

### SCALE DIMENSION

Official Newsletter of the Scale Squadron of Southern California



**Founders & Proud Supporters of** The U.S. Scale Masters Championships





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- 1. Yakovlev Yak-130 flown by Martin Jensen about to touch down.
- Frank Baker's Lockheed Martin F-22 Raptor heading off into the wild blue yonder.
- 3. Thomas Williams' Van's Aircraft RV-8

heading off to work at the 2022 Warbirds & Classics.



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Commander

Mike Greenshields mikegreenshields@gmail.com

**Executive Officer** 

Eric Puchalski roadkill1954@gmail.com

Treasurer

Tim Cardin Tim.Cardin@CardinWest.Com

Secretary

Joni Whitsitt whitsittjo@gmail.com

#### **Board Members at Large**

Larry Wolfe copsmom98@aol.com

Gordon Truax gltruax@att.net Jon Perry

jwperry77@gmail.com

**Newsletter Editor** 

Eric Puchalski roadkill1954@gmail.com

**Mailing Address** 

PO Box 8074

Fountain Valley, CA 92728

On the Web at:

https://www.ScaleSquadron.com

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#### **COMMANDER'S VIEW**



Mike Greenshields
Commander

I was sitting at the field during our monthly flying day, listening to my good Squadron friends truly enjoying the day. The saying is true: The worst day at the flying field is better than most any other day.

Jaime Colley's scratch-built Fokker D.VIII, Tim Cardin's giant Fokker D.VII with onboard start, the club Ugly Stick, Paul Lee's Cessna, Ed McCormick's Fairchild PT-19 and so many other planes flying that day were just a joy to watch. It's a day that everything kinda stopped and we just enjoyed what we had (and Happy Birthday Larry Wolfe and Joni Whitsitt!). Thank you Joni and Randy for going the extra mile to ensure it was a fun day (and we were well fed...those BBQ Beans were insane!).

Warbirds & Classics is just around the corner. I hope you're all working on building a model. Maybe it gets done for W&C, maybe it doesn't. Maybe you'll just have to fly the "ol' standard" or maybe not. In any case, W&C is going to be another one of those events just like our flying day. We put the other stuff out of mind, we all work together, and just have a ball at the flying field, all together.

Registration has started and it's an immediate scramble. Space is going fast and it looks like we could have a very solid turnout.

Don't put it to the side, don't put it on hold. Don't let this one slip by. I hope every one of you have reserved the weekend and plan on being there. In the world of things our club does together, this is one of the best and we're better prepared than ever to ensure it's a fun weekend for everyone.

I would like to express my sincerest thanks... We have a fantastic new event logo and it is beautiful. Eric Puchalski was the mastermind behind finding a new artist and the work is absolutely top-notch. This one's going to look shockingly good on a t-shirt!

Anyway, I know life keeps pulling us in a million directions, as it should, but W&C 2023 is *the* event that's not to be missed.

Famous Movie Quote:

"Life moves pretty fast. If you don't stop and look around once in a while, you could miss it."

I'm looking forward to seeing you all at the next meeting, the next flying day, and Warbirds and Classics 2023 on July 7-9.

Mike Greenshields, Commander Commander@ScaleSquadron.com



#### **Warbirds & Classics Builders' Wing**

Just a reminder that the Warbirds & Classics Builders' Wing is going to be a highlight of the W&C event. The Builders' Wing is open to any active Scale Squadron member who builds a scale model that is eligible for the W&C event. The basic requirements are that the model must fly at W&C 2023 and must be a new project with the majority of the work done after the last year's W&C. A model that flew before then is not eligible.

Make sure you don't miss out on this special celebration of building.

Commit to build a scale model airplane. Bring your project to Squadron meetings and share your progress. Get your fellow Squadron members to help you if you run into a challenge.

Whatever else you do, just build something!

#### **EDITOR'S NOTES**

#### Happy April, everyone!

It looks like after a pretty rough January through March, the rain makers are backing off a bit. The weather has been a little on the chilly side but winds are calm, the sun is out, and the gnats haven't swamped OCMA Field...yet. Unfortunately, I've managed to break all my airplanes except a little .35-size trainer ARF that I use for buddy-box flight training. I've flown that a few times but it's kinda hard to get excited about it when I compare it to most of the stuff I see at the field.

I guess that's part of my inspiration to finally make some time to work on my Stinson SR-9 Reliant project for Warbirds & Classics. I've been making good progress and I'm so excited about it I figured I'd show you how it's going. Check it out beginning on Page 13.

#### Warbirds & Classics 2023

The big, big, BIG news is that Warbirds & Classics 2023 is right around the corner. I know July 7 sounds like a long way away but keep in mind that it's exactly 90 days from the next Squadron meeting to W&C. If you've been dragging your feet on your projects, now's the time to dust off the workbench, but a new blade in the X-Acto, and get down to business. You'll find information about W&C on Page 5 and in Commander Mike Greenshields' column Page 3.

And don't forget the **W&C Builders' Wing**. This is an exclusive activity only available to active Squadron members and it will be a highlight of the W&C event. It's also a perfect opportunity to show your fellow pilots that you still got it when it comes to gluing enough parts together to make an airplane.

#### **Squadron Fly Days**

We now have a couple Squadron Fly days hosted by Joni Whitsitt and Randy Wilbur under our collective belts. These seem to be a very popular addition to Squadron activities and you can expect them to continue. It's always great to go flying but it's even nicer to be able to go out to the field knowing that friends from the Squadron will be there. (Of course, the hot dogs and amazing baked beans provided by the hosts don't do anything to discourage anyone from being there.)

On the off chance you need an excuse to visit the field, with or without an airplane, the Sunday



#### Eric Puchalski Newsletter Editor

following any Squadron meeting is one of the best ever. I guarantee that you'll have a great time.

#### **RC** Expo 2023

I wish I had more photos of airplanes from the RC Expo that was held on March 18-19 but there just wasn't that much airplane stuff to see. It was a pretty impressive expo if you're shopping for outdoor sporting and camping equipment but it could have used a little more representation from the aircraft leg of the R/C hobby. There are some pictures and some thoughts beginning on Page 6.

#### One More Thing...

This issue is a little light in on scale modeling news in general. What with the dicey weather and lack of local scale events this time of year, there hasn't been much going on—at least that I'm aware of. Which brings up a point: I know people are out there doing scale model building, flying, research, etc. If you're one of those, let me know and I'll help you spread the word. This hobby is so much more fun when we do it with like-minded people. I'd love to know what you're doing.

Oh, and do me a favor: Bring someone new or bring someone back into this terrific hobby of ours.

See you at the field!

roadkill1954@gmail.com

#### WARBIRDS & CLASSICS 2023

Warbirds & Classics 2023 has Officially Taken Off!

Friday, July 7 through Sunday, July 9, 2023

We've got plans in the works, snazzy new artwork, and *registration is open!* Here's the link to the event registration:

#### Warbirds & Classics 2023 Registration

If you want to reserve a spot toward the center of the show, you'll need to act fast as many of those spots are already taken.

#### We Have All the Stuff You've Come to Expect

- Reserved pit spaces.
- Flying all day Friday, Saturday, and as long as you want on Sunday.
- People's Choice Award with voting at the Saturday Noon Time Runway Lineup.
- Lunch and a mixer, dinner and get-together for pilots on Friday included with your pilot registration.
- Catered lunch on Saturday (Tacos, you know, 'cuz they're awesome) included for pilots.
- Donuts and coffee each morning for pilots.
- Saturday Night Banquet & Awards. Catered by Blakes BBQ (award winning caterer, darn good stuff).
- ◆ Lunch on Sunday for those who stay.
- Have an RV or Camper? Sign up for free onsite dry camping (no hookups).
- Vendors Welcome. Space is free but you will be expected to provide at least one prize for the raffle.

#### A Few Things to Keep in Mind

- This is a Scale Model Flying Event. So, Scale airplanes only. We're not picky, we just want an actual scale model. You know... no Ugly Sticks, etc. What we *love* to see is your latest scale project!
- We will fly a standard pattern so no hovering or other Freestyle/3D type flying.
- ◆ 3. Helicopters ARE allowed as long as they are scale and can fly the same pattern.



- Formation flying is allowed. Please work with our CD and Airboss to ensure you have the space (no more than five pilots at a time)
- ◆ As you would expect, AMA membership is required and checked, OCMA safety regulations apply. OCMA rules do say there should be an FAA registration number on your plane somewhere. The usual stuff.
- You must have a fire extinguisher in your pit area. Every pilot must have his or her own and it must work.
- NO TURBINES. We'd love to have you but it's just not allowed by OC Parks
- NO SMOKE. The Fire Marshall or Park Ranger will think it's a fire, send fire trucks, and that would be bad for everyone.

Obviously we can't control the weather but early July in that area is usually fairly calm winds, no rain, warm but not smokin' hot weather (high 70's to 80's usually)

If you have questions about any of this, just contact your favorite Squadron Board member.

See You at Warbirds & Classics 2023!



#### **EVENT REPORT: RC EXPO**

#### by Eric Puchalski

On Saturday, March 18, 2023, I had the opportunity to attend the 2023 Radio Control Expo (RCX) at Fairpex in Pomona. The Scale Squadron had a booth there (Photos 1 & 2) and I figured it would be a great way to spend the day. In all the years RCX was at the OC Fairgrounds and later at Fairplex, I'd never gone to the show so I had no advance expectations. I'd heard it was a terrific show that leaned toward fast, loud, and flashy with emphasis on cars, helicopters, and drones.

# MARCH 18 & 19, 2023 | Fairplex—Pomona, California 2 FULL SELLING DAYS — THOUSANDS OF READY-TO-ENGAGE ATTENDEES — GIVEAWAYS JOIN US AT THE WORLD'S BIGGEST & BEST RC EVENT

#### **Background on RCX**

Well, that was then. The reality of changing times (and probably a heavy hit from COVID) has taken its toll. I'm not exactly sure of my history here, but there was no RCX in 2020 due to COVID concerns. They came back in 2021 but vendors weren't attracted and attendance was off. In 2022 even more vendors didn't make it and the event promoters teamed up with the California Overland Adventure & Power Sports Expo which bills itself as "California's ultimate outdoor lifestyle event."

For 2023, RCX again combined with the Power Sports Expo and again experienced a disappointing turnout by the hobby industry. The building where the combined expos are held is *huge*. The majority of the space (probably 90%) went to the Power Sports Expo with RCX using the remainder of the space.

#### **Exibitors, Clubs & Vendors**

I went to the expo thinking I'd stock up on X-Acto blades, glue, batteries, props, wood, etc. But in the end, I didn't buy anything. HiTec was there with a few servos and some battery chargers; Multiplex had a couple dozen foamies for sale; FySky had an impressive array of transmitters and a few receivers spread out on one display table. But none of the big players made it. No Futaba, no Spektrum, Horizon, Tower Hobbies, Desert Aircraft, or DLE. (In fact there were no engine companies represented at all.) Heck, even the discount tool guy, the servo extension people, and Batteries America had better things to do. **Pegasus Hobbies** from Upland probably had the biggest booth and did a fairly brisk business selling R/C cars and spare batteries (**Photo 3**).

As usual for RCX, the majority of the booths belonged to R/C car enthusiasts. There were a few clubs representing

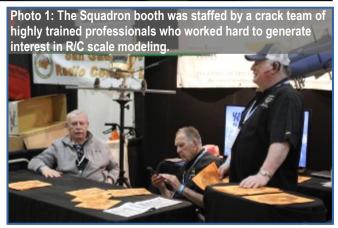


Photo 2: The bad news was that Mike Greenshields was unable to make it to the expo at the last minute. The good news was that we commandeered his spot for more models.



Photo 3: Pegasus Hobbies did a brisk business in R/C cars, trucks, tanks, Jeeps, drones, batteries, and a few other odds and ends.



#### **Event Report: RC Expo**

different interests including rock climbing, drift racing, monster trucks, and (my personal favorite) low riders, complete with crazy hydraulic suspensions (**Photo 5**).

Aviation-oriented organizations represented included NASA, AMA, San Gabriel Valley R/C League, Our Model Aviation Club (yup, that's the name of their club), and, of course Scale Squadron. The Squadron booth had a few really nice models on display and a lot of people stopped by to admire them. AMA set up a flight line out in the horse racing stadium that also drew a lot of interest.

On the up side, there were *lots* of people walking through. The Squadron crew handed out several hundred flyers and the other clubs generated some interest also.

#### The Future of RCX

It's clear that the promoters of RCX are not yet ready to throw in the towel and get out of the expo business—and that's a good thing. With AMA's decision to drop the West Coast show, RCX is pretty much the only game in town when it comes to R/C modeling. The best way to find out what the model aviation industry is developing and producing is to support an industry trade show. RCX is currently the only group carrying the banner. Although the last couple RC Expos have been a bit disappointing, we can all help turn things around simply by attending the next expo.

And that's something I would encourage everyone to consider.





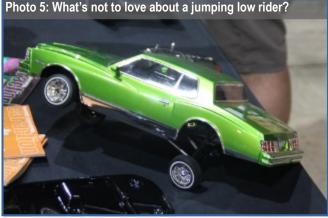


Photo 6: NASA sent out a crew from the Armstrong Flight Research Center. They brought along their "micro" Cub which is a turboprop-powered 60% Bill Hempel Piper Cub. They use it as a glider tow and for testing autonomous flight systems.



#### WORLD RECORD FOR A PAPER AIRPLANE

**[ed. note:** The following article was taken from Boeing Aircraft's internal news feed Boeing News Now. It was brought to our attention by Susan McCormick, wife of the late Karl Swope. For more information, the original article can be retrieved at:

https://onfirstup.com/boeing/BNN/articles/duo-s-paper-airp lane-seizes-guinness-world-records-status-1?bypass\_deeplink =true

#### Duo's Paper Airplane Seizes Guinness World Records Status

#### by Mychaela Kekeris

It's a classic activity everyone learns during their childhood. Fold a piece of paper into an airplane and send it soaring into the sky with a flick of the wrist. Boeing engineers **Dillon Ruble** and **Garrett Jensen** grew up folding paper airplanes, but never thought they would one day break world records. As secondand third-generation Boeing employees, Jensen and Ruble vividly remember attending company Family Day events as children.

"We would fold paper airplanes back then as a fun childhood activity," Ruble said. "Origami, or the art of folding paper, became a long-term passion."

That passion ignited a dream, one that would become record-breaking reality for the duo.

"It was hard to believe," Ruble said. "It was one of those moments: Is this real?"

Ruble and Jensen, along with the support of Nathan Erickson, made history on Dec. 2, 2022, in Crown Point, Indiana, for the farthest flight by a paper aircraft.

"We hope this record stands for quite a while — 290 feet (88 meters) is unreal," Jensen said. "That's 14 to 15 feet (4.2 to 4.6 meters) over the farthest throw we ever did. It took a lot of planning and a lot of skill to beat the previous record."

Ruble and Jensen are from St. Louis and studied Aerospace and Mechanical Engineering at Missouri S&T in Rolla. Today, they are engineers for Boeing. Their design was inspired by hypersonic aerospace vehicles and they practiced for four months before making their attempt.

The team broke the previous record of 252 feet, 7 inches (77 meters) achieved by a trio from Malaysia and South Korea in April 2022. Prior to that, the record had not been broken since 2012, when Joe Ayoob and paper airplane designer John M. Collins flew a paper airplane that reached a distance of 226 feet, 10 inches (69 meters).

"It really put things on the map and it's a really proud moment for family and friends," Ruble said. "It's a unique story to tell at this point, especially working for Boeing. It's a good tie in to aerospace and thinking along the lines of designing and creating prototypes."







**01:** A prototype paper airplane..

**02:** Nathan Erickson (from left), Dillon Ruble and Garrett Jensen made history on Dec. 2, 2022, in Crown Point, Indiana, for the farthest flight by a paper aircraft. (Dominic Alberico photo)

**03:** The pair of flags represents the previous record mark of 252 feet, 7 inches (77 meters) set by the team from Malaysia and South Korea. If a plane landed close to this mark or beyond, Ruble and Jensen would then measure it.

#### **World Record for a Paper Airplane**

Ruble and Jensen studied origami and aerodynamics for months, putting in 400 to 500 hours of creating different prototypes to try to design a plane that could fly higher and longer.

"For the Guinness World Records, we ended up going with A4-sized paper (dimensions of 210 x 297 mm) and went up to the maximum for weight, 100 grams per square meter," Jensen said. "The heavier the paper, the greater the momentum when you go to throw it."

It takes over 20 minutes to accurately fold the record-breaking paper airplane design.

"Our design is a little different from your traditional fold in half, fold the two corners to the middle line down the middle. It's pretty unique in that aspect. It's definitely an unusual design," Ruble said.

On the day of the attempt, they achieved the record on the third throw.

"We found the optimal angle is about 40 degrees off the ground. Once you're aiming that high, you throw as hard as possible. That gives us our best distance," Jensen said. "It took simulations to figure that out. I didn't think we could get useful data from a simulation on a paper airplane. Turns out, we could."

Their advice to fellow dreamers and doers: "Find a project you are passionate about. Find a source of inspiration within the aerospace field and learn as much as possible," Ruble said. "Embrace working hard at it, too. That's what our team did. We put our heads down and tried to advance the typical paper airplane."

**04:** During the setup phase, surveying team members Jeremy O'Brien (foreground) and Pat Nejman work to calibrate and properly configure equipment to take accurate measurements.

**05:** Lead Surveyor Glen Boren (from left, wearing neon), Fire Chief Mark Baumgardner (wearing red), Garrett Jensen (pointing and explaining the rules to both official witnesses), and Dillon Ruble and Nathan Erickson (both setting up the table).

**06:** Dillon (from left) and Nathan fold world record paper airplanes with both witnesses overseeing. The witnesses were Mark Baumgardner (wearing red), fire chief, and Glen Boren (wearing neon), lead surveyor.

**07:** Nathan Erickson (background from left) and a spectator watch the flight as Dillon Ruble throws the world record paper airplane.

**08:** The surveying team, witnesses and record team pose for a photo after the professional surveying team's confirmation of the Guinness World Records throw.











#### **MARCH 2023 SQUADRON MEETING**

Commander Mike Greenshields was out of town for the March Squadron meeting so running the meeting was left in the somewhat capable hands of yours truly. We got through the business agenda pretty quickly and then spent some time discussing Warbirds & Classics, which is right around the corner. Plans are moving along and by the time you read this, registration will be open. There was some discussion about getting some help for Larry Wolfe and Gordy Truax who will be manning the Squadron booth at the upcoming RC Expo in Pomona.

Then we had a short break to enjoy the cookies and coffee and dove right in to Show & Tell...

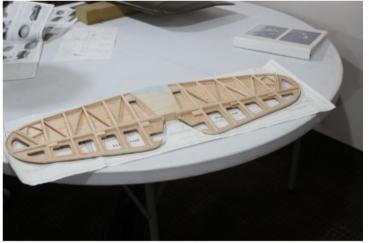
It was nice to see **Steve Penn** again and he brought a couple things to share. First off was a **Balsa USA Bristol M-1** kit and a **Global Quality Kits Skylane** kit that he donated for the Warbirds & Classics raffle. He also donated a couple rolls of **MonoKote** and a Magnum engine. He then showed his recently-acquired 1:6 scale **1943 Willys MB Jeep**. The model is highly detailed and Steve says there are lots of accessories available for it. He wants to put a driver in it representing a P-40 pilot and pair it with a 1:6 scale P-40. That should make a nice display.





I showed some progress on my **Stinson SR-9 Reliant** project. The stab required a lot of rework but the worst of that is over and now it's on to new building. The model will be powered by an FTL-30CC gas two-stroke engine. That's right in the middle of the recommended range. Wingspan is 100" and overall weight ready-to-fly should be around 20 lbs. The challenge with this build isn't the quality of the parts but the number of them. It seems everything is made of sticks and sheet stock with lots of cutting and fitting required. So far it's been "fun."





#### **March 2023 Squadron Meeting**

Ed McCormick has been very methodical with his RAF SE5a build. He talked about some of the trouble he had getting the Stits fabric to stick around all the edges of the surfaces but he thinks he has that licked. He's getting near the end of the build and he's focusing on surface details, armament, pilot, cockpit, etc.

He provided some great background information about the Lewis gun mounted on the top wing. The SE5a used the Lewis gun on a Foster mount which allowed the pilot to lower the gun into the cockpit to replace empty magazines. This was often a precarious operation since it required the pilot to use two hands to manage the gun while he used his other two hands to fly the airplane.

Ed's gun is built from a Balsa USA kit and he's added a considerable amount of detail to make it look more realistic. The gun is removable for transport and storage and is held in place with rare earth magnets.



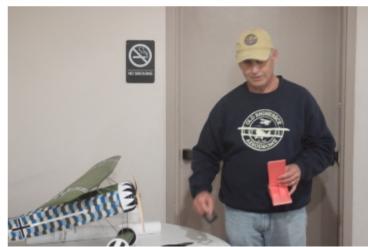


Jaime Colley takes that old saying that "You never 'finish' a scale model—at some point you just stop working on it" to heart. He brought in his Fokker D.VIII and showed some more of the details he's working on. The D.VIII had its first flight the weekend before the meeting and Jaime described some of the challenges of flying a model with a heavy wing load (at least it's heavy compared to his usual builds).

He said the model will perform all the maneuvers typical to its type. Take-offs are pretty normal but landings he has to stay on his toes and fly the model all the way down. Being a parasol design, it's top-heavy on the ground and looks for any excuse to flip over its nose.

Jaime has been making regular use of his 3D printer to make custom-designed lightweight parts including the Spandau guns, cowl, Oberursel UR.II rotary engine, wheels, tailskid, and a host of others.





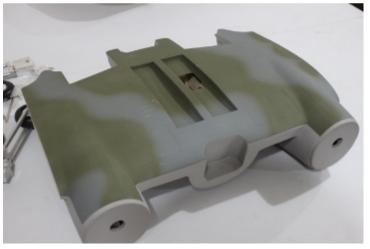
#### **March 2023 Squadron Meeting**

Jon Perry is struggling with the same dilemma many of us have to deal with: so many airplanes, and so little space. He brought in his de Havilland DH.98 Mosquito and talked about how he has to get it done enough that he can move it out of the way in order to work on other stuff.

The model is an ARF from CMPro but it's one of those ARFs where there's still a *lot* of assembly required. It has a 73" wingspan and all-up weight shoujld be around 12 lb. He'll power it with a pair of Saito FS-82 four-stroke engines. To help with transportation, he'll make the wing panels removable from the large center section.

CMPro provided a set of single-strut main landing gear but Jon didn't like the look of those so he opted for a set of double strut gear. The set he selected fits nicely into the gear wells but the struts are too long. So he'll have to figure out a way to machine those down to size.





Lady: "This airplane looks really old.

Are you sure it's safe to fly?"

Pilot: Well now, you tell me, Lady, just how do you think it got so old?"



Whoever put up this fake sticker of an open outlet at the airport, you are now my enemy for life





#### ERIC P'S STINSON SR-9 RELIANT BUILD

#### by Eric Puchalski

As you must have heard by now, preparations for Warbirds & Classics are well under way. (If you haven't heard, check out the info on Page 5.) As you've also probably heard, a new feature of the event will be the W&C Builders' Wing. This is Mike Greenshield's brainchild and it involves a commitment to build a new airplane with W&C as the deadline for having a completed a flyable model. Several Squadron members have taken the pledge and are working on one or more projects. For me, I committed to complete a partially-built Stinson SR-9 Reliant kit that I've been kicking around my shop for about 20 years.

I've always liked the look of the Stinson Reliant series. It works well for this kind of project because it remains a very popular aircraft in the full-size world and there's tons of information out there about it. The SR-9 was produced just before WWII and there are a few military variants that were used by U.S. and British air services. There are also dozens of SR-9's still alive and well in civilian configurations. So, there are a lot of color schemes to choose from. I may change my mind as things move on but for the moment, the color scheme I've chosen is shown in **Photo 1**.

This build will present a number of challenges for me. Although I've been building and flying R/C airplanes for decades, I've never tried to build an accurate scale model. This build and the resulting model will represent a number of firsts for me: It's the largest airplane I've ever built; I've never flown an airplane with flaps; It will be powered by my first gas engine; Fiberglass has never been my friend but there's a fair amount of it on this model; I've never seriously detailed a cockpit; and a bunch of other things will be new. Still, I'm excited about working on details that I don't have much experience with.

Speaking of scale accuracy... I finally got around to looking at the instruction manual and discovered that the designers made some "adjustments" to make the model "easier to build and fly." Changes to the empennage outline, landing gear attachments, wing rib counts, and other areas will prevent this from ever competing in precision scale. The kit is already pretty complicated so I've decided to just build the model and not try to correct those design deviations. I don't plan to go to Top Gun any time soon and there are a couple Scale Masters classes that the model would still be eligible for, should I choose to compete with it.

#### The Kit

The kit is from **TopFlite** and it's one of their Gold Edition kits from the 1980's (**Photo 2**). I was pretty impressed with



Photo 2: This what the kit looked like when it left the TopFlite factory about 35 years ago.





Scale Dimension | April 2023

#### Eric Puchalski's Stinson SR-9 Reliant Build

the weight of the box (about 15 lbs.) and the way everything was packed in. I found out later that this was due to TopFlite wanting to use the smallest possible box for the kit. That sounds like a great plan but one consequence is that there are a *lot* of parts; both die-cut and made from strip and sheet. The model relies heavily on sub assemblies for things like formers, flying surface cores, and other things that could have been cut as single pieces. (More on that later.)

Wood choice was pretty good and the die cutting was not as bad as I thought it would be. However, it appears that in order to keep the die cutting reasonably clean, TopFlite limited the thickness of die-cut material to 1/8". That means a lot of the spars, trailing and leading edges, and other parts that need to be 1/4" or more, must be laminated from thinner parts. That's not a problem but it adds a lot of steps that would have been avoided if the parts had been routed (laser cutting wasn't available when the kit was produced).

The previous owner had popped for a set of fiberglass parts to replace the ABS parts that originally came with the kit (**Photo 3**). This was actually one of the reasons I held on to the kit for so long. I've never had any luck getting much life out of ABS cowls and fairings and the fiberglass parts are a very nice upgrade.

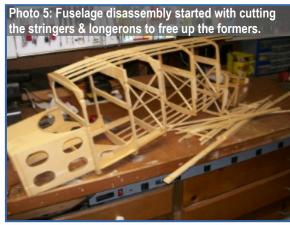
The kit comes with an OK instruction manual. I discovered early on that it's best to follow the instructions *exactly*. I deviated a couple times and found myself doing even more work than I would have if only I'd not strayed from the proscribed path. I say the manual is OK because it varies in detail from individual steps to remove parts, laminate, sand, and align them to "next, build the main spar."

On the up side, although there are tons of parts, they're fairly simple shapes and mostly easy to work with.

#### The Build

When I got the kit, someone had already framed up the horizontal stab, elevators, and basic fuselage. I don't know who the original builder was but he (or she) was obviously not up to the task of assembling such a complicated kit. I decided to finish the stab and elevators based on the work that was already done but the fuselage was not up to snuff (**Photo 4**). It's a little hard to see in the photo but many of the stringers were anything but straight and some longerons were installed with sharp corners where there should have been graceful curves. Also, many of the joints weren't cut cleanly and where filled with CA glue.

The formers on the fuselage aren't exactly works of art but I don't think it would be worth the time to make new









#### Eric Puchalski's Stinson SR-9 Reliant Build

ones. So, breaking the fuselage down involved cutting through the stringers and longerons (**Photo 5**), separating the fuselage formers (**Photo 6**), and ungluing the cockpit and engine areas (**Photo 7**). ("Ungluing" involved CA debonder and heating the glue joints. This made the dried CA soft enough that I was able to pry the pieces apart without doing too much damage.) I used a similar process to remove the bits of stringer and longeron from the fuselage formers.

Next, everything got a good sanding to clean off the excess cured CA followed by a couple repairs to some bits that cracked during the dissection. In the end, I had a handful of fuselage parts and subassemblies that are ready to be reassembled as a (hopefully) straight and true fuselage (**Photo 8**).

#### Stab & Elevators

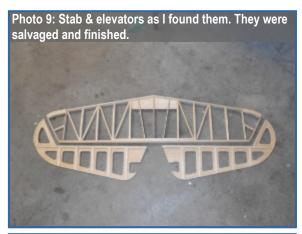
At this point, I went back to the kit's assembly instructions and figured out where the previous builder had stopped on the stab construction. **Photo 9** shows how it looked before I started. Not bad but, as it turned out, not as good as I initially thought. There were some twists, misalignments, low spots, and faulty glue joints that had to be corrected. I sheeted the center section of the top of the stab and the entire bottom (**Photo 10**). That and an additional glue pass at all the joints added a lot of strength to the assembly and it stopped dropping random bits whenever I picked it up.

The elevators presented some special challenges because of the way the previous builder had framed them up. I had to add some material to the trailing edges and tips in order to get everything to fair into the stab (**Photo 11**). In retrospect, it probably would have been better to cut new ribs and start from scratch but I was pretty far into it before I figured that out.

In the end, I was able to get everything the way I liked it and it's now ready for hinges.

#### Fin & Rudder

Now it was on to the vertical fin and rudder. At last I get to build something from nothing! Earlier I mentioned that the kit is designed with a lot of pieces. Take a look at **Photo 13** and you'll see what I mean. That's the core of the rudder and you'd think it would be die cut from a single piece of 1/8" balsa, right? Instead, it's assembled from *six* separate pieces before being glued to the rudder leading edge and having ribs and a laminated edge installed. A few additional bits for hinge blocks, cap strips, and the top block and you finally end up with a rudder constructed from 38 separate pieces. And that doesn't include the fin! It's not hard building this way—it just takes a long time.









#### Eric Puchalski's Stinson SR-9 Reliant Build

Fin assembly was pretty straightforward and it wasn't long before I had completed the sheeting and initial rough sanding (**Photos 14 & 15**). Since I was the only one who had my hands on the parts, fitting the rudder to the fin was a pretty uneventful process (**Photo 16**).

#### **Empennage Assembly**

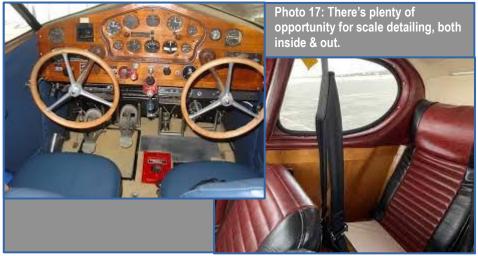
It's been my plan all along to build this model so the empennage can be disassembled for transport and repairs. I haven't quite decided how I want to do that yet but I'll have it done by next month's newsletter and I'll show you how it went.

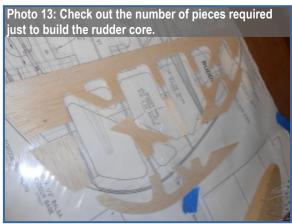
#### A Note on Adhesives

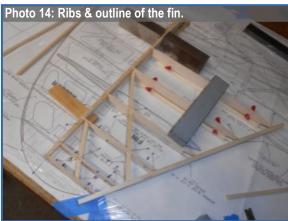
I've always been a white glue and Ambroid guy when it comes to working with wood models. I've tried the CA route but I believe I'm cursed when it comes to that stuff. The only things I can get to stick every time are my fingers. They stick to each other, they stick to the CA applicator, they stick to paper towels, they stick to the workbench, and they stick to pretty much anything else that gets withing six feet of me while I'm holding a bottle of CA. What I've never been able to master is getting two pieces of wood to stick together reliably using CA.

I see no reason to change old habits so I'm going with white glue, Ambroid, and two-part epoxy when needed. The down side to this approach is of course that I'm down to my last tube and a half of Ambroid and it's no longer available. (Well, I see it on eBay every so often selling for \$30 for a two-ounce tube.) The good news is that I've discovered SIG-MENT glue from Sig Manufacturing. It's not Ambroid but it's pretty darned close and, more importantly, it's still available from a few sources.

That's it for this month. Right now I gotta get back to building if I want to be able to fly this guy at Warbirds & Classics.











#### HOW TO: CUT PERFECT GUSSETS

#### bv Eric Puchalski

I *love* gussets! I totally understand the value of adding a tiny bit of material to gain a tremendous structural advantage. I often add gussets to places where they're not noted on the plans just because I assume the designer forgot to include them. On the other hand, I hate to *make* gussets. It's always been a tedious, time-consuming, and boring task that I try to avoid.

It was clear I'd need a *boat load* of gussets for my **Stinson SR-9 Reliant** project (see **Page 13**). The instructions tell you where to install them but the plan just says "make gusset from 1/2" x 3/32" balsa scrap." Initially, I went to my old standby which involved cutting some 1/2" wide strips of balsa, marking them off into a bunch of triangles, and cutting the gussets using a single-edge razor blade (**Photo 1**).

Then I recalled that back in an earlier life I made stained glass windows as a hobby and I used a tool to cut the lead came that separates the individual pieces of glass in the design. This is a pretty basic device and the cutting part is a standard box-cutter blade. It's powered by a hammer (I prefer an 8 oz. ball-peen) and it does a great job—as long as the blade is *really* sharp. You still have to mark the balsa strips but at least you're not building calluses on your fingertips from the razor blades.

Finally, I spotted this bad boy (**Photo 3**). It's called **The Chopper** and it's been sitting patiently on a shelf for a few years waiting for me to check it out and see if I wanted to keep it. It was originally designed to help model railroaders cut styrene bits for their buildings, bridges, and other projects.

The process here is stupidly simple: Set the 45-degree guide right up against the blade and clamp it down. Then get a strip of balsa 1/2" wide, hold it against the guide, and bring the cutting arm down. Then flip the balsa over, reposition it against the guide, and bring the arm down again. That's one gusset. Flip the balsa strip and do it again. Now you have two balsa—and only three seconds have gone by! Do that 20 more times and one minute has elapsed—but you now have *twenty* gussets!

Dimensions and materials may dictate the system you use. Single-edge razor blades will work their way through most anything eventually. The lead chopper get through as much as 3/8" material but it requires a few bangs with the hammer. "The Chopper" is designed for relatively lightweight duty. Anything beyond 1/8" is a struggle and may damage the device.

All the above comments relate to cutting gussets from balsa. If you need bass wood, plywood, fiberglass, or anything else, you'll have to do some experimenting.

**Photo 4** shows the pile of gussets I made using The Chopper. Total elapsed time (including stripping the 1/2" balsa from a larger sheet) was about five minutes.

I think the lesson here is that if you hate doing a job long enough, you'll come up with a way to make it easier. Boy, am I glad I finally figured out how to cut gussets!!

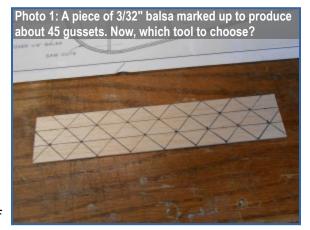


Photo 2: Lead came cutter & a tap from a ball-peen hammer does a nice job as long as the blade is really



Photo 3: The Chopper set up to mass produce as many 45° angle gussets as any modeler can wish for.

Photo 3: About five minutes work. I guess I'm keeping The Chopper.

#### A DAY AT THE FIELD

Squadron member **David Coe** flew his **Integral** pattern ship from CARF Models at the recent **Woodward Memorial Pattern Challenge** at OCMA Field. David has had the model for about three months and he really likes it. It was designed in 2006 for 1.20 4-stroke power but David converted it to electric. It carries a GPS logger that allows him to track and replay his flights looking for spots that would benefit from more practice.







From the AMA flightline at RC Expo: I didn't get the pilot's name but despite its looks, this F-16 Fighting Falcon is not an EDF. It demonstrated some pretty impressive high-alpha maneuvers and was able to stay inside a very restricted aerobatic box. The secret is that the fan was replaced by two small motors installed on the wings. It uses normal aileron and elevator control but yaw is controlled by thrust differential from the motors.







#### A Day at the Field

Frank Baker put in some time on his Lockheed Martin F-22 Raptor. He's owned the model for about two years and says that despite it's sleek looks it's very user friendly. Frank said it's all stock except the brakes which he replaced with something that would actually stop the plane. He also added some CF to the leading edges to help prevent hangar rash.







Frank Baker also flies a Fairchild Republic A-10 Thunderbolt II. This model came from Freewing and Frank upgraded the power pods to the 90MM version. That gives it a top speed of around 130MPH. This is he second Warthog and he's had this one for about three weeks. Frank says that without a gyro it requires intermediate pilot skills. Otherwise, it's a lot of fun.







#### MONTHLY MEETING NIGHT

### Monday April 10, 2023 7:00pm

# The April 2023 Meeting is On!

Be prepared to talk about the 2023 Warbirds & Classics event. It seems like it's a long way off but July 7 is exactly 90 days away from the April meeting night. There's still a *ton* of stuff to do in order to make this the really spectacular event that it's known for.

Keep in mind that visitors are always welcome so don't be shy about bringing someone. And remember that anyone with *anything* for **Show & Tel**l will receive a raffle ticket for special prizes to be raffled off at the Squadron Annual Banquet in December.

Meeting location is the Green Valley Adult Clubhouse. The address is:

17250 Los Jardines West Fountain Valley, CA 92708

#### **Directions from the South:**

- → From I-405 North, exit at Euclid
- → Turn **Left** onto **Euclid** at the offramp
- → Turn Left onto Slater
- Go past Los Jardines East
- → Turn **Right** at the light onto **Los Jardines** *West*

The Clubhouse is on the right about a half block past the school on the left.

#### **Directions from the North:**

- → From I-405 South, exit at Brookhurst North
- → Merge onto Brookhurst and turn **Right** onto **Slater**
- → Turn Left onto Los Jardines West

The Clubhouse is on the right about a half block past the school on the left.

#### **UPCOMING EVENTS**

#### **Special Note Regarding Events**

A list of upcoming scale events that are easily reachable from Southern California is included here. We encourage everyone to participate in as many of these events as possible in order to show support for clubs that have gone through the same difficulties that the Scale Squadron has experienced recently. Remember that when you attend any of these events, *you are an ambassador of the Scale Squadron*. Be sure to mention your affiliation with the Scale Squadron and represent us well! (Also, bring back lots of photos and get them off to **Eric Puchalski** so they can be included in the next newsletter.)

Date	Host & Location	Event & Summary		
Various Dates in 2023	Various hosts & locations	U.S. Scale Masters 2023 Regional Qualifiers U.S. Scale Masters has published their Regional Qualifier schedule for 2023. Events will be held in several states and BC, Canada. A complete schedule is provided on the next page.		
May 5-7, 2023	Propnuts RC Club North Las Vegas, NV	All Electric Fun Fly Not limited to scale models. Registration \$15 for the entire event. Friday is reserved for arrivals & setup & the field is open to all pilots (including non-event pilots.) Saturday & Sunday are reserved for registered event pilots. AMA verification at registration. Must have FAA identification visible on all aircraft. Registration opens Saturday at 7AM. Food available Saturday lunch for a nominal charge. Saturday noon flight line display of aircraft and photos.		
Jul 7-9, 2023	Scale Squadron of SoCal Irvine, CA	Warbirds & Classics 2023 World-famous scale fun-fly. All types and sizes of anything that looks like a model of a full-scale prototype (no turbines or drones). \$40 pilot fee for any number of models. RV dry camping available with reservation. Fun, Food & Frolic!		
Oct 12-15, 2023	Tri-Valley RC Modelers Santa Maria, CA	10th Annual Central Coast Giant Scale Fly-In Landing fee \$50 for the full event or \$30/day. Includes 2.5+ days of flying on a giant runway & lunch on Saturday; 3 Nights dry camping parked on asphalt only \$100; AMA membership required; Epic pilot's raffle on Saturday; World famous Santa Maria style BBQ Saturday night; Indoor bathrooms & shower available on site; Lodging, restaurants & grocery nearby; Turbines, 3D & Night flying approved!		
Oct 14, 2023	RC Flyers Unlimited Oakdale, CA	RCFU Giant Scale Fly-In Come join the RCFU Giant Scale Fly-In. All IMMA legal scale aircraft are welcomed, except turbines do to the site dry field conditions. Landing fees \$25.00 including BBQ hamburger/hot dog lunch. Dry RV Camping on field fees under 64 yrs \$30 over 65 yrs \$15.		

#### **Errors & Omissions:**

If you note any errors in any information in this list or the flyers on the following pages, please contact *Eric Puchalski* or any of the members of the Scale Squadron Board of Directors. If your club is hosting a scale-themed event that's not on this list, contact Eric to get the event added to the list. If you have flyers, an informational website, or online registration page we would be happy to include that in this section as well.



(National Chairman: Curtis Kitteringham - cakll@cox.net)

#### 2023 Regional Qualifiers Schedule

Jan 14-15 "Cape Coral Scale Classic" - Cape Coral, FL (www.rseahwks.org)

Mar 31-April 1 "Gunsmoke" - Mesa, AZ (www.oeaf.org) (www.azmodelaviators.com)

Apr 26-30 "Top Gun" - Lakeland, FL (www.franktiano.com)

May 19-21 "2023 Spring Opener" - Othello, WA (www.nwscale.org)

June 16-18 "Mint Julep Scale Contest" - Rosewood, IN (www.rosewoodrc.com)

June 23-25 "Field of Dreams Scale Rally" - Redmond, OR (www.nwscale.org)

July (pending) "British Columbia Scale Classic" - Kamloops, BC (www.nwscale.org)

July 6-9 "AMA Scale NATS for R/C" - Muncie, IN (www.nasascale.org)

Aug 4-6 "Silver Hills Scale Rally" - Athol, ID (www.nwscale.org)

Aug 25-27 "NWSAM Championships" - Wenatchee, WA (www.nwscale.org)

Sep (pending) "Fall Scale Classic" (pending) WA (www.nwscale.org)

Sep (pending)"Max Ficken Texas Scale Championships" - Ft. Worth, TX (www.flygsw.org)

(dates pending) "USSMA 42nd National Championships" - (location pending)

(Doc created: 2-Jan-23) www.usscalemasters.org

# Announcing the

# ALL ELECTRIC FUN FLY HOSTED BY THE PROPNUTS RC CLUB

#### May 5-7, 2023 Willie McCool Field

4400 Horse Rd., North Las Vegas, NV

\$15 Landing Fee



Permitted & AMA Sanctiioned Event #14719 Open to all AMA Members

- Field available Friday for open flying.
- Event begins Saturday at 8AM and continues through Sunday.
- AMA Required at check-in per park and AMA Sanction rules.
- Electric aircraft only please.
- FAA Identification must be on every aircraft per FAA as usual.
- RV's ok no charge (dry camping only).

Food and drinks available.





Come join the Las Vegas Propnuts in our first post-Covid fun fly.

#### Scale Modelers, Pilots @ Fans!



# 16th Annual Warbirds @ Classics Scale Fly-In

OCMA Field (Irvine, CA)

Paved 600ft Runway, Friday Night Party, Saturday Night Banquet (Blake's BBQ), Reserved Pit Areas, On-Site R/V Parking & More! In Support of USMC Semper Fi & America's Fund

ENTRY FEE: \$40.00 per Pilot (Scale Aircraft Only)

Includes 3 Days of Flying, Friday, Saturday & Sunday Lunch.
Event T-Shirts Available Online & at the Event.

Registration: www.ScaleSquadron.com

Contest Director: Randy Wilbur (rwilbur@videotecheng.com)

- ◆ Saturday Night Banquet: \$25.00/person
- ◆ Pit Reservations: \$25.00/pilot (OK to share)
- ◆ AMA membership required

- ◆ FAA UAS registration required & must appear on plane
- ♦ No Turbines
- No Hovering or 3D flying

Friday - Sunday, July 7 - 9, 2023



## Join us for the 11th Annual



### **Tri-Valley RC Modelers**

# Giant Scale Fly-In

October 12th - 15th 2023

New Cuyama Airport - 3380' x 60' Runway!

#### The skinny:

- Landing Fee: Only \$50 for the full event (or \$30/day). Includes:
   2-1/2+ days of flying on a giant runway & lunch on Saturday;
- 3 Nights Dry Camping only \$100, parked on asphalt;
- Proof of current AMA required;
- Epic Pilot's Raffle on Saturday.

#### More skinny:

- World Famous Santa Maria Style BBQ dinner on Saturday night;
- Indoor bathrooms & shower available on site;
- Lodging, restaurants, & grocery stores nearby;
- Turbine jets, 3D, & Night flying approved!

Please call Chuck Barnes at (805)886-7921 or email him at CDBarnes10@comcast.net to register for this event.



### Advancing & Promoting the Hobby of Remotely Controlled Scale Miniature Aircraft

Many people from all walks of life find it fascinating to produce a miniature working replica of a full-size object, be it a doll house, sailing ship, or operating steam locomotive. In our case it is our passion for flying machines that motivates Scale Squadron members.

Today as scale modelers we pursue nearly every possible aviation subject with the confidence that not only will our project be successful, but that it may well outperform that of its full-scale counterpart.

Squadron members delight in the pursuit of authenticity for scale projects. This requires research and documentation of specific aircraft and their variants. Many of the flying replicas thus created are of Museum Quality and our members take to the skies with these flying miniatures regularly and successfully.

On the other hand, not everyone wants to make a scale masterpiece. That's OK, too! Whatever pleases you is what counts. Whether you are kitbashing, volunteering at charity aviation events, or making molds from scratch for Scale Masters or AMA National Championship competition scale aircraft, Scale Squadron is a club that embraces all facets of scale aviation R/C modeling and the related community.

Scale Squadron Club Meetings are held on the second Monday of each month at:

Green Valley Adult Clubhouse 17215 Los Jardines West Fountain Valley, CA.

Meetings start at 7:00PM and last about 2 hours.

Our meetings throughout the year include the usual club business as well as Member Show & Tell, Modeling How-Tos, Aviation and Industry presentations, and good ol' time social gathering to help enlighten and encourage our membership to push the boundaries in the art of Miniature Aircraft Replication. Visitors are always welcome. All members and visitors alike are encouraged to bring their latest scale models and projects!



#### **Membership Requirements**

Membership in the Scale Squadron is open to all Academy of Model Aeronautics (AMA) members who are interested in safe formal and informal flying, including the research, building, and flying of Scale R/C Miniature Aircraft.

Membership Annual Dues are \$30.00 covering January 1 through December 31. Membership begins after verification of your current AMA membership card, your FAA Small UAS Certificate of Registration, and receipt of Scale Squadron membership dues.

The Scale Squadron Board reserves the right to deny or delay new membership approval.

#### **Membership Benefits**

Membership in the Scale Squadron includes:

- ◆ A subscription to the *Scale Dimension* monthly online newsletter.
- Squadron membership card and name tag.
- ◆ Advance notice of scale aircraft events.
- Annual Holiday Banquet for members and one guest.

#### **Membership Meetings**

Meetings are the second Monday of each month at 7:00pm. The December meeting includes the Annual Holiday Banquet and raffle drawings for anyone who presented a topic at any of the monthly meetings.

See the *Who We Are* secion of this issue for details on the meeting location.

#### **How to Join**

If all this sounds like something you would like to be a part of, you can join us in a couple ways:

- See the last page of this issue for a membership application. Fill out the form and submit it along with the required supporting documents.
- 2. Use the Online Form on the Squadron's website to provide basic information and pay the membership dues. A copy of the online form will be sent to you via amail. Print this out and submit it with the required supporting documents.

#### **How to Submit Your Application**

All membership application submissions must include:

- A hard copy of the membership application form
- If the membership dues were not paid online then include a check for \$30.00 made payable to "Scale Squadron." Dues are not prorated if you join after January 1.
- ◆ A photocopy of your AMA membership card
- ◆ A photocopy of your FAA Small UAS Certificate of Registration

Mail these to:

Scale Squadron Membership PO Box 8074

Fountain Valley, CA 92728

You will receive your membership card and instructions for how to obtain your key to the OCMA field by return mail in about a week.



#### SCALE SQUADRON OF SOUTHERN CALIFORNIA



#### **MEMBERSHIP APPLICATION**



Membership in the Scale Squadron is open to all AMA members who are interested in safe, formal, and informal flying, including the research, building and flying of Scale R/C Miniature Aircraft. Membership Annual Dues are \$30.00 covering January 1 through December 31. Membership begins after verification of your current Academy of Model Aeronautics (AMA) Membership Card and receipt of Scale Squadron membership dues. Membership in the Scale Squadron includes a monthly newsletter and Squadron name tag. Meetings are the second Monday of each month at 7:00pm.

NEW RENEWAL Recommended by	5 1		DATE			
Name	J. While	Spouse				
Address	mins	City				
State Zip Code	_ Email		Birthday			
Home PhoneWork _		Ext	Mobile			
AMA# FAAU	SSMA	FCC/Ha	am EAA			
MOE	ELING INFO	ORMATION				
Years in R/C Modeling Level: New Intermediate Expert Need Help						
Interest Area: WW1 WWII Golden Age Civilian Vintage Jets						
Private or Commercial Pilots License & Type Rating						
Are you interested in Scale Competition? Yes No Would Require Assistance						
How did you hear about the Scale Squadron?						
GENERAL INFORMATION						
Meeting Preferences. Check all areas that you would like to see at the monthly meetings						
How To Videos Guest Speakers Scale Techniques Scale Contest Prep						
Your Ideas						
Would you be willing to assist at Scale Squadron Events? Yes No Maybe with Help						
Registration Gate Flight Line Judging Scoring Cooking						
Comments						

NOTICE: This information is only for the Scale Squadron Data Base and will not be shared or sold to any outside agencies. Your information may be used in a Scale Squadron Membership Guide available only to paid members.