



SCALE DIMENSION

Official Newsletter of the Scale Squadron of Southern California

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Squadron
Field Trip**
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OCMA Safety Meeting



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



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On the Cover

1. A scratch-built de Havilland DH.94 Moth Minor flown by Keith Hedge on a slow pass.
2. Murray McDole finishing another mission with his Lockheed P-38 Lightning.
3. Jerry Smith about to touch down with his highly customized McDonnell-Douglas F-4 Phantom II.



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Mike Greenshields
Commander

Squadron!

We've started off strong. Lots of great stuff going on. OCMA registration and safety meetings are completed. We've completed a great January meeting and fun flying day. That includes the first meeting building-tip presentation which was an awesome one! Our buddies at PVMAC have their first event organized and I know at least some of us are already signed up.

I'd like to bring attention to the **US Scale Masters** where there will be lots of local activities. Hemet will be hosting both a qualifier in July *and* the National event in October. I'm hoping this results in lots of people participating and offering to help **Curtis Kitteringham** at U.S. Scale Masters make that happen. And most of all, hoping it lights some fires to continue to pursue the efforts to get ready to compete and or to learn how to be a judge.

It's February and there's so many other things coming together as well.

We're coming up on **Warbirds & Classics**. Keep the dates open (**June 27 through 30**). **Joni Whitsitt** and **Randy Wilbur** will get with you to get volunteer jobs all filled. We're hoping everyone can help and fly at the event.

And while we're at it, I'm hoping some of you will have new planes to fly, too!!! Keep at those

projects, and if we all don't blow away from anymore wind, rain, or earthquakes, we should see some new planes flying soon!

I am shocked at how much is going on in the scale world this year in SoCal and AZ!

So we'll see you at the meeting on Monday and the next Squadron flying day the Sunday after that. The presentation at Monday's meeting will be **Eric Puchalski** showing how he uses extremely inexpensive (Eric is a bit of a pinchpenny) methods to cover his models.

Thanks everyone!

Stay warm, stay dry!

Mike Greenshields, Commander
Commander@ScaleSquadron.com



Airplane Maintenance

In the following, "squawks" are problems that pilots leave for maintenance crews to fix before the next flight. Here are some squawks submitted by US Air Force pilots and the replies from the maintenance crews.

(P) = Problem

(S) = Solution

(P) Test flight OK, except autoland very rough

(S) Autoland not installed on this aircraft

(P) Something loose in cockpit

(S) Something tightened in cockpit

(P) Evidence of leak on right main landing gear

(S) Evidence removed

(P) Dead bugs on windshield

(S) Live bugs on order

(P) Number three engine missing

(S) Engine found on right wing after brief search

(P) Friction locks cause throttle levers to stick

(S) That's what they're there for

(P) Aircraft handles funny

(S) Aircraft warned to straighten up, "fly right," and be serious

(P) Target Radar hums

(S) Reprogrammed Target Radar with the lyrics

Happy February, everyone! I hope this issue of *Scale Dimension* finds you in good health and happily engaged in some aspect of this terrific hobby of ours.

Here in SoCal we really are blessed with a year-round flying season. I know it's been a little tough the past month or so what with El Niño, the Pineapple Express, atmospheric rivers, ARkStorms, tornadoes, earthquakes, and whatever other scary natural disasters the weather people can dream up. But the days I've been to the field have been mostly just plain spectacular. I hope you're taking advantage of the lulls in the calamities to get some flying time in.

There's a lot going on over the next few months in and around SoCal. I'd recommend a quick trip to the *Upcoming Events* section (**Page 25**) to get an idea of what's in store.

Warbirds & Classics 2024

Speaking of upcoming events, don't forget our own Warbirds & Classics event that will be held **June 27 through 30** at OCMA Field. I hope everyone is working on a project for the event and especially for the **Builders' Wing**. Expect to be inundated with W&C information over the next few months as we work to pull all the pieces together.

Piper J-3 Cub Project

It's been a couple months since I reported on my progress on the Piper J-3 Cub that I acquired from a friend. I'm happy to say that it's back in the works and should be ready for a first flight (well, by me anyway) sometime in February. All the major technical and structural issues are resolved and I'm down to radio and engine installation, patching holes, and stuff like that. See **Page 14** for an update.

Squadron Field Trips

February marks the first time we'll have a Squadron field trip. This one will be to the **Lyon Air Museum** at Orange County Airport. Lyon's focus is on WWII aircraft and other equipment but there's quite a lot to see from other categories as well. See **Page 9** for details.

Servo Mounting

I had a recent "brain bubble," the curing of which resulted in my finding a really excellent article dealing with mounting of servos in our models. I



Eric Puchalski
Newsletter Editor

highly recommend the article, which I've reproduced starting on **Page 18**. I think this will settle once and for all the question: "Does the flared end of the eyelet go up or down in the grommet?"

Documentation: Avro Anson Mk. 1

I recently came across an airplane I'd never heard of before and when I looked into it, I was stunned to find that it was a major player during the Golden Age, through WWI, and all the way into the 1970s. The **Avro Anson** is a British design (maybe that's why it's not a popular subject over here) but it has tremendous potential as a scale project. It was around for a *long* time, it comes in many variations and liveries, and it hasn't been modeled much (as far as I can tell). I think it would make an excellent subject for someone looking for something different from the usual warbirds. Take a look at the documentation starting on **Page 21** and see if you don't agree.

2024's Looking Good

So, there are a lot of things in the works for 2024. I hope everyone will be able to participate to whatever level they like as we go through building, flying, competitions, events, and just hanging out.

I'll see you at the field!

A stylized, handwritten signature in black ink that reads "Eric Puchalski".

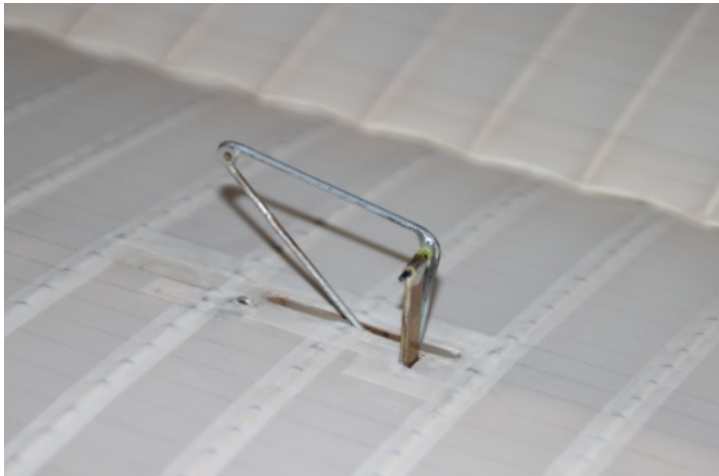
roadkill1954@gmail.com

JANUARY 2024 SQUADRON MEETING

Commander **Mike Greenshields** took care of the usual business in his usual punctual manner. This allowed plenty of time for Show & Tell, which included a special presentation by **Larry Wolfe**.

Larry brought along his **Spad XIII.C1** project that he's building from Bob Rich plans. The model is coming along nicely and one of the most prominent details is Larry's application of actual rib stitching on the wings and empennage. Larry showed how he does the stitching using traditional needle and thread to accomplish the task.

Larry used Solartex to cover the basic airframe. The wings have an undercambered airfoil which introduces special challenges for getting everything to stick to the bottom of the wings. Using scale rib stitching solves a couple problems. First, it secures the covering to the bottom of the undercambered airfoil and second, it provides an actual scale detail to the overall appearance of the model.

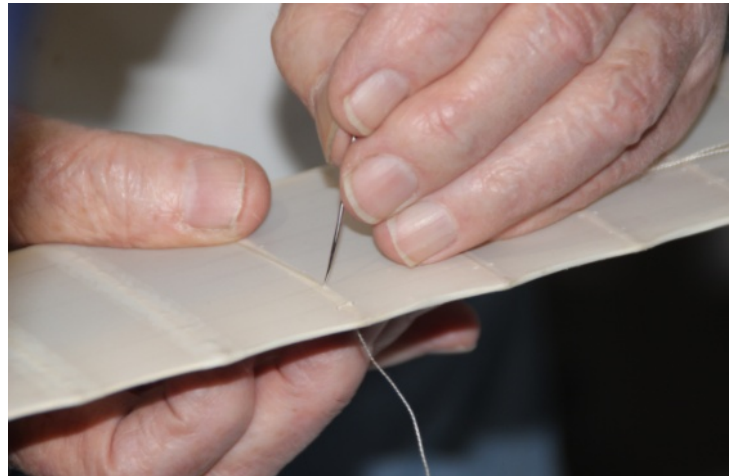


Larry explained in detail how spacing of the stitches is determined by the amount of lift being generated by the wing section. Therefore, stitch spacing close to the fuselage (where most of the weight is and more air is flowing over the wings due to prop wash) is closer than spacing at the wing tips.

He described the process of first covering the wing, then marking off the locations where the stitching needs to go. He followed that up by poking tiny guide holes next to the ribs at each stitch location. This is to make sure the threads will go into the wing in the proper locations and will come out where they're supposed to be.

The stitches are then covered with a narrow strip of Solartex as is done on full-size aircraft.

The overall effect is pretty amazing and is bound to impress whatever judges are lucky enough to see it.

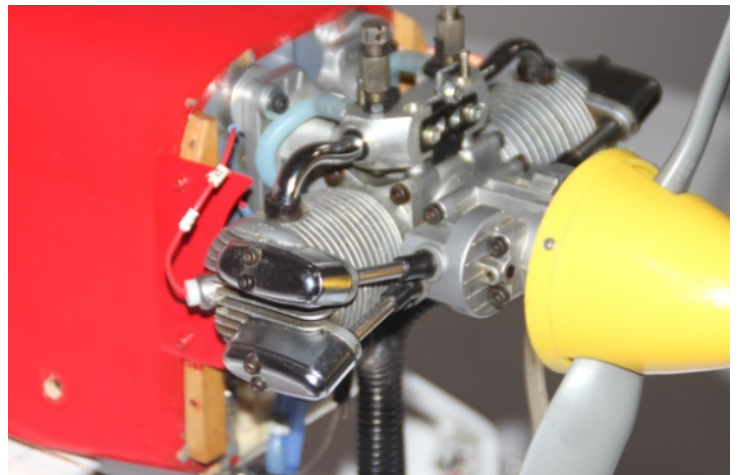


Pat Driscoll brought in his 1:6 scale **Thomas-Morse S-4C Scout** that he's building from a Balsa USA kit. He's making great progress and is now doing the engineering on the motor, dummy engine, and cowling. Pat is an accomplished 3D printer user and has made several passes at printing components for the model. He found a good looking engine but the motor mount and engine needed a little adjusting to make everything fit where it needs to be. At this point, he has most of that under control and is working on the wing controls.



Ed McCormick acquired a 48" **Spacewalker** that was originally electric-powered. At about 7.5lb ready to fly, he was only able to get something like 3-minute flights so he decided to convert it to nitro. He settled on a retro **Saito FA-90T** four-stroke. After the conversion (which brought the ready-to-fly weight up to 8.5lb), he got 8-minute flights that only used a half tank of fuel. During the conversion, somehow the wheels also ended up being replaced by floats.

He found the old Saito twin to be a good runner but one or the other cylinder would consistently foul and sometimes quit which left him with only half an engine. So he started experimenting with on-board glow plug boosters. Ed explores all possibilities—even the silly ones. So he tried a few different combinations of electronic boosters and found the wiring and radio programming to be pretty complicated. He finally settled on an old-school mechanically-activated micro switch that kicks in at about 1/3 throttle.



Eric Puchalski brought in an old project which isn't exactly a scale model but it does show some of the methods he's experimenting with to apply markings. In this case he showed how he uses laser-printed water-slide decals to produce some of the smaller lettering and nomenclature while masking and painting the larger details.

The decals are printed on either a laser or ink jet printer and then sealed using clear polyurethane top coat. Laser-printed decals are more durable than ink jet decals. Eric uses laser decals for black and white, and desk jet decals for when color is needed. This allows for pretty much any marking that can be modeled on a computer to be used on a model.

The model itself is a sport biplane from the 1970s named **Big John One More Time**. Eric is marking it in a style reminiscent of early WWII U.S. Navy trainers. The wingspan is about 84" and all-up weight will be around 12lbs.



What A Difference 50 Years Makes

Time flies... 50 years sounds like a long time. But in most of our minds it feels like only yesterday, right? Many of us remember the "good old days" when we were in high school or college and just starting out in this hobby. Take a look at this list of stuff we were doing back then compared to our expectations today. I *know* some of this will hit home.

1974: Long hair

2024: Longing for hair

1974: KEG

2024: EKG

1974: Acid rock

2024: Acid reflux

1974: Moving to California because it's cool

2024: Moving to California because it's warm

1974: Trying to look like Clint Eastwood or Cher

2024: Trying *not* to look like Clint Eastwood or Cher

1974: Seeds and stems

2024: Roughage

1974: Hoping for a BMW

2024: Hoping for a BM

1974: Going to a new, hip joint

2024: Receiving a new hip joint

1974: Rolling Stones

2024: Kidney Stones

1974: Screw the system

2024: Upgrade the system

1974: Disco

2024: Costco

1974: Parents begging you to get your hair cut

2024: Grandchildren begging to get their heads shaved

1974: Passing the drivers' test

2024: Passing the vision test

1974: Whatever

2024: Depends

MONTHLY MEETING NIGHT

**Monday
February 12, 2024
7:00pm**

The February 2024 Meeting is On!

Things are hopping with the Squadron and you don't want to miss this chance to get up to speed on the latest. We have local scale events coming up (including our own **Warbirds & Classics**), Squadron field trips planned, projects under way, and **new members!** If you've been looking for a reason to start coming to the meetings, look no farther. Come on out, bring a project, and bring a friend. You'll be glad you did.

Keep in mind that visitors are always welcome so don't be shy about bringing someone. And remember that anyone with *anything* for **Show & Tell** will receive a Christmas raffle ticket.

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.

SQUADRON FIELD TRIP: LYON AIR MUSEUM



A while back, my fellow traveler, **Jack Guiso**, and I visited the Lyon Air Museum and came away very impressed. I wrote up a field trip report in the [April 2022 Scale Dimension](#) and you can check that out for a summary of our impressions.

The museum is laid out as one huge open space where the airplanes dominate. Under the wings and in the aisles are cars, military vehicles, motorcycles, models, and display cases filled with artifacts of all kinds. The sheer volume of space and the number of items displayed guarantee that there's something for everyone. And you'll really appreciate the view from the mezzanine that'll give you a fighting chance to take it all in at once.

Here are the particulars:

Saturday, February 17, 2024

We'll meet in the museum parking lot at **10:00am**

Where: LYON AIR MUSEUM
19300 Ike Jones Road
Santa Ana, CA 92707

Phone: 714-210-4585

Tickets: General: \$14
Ages 5-17: \$7
Under 5: Free
Seniors & Veterans: \$11

Directions: [Link to Google Map](#) or
check their website:
www.lyonairmuseum.org



The museum houses some very large aircraft and it has a very large and impressive facade to match.

There's no way you can miss the Boeing B-17 "Fuddy Duddy" when you first enter the museum. It's visible from pretty much the entire museum floor.



This Douglas A-26B Invader is a beautiful example of this deadly night fighter.



Adolph Hitler's personal ride: a 1939 Mercedes-Benz Model G4 Offener Touring Wagon. This is an incredible piece of history.



SAFETY NOTES

by Dave Kadonoff

The Safety Meetings are Complete!!

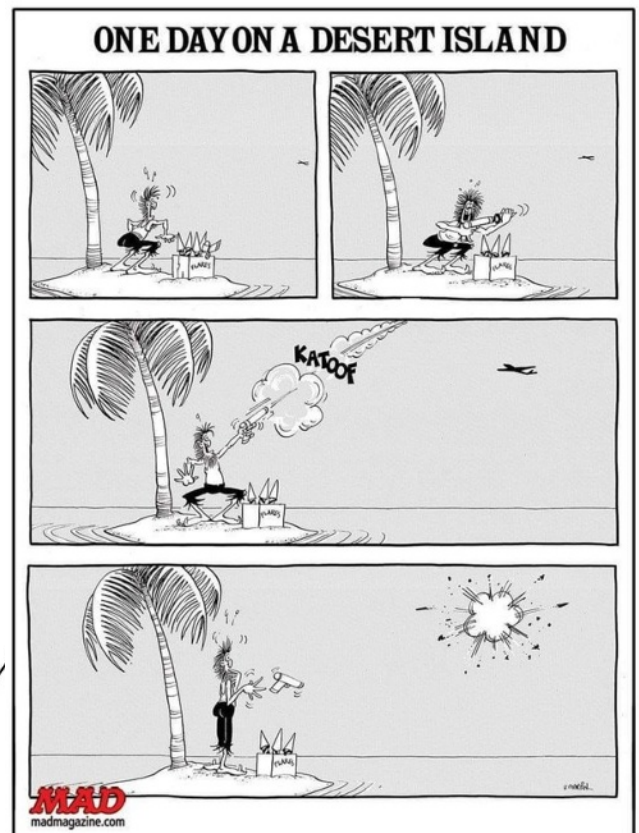
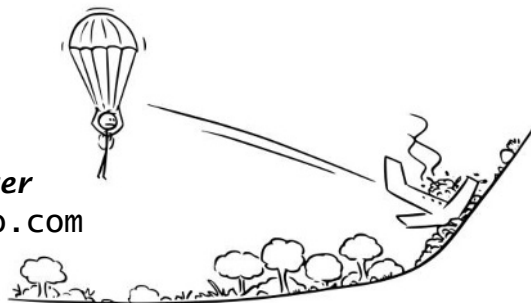
Thanks to all of you who attended the three scheduled safety meetings. There was good interaction, we appreciated the input, questions, and banter. All in the spirit of promoting a fun and safe flying environment. As mentioned, despite our sometime draconian rules, the Field Marshals, OCMA Board, and I are all volunteers who do our best to promote fun and safety. We managed to thread the needle (weather-wise) as all three meetings took place on a schedule that was planned last November!

Pay Attention!

I don't want to kick a good man you know where, but this just happened and it can easily happen to anyone. Two pilots, standing in two pilots slots, and communicating with each other were flying identical airplanes. Large planes. Large electric planes. Large yellow electric planes. Due to activity on the field I walked up between them, commented that it was cool to see two identical planes flying. One pilot suggested (in a very nice way) that I spot for the other flying pilot, so I walked eight feet to my right and began spotting. When I looked back at the first pilot, he was scanning the sky looking for his plane with his transmitter in one hand by his side. He had looked down at his transmitter to check something, and when he looked up he inadvertently began "flying" the wrong plane. By the time he realized that, his plane was gone and he had no idea where. It was eventually found, totally destroyed on the hill behind the rotary-wing area. Point being, it can be incredibly easy to lose control of your plane and cause damage. Avoid distractions and consider lifting your transmitter up to just out of line-of-sight with your aircraft to look at it.

Stay alert and stay healthy!

Dave Kadonoff,
OCMA Safety Officer
kadonoffd@yahoo.com



JANUARY SQUADRON FLY DAY @ OCMA FIELD

By Mike Greenshields

Sunday January 14 started out a little cold and I think that scared off a few people. But it ended up being a perfect day. Super pleasant temperatures, reliable down-the-runway wind, and some great flying.

Joni Whitsitt and **Randy Wilbur** setup their E-Z UP and served *HUGE* hot dogs and home-made chili with cheese and onions (**Photo 1**). Super nice of them to do that.

Randy flew the "club" **Ultra** (very ugly, but reliable) **Stik**. He even flew a Scale Masters routine with it, with NO practice or warm up!

Jon Perry brought his emotional support dog (not really, but she is a super sweet dog).

Ed McCormick flew his **Fairchild PT-19 Cornell** (**Photo 4**). He also brought out **Jerry Thompson** who kept a sharp eye on everything (**Photo 2**).

Joe Trama brought out his wife, son and a couple of grandkids. They seemed to enjoy the day.

Jaime Colley flew his **Albatros D.V** like a Pitts Special. Jaime flies that plane with real authority and really put it through its paces.

Tim Cardin flew his very big **Fokker D.VII** (**Photo 3**) and, as usual, put on a great show. The tail slides were especially fun today. The streamers pointing the wrong way when he does those slides are especially fun.

Anand Patel brought out his **Tucano** and got the engine running. I maiden it (I don't think he wanted me too, but anyway... it worked). Great flying airplane. The gear was very soft and failed. BUT, the airplane flew great. He's going to get a lot of flights on that plane.

I flew my **Douglas SBD Dauntless** with the bigger motor. It flew great. Just like Anand's plane, the gear folded on landing. The issue is the joiner between the gear mechanism and the strut is way too soft. I will replace that with some Music wire. It flew fantastic. It just needs a pilot that has practiced a little more with it 😊

For me, the highlight of the day was flying a routine with the **Bowers Fly Baby**. And although I did poorly, it did get judged and that really helped "break the ice." Randy then flew the same routine. All the club guys got to see the judging in action. I think we have several guys who could be great judges and/or competitors. It was good practice for everyone and next month we'll be prepared with hopefully more people ready to fly a routine and more people ready to practice judging the flights. 🦅

Photo 1: Joni Whitsitt (inset) & Randy Wilbur ran the hospitality tent & make sure everyone had plenty to eat.



Photo 2: Joe Trama, Tim Cardin & Jerry Thompson just enjoying the day.



Photo 3: Tim Cardin's Fokker D.VII is a perennial crowd pleaser. This day was no different.



Photo 4: One of Ed McCormick's favorite models is his large Fairchild PT-19 Cornell.



A DAY AT THE FIELD

Pat Driscoll brought out his brand new “sorta scale” **Piper PA-12 Super Cruiser**. This was the first flight of the model and Pat said it was a little wobbly at first until he got the dual rates dialed in. It didn’t help that the wind was blowing from all different directions. Pat made a couple of flights and declared the model a keeper.



Jerry Smith likes his Freewing **F-4 Phantom II** so much that he has *five more* of them at home! For this one, he scraped all the stock paint off and redid it in the colors of **VX-4 Air Test & Evaluation Squadron Four** that was based at NAS Point Mugu during the 1970s. He also added a lot of cockpit detail. The 90MM fan provides plenty of power. He recommends it for any intermediate pilot who wants to fly EDF.



A Day at the Field

This **Lockheed P-38 Lightning** belongs to **Murray McDole**. Murray has had the 63" wingspan model for about six months and he likes it a lot. He gets about four to five minute flights out of the current setup, depending on how hard he pushes it. The model comes with a lot of cockpit, surface, and functional detail already in place but Murray says there's lots of room for more.



Harry Middleton wanted to get a couple test flights in on his **Grumman F6F Hellcat** before working on the final finish. Harry acquired the model as a mostly-built Zirolit kit that he's finishing. Power comes from a DLE111 twin gas two-stroke. This was the model's second flight and Harry said it's looking pretty good so far, but there are lots of systems and lots of debugging.



ERIC P'S PIPER CUB RESTORATION - PART 3

by Eric Puchalski

After the January Squadron meeting, I heard from a couple Squadron people who I admire a lot (and you know who you are) who said it would be nice to see if I could actually *complete* a project instead of just showing off bits and pieces and talking about my plans. So, with that encouragement, I went back to work on the Piper Cub I've been talking about for a couple months.

I'm focusing on this because it will give me some experience with a large (104" wingspan) model running a gas engine. Oh, and it's pretty far along and won't require a huge commitment in time, resources, and equipment.

When I last talked about this project (November 2023 *Scale Dimension*) I had worked out most of the problems I had with the wing joint but needed a fuselage to mount things to in order to finalize all the settings. I was also going to build a new set of struts using K&S shaped aluminum tubing to replace the existing struts that look pretty tacky. I've since modified my plans: My current focus is the fuselage (which I need in order to finish the wing) and for now I'll go with the original (crappy-looking) struts. I had also picked out a fancy new paint scheme that I'll postpone until after the first (for me) flight.

Stabilizer Repair

The most obvious repair to the fuselage was the broken stab and elevator which were the victims of hangar rash. The damage looked a lot worse than it was. I removed the covering around the broken sections, blocked the fuselage up across a couple work benches, leveled everything, and glued the stab and rudder back in place (**Photo 1**). I then added some gussets to the places where the breaks occurred just to brace everything. Even though the break occurred right at the fuselage, I'm not too concerned about structural integrity since I've added bracing wires to the vertical and horizontal stabilizers (a feature that the original builder neglected to include).

Stabilizer Bracing Wires

Speaking of bracing wires, I had a great plan to make bracing wires using 1/16" solid wire and electrical lugs when my friend **Jack Guiso** reminded me that electrical lugs are made of copper and usually have a zinc plating. They're fine for unstressed applications, but when subjected to vibration and stress, they tend to break off. Copper is pretty soft stuff even when it's plated. Jack suggested that there might be a better way (**Photo 4**). It seems he's tried that method on multiple models with pretty good results.

Jack suggested a combination of sheet brass and solid

Photo 1: State of the stab... The entire left stabilizer & elevator had been broken off during a hangar rash incident.



Photo 2: Everything braced, leveled, blocked & glued.



Photo 3: A couple gussets & some new cross-bracing & everything's as good as new.



Photo 4: Jack's idea for anchoring stabilizer bracing wires. While this is a great way to make rock solid anchors, I opted for a method that would be easier to adjust.



Eric P's Piper Cub Restoration - Part 3

wire. The brass bits are pretty simple and the only thing complicated about the wire is that it needs Z-bends at the ends. It turned out to be pretty easy to make these and they looked rock solid. It wasn't until I was getting ready to install the very last of the four bracing wires that it occurred to me that there's no way to adjust these when they get slack. (And for some reason, bracing wires *always* get slack—it might have something to do with my landings.) So it was back to the drawing board where I finally decided to go with the tried and true method of making adjustable wires using ordinary clevises attached to lugs on the fuselage, fin, and stab. **Photos 5 through 8** show how this worked out.

Tailwheel

I originally thought the tailwheel would be a walk in the park requiring just a little refurbishment. What I didn't realize when I started was that the plywood plate on the rear of the fuselage where the tailwheel mounts had separated from the fuselage and would need to be repaired (**Photo 9**). I removed the entire plate (managing to break it in the process) and made a new one from 1/8" plywood (**Photo 10**).

Then I looked more closely at the tailwheel assembly itself. The components were in generally good condition but all the springs were rusty and the tailwheel was held on with a wheel collar. The way everything was assembled, the inner side of the tailwheel's metal hub was rubbing against the steel wire fork. In cases like this, I prefer soldering the wheel retainers onto the axle as it provides a more secure (and better looking) way to hold the wheel in place.

I rummaged around in my NOS modeling supplies shoebox and discovered a brand new tailwheel that appears identical to the one used by the original builder. Actually, I found three of these so I decided to use one on the Cub.

I soldered a couple flat washers onto the new fork to hold the fork and wheel in place (**Photo 11**). Then I added

another flat washer outside the wheel and ground everything smooth. **Photo 12** shows the result.

Photo 8: Ta-daaaah!! A perfectly braced fin & stab.



Photo 5: For the bracing wires, I started with some aluminum tabs, some solder & threaded clevises & some old bicycle tire spokes that come equipped with a 2-56 threaded end.



Photo 6: Next, I reshaped the tabs so they looked like the photo & screwed a threaded clevis to one end of the bicycle tire spokes.



Photo 7: I inserted a small piece of brass tubing in the fin & stab to prevent the wood from crushing when the mounting screws are tightened. Then I attached the threaded end of the wire to one tab, measured & cut the wire to length & soldered a clevis to the other end.



Photo 9: Tailwheel mounting plate had separated from the fuselage, evidencing some hard landings.



Eric P's Piper Cub Restoration - Part 3

Custom Servo Tray

The original model had the servos mounted on rails (**Photo 13**). I'm not a big fan of this kind of mounting for a couple reasons. First, it's not particularly durable since the only attach point for all of the servos is a tiny bit where the servo mounting rails touch the longerons inside the fuselage. Second, it's pretty difficult to make changes to the configuration if you decide to go with different servos or move the servos to different locations. My preference is to use a servo tray that's bolted in place rather than being glued in. This provides a removable mount that can be reconfigured as needed and taken out for service and replacement of components.

Photos 14-21 show how I made this tray. Material is 1/8" lite ply with openings for the servos and 1/4" plywood blocks to accommodate the servo mounting screws.

Although I like the way the tray turned out, it's clearly visible from the outside through the cockpit windows and will need some camouflage. I think I'll paint it the same color I choose for the overall airplane.

Speaking of Servos

I've decided to use the two original servos for rudder and elevator. These are **Futaba FP-S134** high torque servos of about 1980 vintage. ("High torque" is a relative term with the servos rated at 113 in. oz.) I cleaned them up and they look pretty good from the outside. But just to make sure, I opened them up and checked the gears and bearings for wear and broken teeth (**Photo 19**). Everything looked practically new. The servos had the old Futaba connectors with the side tab (which wouldn't fit my receiver) so I replaced those with modern connectors. Then I tested the servos using my trusty **Hobby People CCPM Servo Consistency Master**. (A very fancy way to say "servo exerciser.") They operated smoothly, centered properly, and appear to be running at the same speed (**Photo 20**). I used a **NOS Airtronics 94102** standard servo for throttle because that's a very light-duty application.

A quick test with the **FrSky X8R** receiver I'll be using and I'm ready to stick a fork in this 'cuz *this bad boy's done!* Now I just need a couple push rods and a throttle connection.

Next Steps

- ◆ Install the engine.
- ◆ Do something about a cowl.
- ◆ Install the main gear.
- ◆ Assemble and align the wing.

There's lots more to do after that but everything else can wait.

I'll keep you posted.

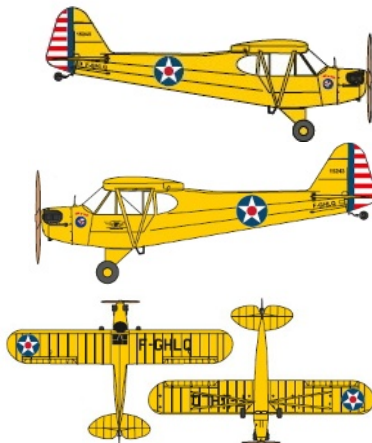


Photo 10: New tailwheel mounting plate installed & ready to go.



Photo 11: New tailwheel fork prepped with flat washers to maintain proper height of the tailwheel & the position of the wheel on the axle.



Photo 12: New tailwheel assembly installed. Those rusty steering springs will be replaced with new ones during final assembly.



Photo 13: Original radio installation showing servo mounting rails & Futaba servos.



Eric P's Piper Cub Restoration - Part 3

Photo 14: Making a custom servo tray begins with a full-size drawing that's attached to the tray material and cut to size.

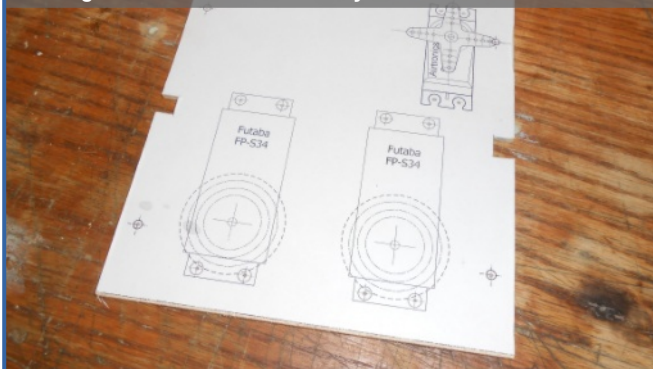


Photo 16: 1/8" lite ply doesn't provide enough support for the servo mounting screws so I backed up the tray with 1/4" plywood blocks to give the screws something to dig in to.



Photo 18: Servo tray will attach to 3/8 x 3/8 maple runners epoxied to the longerons.



Photo 20: Testing the servos for smooth operation.



Photo 15: A quick trip to the jig saw provides the openings for the servos.

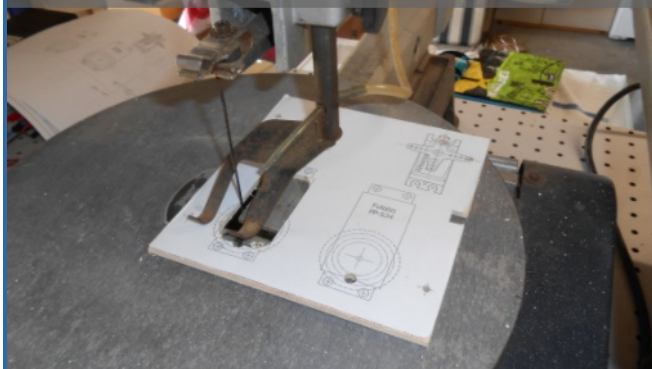


Photo 17: A quick check to make sure everything fits & it's time to drill the holes for the mounting screws.



Photo 19: When reusing older equipment it never hurts to check out the internal bits. Here, everything looks great.



Photo 21: Everything all tucked in & cozy. Needs paint, right?



SERVO INSTALLATION DONE RIGHT

[led note: During the assembly of the servo tray for my Piper J-3 Cub project I had a brain bubble that prevented me from recalling how the eyelets in the corner grommets of the servos should be installed. I did a quick search and came across the following article. This is a terrific treatise on servo mounting from a company whose principal clients are defense and industry. In other words, they know a bit about mounting servos. I edited the article for length and pertinent information but you can see the page where I found this article here:

<https://www.promodeler.com/askJohn/Rubber-servo-mounts-done-right>

]

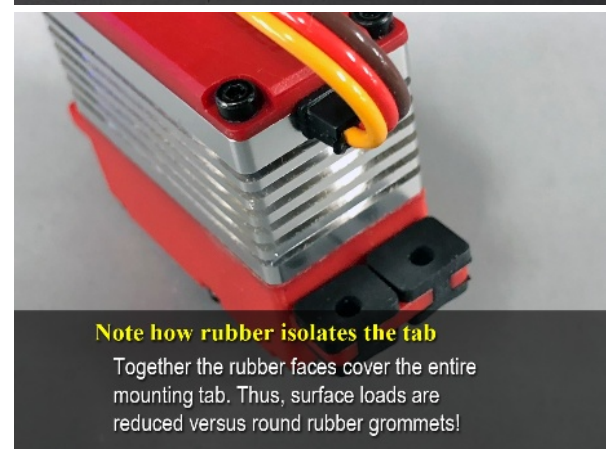
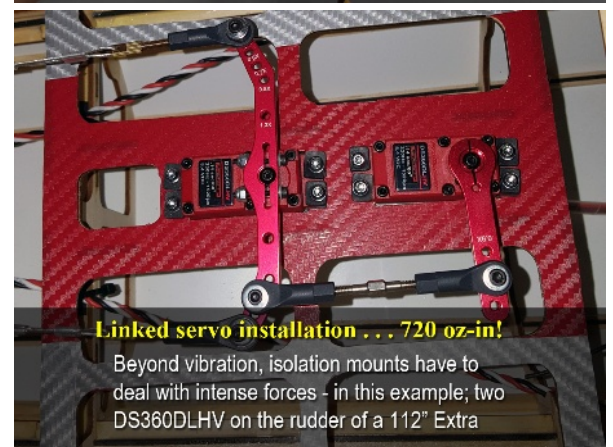
by John Beech

Most servos are supplied with anti-vibration mounts designed to isolate and protect the delicate internal components. Consisting of custom-molded rubber grommets, along with brass eyelets plus servo mounting screws, these components must be properly assembled to function optimally. The design intent is for the rubber grommets to snap into the holes within the servo's mounting tabs. Then for the brass eyelet to push into the rubber *from the bottom*. Finally, for the entire assembly to be captured securely by screws, which slip in from the top and thread into hardwood rails (or a plywood/carbon plate or frame).

Arguably the most important component of the isolation mount is the rubber grommet. These are typically custom molded to suit the frame (i.e. the physical size of the servo - mini or standard size). The rubber also accounts for the expected loads. Since standard-size servos are larger and output greater torque, they will reasonably see larger loads and thus, the rubber is larger. Note, while mini-size rubber grommets are symmetrical (meaning there is no upside-down), this isn't the case with standard size grommets, which are asymmetrical (meaning one face is slightly larger than the other).

The reason standard-size servo grommets have a larger face on one side is because once both grommets are installed within the mounting tab, the bottom surface area matches the bottom of the mounting tab. Thus, the rubber fully supports the servo on the typical hardwood rail (or plywood) universally incorporated into model aircraft designs.

Next, it's important to fit the brass eyelets in from the bottom. The idea is the broad face of the brass sits on the wood mounting rail and thus, won't dig in like it would when installed from above. Do that and the sharp edge of



Servo Installation Done Right

the brass eyelet is driven into the wood as the mechanical advantage of the screw over-compresses the rubber – oops!

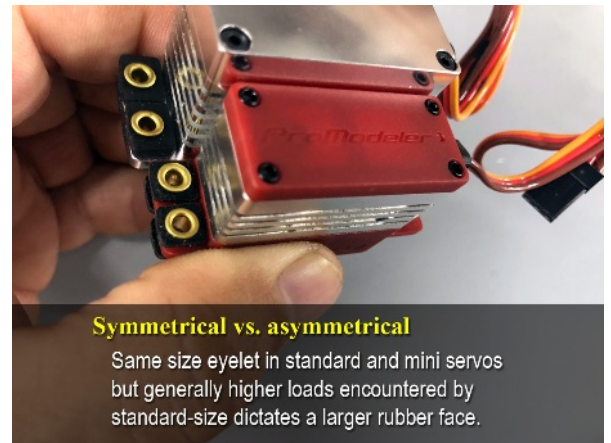
Finally, once you insert the mounting screws into the mounting holes, as you tighten them the screw face (the underside of the head) lightly comes into contact with the rubber. Tighten a smidgen further and stop before the screw head bottoms against the brass eyelet (and the rubber begins to twist) then presto, the servo is properly secured to the model. The end result is the rubber isolates the delicate electronics from the vibrations of an out of balance propeller, the power impulses of an engine, the effects of flutter, or the harmonics of various vibrations.

The most common mistake we see is due to a modeler installing the brass eyelets from the top instead of from the bottom because then, as the screw contacts the eyelet base, it drives the sharp edge of the eyelets into the mounting rail. And it goes in really easily too because of the mechanical advantage a screw thread provides.

In summary, rubber isolation mounts are an elegant solution for protecting the servos from damaging vibration and shock loads. While they're easy to assemble, the job must be done right or they won't function as intended. The standard and the mini-size servo both use isolation mounts, but the standard size uses an asymmetrical-grommet where the face in contact with the hardwood rail or plywood mount is larger expressly to handle the higher anticipated loads.

Pro Tip: Ever removed a servo and realized the rubber grommet had gone hard? This happens because of the ozone in the atmosphere and is why the rubber gaskets securing the windshield of classic cars begin to crack. Ozone damage is also why tires have limited lifespans based on time versus wear. And the same thing happens with the rubber grommets of servo isolation mounts, they can get hard and once that happens they're directly transmitting vibration and shock directly to the delicate bits of the servo, which is bad! Want to know what separates the typical club pilots from the real professionals?

Basically, the pros engage in preventive maintenance. Thus, as a matter of routine, they inspect wear components. For example, once the season is over (or for club pilots, once it's too cold to fly) pros go through their model with a fine tooth comb. Compared to club pilots, pros are fanatical about their equipment. As for us, we know when we're dealing with pros because they order a few packs of servo isolation mount grommets. Is there a lesson hiding in plain sight for the rest of us? 🦅



OCMA SAFETY MEETING 2024

by Eric Puchalski

OCMA Safety Officer, **Dave Kadonoff** has been running the annual OCMA Safety Meeting and Key Exchange for a few years now, and his experience shows. The first of three meetings for 2024 drew about 200 OCMA members who were eager to exchange their keys and get their member badges updated with the mandatory safety sticker.

OCMA regulations require annual “refresher” meetings for *all* pilots, both new and returning, who want to use the facility. The good news is that OCMA leadership has made this a very easy process that shouldn’t interrupt anyone’s use of this premier Orange County R/C flying location.

In his announcements for the meeting, Dave made it clear that 9:00am was the absolute drop-dead time when the meeting would start—anyone arriving after that would have to wait for the next meeting. As a result, by 8:30am pretty much everyone who was going to be there this day *was* there and ready to go. The weather was just gorgeous with clear blue skies and a tiny breeze right down the runway. It was a little chilly but that changed as soon as the field got out from the shadow of the mountains. Dave started the Safety Meeting promptly at 9:00am and got through the formalities in record time.

Dave took the opportunity to review why OCMA has implemented rules on the use of the field and the consequences of not abiding by those rules. He also reviewed each of the major rules and took questions from all who wanted clarification on any point.

Dave remained sensitive to the fact that he was surrounded by about 200 or so R/C pilots who kept looking at the sky and wondering why they were standing around listening to Dave instead of flying. So he kept things succinct and to the point.

If You Missed the Three Scheduled Safety Meetings

If you do not have a 2024 safety sticker on your OCMA membership badge, you will find it awkward to fly at OCMA Field. First off, the safety sticker is pretty prominent and any Field Marshall will ask you why you don’t have one. Second, you will not have a key to get past the gate into the field.

If you need to get a sticker and exchange last year’s key, contact Dave Kadonoff (kadonoffd@gmail.com) to set up a time when you can meet him at the field and get everything squared away. 🦅

Photo 1: Over 200 OCMA members attended the first of three 2024 Safety Briefings at OCMA Field on Sunday, 01/07/2024.



Photo 2: OCMA Safety Officer, Dave Kadonoff did a thorough review of the information contained in the OCMA Flight & Safety Guidelines.



Photo 3: The day started out pretty cool but warmed up quickly once the sun came out. The check-in tables were well staffed by people who knew what they were doing and things moved along very efficiently.



Photo 4: Here’s what it looks like when a whole bunch of modelers show up for the field key exchange. Again, the efficiency of the staff made for a short wait despite the number of people.



DOCUMENTATION: AVRO ANSON MK.1

The **Avro Anson Mk.1** is another of those great aircraft of WWII that you've probably never heard of. It is a British twin-engine, multi-role aircraft. Large numbers of the type served in a variety of roles for the Royal Air Force (RAF), Fleet Air Arm (FAA), Royal Canadian Air Force (RCAF), Royal Australian Air Force (RAAF) and numerous other air forces before, during, and after WWII.

Originally designed in 1932, the Anson entered RAF service in 1936 where it immediately represented a new level of capability for the service. It served not only in a general reconnaissance capacity but it was also an effective general-purpose aircraft.

Armament consisted of a single .303 Vickers machine gun fixed within the forward fuselage and aimed by the pilot, while a manually operated gun turret located on the dorsal section sported a single Lewis gun. Along with that, up to 360 lb. of bombs could be carried within the aircraft's wings.

In total, over 10,000 aircraft were built in a wide range of military, commercial, and private configurations. However, because much of the construction (particularly the wing) was wood, there are not many survivors.

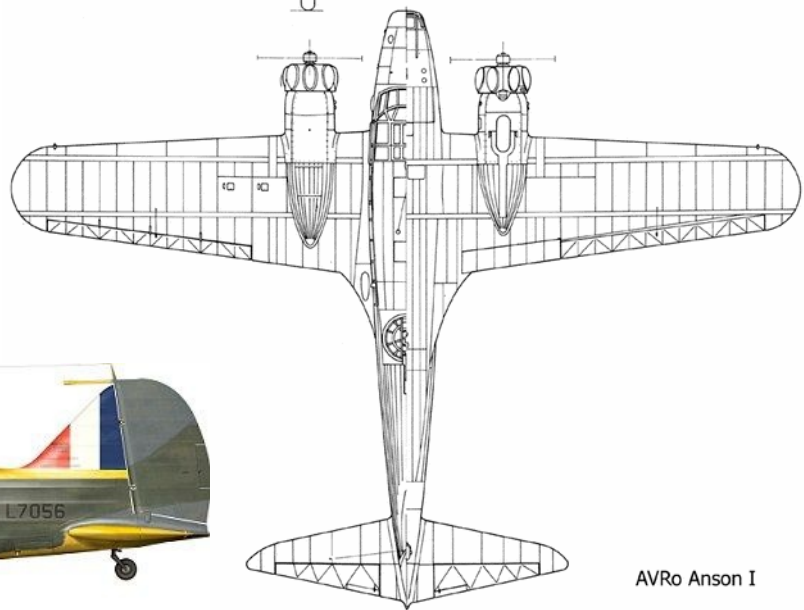
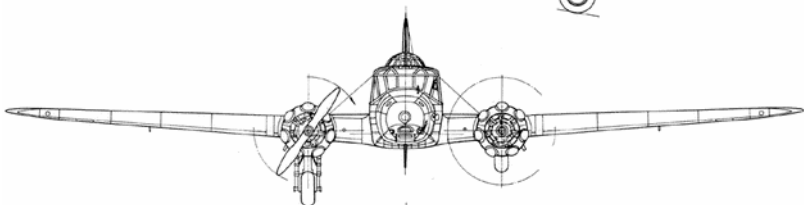
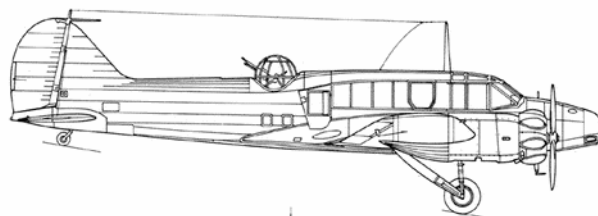
What's not to love about this airplane?

The general layout is conventional for the period. The wings were built of wood and the fuselage was metal framed and fabric covered.

The Anson was long lived which means there are many versions and liveries to choose from. Originally developed in 1932, the last of the transport versions was taken out of commercial airline service in 1974. You have to love all that glass on the sides of the cabins in the reconnaissance version.

The best part? This airplane doesn't appear to have been modeled very often. So you can be the first at the field with something unique.

Let the Editor know if you'd like more details.



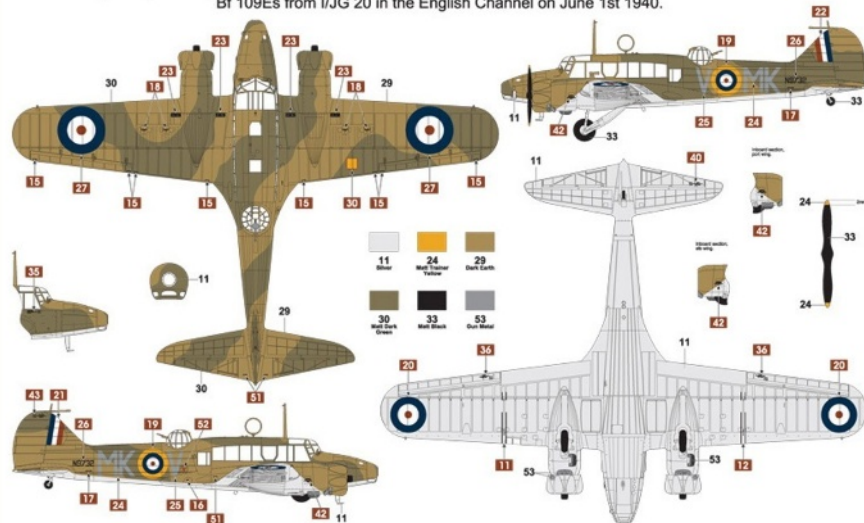
AVRo Anson I



Documentation: Avro Anson Mk. 1

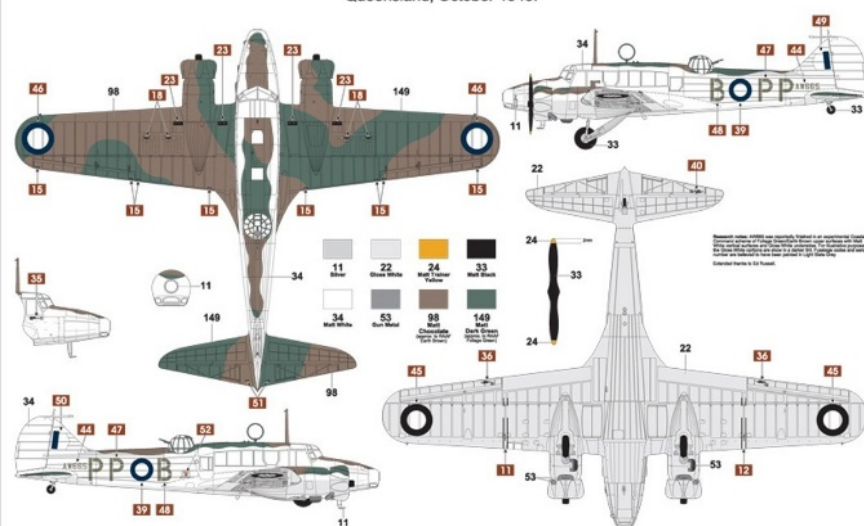
Avro 652A Anson Mk.I

N9732 crewed by Pilot Officer Philip Peters, Sergeant D. Spencer and Leading Aircraftman Pepper, No. 500 (County of Kent) Squadron Royal Auxiliary Air Force, Royal Air Force Detling, Kent. Aircraft shot down two Bf 109Es from I/JG 20 in the English Channel on June 1st 1940.



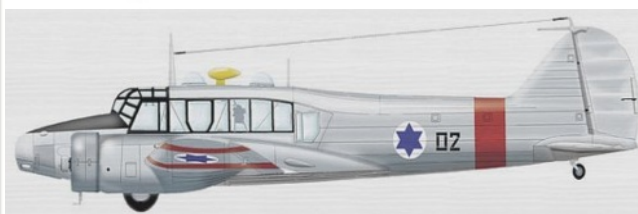
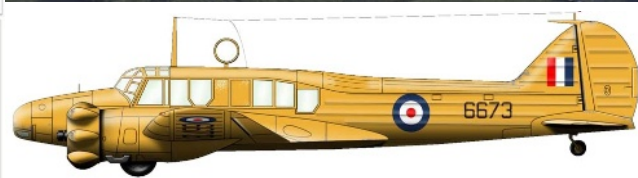
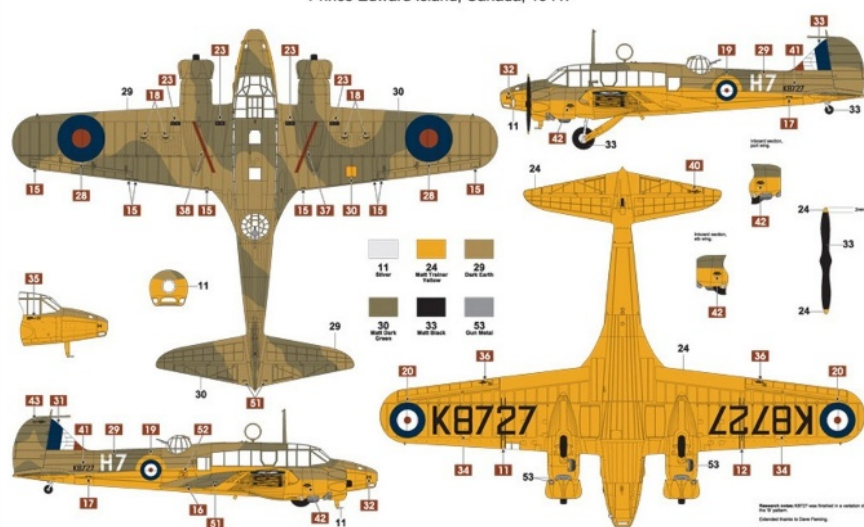
Avro 652A Anson Mk.I

Coastal Command camouflage trials aircraft, No. 71 Squadron, Royal Australian Air Force, Lowood, Queensland, October 1943.

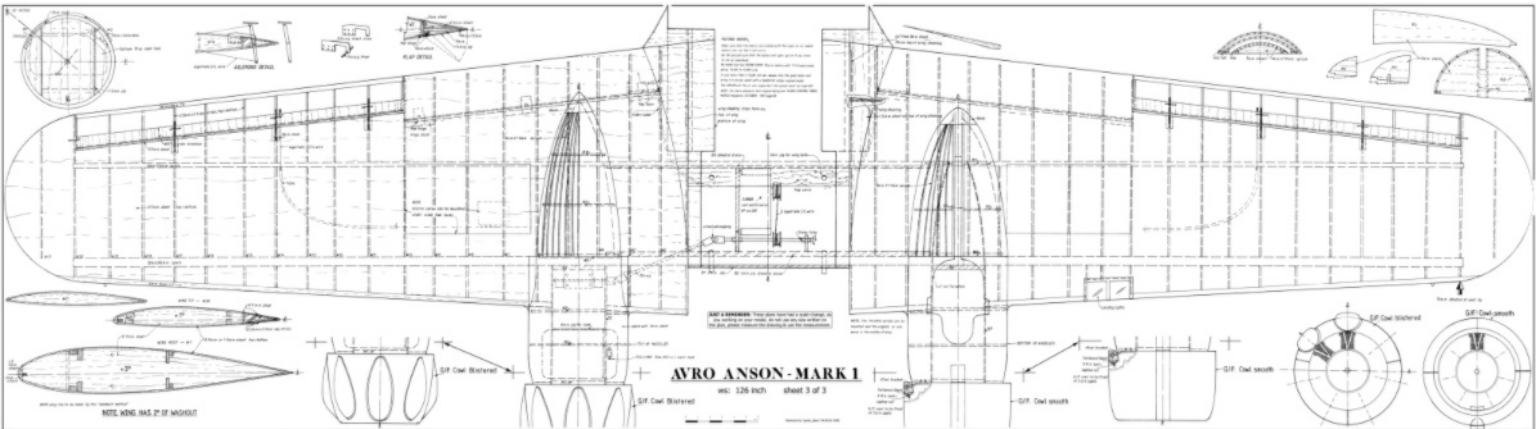
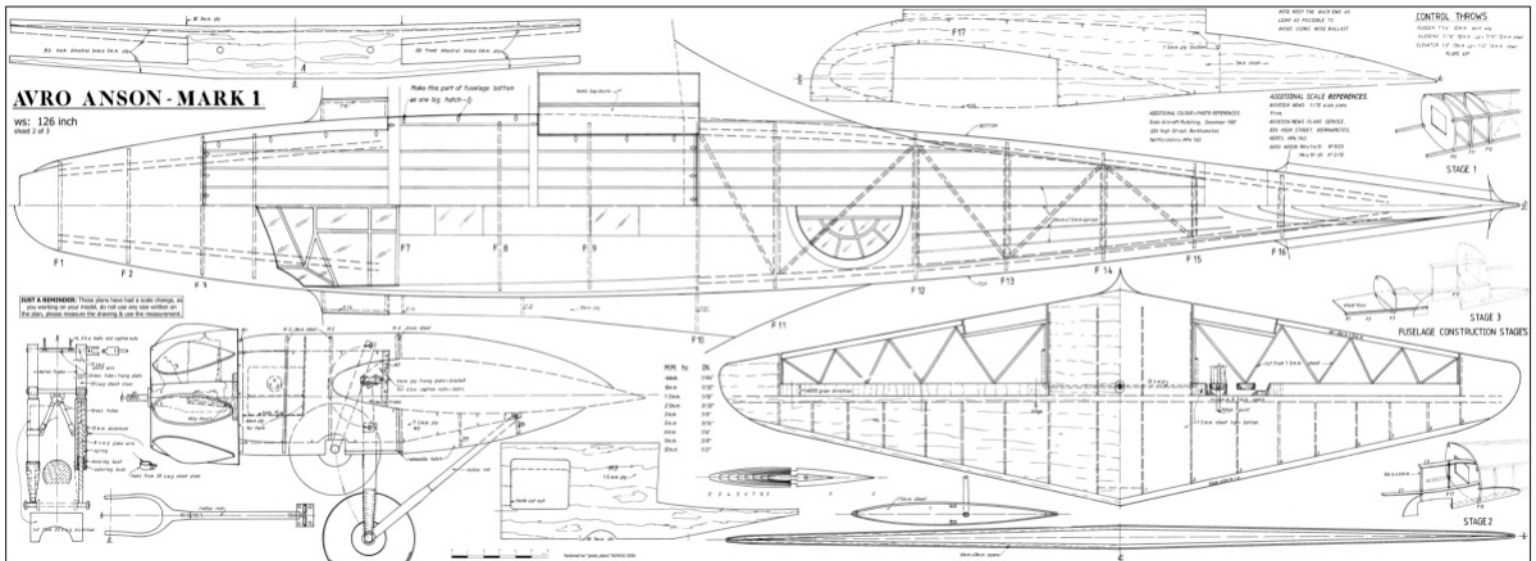
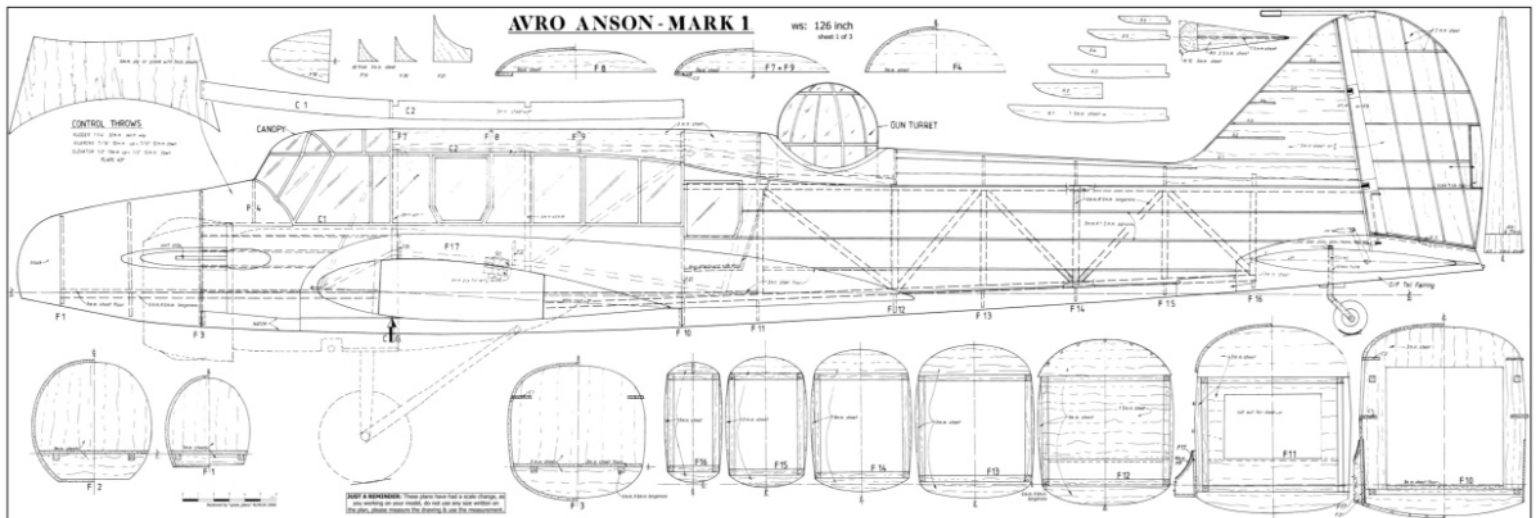


Avro 652A Anson Mk.I

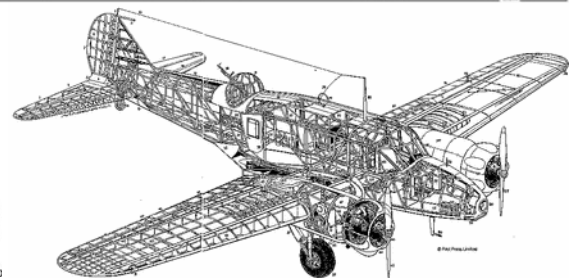
No. 3 Training Command, No. 31 General Reconnaissance School, Royal Canadian Air Force, Charlottetown, Prince Edward Island, Canada, 1941.



Documentation: Avro Anson Mk. 1



blueprintbo



Documentation: Avro Anson Mk. 1



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
Feb 15-17	Coachella Valley R/C Club Thermal, CA	Coachella Jet Jam Help our Vets at the Coachella Jet Jam. Great Pilots drawing & raffle. Pilots fee \$75, includes lunch Fri & Sat until 12/01/2023, \$85 after that date. Free RV Camping, no hookups, no fires. Visit website for directions. Bring Jet raffle item for free t-shirt. Must have turbine waiver and all over weight permits. LTMA etc.
Mar 14-17	Sun Valley Fliers Cave Creek, AZ	Arizona Warbirds & Classics The One Eighth Air Force has staged a scale event for over 40 years in March & the tradition continues. Fantastic Phoenix weather, 650 ft runway with 150 extension on each end, not a tree in sight. Any size Classic Scale, Scale Jets & Warbirds.
Apr 19-20	Pomona Valley Model Airplane Club Prado Airpark Chino, CA	Wings Over Chino Scale Fly-In We welcome all scale R/C models of warbirds, helicopters, Golden Age & civilian aircraft. Noon time demos, raffles, awards for pilots & more. No turbine powered aircraft. Registration \$45, reserved pits \$20.
Apr 5-6	Arizona Model Aviators Mesa, AZ	Gunsmoke Scale Classic Scale Masters Qualifier. Competition in: Expert, Team Scale, Advanced, ProAm Pro, ProAm Sportsman. Bring your scale airplane & come compete with us using AMS rules and classes.
Jun 27-30	Scale Squadron of SoCal OCMA Field Irvine, CA	Warbirds & Classics 2024 World-famous scale fun-fly for all types and sizes of anything that looks like a model of a full-scale prototype (no turbines or drones). Awards given. Newly paved 600' runway. Friday night early bird party, Saturday night banquet, on-site lunch, overnight dry camping & vendors. Giant raffle with proceeds going to the Semper Fi Fund. Pilot fee covers any number of models. Fun, Food & Frolic!

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.



"It's Alice Kramden!"

B Bonnie and Brian O'Meara Present **B**

WARBIRDS AND CLASSICS



SF

MARCH 14-17 ARIZONA 2024

Following in
the tradition
of the 1/8th
Air Force
Spring Scale
Fly-In!

**COME ENJOY
ARIZONA'S BIG BLUE
SKIES OF MARCH!**

- PROCEEDS TO CHILDRENS' CANCER FOUNDATION
- NOONTIME FOAMY FLYING
- DAWN PATROL & WARBIRD GAGGLES
- 5 FLIGHT LINES
- \$50 LANDING FEE
- TENTS AVAILABLE
- STEAK DINNER
- REGISTER ONLINE AT EVENTS.RCNATION.COM

CARF-MODELS
...the best flying planes on the planet!

PowerBox Systems

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HORIZON
H O B B Y

MODEL Airplane
NEWS

Sun Valley Fliers RC Flying Field
26600 N Cave Creek Dam Rd, Phoenix, AZ

REGISTER ONLINE @ EVENTS.RCNATION.COM

FOR FURTHER INFORMATION:

BRIAN O'MEARA (720) 937-3944

2024 GunSmoke Scale Classic

Scale Competition

New 1 Day
Participation
Option



April 5,6
(Friday & Saturday)

First Time Competitor & 2023 ProAm-Sport Winner Richard Wyant

Event Information

- Entry Fee: \$50 (waived for 1st time competitors)
- 50% Entry Fee Discount for NASA Joins
- Plaques for 1-3 Places and Special Awards
- Arizona State Scale Champion – Most total pts
- Best 2 Flight Rounds are Scored
- Two Flight Round Option on Saturday for 520
- Overnight Parking Available by Reservation
- Spectator Parking: \$10 per Vehicle
- Concession Stand Fri & Sat
- AMA Rules at: www.modelaircraft.org
- AMA Sanction #15809

AMA Rules & Classes

512 Expert Sport Scale (Expert)
523 Open Scale (Advanced)
522 Team Scale (Team)
520 Pro-Am Sportsman (ProAm Sportsman)
520 Pro-Am Pro (ProAm Pro)
515 Designer Scale

Schedule

- Thursday – Open Flying
- Friday – Static Judging, Flight Rnd #1 & #2
- Saturday – Flight Rnd #3 & #4, Awards
* Including 1 Day Competitors



Hosted by ARIZONA MODEL AVIATORS

Superstition Airpark, Mesa AZ www.azmodelaviators.com



Sponsored by National Association of Scale Aeromodelers

AMA Scale Aeromodeling SIG www.nasascale.org

Additional event info at our Facebook page
["GunSmoke Scale Classic"](#)

CD: Tim Dickey – tdickey2@icloud.com – (480) 540-7553



WINGS OVER CHINO

APRIL 19-20, 2024

PRADO AIRPARK

Wings Over Chino Scale Fly-in hosted by the Pomona Valley Model Airplane club @ Prado Airpark welcomes all scale radio control models of warbirds, helicopters, golden age and civilian aircraft. Noon time demos, raffels, awards for pilots and more.
No turbine powered aircraft.

**Reserved
pits spaces
starting at \$20**

**PILOT ENTRY
\$45.00
INCLUDES LUNCH**

www.PVMAC.com

**17202 CUCAMONGA AVE
CORONA, CA 92880**



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.

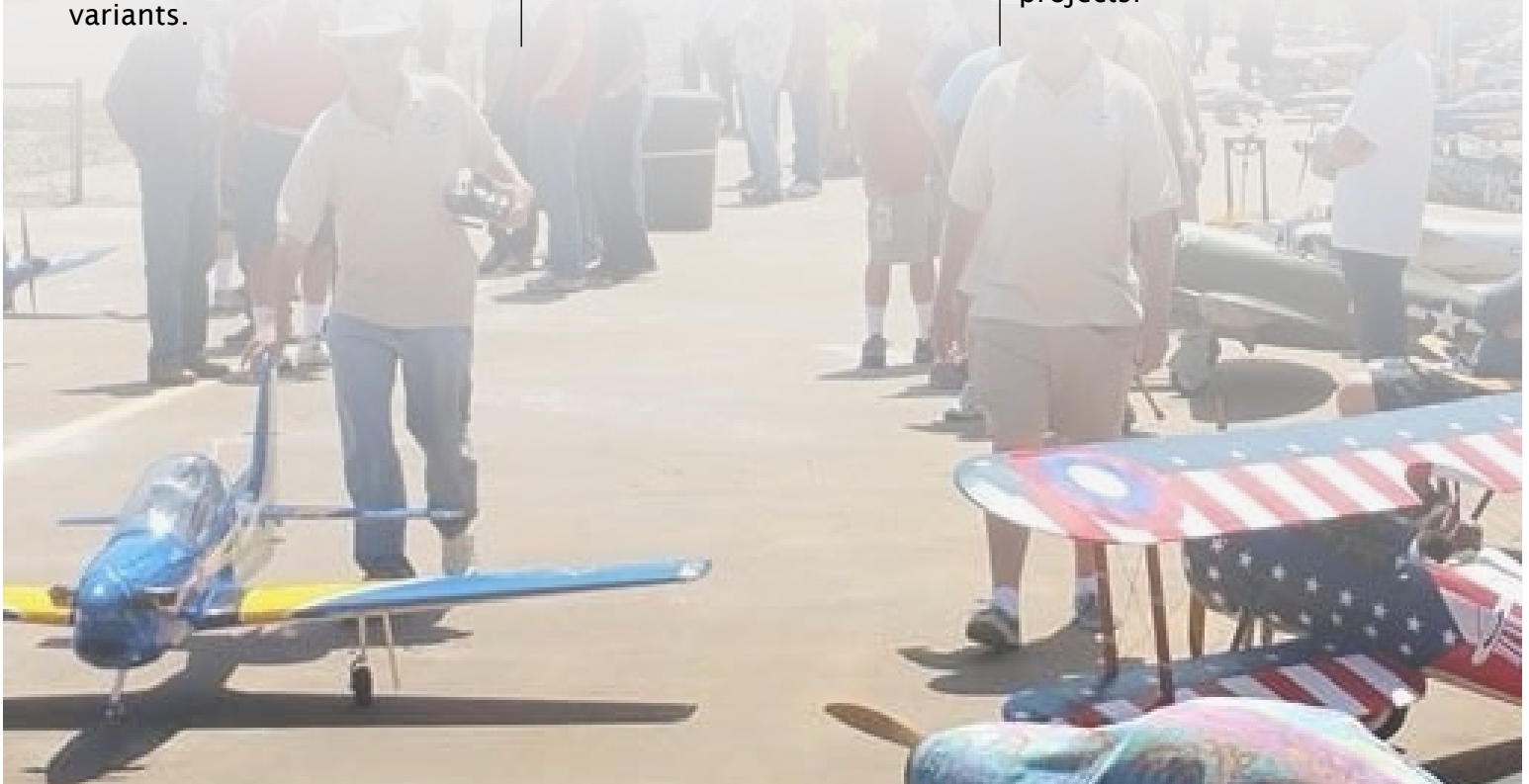
Scale Squadron Club Meetings are held on the

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!



JOIN US!

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* section 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:

1. 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 email. 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.

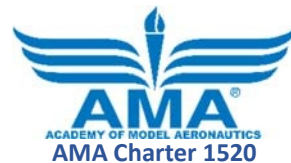


SCALE SQUADRON OF SOUTHERN CALIFORNIA

THE 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 _____ DATE _____
Name _____ Spouse _____
Address _____ City _____
State _____ Zip Code _____ Email _____ Birthday _____
Home Phone _____ Work _____ Ext _____ Mobile _____
AMA# _____ FAA _____ USSMA _____ FCC/Ham _____ EAA _____

MODELING INFORMATION

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.