:30 am. I needed to get in a practice flight with my *Gladiator* as I hadn't flown it in several weeks. The plane and motor ran perfectly.

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The next thing you know, it's time for the contest to begin. Old Time Stunt and Classic would be flown on Saturday. The turnout for this contest was low with only 3 or 4 entries in Old Time Stunt and 4 entries in Classic.

On my two official flights, an old problem reared its ugly head. My OS LA46 ran fine at the start of the flight, then decided to go lean right after the reverse wingover. As a result, both of my official flights were overruns. Therefore, I received no pattern or landing points. It was very disappointing to say the least.

Classic was won by Jim Hoffman, second was Chris McMillin, and I finished third. After OTS and Classic were done, it was time to get in some practice flights to prepare for Sunday and the PAMPA Expert contest. I brought out *Circulas 61e* so everyone could get a good look at it. I received many compliments that made me feel pretty good, especially after all the time that went into the finish. The tips of my fingers were still sore from all the sanding.

I put in two 2-minute flights to see how *Circulas 61e* handled, and to get a feel for the plane. After the first flight everything was fine, but I needed a flap adjustment. No problem, I used my Paul Walker flap adjuster and on the next flight the wing was level.

The next two flights would be full flights with complete patterns. The wind was starting to pick up, it was blowing somewhere around 8-10 mph. No problem; *Circulas 61e* had no issues at all with the wind. The airplane flew better than expected despite the additional weight from the trim colors and clear coat. I, on the other hand, was a total mess. I've never had a plane that looked so good on the ground and in the air. Trying to do maneuvers down to the 5-foot level was difficult, not for the plane, but for me. It felt like I was flying someone else's beautiful plane and I didn't want to do anything stupid.

On Sunday, we repeated what we did on Saturday and got to the flying site at 7:30 am. I wanted to get in one more practice flight before the competition began. *Circulas 61e* flew really well even though the temperature was 39 degrees ... Very cold!

It was time for the event to begin. The flight order for the first round was Chris McMillin, followed by Brett Buck, Rick Green, Dave Fitzgerald, me, Gary Gingerich and then Jim Aron. For the second round, the flight order was reversed.

The final standings were Dave Fitzgerald first, followed by Brett Buck, Jim Aron, me, Chris McMillin, Rick Green and Gary Gingerich.

Dave and Brett put up some great flights. The difference between first and second place was only 1.5 points!

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THE 74th SOUTHWEST REGIONALS CONTROL LINE CHAMPIONSHIPS							
Feb 3 & 4, 2024							
EXPERT and ADVANCED STUNT							
CONTESTANT	EXPT ADV	Flight Order	ROUND 1 SCORE	ROUND 2 SCORE	TOP SCORE	Expert PLACE	Advanced PLACE
CHRIS MCMILLIN		1	541.5		541.5	5	
BRETT BUCK		2	597	612	612	2	
RICK GREEN		3	461	396	461	6	
DAVE FITZGERALD		4	613.5	608	613.5	1	
DENNIS NUNES		5	545	Pass	545	4	
GARY GINGERICH		6	459	Pass	459	7	
JIM ARON		7	579	581	581	3	
		8					
		9					

*The Final Scores at the Southwest Regionals*

I was pleased with the score of my first flight which was 545. I knew I could do better on the second flight as I'd had some funny things happen as a result of flying a newly finished plane. Believe me, it wasn't the plane's fault at all, it was just my nervous pilot errors.

But why did I pass on my second flight? Well ... I got out into the circle for my second flight and put in the arming plug, but nothing was happening. There were no lights, no beeps and no bump of the prop. Nothing! I pulled the arming plug out and reinstalled it. Nothing! I had to take an attempt and then I headed back to the pits. Back in the pits, I pulled off the top access hatch, checked the battery to see if it was good, which it was. I checked all the connections to make sure nothing was loose or disconnected. Then I found this:

A broken wire at the battery connection ended my day. If there was a 'silver lining' in all of this, it's that the wire broke in the pits and not in the air, which could have been catastrophic.

After the contest, Brett, Jim, Dave and I were going to spend the night in Tucson and leave Monday morning for home. However, with a severe 'atmospheric river' starting to go through Southern California (or as Dave calls it, 'a storm front'), with a ton of rain and very high winds, we decided to head for home right after the contest.



*Broken Wire at the Battery Connection*

This same storm was due to hit the Phoenix/Tucson area Monday morning. Our biggest concern was not being able to get through the Grapevine summit that we had to pass through to get home. But this atmospheric river was on the warm side and didn't deliver

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any snow to the top of the summit so we got through OK. However, there were a couple of cars that hydroplaned off the freeway. The heavy rain and high winds made for very treacherous driving conditions. However, all of us arrived home safely.

Dave, Brett, Jimby and I try to practice in Napa and/or in Elk Grove whenever we can. But Dave's and Brett's work schedules vary greatly and that makes it difficult for the four of us to get together very often. But when we do, it's a blast! However, for the four of us to go to a contest and finish 1-2-3-4 turned a fun weekend into a great one, in spite of the terrible driving conditions we faced on our trip home.

## ***Was all this worth it?***

By now I've lost track of all the time spent accomplishing the finish on *Circulas 61e*. If I were to guess, I believe I spent somewhere close to 250 hours of work from spraying on the white basecoat to applying the final coat of clear, including sanding and polishing.

*Was all this worth it?* First off let me state, I had greatly underestimated the time that it would take to come up with this finish for *Circulas 61e*. I believe there was more time spent in the "finish" of the airplane than there was in the actual construction!

But, the simple answer once you look at the finished product is a resounding YES! However, during the process I had second thoughts, along with third, fourth and fifth thoughts. There were times when I questioned why I was doing this.

Did the paint masks make the job easier? I can't say that they made it easier. However, we were able to do some things that you can't do without them. The intricate curved lines and layout would have been extremely difficult, if not impossible to accomplish just using tape.

## ***Acknowledgements:***

I want to thank Dave Fitzgerald for coming to our aide in providing a place and environment to put the finishing touches on *Circulas 61e*. I also appreciate the gentle "nudges" and the encouragement he gave to help me improve, whether for putting on a beautiful finish, trimming a plane, or trying to improve my flying abilities. He was always there to help. His knowledge and experience in those situations, especially when it came to using butyrate dope, including the preparation, the mixing, the spraying, and the sanding, were tremendous learning opportunities and are very much appreciated. His willingness to provide anything I needed to get this project finished was invaluable. If it wasn't for Dave and his workshop, I would still be waiting for springtime to spray on the trim! *Thanks Dave!*

Then there's Brett Buck. Brett has unique abilities, gifts, I would call them. He sees little things that a model airplane does in the air, which I still can't see at times, and it's truly unbelievable. Also, the knowledge he has of what needs to be done to fix an issue is amazing.

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Then, to explain it in layman's terms that I can understand is truly priceless. *Thank you, Brett!*

A special thank you has to go to the one who deserves most of the credit for this finishing project, ... Jim "Uncle Jimby" Aron. His knowledge, understanding and patience with me as I struggled to learn and use these new techniques was so critically important. His artistic flair and attention to detail is truly amazing. There is no way I could have done this without him. The countless hours we spent together working side by side on this project are times I will never forget, and for which I will always be grateful.

*Thanks, Jimby!*

These 3 individuals have had a huge impact on my model airplane experience. The depth of their information and knowledge is unbelievable. Also, they have great senses of humor! They are funnier than going to any comedy show. It's a privilege to know these gentlemen. To be able to fly with them is fantastic, and it's an honor.

As I look at *Circulas 61e* hanging on my wall, a sense of accomplishment and satisfaction comes over me. All the work, the time, and the pain sort of melts away once you see the final results. I now have greater appreciation for those "20-point" planes you see at the Nats and elsewhere. I now fully understand the huge amount of time and work that is involved to get to that level, something that I can only strive for.

Well, this brings me to a marvelous end of another adventure. I've learned so much.

But the \$64,000 question remains ... *Would I do this all over again?*

All I will say at this time is, "Ask me when I have another plane that needs a beautiful finish." I'll give you an answer then.

In the meantime, stay safe, and may the wind always be at your back.

Enjoy,

*Dennis S. Nunes*

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Here are two pictures from the Southwest Regionals in Tucson, AZ that I will cherish for a very long, long time.



*Back Row (Left to Right):  
Dennis Nunes 4<sup>th</sup> Place – Circulas 61e  
Brett Buck 2<sup>nd</sup> Place – Infinity,  
Jim Aron 3<sup>rd</sup> Place – Systema v2.e*

*Front Row:  
Dave Fitzgerald 1<sup>st</sup> Place – Thunder Gazer 3*

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*Circulas 61e, me and a monkey with a longer tail in the background*