

2018, Issue 5

STUNT

PRECISION AEROBATICS MODEL PILOTS' ASSOCIATION

News



**World Championships
Building a Juno
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CONTRIBUTERS WANTED

PAMPA needs contributors like you! If you are willing to write an article on a stunt event, building technique or anything you think the PAMPA membership would benefit from please contact Chris Rud at 815-557-5375 or me@chrisrud.com.

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PRESIDENT/VICE PRESIDENT'S *Reports*

What, not used to having *Stunt News* in your mail box this close together for several issues in a row? Surprise!

Yes; Chris Rud is working very hard to not only put out a newsletter, but to also get it out and to catch up from being behind. I am quite proud of Chris and his efforts to not only get out a newsletter of this caliber, but also on such a short schedule like this. Not to mention, since he has never done anything like this before, he has been faced with a VERY steep learning curve on top of it. My hat is off to him.

With that, I know there have been some grumbings about the website not being updated. As you know, he is also the webmaster for the PAMPA site and there are only so many hours in a day. Because of his limited time he has decided to concentrate on the newsletter; which I support. With that being said, we have now put out a request to find an assistant webmaster to help Chris. Chris will still be the "head cheese" as it were when it comes to the site, but the assistant will do most of the leg work. So, for those who are wondering about the website, we are working to get it updated and to keep it updated; we just need help doing so. Spreading out the workload is a priority for me on many things.

Speaking of updating the site, one of the things our new Secretary, Jim Zolbe, is doing is scanning back issues of SN to put up on the site. So, instead of the few years going back, we hope to have many more back issues posted on the website in the future for the members to look upon and find that illusive article that they know about but just can't find. We are wanting to preserve all the knowledge amassed over the years for future generations and putting up back issues is a way to accomplish that feat. One of the primary reasons for the existence of PAMPA is to share the knowledge for everyone.

I have to say that 99% of the membership are quite supportive and helpful when I ask. However, there is always that 1% that seem to try and make it difficult for the rest of us. I will call them the "gripesters."

These are people that are never happy with anything we do. These people seem to want to type first and ask questions later, if they even want to ask questions about many a subject.

To that I will say, "STEP AWAY FROM THE KEYBOARD!" I will and do encourage constructive criticism from the members, but I won't tolerate chomping down the EC throat. If you, as a member, have a question then by all means ask it, IN A CIVILIZED MANNER. You will get a straight-forward answer if you do.

If you don't, well, I will go on an individual basis on that one, but I will step away from the keyboard before answering. In so doing, I give myself a chance to answer civilly. Just remember it may not be the answer you are looking for, but it will be straight-forward and thought out beforehand. Everyone must remember that we have limited manpower and limited time. We do the best we can with what we got. It is a shame the 1% has to make it so rough on the other 99%. Maybe the 99% of you can help out and put pressure on the 1% to actually help instead of gripe all the time? I would appreciate it since that would make my job a lot easier.

Enough of the soap box speech. On to another subject.

Many of you may have known Roger Wildman. He was a well-known flyer in the Midwest for quite some time. Unfortunately, he passed away, I believe, late last year-early this year. I am afraid I don't have the exact date so my apologies on that. However, Roger has left quite a sizeable amount of money to PAMPA from his estate. It was around \$41,000. To that I would like to posthumously thank Roger for his gracious gift to PAMPA. This was a very generous gift indeed.

Now, I know the next question many of you are now asking. What are we going to do with the money? Roger was a person that did not seem to like a lot of attention. Even his burial, I was told, was that he wanted to be cremated and his ashes spread

Continued on next page

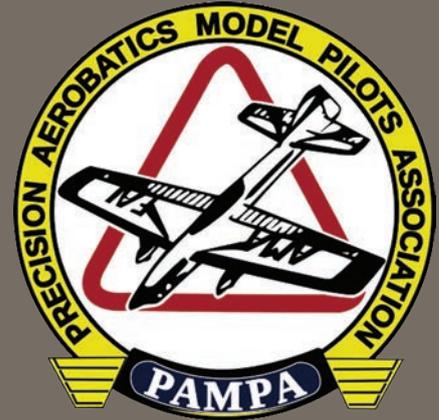
Continued from page 4

somewhere. He did not want a headstone, much less a monument to him in death. Same way during life. So the EC has decided to save the money as a rainy day fund. Do some things now and again to help with the organization and promote it. Roger would not have wanted a scholarship type program in his name or anything else. He just wanted to make sure PAMPA continues on financially sound for some time. And that is what we plan on doing.

I watch a show on HGTV called Dream Home Lottery Winner or something like that. On this show they have people who win at least a million dollars and the host comes in and shows them several possible dream homes for them to choose from. I can't help but feel than many of these people are just blowing the money and will be right back where they started financially within a few years. The host loves to say they are now millionaires and they can live that way. Well, I hate to say it, but a million dollars won't go as far as many people think. I have said if I ever won a million dollars the first thing I would do is pay off all my debt. I would do a few things to the house, like some landscaping that is really needed. I could use a new car. My current car is a '99 Bonneville with 200,000 miles on it. It is starting to just wear out. Now would I get a new Corvette? No. Would I like a new Corvette? Yes. But I would not get one. I would get something practical that I could use for the next 20 years again. Spend the million wisely and make it last so that way I don't have to worry about debt again. I would still have to work, but if something happened to the water line at the house I would have the money to fix it. We of the EC plan on doing this type of thing. Because once it is gone, it is gone and I want to make sure we have something to show for it.

On the home front, I am glad to say I finally got my workshop put back together a couple of weeks ago. I am now in the process of making my next plane; Enterprise B. I had my first cut ceremony shortly after the workshop was assembled. This will be the first time I have been able to go to the workshop and do things for which it is meant in 8 months. You don't realize what you have until you lose it sometimes. So, I will say this to all of you; be glad with what you have. Be glad you got places to make planes and enjoy your free time. Even if it is in a small corner of your house; don't take it for granted. You never know when you might lose it.

Matt



2018 | Issue 5

Stunt News is a publication of the Precision Aerobatics Model Pilots Association (PAMPA), a Special Interest Group (SIG) of the Academy of Model Aeronautics. The magazine is published bi-monthly.

We are an organization of approximately 800 members in 35 countries, whose common interest is model airplanes, specifically the kind that fly tethered on control lines, and perform STUNTS.

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COVER PHOTO:

Appearance judging at Brodak 2018

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GENERAL:

PAMPA Membership Renewal Instructions

1. All Renewal / New membership applications received in February and March of the current membership year will be considered new and renewal memberships for the following year.
2. Dues structure will be as noted on the Membership Form.
3. If you are a 'comp' member (AMA Contest Board, HOF, etc.) please fill out and return the form, with the appropriate box checked. This is just to keep our records and mailing lists current!
4. Seasonal address changes (snowbirds/ rainbirds) must notify the Membership Chairman of changes and dates; there are no automatic transfers of mailing addresses. (Both your addresses will be kept on file; you just need to let us know which one and when. It's up to you to be timely!)
5. Membership cards are optional, and are available for \$2 each. Funds go toward the expenses for the Junior World Team member. Additional donations are appreciated.

RENEWALS:

1. For renewals to be considered timely, they must be postmarked by March 31st.
2. Renewals after April 1st, of the membership year will be considered as late renewals.
3. Late renewals will NOT get back issues mailed to them; they are available online or by purchase.
4. Renewals for the current year, after January 1st, will get full credit for next year's membership. They will not get back issues.
5. If you have already renewed for the new year (or more!), please DO NOT renew again, unless you have some changes in your membership information. (address, phone number, email address, etc.)

To renew your PAMPA membership in short order, fill out the application blank with all your pertinent information, then do the following:

1. Fill out the application and mail it with a check, cash or your credit card information.

2. Email your scanned renewal form, to pampamembership@geartekinc.com Your first issue of *Stunt News* will arrive with the next issue.
3. All members have full access to the website and all online back issues. These can be read or downloaded to your computer. You can file them, burn CDs or print them from the files.
4. If you were recruited by an existing member, be sure to put their name in the "Referred by" space. If you recruited a new member, be sure they enter your name. Each member who recruits a new member will receive a credit toward their 2018 membership, \$10 for the first and \$5 for more for each of the second, third and fourth (\$25 maximum).

Steve Smith

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WORLD

Championships

By Chris Rud

I will never forget the summer that I really got hooked on Stunt. It was 2004 and the World Championships were in Muncie. I had just got my drivers license and I couldn't believe that my dad let me drive all the way from Sandwich, IL to Muncie. Normally, that is a four hour drive, but my dad said don't take the freeway. Eight hours later I arrived in Muncie, pitched my tent and put the airplanes in it since I planned to sleep in the car. I will never forget going to the LPad and seeing all those amazing airplanes on the flight line. I specifically remember watching Billy Werwage's winning flight after the storm rolled through. I decided at that moment I really wanted to try to do what he did.

The 2018 WC was my third one in attendance and second competing. Oddly, that made me the veteran of the team (Orestes was his defending champ team, so technically not part of the team). There is a major learning curve that goes into your first world championships. Though the flying is always a little different when you are on the other side of the world that isn't what you need to worry about during the first couple days. Its usually I was fortunate to arrive on time in France. I was amazed at the drive through the countryside. It might have been my favorite part. I'm a huge WWII history buff and to drive through these little towns that I know the allies drove through was unbelievable. Most of the structures were from well before the war and you couldn't help wonder if the 12-24 inch plastered over holes where from shells.

The practice setups were pretty good. Much better than I planned. We averaged about 10 flights a day. You had to wait a few hours during the morning and evenings as that was the busy time. The bottom line, if you wanted the practice you could work at it and get it. With this being the third time I attended a WC I new that this wasn't a sprint to the finish but a long marathon run. It was a balance of lots of flying and coaching with lots of frequent naps.



I wanted to have everything working in the first day or two. I had heard the horror stories from team members past of the turbulence, so I had my plane set up to be more on the stable side so that as the plane got knocked around it would right itself. Little did I know that every official flight I would fly was winds less than 7mph. That was mostly consistent for the team except for 1 or 2 flights for Joe and Rich. The PA 75 had plenty of power, but I realized very quickly that the fuel we had wasn't a true 10% nitro; I would gees 6% at the max. I made a few minor changes and within a few flights it was flying really good. Orestes and I were settled in and flying good, but we were still missing Joe and Richard as they had been diverted to Iceland. Read more about their adventure in Joe's article.

One of the coolest parts of the trip was the fact that France was in the World Cup semi-finals and they had won the game that got them into the finals. The entire country was one giant party. While we were driving in Orestes little rental car we saw a huge parade of cars. Imagine 100 cars with their windows down, honking horns and hanging out banners, flags and shirts; just going crazy. It was for sure one of the highlights of the

Continued on next page



PHOTOS:
(Clockwise) Kayla in her Benz; find shade wherever you can;
French soccer; friends; World Cup; Opening Ceremonies;
Opening Ceremonies selfie.

Continued from page 9

trip. So much pride. They eventually won the World Cup and the contest directors set up a jumbo screen for the contest to watch the game. (Insert photo - World Cup Finals)

The contest went very smooth aside from the finals having the scores released incorrectly. It was kind

The plane came down right into it and fit flipped over and the outside wing tip hit the lines and then snapped back about 6 feet off the ground.

of fun to think you got 9th, then 1 hour later to be told 8th, then in the end 7th. I was very curious how I would place. I was hopeful that I would make the top 15, but didn't know what would happen after that. The first indication was that after the first round I had the 2nd highest score in the grass circle. As the qualifying rounds came to an end I sat in 7th. First round of the finals was flown at the end of the last day of qualifying. By this point, we were all really exhausted and neither Orestes or I flew all that well. The next day had next to no wind with swirling gusts up to 5mph. My last flight was pretty good, but the wind was directly in my face after the first set of loops. Overall, I flew pretty good. Never burned one in, but not terrible.

I learned a few things. First, though I heard of a "style" difference overseas, I experienced it first hand. If you have never seen Igor hit a reverse wingover at 4.5 feet you have seen a hard but pleasant corner you really can't understand. I don't think it is a corner contest as much as people may have reported in Stunt Hanger or Facebook, but it does play a greater factor. I would say it's just a different priority.

For example, in AMA I would say that shapes and sizes are a higher priority while bottoms and corners are not, but in FAI bottoms and corners are

top priority. FAI by no means neglects shapes and corners. And the reason I say this is that, from my point of view, the top three pilots were Igor, Italian kid and the Chinese kid. Igor had the best corners and bottoms, but his shapes mainly intersections were not as good as the Italian kid. The Italian had the best shapes, but not as aggressive corners as Igor. The Chinese kid was in the middle with pretty good corners and better shapes than Igor. That's just my 2 cents. I'm sure others would have different opinions.

One of the craziest things I saw was Samantha hitting a wing over into a dust devil. The plane came down right into it and it flipped over and the outside wing tip hit the lines and then snapped back about 6 feet off the ground. She was able to fly inverted a few laps and then right it when the dust devil moved away from our practice circle.

Kayla, my wife, arrived halfway through the contest. She doesn't drive stick so she had to rent the only car available; a very nice Mercedes Benz. (Insert - Kayla in her Benz) It was a little sporty and I had to take both wings off of the plane to transport it anywhere. After the contest we drove around the countryside on the way to Paris. We dumped the car and hung out with the Gilbert's before they flew off. It was a very nice little vacation for Kayla and I.

Going back to the WC. The banquet and opening ceremonies were amazing as usual. Team USA was near the end of the parade with Orestes leading us as the defending world champ. They had fireworks and the Mayor came out and spoke. (Insert opening ceremonies and selfy) I had my first taste of Sake courtesy of the victorious Japanese. Kaz said it was really good stuff. It's so much fun to see so many different cultures just celebrating a good contest and our camaraderie around model aviation.

I want to thank a lot of people, but one person I was really grateful for was Jose Modesto who went way out of his way to help Kayla understand the stunt pattern and the overall contest. She has attended a few, but she really learned a lot from Jose and it made the contest part of the trip enjoyable for her instead of the thing we needed to do before our vacation in Paris. The same goes to Colleen for making Kayla feel welcome, to the stunt community, and the time spent together after the contest.

More photos and report on page 13



PHOTOS:

(Clockwise) Geraldine Lemoine and Marc Lavalette; Kaz carrying the shade; Orestes; Preparing for flight; Practice circle; Joe and Colleen, Rosemarie and Joe Parisi.



PHOTOS:
(Clockwise) Processing; Pull test; Seet; Team;
Stunt flyers; Sam being interviewed.

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By Joe Gilbert

What an honor to be able to represent the USA in the World F2B Championships at Landres, France! Our trip began well when we arrived in Dallas. We chose to drive there so that the airplanes would only need to be checked once. After presenting the airline agent with papers provided by AMA and explaining what was in our oversized box, she directed us to leave it in a separate area. We met Richard Oliver at the gate and soon were on our way.

Watching the progress of our flight helped pass the time. Nothing unusual until sometime after midnight when we made a 90° turn to the north. Hmmmm, something was wrong! About that time the display quit working and we noticed the flight attendants looking worried. They eventually turned on the lights to wake everyone, and the Captain told us we were diverting to Iceland because of a fire sensor alert in the cargo hull! What a way to wake up!

When we landed around 2:30 am in Keflavík, Iceland, we watched firetrucks speeding to the runway. Someone dressed in a hazmat suit jumped out to do heat readings on the hull. All checked out okay so we taxied to a remote location where they had buses brought out to take us back to the terminal.

After shuffling us around the airport to various locations, we were finally loaded onto buses again and taken 2-3 hours away to various hotels while we waited for a replacement plane to arrive from JFK. So much for the model only having to be loaded once onto the airliner! The hotels provided us with lunch and dinner and a room to shower and nap.

Richard was taken to a separate location, while Colleen and I were in Hotel Ork (Could this be where Mork is from?) in Hverageroi, Iceland. We toured a small museum there that featured the Teutonic plates separating North America and Europe. A very interesting place with all of the seismic heat. And all this time our luggage and models remained on the plane in Keflavík. When we returned to the airport, we learned that our luggage was still on the plane with the faulty sensor! Another delay before we were finally on our way. Altogether, we were in Iceland a

total of 25 hours before taking off again for Paris at 3:30 am.

Meanwhile in France, our Team Managers had no idea why we hadn't arrived in Paris to pick up our rental car. We were finally able to leave them a message that

What an honor to be able to represent the USA in the World F2B Championships in Landres, France! We chose to drive there so that the airplanes would only need to be checked once.

we would arrive the next day around 9:30 am. Landres is about 3 hours from Paris by car. Our Ford C-Max barely held the luggage for three people plus the two models, but we did it. After a quick checkin at the hotel in Mexy, we drove an additional 45 minutes to Landres to check out the field. Richard flew a couple of times, but I wasn't ready to put my model in danger quite yet, since I had been awake for 48 hours.

The stunt area consisted of a grass circle and a paved circle surrounded by fencing. There was maybe three feet from the edge of the circle to the fence in the paved area. Practice areas consisted of two soccer fields, one just a short distance from the field, but the other was a drive of about 25-30 minutes. Practicing usually meant a tight fit to load the model in the car, then the driving to the soccer field, unloading, and then a walk to the two circles marked for practice carrying model, fuel, etc.

Straying from the center of the marked circle put your plane in danger of hitting the model in the circle next to you or hitting the goal posts. Not ideal, but workable. Most of our practice flights were done from the soccer fields as the stunt circles were very busy.

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JUNO REVISTED:

A classic design by Bill Werwage

By Bruce Jennings

I have been an avid model airplane builder and flier since my dad introduced me to our hobby when I was 8 years old. Building and flying models of all sorts was encouraged by my dad and other members of my extended family. The experience throughout my lifetime has been very fulfilling and brought me and my dad close together. Growing up while being involved in the hobby certainly kept me out of trouble, brought me many friends and was likely the foundation for the successful electrical engineering career I was to embark on as I grew up.

My interests in model aviation have been varied, including radio control pattern and scale, indoor rubber powered models, and of course our beloved Control Line Stunt. My resurgence into Stunt came in 2012 when myself and a group of friends (also lifetime modelers) formed an informal stunt club called the StarrLiners.

Our resurgence was galvanized after attending the 2011 Brodak fly-in as spectators. The tenure (age), camaraderie and modeling experience of the Stunt community that we observed at that event got us very excited and, as a result, we all spent the 2011-2012 winter building stunt ships and the 2012 season learning the stunt pattern. One of the aspects of stunt that impressed me the most was that many of the participants are what I always thought modelers were; people that built and finished their own planes. Further, our stunt community actually rewards a modeler's craftsmanship skills with bonus points during a contest. I felt an immediate draw to the CL stunt community; sharing building skills and techniques as well as developing our flight skills.

I have always loved the look of an I-beam control line stunt model. I remember when I was young; looking at pictures of Bill Werwage's Ares and Steve Wooley's Cobra in the pages of the monthly model magazines and reading every word of the accompanying articles. But at that time I knew that my building and finishing skills were not up to the level required to build these

models. I always remember thinking that if I were ever to build one of these ships, I would cover the wings in transparent film to proudly display the unique I-beam construction for all to enjoy.

Fast forward to 2012 and I finally found myself with the inclination and skills required to build an I-beamer. That brings me to the subject of this article. Bill Werwage's Juno has always been a favorite; having a beautiful blend of classic stunt proportions and that I-beam construction. I was further attracted to the design after reading the original construction article published in 1980. Bill had conceived the Juno as an evolution of his famous Ares design that could make good use of the ST .46 that was coming on line as a replacement for the venerable Fox 35. The Juno is larger than the Ares, making good use of the added performance that the ST .46 brought to the table.

Further, Bill wrote, "This design... still makes me happier than the 50 or 55 airplanes that preceded it...". That kind of talk from Bill Werwage himself served as further motivation to build the model.

My first Juno was built in 2012 and set up with a OS46LA glow engine. Campaigning the model did not disappoint and it landed me in the advanced stunt winners circle several times. I particularly enjoy how the model flies given its "locked in" feel while performing the pattern. In the summer of 2017, I decided to build a second Juno, this time for electric power. It is that model that is pictured and described here. It turns out that building an I-beam model is quite intuitive to anyone with moderate building skills and actually has some unique self-alignment properties that make the build quite rewarding.

I eased into the project by building the tail surfaces as shown in Figure 1 and 2. The tail surface frames are fashioned from 1/2 inch balsa. Then notches are cut on the inside of the leading edge and trailing edge of these frames to allow insertion of 1/16 balsa ribs. The 1/16 ribs

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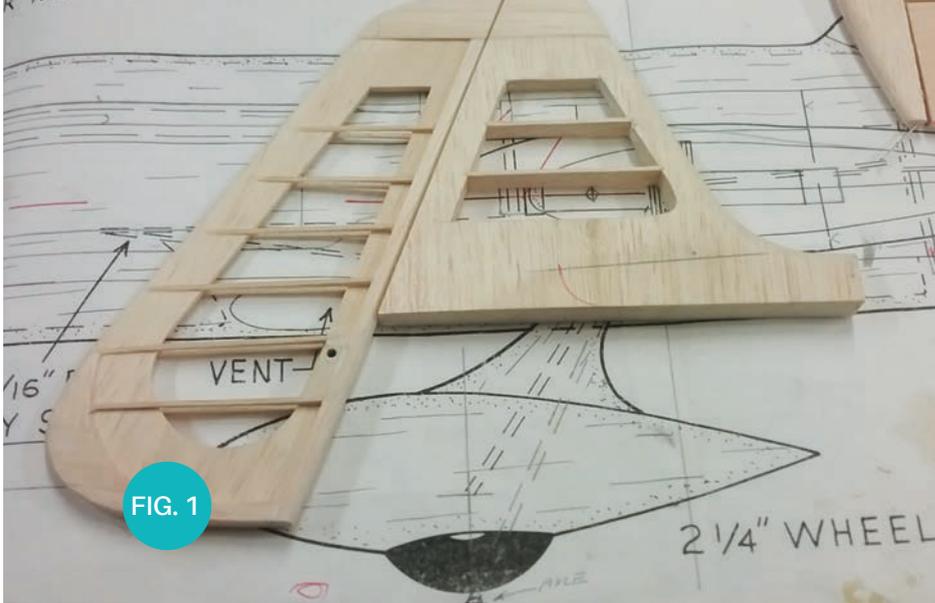


FIG. 1

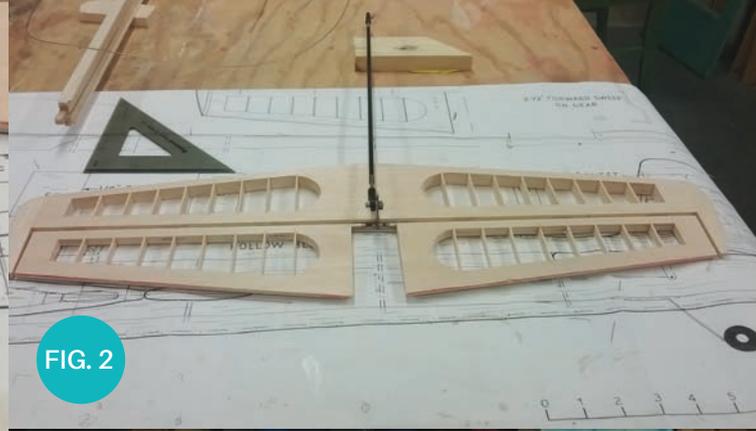


FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6

Juno Plans: Flying Models Plans Service, Plan No. CF-528
Electric Motor: Cobra 2826-12
Speed Control: Castle Edge Lite 50
Timer: Hubin FM-9
Flight Battery: Thunder Power 5S1P
Control System: Tom Morris
Full Flight Weight: 52 oz

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are stripped from balsa sheet that is $\frac{5}{8}$ inch wide. In this way, after the ribs are glued into the frame, the top and bottom of the surface can be gently sanded until each rib becomes flush with the frame. Installation of barrel type hinges for the elevator completes the stabilizer. I hinge the rudder with CA tape hinges as its movement is minimal in keeping the "Rabe rudder" movement.

Fundamental to I-beam construction is the generation of wing ribs and false ribs that are consistent in shape. Figure 3 shows the jig that I constructed to realize this. The jig shape is based on the airfoil shape presented on the plan. $\frac{1}{8}$ balsa sheet blank is cut to the root rib chord length and then incrementally passed through the jig. A sharp #11 knife is used to "slice" each rib off the blank. After each rib is cut the blank is advanced in the jig so another rib can be sliced. In this way the 80 or so identical ribs required to build the top and bottom surface of the wing can be made quite efficiently.

With a pile of ribs available, attention is turned to the spar. For an I-beam wing, the spar is a significant construction project in itself as it sets the airfoil taper and anchors the landing gear and belcrank. The core of the "I" is built of $\frac{1}{2}$ inch hard balsa with $\frac{1}{16}$ plywood doublers bonded to the front and back of the spar core to join the left and right spar halves. The ply doublers extend to just beyond where the torsion portion of the $\frac{1}{8}$ inch piano wire landing gear will be attached. This forms a solid foundation for the landing gear mount as well as the belcrank. The spar is then "capped" with $\frac{1}{8}$ straight grained balsa on the top and bottom, thus forming the "I" cross section. The resulting spar is very strong and rigid.

The wing leading and trailing edges are also stripped from medium balsa sheet. I like to pass these pieces through my band saw to impart the required tapered cross section so they mate with the rib airfoil with minimal sanding. As a last step, I notch the leading and trailing edges as well to accept the end of each rib to ensure each rib is spaced correctly and are parallel with each other.

The next phase of construction involves building the fuselage side crutch pieces. The fuselage sides are cut from $\frac{3}{32}$ balsa sheet. $\frac{1}{64}$ plywood doublers are applied to the balsa sides. These run from the nose to behind the wing trailing edge and are bonded with epoxy.

At this stage of construction, the wing spar, leading and trailing edges, ribs, fuselage sides and bulkheads have been fabricated. With these subassemblies available, the

"magic" of building an I-beam model can begin.

Figure 4 shows how this is done. The fuselage crutch is assembled upside down on the bench with the bulkheads using familiar techniques to ensure the crutch is square and follows the correct taper toward the tail. Next, the wing spar, leading and trailing edges are inserted through holes that have been cut in the fuselage sides to accept them.

The outermost wing ribs are fashioned of $\frac{1}{8}$ sheet and "plugged" onto the ends of the spar and leading/trailing edge. These outermost ribs are cut so that their upper surface is parallel with the top of the crutch and can rest on the bench surface. In this way the entire structure is self-aligning. The fuselage thrust line, wing incidence and wing tilt relative to the fuselage is held true to create a straight fuselage/wing system.

Figure 5 shows the further progression of construction with individual ribs being added to the wings bottom surface, as well as the fuselage bottom block in place. Note that each stripped rib starts out as the same length (based on the use of our rib jig described earlier). Each rib is inserted at the leading edge first and then its length is trimmed at the trailing edge to fit the wing's tapered planform. This technique combined with the tapered profile of the wing spar creates the triple taper of the wing. Construction proceeds amazingly quickly at this point; trimming each rib and gluing where they contact the leading edge, trailing edge and the spar. Once done, the entire structure is flipped over and reset on the bench and the wing's top surface ribs are added.

Figure 6 shows the fashioning of the stunt flaps. Bill Werwage's original design called for flaps that were shaped with a symmetrical airfoil. I chose to simplify the construction of the flaps by using a more standard flat airfoil section. I reasoned that Bill only chose to use the symmetrical flap cross section on the Juno and did not carry that innovation forward to any of his later designs, so I assumed the impact of this innovation was not that significant.

To ensure a precise tapered flap section I use the piano wire method to guide my sanding block as I sand the flap. The process begins by using a piece of $\frac{1}{4}$ inch piano wire at the flap leading edge and a piece of $\frac{5}{32}$ wire at the trailing edge. The wire is attached to the workbench with a few dots of thick CA and the $\frac{1}{4}$ inch balsa flap balsa blank set in between the wires. Then a hard flat sanding

Continued on page 18



FIG. 7

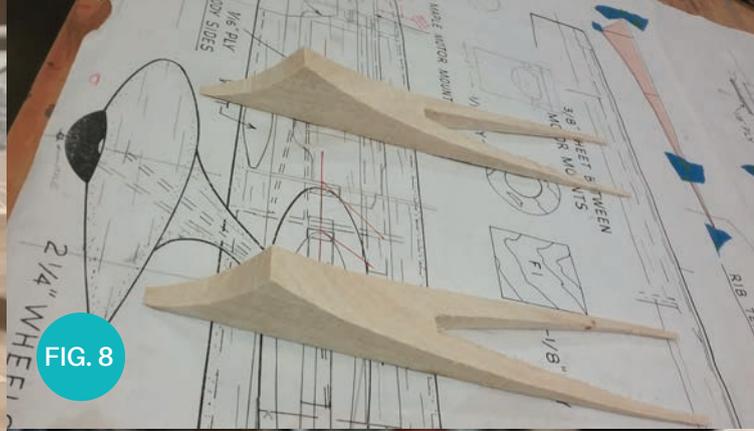


FIG. 8



FIG. 9



FIG. 10



FIG. 11



FIG. 12

Continued from page 16

block is used to sand the flap until the block comes in contact with the wire at the leading and trailing edge of the flap. In this way one flap surface is uniformly tapered. Then the flap blank is flipped over and the trailing edge wire is replaced with one of 3/32 diameter. Sanding again until the sanding block contacts the new trailing edge wire completes the taper on both surfaces of the flap. Once tapered, the core of the flap is cut out and 1/16 ribs are added in the same fashion used to build the tail surfaces described earlier.

The open structure of the I-beam wing, stunt flaps, stab, elevators, vertical fin and rudder make a very pretty base for translucent film covering to let the sun shine through! Figure 7 shows the continuation of the fuselage construction with the forward top block and engine spinner fairing added and sanded to shape. Bill Werwage's choice of the shape that fares the fuselage to the spinner and creates the top turtle deck and cockpit are particularly pleasing; following the classic stunt look. Figure 8 and 9 show how the wing fillets are built. I start with a soft balsa block and use a band saw to cut the shape required to fit the fillets around the wing airfoil. Then I turn the fillet 90 degrees and pass it through the band saw again to cut the top view shape.

The resulting blocks then get their final shape by sanding, using a collection of ABS plastic pipe sections that I have glued sandpaper to. These sanding tools work well to sand the concave shape that the fillet needs to have as it forms the transition between the fuselage side and wing. Finally, these are slid onto the wing over the trailing edge and glued in place.

Figure 10 shows the top rear turtle deck and cockpit area being constructed. The turtle deck sides are soaked in warm water after being rough cut to size and wrapped around a 4 inch diameter PVC pipe and held in place with a wrapped ace bandage until dry. While the resulting curvature of these sheets doesn't exactly match the turtle deck bulkheads, I find that the sheets can be easily made to conform to the bulkhead shape as they are being glued in place. After installing the requisite cockpit details, the clear plastic canopy is installed. Figure 10 also shows how the sheeting is undercut so the canopy can be glued on and then faired with putty to give it that "built in" look.

Figure 11 shows the fully assembled model with some of the transparent covering. Can't you picture the summer sunshine coming through those surfaces as you make your first wingover?

Figure 12 shows how the root rib, (the one that is right up

against the fuselage side) is made quite wide. This is to create a surface that the wing covering can be attached and anchored to. I pre-cover these with film as shown in the figure. In this way, when the final wing film is ironed on, the film to film junction at the wing root forms a very strong bond so that the film attachment is very solid.

Figure 13 shows the wheel pant. In all of my models, I choose to make the wheel pant spat in profile and use a DuBro plastic landing gear retainer to attach the piano wire landing gear leg to the spat. This serves to keep the wheel pant properly aligned and ensures that the spat will not split as sometimes occurs when the gear leg is buried within the spat.

My Juno is finished using a combination of film and paint techniques. The fuselage is covered in silkspan using familiar dope and primer techniques to create a surface suitable for painting. The wings, stab and vertical fin are covered using transparent film with contrasting trim colors applied using paint. In my experience, the paint will not adhere to the slick film surface very well without adequate preparation.

Figure 14 shows how I prepared the wing areas that were to receive paint. After the film is cut from the roll in the shape required to cover a wing panel, the film is taped flat onto the workbench. The paint pattern is transferred to the film using a pre-cut template. Then the surface of the film that will eventually receive paint is scuffed using a 3M ScotchBrite pad. The scuffing encourages good paint adhesion. Once the film panel is complete, it's removed from the bench and applied to the wing using standard film covering techniques. One panel is required for each wing surface; four total. Later, the wing can be masked for painting and good paint adhesion is assured. Figure 14 shows the scalloped pattern for the paint that I chose for this model.

In conclusion, I found the build of my second Juno quite rewarding. Total build time was about 10 months and the resulting model pictured here will be my primary competition model for the 2018 season. It will prove interesting to compare the performance of my two Junos since one is powered by glow and this newest addition by electric. I continue to enjoy the construction and the finished look of I-beam models, especially since the construction technique seems unique to control line stunt. The finished look has significant appeal and distinguishes itself from competitive radio control models. I hope you will be inspired to build an I-beam stunt model as well and enjoy the results as much as I have.

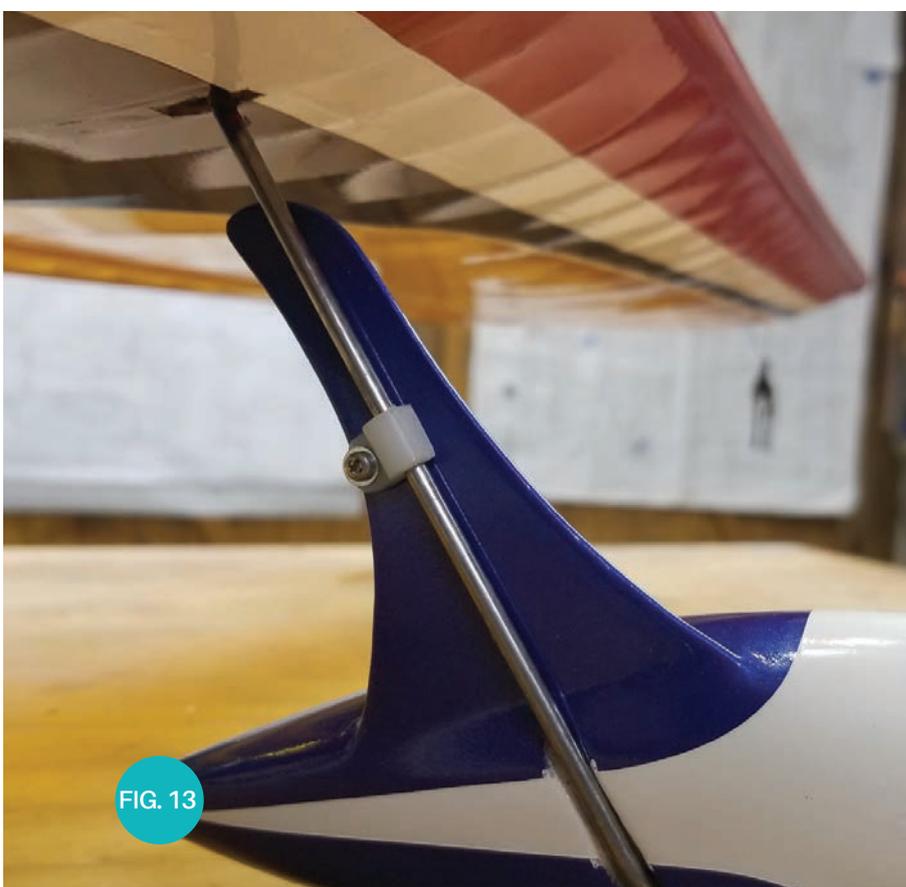


FIG. 13



FIG. 14



Juno finished
(overhead
view)



Juno finished
(rear view)



Juno tail

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DISTRICT

Reports

DISTRICT

Reports

District 1

A while back I was trimming out one of my planes and decided I wanted to try a little more motor out-thrust. The plane was electric powered, so adding washers between the motor and one side of the mount would accomplish the change. I quickly found that installing the washers at the field was a lot more difficult than I thought it would be. I'd either drop the washer and then try to find it on the ground or I'd drop the mounting bolt and then try to find it on the ground.

Another problem is that the washers I was using are 0.024" thick, which corresponds to a change of 2 degrees of motor alignment. That's a lot more than the "little" change I wanted to try. When I got back to the shop I cut a spacer out of aluminum flashing (0.006") that spanned two of the motor mounting bolts, but didn't block the cooling air flow to the motor. This shim added 0.5 degrees of out-thrust and was more what I was looking for to trim my plane. I found the shim to be much easier to install because I could hold the shim with tweezers while aligning it with the mounting holes (no more dropped washers!).

I made up additional shims out of 0.012" and 0.018" sheet metal, which correspond to 1 and 1.5 degree changes in motor alignment respectively and keep them in my flightbox.

We finished up the contest season down in North Carolina at the Carolina Criterium. Jim Mynes, who summers in Maine and winters in Florida also attended, so we had three New Englanders who drove the long way to the contest. The weather was tough; chilly and raining on Saturday, and very turbulent winds on Sunday, but it didn't hamper the contest or the turnout. The New Englanders didn't do too badly with two 5th and two 3rd place finishes among some really good fliers.

Two other contests that we went to were the NYCLST contest in Flushing, NY, and the Classic/OTS stunt contest held by the GSCB at Lincoln Park, NJ. Damian Sheehy and Bill Suarez also attended the Flushing contest and we had some great weather for flying. Bill and Damian both flew very well, but each took home 3rd place against some very tough competition from

the New Yorkers.

Saramarie and I made it down from New England. The weather was good, but the light winds led to some wake turbulence issues. It was a really fun day of flying that saw the return of Bob Hunt to the circle. Bob did not intend to fly, but the nice weather and offers of several planes to fly enticed him to try. It was great to see him in the circle again!

David Chang sent me some photos of his most recent project, a Max Bee that has some really impressive features. The nose is designed for maximum cooling of the motor, ESC and battery. He uses an aluminum radiator to cool the motor and large cooling vents that channel air directly onto the ESC and battery. The battery mount is borrowed from a Ukrainian plane, the Falken, which looks easy to use and also forgiving of variations in battery dimensions (and also slightly puffed batteries).

The fuselage formers and doublers were drawn by David, converted into CAD and then cut out with a friend's laser cutter. The result is beautiful, clean and light construction. The Max Bee utilizes Igor Burger's logarithmic control system, but David has had trouble keeping the system lubricated adequately and may revert to "standard" controls.

I just think this photo of my grandson's is priceless. I showed this to my older brother and he said it reminds him of my younger brother and I when we were that age.



Photos (left to right):

Motor shims for $\frac{1}{2}$, 1 and $1\frac{1}{2}$ degree offset; Motor offset shim installed between motor and "X" mount; New Englanders flying in NYC at the Lincoln Park contest; David Chang's new Max Bee battery mount; Laser cut formers and doublers; When we were young.



DISTRICT *Reports*

District 3

A lot has been going on in District III since my last report. The main event that pretty much capped off the flying season on the north coast happened Sept. 22nd & 23rd.

The North Coast Control Liners Contest. We had a decent turnout with flyers coming from all states in Dist. III. The gang from Michigan and a few flyers from New York. Spectators weren't disappointed with the skill level of flyers to entertain.

There were more spectators at times than there were flyers, probably due to the Berea Fairgrounds weekly flea market happening on the same days as the contest. I have a bunch of photos to share with you that were taken by Will Hubin, thanks Will ! Here's a sampling of some of the flyers from District III that flew in the contest.

Joe Adamusko sent a few pics of some beautiful stuntships he and fellow flyer Lou Ruger built.

Hi Bob,

This is just a short note to show you Lou Ruger's "Liz Rose" and my "Dreampiece" aerodynamically identical stunt ships side-by-side at our local grass field flying site in North East Philadelphia.

Both airplanes are powered by a RoJett .67 long stroke rear exhaust stunt engine, and each tip the scales under 63 ounces. The all balsa wood models are finished with traditional silkspan and Brodak butyrate dope.

They fly very well with 13 x 5 2B wood props, 12 x 5.2 4B CF props, or 12 1/2 x 5 3B CF props. Fuel choice is Powermaster 18% all synthetic oil x 5% nitro.

Regards,

Joe A.

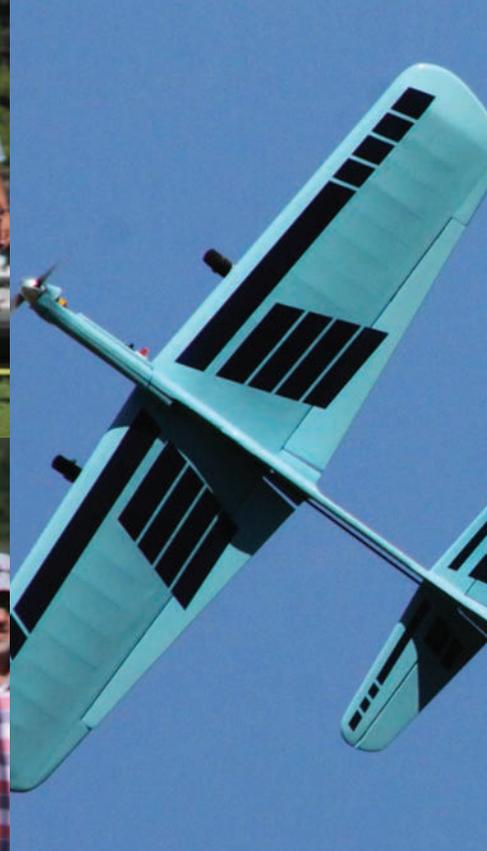


Photos (Previous page, left to right)

Bob Storick with his Junar XL at the Cleveland contest; Bob Storick's Junar XL.

Photos (Current page, left to right)

Jerry Haupt with his electric Crossfire; Jerry's Continental; Don Sopka flying a Tudor in intermediate profile; Jerry with his profile Continental;



The North Coast Liners Contest: we had a decent turnout with flyers coming from all state in District Illinois. The gang from Michigan and a few flyers from New York. Spectators weren't disappointed with the skill level of flyers to entertain.

DISTRICT *Reports*

District 5

Builders, Pilots, and Crashers, Dennis Vander Kuur and I were sitting out an extended rain squall at the Western Kentucky/Southern Illinois Stunt Championship; Allen Brickhaus Memorial in Paducah, KY. We knew each other only by our first names. Somehow the conversation became; Are you a veteran? Yes. So am I. What branch? Army. So am I. Were you in Vietnam? Yes. So was I. When? 66-69. I was there in 67-68. Where? Plieku. So was I. Dennis was in Camp Holloway which was about 2-3 miles from our camp. Dennis was a Crew Chief/Door Gunner on a Bell Huey chopper. I was a Combat Engineer (ground pounder). To ground pounders, crews on Huey Gunships are the bravest men that walk on the earth. Fifty years later my opinion has not changed. It is an honor to know Dennis.

Check your STUNT NEWS; September/October 2015 issue. Dennis made the cover. For a Control Line pilot, that is sorta like being on the cover of THE ROLLING STONES. The cover celebrated Dennis winning the Advance NATS crown. Every Advance pilot cheered because it promoted him to the Expert Class. Dennis lives in Northbrook, IL. and flies with the Chicagoland Circle Cutters. His flying and contest going buddy is Mike Schmitt. Dennis, an advance builder, builds from scratch with a kit thrown in every once in a while.

Dennis flew the IMPACT to win the Advance NATS. He has been flying the IMPACT for four years and it has 300-350 flights. He should have it well trimmed by now. Weighing in at 61 ounces it definitely is a great flying model. He built the IMPACT from an Ultra Hobby Products (UHP) kit made by the Moon brothers, out of Texas.

As noted above, he flies in Expert and also flies his Semi-Scale P-40B Warhawk in Profile. The P-40B started as a Brodak ARC (Almost Ready to Cover) kit. He covered it with an olive drab Monokote. The trim is also Monokote. Dennis modified the kit by raising up the wing center line by 0.625 inches. This was done to improve the vertical CG (Center of Gravity). The P-40B is powered by an OS Max 46 LA and has a 53-inch wing

span and has 560 square inch wing area.

During the Spring and Fall, he and Mike Schmitt fly every other week. During the Summer they bump it up to a weekly practice. Generally, Dennis flies 3-6 full AMA Patterns at a session.

Dennis' latest build is an Albatros D.Va which he designed. It is a bi-plane with 50-inch wing span powered by an OS Max 46 LA. The total wing area is 742 square inches. It is a lightweight at a mighty 48 ounces. The Albatros has a Monocote covering with Monocote trim.

The Albatros is a stable aircraft until the wind picks up. Then it is a handful. He flew it at the Fellowship of Christian Modelers meets in Profile at Detroit, MI, Aurora, IL, and St. Louis, MO. He placed three 2nd and one 1st place. (The Albatros D.V was an Imperial German Air Service fighter aircraft during World War I. Manufactured by Albatros-Fwgzeugwerke. You can see one flying at the Old Rhinebeck Aerodrome in Rhinebeck, NY.)

As a retired lad, Dennis manages to squeeze in time for grandkids, computers, cars and taking photographs. Dennis, thanks for your service to our country.

T Michael's Testimonial:

Don't imagine you can change a man; Unless he's in diapers.

My contact information is on the THRUSTEES LISTING page in the front of this Stunt News.



Photos (Left to right):

In 2015, Dennis Vander Kuur flew into the Expert class at the AMA NATS with this IMPACT. This photo was taken at the 2018 AMA NATS. (Michael Jennings photo); Dennis Vander Kuur flies the Semi-Scale P-40B Warhawk in Profile. The P-40B has a WWII Chinese camouflage paint scheme. (Michael Jennings photo); Capturing Dennis Vander Kuur flying the Albatros D.Va while performing a Wing Over. This photograph took a quick finger and great timing. (Mike Schmitt photo).

Products:

- Brodak Manufacturing and Distribution Company
- Fellowship of Christian Modelers
- OS (Max) Engines
- Top Flite Monocote
- Ultra Hobby Products

DISTRICT *Reports*

District 7

The end of summer is a busy time here in district 7. I managed to attend 6 flying events in 7 weeks and I had a great time doing it. The last event of the season in our area was put on by the Cleveland control line club. The contest had not been held for the past couple of years and it was good to see it's return. David Heinzman stepped up to CD the event and had good support from the club.

Jeff Traxler and I drove down together on Saturday morning and we're greeted by warm summer conditions. The Contest is held at the Cuyahoga County Fairgrounds in Cleveland. The local club did a nice job of preparing the field. They had three circles cut in the grass. Two of the circles were used to fly the events and the 3rd circle was used for practice. Dave had plenty of volunteers at the site every morning and they did a great job of providing support for the contest. There was also a pretty good tailgate swap meet on Saturday morning. People were selling ARFs, kits, a good number of engines and hardware. Jeff took advantage of the deals and brought home quite a few kits.

Saturday was a busy day with 5 events being flown. Classic, nostalgia 30 and old-time stunt were flown on one of the circles and the other circle was used for the ARF event and profile event. There was a good turnout for these events and fun was had by all.

Sunday brought more summer weather and a pretty good breeze for the Pampa events. There were 14 contestants participating in all four Pampa classes. I feel like that's a pretty good turnout these days. District 7 was represented by Bob McDonald, John Paris and myself. We all did pretty good in the standings and had a lot of fun.

The guys in Cleveland put on a great contest and everyone there seemed to enjoy themselves. I'm planning on attending this contest next year. I'm sure Bob and John will be back next year as well. Jeff and I also want to thank Bob Hudak for putting us up in his luxury camper.

When Bob goes camping he's definitely not ruffin it.

My building season started early this year due to a sore shoulder. I've been experimenting with some composite parts for my next airplane and things look promising. We are making molds to build a composite version of the Geo xl. The molds are being made from medium density fiber board machine on a CNC machine. After they are machined you have to carefully sand away the machining marks. Once this is done I applied a thinned coat of epoxy to the molds. After the epoxy has dried I carefully sand the molds again. Next I apply a few coats of automotive primer to the molds sanding in between coats. When it's all said and done the molds end up with a very smooth finish that should paint well.

There are better ways to make molds but my wing and elevator have less than \$40 in materials in the molds. I've built a complete wing and elevator from the molds and they are holding up well. My first attempts were not what I had hoped for but they are usable wings. Hopefully things will go well with the rest of the molds that need to be made.

Well that's enough about what I'm doing. If you're building something please let us know about it. Seeing your building project could very well motivate someone else to start their build for the winter.

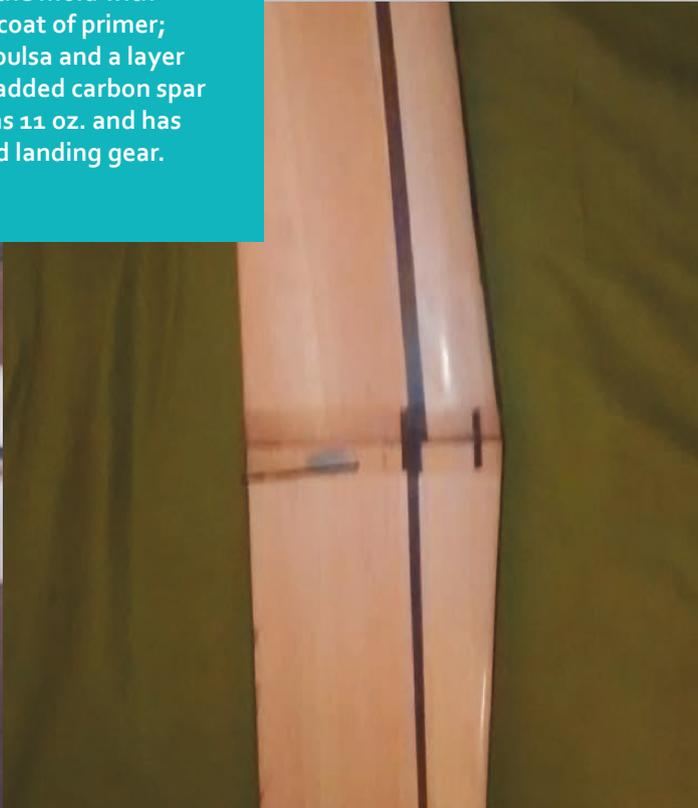
Best wishes for the holidays.

Vince.



Photos (Left to right):

Bob McDonald flew his Apogee to a first place finish in expert; Vince Bodde flew this F7F Tigercat in profile stunt; Dave Heinzman presents Bob McDonald with certificate in expert stunt; these are flap molds for my composite wing. first I coated the mold with thinned epoxy and this is the first coat of primer; composite wings made from 1/32 balsa and a layer of 3/4 oz glass on each side. I also added carbon spar for good measure. The wing weighs 11 oz. and has reinforcement for a wing mounted landing gear.



Continued from page 13

The highlight of our trip in my opinion was meeting people from so many different countries and cultures. We found great people there from all around the world. There was always someone willing to lend a helping hand, even if there was a language barrier. Stunt, after all, is a language all its own.

The contest was very well run. Check in process went smoothly and very quickly. Pit bosses were polite and efficient. Individual scores were ready quickly. Chris Rud made the statement that the World's is a marathon and he is correct. We got up around 6:00 am and went to bed between 10:30 and 11:00 pm. We rarely had dinner before 9:00 pm. You generally helped at least 2-3 other pilots off and on the circle before getting your own flight in.

We generally bought sandwiches and pastries at the local grocery store for lunch. Many locals would notice our uniforms and strike up conversations in stilted English. We did have a unique experience at an Indian restaurant in Piennes, the town next to the circles in Landres. The owner bent over backwards to prepare our food to our satisfaction and afterwards presented

us with a French soccer flag from the World Cup which France had won the previous day.

The opening ceremonies were spectacular! Many locals showed up to watch the event. Each country marched in with their country's entire team to be introduced. The evening ended with a huge fireworks display. And the banquet following the closing ceremonies was wonderful as well—great food and wine shared with new friends! There is a tremendous amount of camaraderie among the contestants. Lots of pictures, goodbyes, and hope to see you again.

Colleen and I spent a couple of extra days in Paris following the contest, as did Chris and his wife, Kayla. That is a whole other story—unbelievable traffic, lots of walking, lots of people, and awesome structures. It was the trip of a lifetime for Colleen and I. We wish to thank everyone for their well wishes on our great adventure.

Regards,

Joe Gilbert

68TH SOUTHWEST REGIONALS (EXPERT)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges Bob Parker and Jack Comer

Name	Round 1	Plane	Final Place
Lou Wolgast	596	Patriot Double Star .60	1
Jim Hoffman	595	Impact PA .51 RE	2
Chris McMillin	592.5	Golden Falcon Supertigre .60	3
Bob Whitely	586	Hawker Hunter Supertigre .60	4
Scott Dinger	572	Tempest II RO-Jett .61	5
John Wright	553	Tutor OS .35S	6

68TH SOUTHWEST REGIONALS (ADVANCED)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges: Lou Wolgast, Bob Whitely

Name	Round 1	Plane	Final Place
Steve Stewart	497	Gieseke Nobler Electric	1
Gary Gingerich	492.5	Hawker Hunter Supertigre .60	2
Rick Green	483.5	Time Machine OS .46LA	3
Charles Carter	482	Strega ARF Stalker .81	4
Al Hieger	466	Twist Master OS .40FP	5

Continued from page 30

68TH SOUTHWEST REGIONALS (INTERMEDIATE)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges: Lou Wolgast, Bob Whitely

Name	Round 1	Plane	Final Place
Dane Martin	453.5	Primary Force OS .25LA	1

68TH SOUTHWEST REGIONALS (BEGINNER)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges: Lou Wolgast, Bob Whitely

Name	Round 1	Plane	Final Place
Michael Meadows	196.5	Tudor OS .35FP	1
Paul Hruby	171.5	Flite Streak ARF McCoy .29	2

68TH SOUTHWEST REGIONALS (OLD TIME)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges: Randy Cuberly and Warren Tiaht

Name	Round 1	Plane	Final Place
Bob Whitely	312	Humungous Double Star .60	1
Jim Hoffman	310.5	Galloping Comedian Brodak .40	2
LeRoy Black	309	Jamison Special Double Star .50	3
Lou Wolgast	292.5	Humungous Double Star .60	4
John Wright	291.5	Ringmaster McCoy .40	5
Glen Allison	265.5	Jamison Special Electric	6
Mark Smith	260	Jamison Special Fox .35	7
Al Hieger	242	Barnstormer OS .35S	8

68TH SOUTHWEST REGIONALS (SUPER '70S)

(January 27 – 28, 2018 Tuscon, AZ. Results from Jim Hoffman)

Judges: Chris McMillin and Jack Comer

Name	Round 1	Plane	Final Place
John Wright	486	Tudor OS .35S	1
Dane Martin	440	Sig Twister Magnum .28	2
LeRoy Black	309	Jamison Special Double Star .50	3

CD: John Callentine **Tabulators:** Deb Hudson, Kathy Comer, Linda Wolgast

Pull Test: Rick Green, Brian McPhail **Runner:** Linda Wolgast

Setup: John Callentine, Jack Comer, Lou Wolgast, Rick Green, Jim Hoffman, Warren Tiaht

Continued from page 31

CHARLES ASH MEMORIAL/PRESIDENTS DAY CONTENT (EXPERT)

(February 17 – 18, 2018 Dallas, TX. Results from Dale Gleason, Event Director)

EXPERT		
Name	Round 1	Final Place
Don Cranfill	591	1
Mike Scott	535.5	2
Phillip Nickels	525	3
ADVANCED		
		Final Place
John Bender	462.5	1
Joe Hildreth	445.5	2
BEGINNER		
		Final Place
Al Eygabroad	229	1
CLASSIC		
		Final Place
Phillip Nickels	520.5	1
Mart Troutman	476.5	2
John Bender	461.5	3
Joe Hildreth	398.5	4
OLD TIME		
Mark Troutman	278.5	1
John Bender	247	2
PROFILE		
Don Cranfill	513	1
John Bender	498.5	2
Mark Troutman	468	3
Joe Hildreth	435	4

2017 District 8 Aerobatics Trophy: Jim Svitko

CD: Mike Greb
Judges: Mike Scott, Bill Lee, Dale Gleason
Tabulators: Sandra Lee, Alice Hildreth, Linda Gleason
Pit Boss: Joe Hildreth

MCRC SPRINGFLING

(April 7 – 8, 2018, Palmetto, FL. Results from Rich Peabody)

EXPERT (Judges Bill Rich, Len Bechtold)

Name	Round 1	Plane	Final Place
Mike Waldron	572	SV-11 E-flite 32	1
Wayne Smith	559	Tracer Electric	2
Eric Viglione	546.5	SV-22 PA .65	3

ADVANCED (Judges Bill Rich, Len Bechtold)

Don Ogden	501	Jaguar E-flite 32	1
Jim Mynes	492.5	Profile Electric	2
Dave Hallas	506	Scorpio Electric	3

INTERMEDIATE (Judges Bill Rich, Len Bechtold)

Charles Price	479	Shark 35 Brodak .40	1
Charlie Sabatka	460.5		2
Rick Osborn	459	Nobler ARF Electric	3

BEGINNER (Judges Eric Viglione, Mike Waldron)

Len Bechtold	285.5	Noble ARF Fox .35	1
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OLD TIME (Judges: Bob Kline, Dave Grenier)

Wayne Smith	305.5	Ringmaster Electric	1
Eric Viglione	255	All American Fox .35	2
Dennis Toth	236	El Diablo Fox .35	3
Bob Whitney	232	Big Job Supertigre .60	4
Charlie Sabatka	95.5	Ringmaster Fox .35	5

BEGINNER PROFILE (Judges Eric Viglione, Mike Waldron)

Len Bechtold	270	Giant Ringmaster OS .75	1
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INTERMEDIATE PROFILE (Judges Eric Viglione, Mike Waldron)

Charlie Sabatka		Stunt Trainer Fox .35	1
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Tabulator: Kathy Smith

BOB PALMER MEMORIAL

(April 28 – 29, 2018, South Monte, CA. Results from Joel Chesler, Jim Hoffman, John Wright and Direct Connection)

EXPERT (Judges: Bill Byles, Eric Rule, Bart Klapinski)

Name	Round 1	Final Place
Brett Buck	590.3	1
Kestas Dvarvydis	573.7	2
Jim Hoffman	563.7	3
Steve Harris	560	4
Lou Wolgast	548.7	5
Scott Dinger	538	6
Warren Walker	496.3	7
Stan Tyler	489.3	8
Antone Kephart	478	9
Mark Wasnick	459.3	10

ADVANCED (Judges: Stan Tyler, Antone Kephart)

		Final Place
Dennis Nunes	522	1
David Riggs	516	2
Steven McBride	513.5	3
Charles Carter	504	4
Fred Staley	492.5	5
Terry Thorkildsen	481	6
Larry Renger	414	7

INTERMEDIATE (Judges: John Wright, Larry Renger)

		Final Place
Scott Danner	395.5	1

CLASSIC (Judges: Andy Borgogna, Steve Harris)

		Final Place
Lou Wolgast	550	1
Stan Tyler	529	2
Scott Dinger	526.5	3
Antone Kephart	511.5	4
David Riggs	511.5	5
Gary Akers	507.5	6
Dennis Nunes	503	7
Emil Opffer	487	8
Warren Walker	477.5	9
Mark Wasnick	476	10
Fred Staley	468.5	11

BOB PALMER MEMORIAL

(April 28 – 29, 2018, South Monte, CA. Results from Joel Chesler, Jim Hoffman, John Wright and Direct Connection)

OLD TIME (Judges: Eric Rule, Scott Dinger)

Name	Round 1	Final Place
Lou Wolgast	512	1
Bart Klapinski	491.5	2
Stan Tyler	490	3
Al Hieger	442	4
Larry Renger	427	5

PROFILE (Judges: Gary Akers, Jim Lally)

		Final Place
David Riggs	500.5	1
Jim Hoffman	493.5	2
Antone Kephart	487.5	3
John Wright	484.5, 482.5	4
Dennis Nunes	484.5, 0	5
Scott Danner	338.5	6

Spirit of '52

Spirit of '67

Palmer Trophy

CD's Choice Saturday:

CD's Choice Sunday:

CDs:

Food:

Volunteers:

Bart Klapinski, Jamison Special

Lou Wolgast, Patriot

Lou Wolgast

Mark Wasnick, Thunderbird I

Jim Hoffman, Jimpact 2

Joel Chesler, John Wright

Diane Chesler

Mike and Pam Jones, Pat Akers, Jackie Borgogna, Sally Yee, Joe Brownlee, Warren Walker, Howard Doering, Al and Sharon Shorey, Perry Ohal, Scott Barth, Mike Meadows, Mike Alurac



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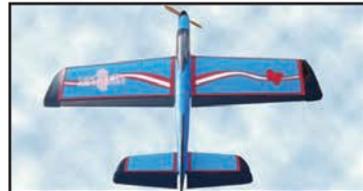
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