

official digital newsletter of  
**Skywriter**  
AMA Charter Club #970      www.skymasters.org      24 year Gold Leader Club



**Skymasters Radio Control Club of Michigan**

*it's another beautiful day at Skymasters...*

**May, 2021**



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Been a very busy month at the field. I see quite a few people signing in to fly. Great to see. Please remember when you unlock the gate to relock the lock and spin the combination! I hate seeing the lock hanging there set to the combination for anyone driving by to see!!!

We had a very successful work party on April 10<sup>th</sup>. Projects included repairing the pilot stations, general cleanup, moving the picnic tables back under the shelter, brush hogging and preparing for the new shed. Aaron Karjala brought out a small front end loader and leveled over 8" of slant in the new shed location. Sure looked a lot flatter than that by eye before he put his laser level on it!

A few days later, our new shed was delivered on a really cool flatbed trailer that pushed each shed to the back of the trailer so the fork truck could drag it into position. First class service from Michigan Storage Barns. Our new zero turn was delivered today and Jim Satawa and I took a turn mowing a bit before John Billinger took over to mow the field. The new mower should allow us to mow the field much better and faster than the old mower. We plan to sell the Kubota tractor if anyone is inter-



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ested.

I mentioned that Aaron brought his loader out to the field to level the shed spot. He had planned on working on the brush hogged area to remove the stumps rather just cut them off flush like we have in the past. Well about a week ago he came back and used his forks to yank out the stumps. Fantastic job Aaron, I can't thank you enough for what you did. It looks great! Keep Aaron in mind if you need earth moving done!

On April 22<sup>nd</sup> we had our first virtual "In the Bones" meeting on zoom. It went very well with the following presenters:

- Jim Satawa - Brodak control line Bi Slob
- Pete Foss - 3D printed Micro SportCam from [www.3daeroventures.com](http://www.3daeroventures.com)
- Dave Stanley - Sig  $\frac{1}{4}$  scale Cub
- Dave Wendt - RV all aluminum full size light sport airplane kit!!!
- Joe Rubenstein - 30" wingspan all balsa mini glider

Our last indoor flying for the year was held on April 27<sup>th</sup>. While the short spring session was not profitable at all (we made a grand total of \$38 before misc expenses), it kept us visible with the new owners of Ultimate Soccer (UWM Sports Complex). Hopefully, we will be able to continue this fall. Personally, I'd like to thank Greg Brausa very much for taking over as event director when Fred and I were not able to commit for family health reasons. Without him, we would not have been able to restart indoor flying.

Finally, I'll give more detail after I fly it but my Micro SportCan 3D printed plane is ready to fly. It came in a bit lighter than the designers target weight at 211 grams. That's quite a bit heavier than my UMX Timber which has similar wing area. It's designed around much heavier equipment (servos, motor, RX, etc.) so I'm not sure if it's a limitation of 3D printing vs molded foam. Or just design choices. More later.

Stay Safe and See you at the field!

Pete

**Pete Foss, President**  
**Skymasters RC**

[president@skymasters.org](mailto:president@skymasters.org)



### Front Cover

Our new zero turn mower. No it doesn't fly, but it will sure make maintaining our field quicker and easier.

*Pete Foss photo*



## Nats Control Line FW-190 Painting—camouflage and Markings

This month I will go through the painting of my Nats Authentic Scale Fw-190 F8 R-1 entry. Before I go into that I'd like to share a short story about how things can go very wrong if I fail to recognize the differences between r/c and control line. A new acquaintance, Chuck Snyder, who is a multi time Authentic Scale Nats winner as well as an international competitor texted me and asked if I had considered the lateral forces on the retractable landing gear. The issue here is that when flying in a circle there is centripetal force acting on the landing gear legs. That force will be about 3g's on the Fw 190. So what? Well, the retractable landing gear mechanism has to be able to overcome those forces in order to raise the gear. The forces resist the retraction of the right gear and extension of the left gear leg.. So, I did an experiment by adding weight to the wheel on one gear leg and hit the retract switch. Sure enough the actuator couldn't pull the gear up. Uh oh... Fortunately I'm using Robart pneumatic retracts. I found that I needed to increase the air pressure to 150 psi to get nice, positive actuation. Wow, If I had maiden'd the plane with the 100 psi I usually use, the right gear would not have retracted and the left gear would not extend and lock. The resulting crash landing would have caused catastrophic damage as the bombs and bomb racks got torn off of the bottom of the wing and asphalt rash elsewhere. That would be the end of the Nats project for this year. Whew!

OK , on to the painting project. At this point, the plane is in primer and all of the panel lines are done and the 25,000 or so rivets are finished. When the rivets are made, the hot tool leaves a little ridge that has to be removed. So I took some 600 grit sandpaper and lightly dusted over all of the rivet lines so that only a small circular depression remains. The next step is to apply the 3 color camouflage. The particular airplane I am replicating uses RLM76 (light blue) on the underside and fuselage sides. Then the camouflage colors are applied to the top of the wing, tail and fuselage. Additionally there is mottling on the fin, rudder and fuselage sides. The two camouflage colors are RLM 70 (black-green) and

RLM 75 (gray-violet). For Authentic Scale competition the colors **HAVE TO BE RIGHT** with color chips that have proof of correctness. While researching the color chips I came across a set that is made by one of the companies that actually made the Luftwaffe paints during WWII. The set comes with a certificate of authenticity. So I took the chips to Home Depot to have 8oz jars of latex paint matched. I asked them to check the colorimeter calibration just to be sure. The guy wasn't happy but did it anyway. I needed 8 different colors. So I will paint the underside of the wing, the fuselage and fin and the underside of the horizontal stabilizer with the light blue color. To prepare the wing I roughly masked the wheel wells and then hand painted the aileron leading edge where spray coverage will be difficult.

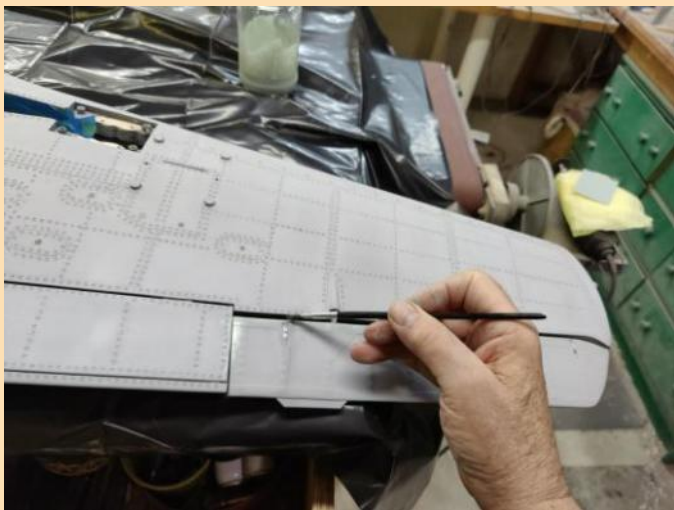


*Masking the inside of the wheel wells.*

*(Continued on page 4)*

The next step is to start the "splinter camouflage to the upper surfaces. I chose the lighter gray-violet color. The recommended sequence is to spray dark colors over lighter colors. The black-green will go over the gray-violet. Two important things to deal with. The camouflage pattern **MUST** match the full scale and the edges between the colors need to be soft (not masked) So, I studied the pictures of the full scale pattern and using the Badger sprayer with the paint flow dialed down, I free hand sprayed the edges of the camouflage pattern. I left the edge a little short of where the final edge will be because the badger gun is not good at finer feathered edges. I will come back with an airbrush to clean up the edges and apply the mottling. Next, I opened up the flow and finished the larger areas.

(Continued from page 3)



***Hand painting the aileron leading edge.***

So, I put some light blue latex in a jar and thinned with alcohol which has been my practice for a long time. I used alcohol because it flashes off quickly and helps prevent runs. More on this later. I loaded up my Badger #250-4 mini sprayer and sprayed away.



***Spraying the gray-violet on the fuselage.***

I sprayed the entire upper surface of the wing with the gray-violet. The black-green will be next.



***Applying the light blue color with a Badger #250-4 mini sprayer.***

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### Applying the gray violet to the top of the wing.

Finally I used the same freehand technique to apply the black-green.

Now, about the use of alcohol as a thinner. That worked fine with the light blue but when I sprayed the Gray-violet I had problems with clogging of the spray nozzle but I managed to finish with that color. When I went to the black-green it was simply not spray-able. The nozzle kept clogging. Here is what I think is happening. I think the pigments in the different colors react with the alcohol differently. In looking closely at the paint washed up on the sides of the spray jar it looked like the pigment wanted to form fine clumps that collect in the nozzle. The solution is to quit using the alcohol as a thinner. I thinned a fresh batch of the black-green with water and it sprayed beautifully. Lesson learned.

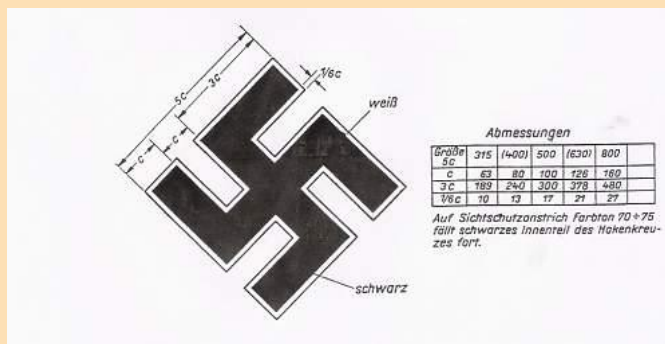
So after the 3 colors were sprayed I used my airbrush to create a finer feathered edge between the different colors and do the mottling on the fuselage sides again using the pictures as a guide.



### Feathering the color edges and applying the mottling in 2 colors.

In all of this work, there is no room for error as fixing a mistake or a drip/run gets very difficult to make invisible. In Authentic Scale competition, the judges can examine the model up close so good enough for 15 ft won't cut it.

The next thing is to paint the markings.. Using vinyl graphics will not be acceptable for this model so everything will be painted. The first order of business is to get the data on the proportions of the balkenkreuz (the crosses on the wing and fuselage) and the swastika. I found the data on line after a long search.



### Swastika design proportions.

With all of the data on the various markings I drew them up in my 2-d cad program. I was able to find the size of the full size markings used on the Fw-190 and printed them out to the proper scale. It's worth noting

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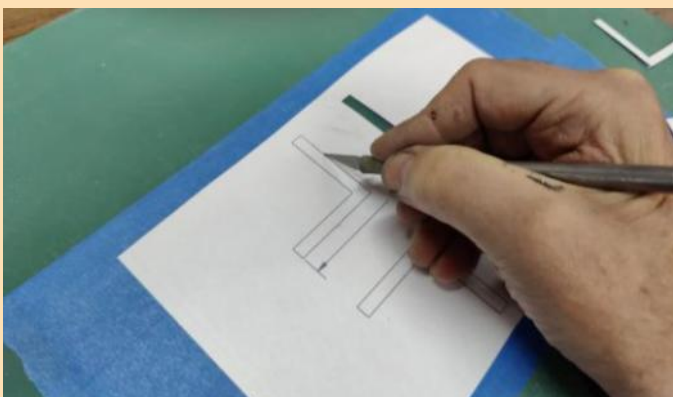
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that I did this work before I did the panel lines, rivets and hatches since the locations of those surface details and the markings relative to one another will be looked at by the judges. Anyway, I then cut my masks. You might ask why I didn't have a company like Callie Graphics cut vinyl masks for me. The reason is that there is so much surface detail and I have found that the vinyl masks tend to have bleed under around the rivets, panel lines and hatches (especially the piano hinges). So, I have developed a technique using 3M blue painters tape that has worked for me. First I cut the marking out of the printed sheet leaving about 1" around the edge. Next I cut a piece of parchment paper a little bigger. The parchment paper is important because almost nothing will stick to it. I take strips of tape that are larger than the parchment paper and apply them over the parchment paper and stick the tape to a cutting mat.



*Taping the parchment paper down to a cutting mat.*

I cover the whole sheet of parchment paper with tape, overlapping the strips about 1/4". Next I spray the **back** of the trimmed, printed paper pattern with a VERY LIGHT coat of 3M #77 spray adhesive. I then place the pattern down on the taped surface and cut marking design with an Xacto knife with a FRESH #11 blade. I find it easy to cut these freehand. Just make sure that you cut through the pattern and the tape as you go.



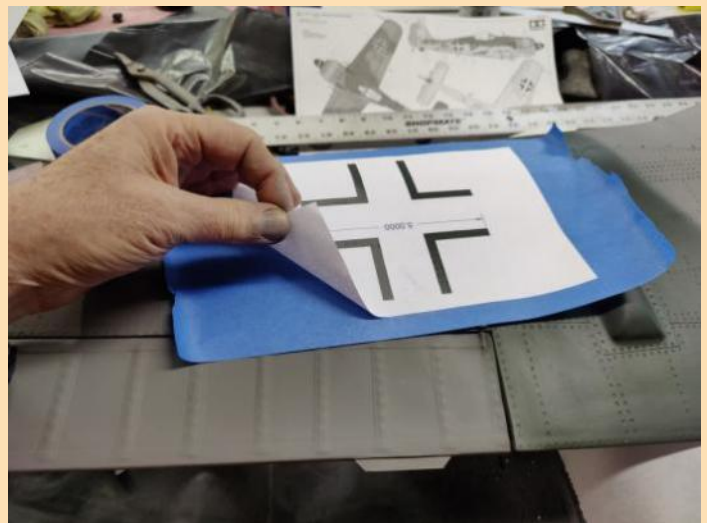
*Freehand cutting the stencil.*

When you are done the cut pieces easily lift out of the pattern. The pictures do not show this next step as I learned it as I went along. I take my knife and cut along the edges of the pattern which is smaller than the parchment paper...remember?? What that does is release the mask from the cutting pad. The parchment paper almost falls off of the back leaving the sticky side of the mask exposed. Next I position the mask on the model and stick it down



*The mask is positioned and then pressed down.*

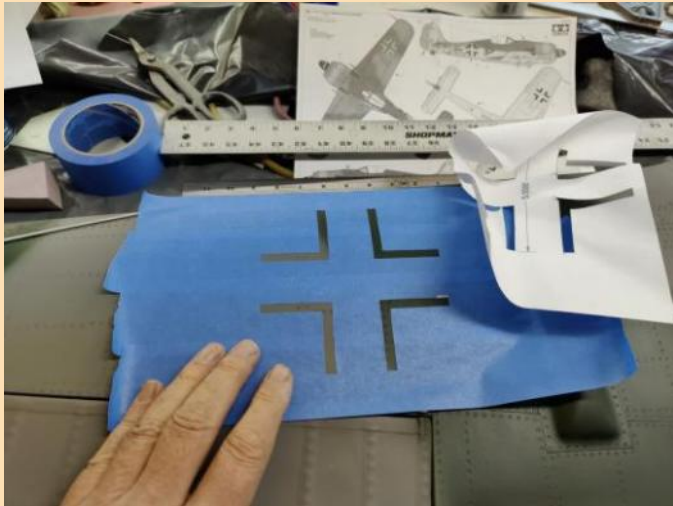
In the above picture I stretched an elastic cord from wing tip to wingtip to aid in positioning the masks on both panels. Once it is positioned and stuck down the paper pattern easily peels off. You only used a light coat of the 3M #77 spray adhesive .. right??



*Removing the pattern from the mask.*

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(Continued from page 6)



***The pattern is removed from the mask.***

I did the right and left panels and then masked the whole wing surface. I have learned to over mask. Airborne overspray will get on any uncovered surface and ruin your day.

The next step is really important. I use the back of a teaspoon and firmly burnish all of the edges of the mask to help prevent bleed under. In the panel lines I use my thumb nail to push the mask into the panel groove and over protruding details like fairings and piano hinges. Now you might ask why I don't seal the edges with clear to prevent the color from bleeding under. The reason is that I don't want the added paint build because it tends to obscure the rivets and other fine surface detail. The picture below shows the burnishing process on the swastika.



***Burnishing tape edges with a teaspoon.***

Some of the markings are 2 colors. This requires a second mask made using the same process. The second mask requires careful registration with the first mask. I measure and then make some very light pencil marks to aid in alignment. Measure 3 times, check it twice and then place the mask.

The wing markings were easy to get properly aligned. The Fuselage was more difficult. To align the fuselage marking masks I needed a horizontal reference line. To make the line, I used a framing square to square the front of the cowl to the work bench. To do that I shimmed the fuselage cradle. Next I set my laser level on a nearby bench and put it in "line" mode. Then I used a ruler to measure the height of the laser line above the bench at the nose and tail. I shimmed the laser until the laser line measured the same at each end.

(Continued on page 8)

ally ran across the top of the fuselage so I was able to mask up to the high point on the spine. I turned the fuselage around and aligned the laser to the masking from the first side. I turned the fuselage upside down and carried the masking from one side to meet the masking from the other side. In total I had about a 1/32" error from side to side. Mask, mask, mask, paint, paint, paint and the fuselage is done.

(Continued from page 7)



**Horizontal laser line.**

With that reference line I positioned the fuselage markings. I aligned the swastika by measuring off of the rudder hinge line.

The Model require a yellow band around the rear of the fuselage. To lay out the masking for that, I used the laser again. This time I had the laser line vertical and adjusted it to align with the rudder hinge line.



**Laser aligned with the rudder hinge line.**

With the laser now aligned I moved the beam forward to the first edge of the yellow band and masked the edge. I did the same for the second edge. The laser line actu-



**Fuselage with camouflage and national markings.**

The Fw 190 has dashed lines painted on the top of the wing to indicate the boundary of where you can walk. This kept me up at night trying to think of a good way to mask 140 perfectly aligned squares measuring 1/4"x 3/32" with 1/8" spacing.

After 2 fingers of bourbon the other night I came up with a way to do it. My work surface is a 36" X 80" piece of Corian that used to be the top of a kitchen island...basically a hard smooth surface. I used to use a repurposed glass door from an old stereo cabinet. So I put down 2 30" long strips of 2" wide blue painters tape about 1/2" apart parallel to the edge of my hard bench. Using my 48" aluminum ruler I cut a 3/32 wide strip out of the center of each strip.



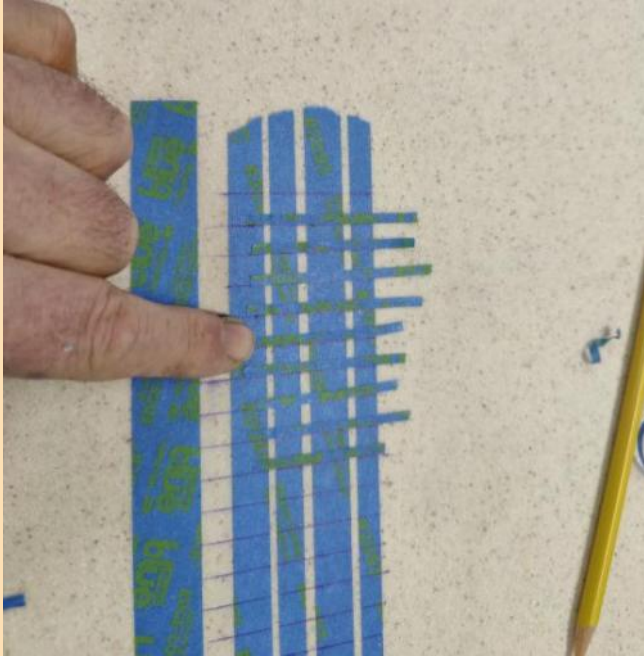
**3/32" strip cut from the masking tape.**

(Continued on page 9)



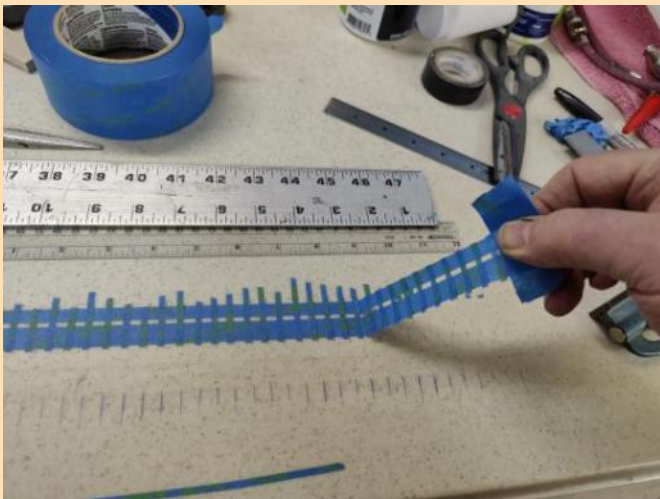
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Next, using a square I drew lines across the tape at 3/8" intervals. Next I took another long piece of blue tape and cut 1/8" wide strips. I lifted the 1/8" strip and aligned it to the first 3/8" spaced line and pressed it down. I cut it free and moved to the next line, pressed the tape down, cut it free....repeat. You end up with what looks a little like railroad tracks with the desired spacing.



***Dashed line "railroad track" mask.***

Once I had enough of the masking I cut it into pieces that were long enough for the 4 sections needed for each wing panel and peeled it up



***Peeling up the dashed line mask from the work surface.***

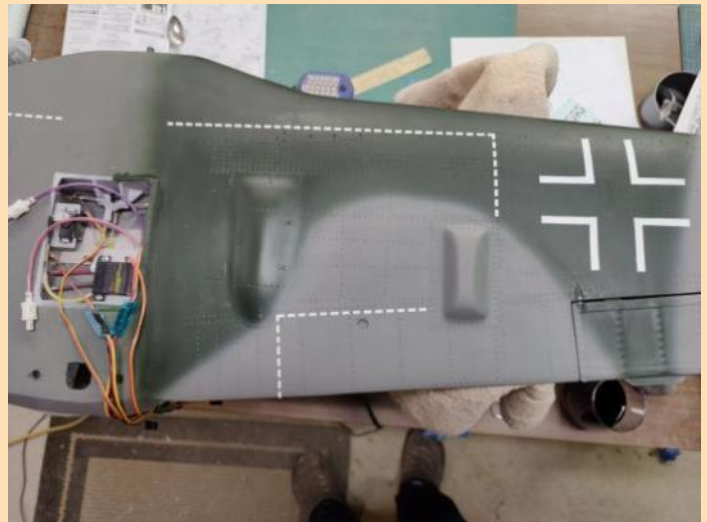
I had previously laid out the location for the pieces so I put each piece down in its proper location. I positioned them so there would be a "corner" dash.

Once all of the pieces were in place I burnished the devil out of them and then masked off the remainder of the wing to control overspray.



***Dashed line masking in place.***

After I stripped all of the masking off, the dashed lines looks great. Virtually no bleeding. What little there was I hand touched up with a 10-0 brush.



***Finished dashed lines.***

So here is the work as it stands at the moment.

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*Finished fuselage.*

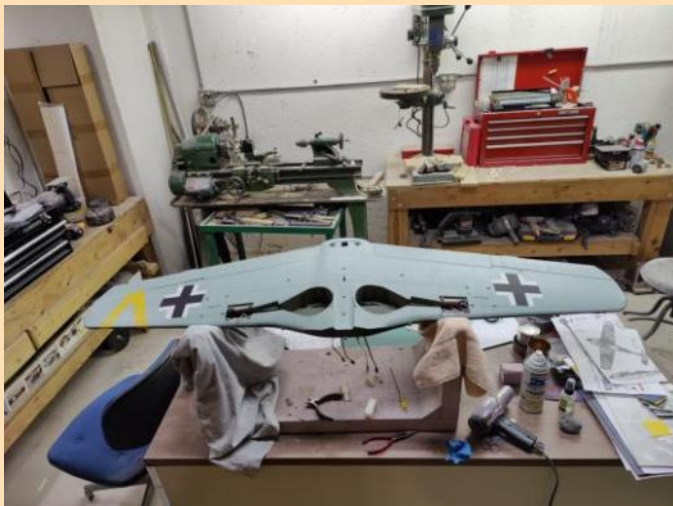
That's all I've got for this month.

Over the next few weeks I have to apply all of the text decals, finish the wiring, program the radio and a few little annoying details.

Thanks, **Steve Kretschmer**



*Finished wing upper surface*



*Finished wing lower surface.*

# ON THE WING



## Notice:

The Retirees and  
Wannabes Breakfast  
At Red Olive

Is cancelled until further  
notice due to COVID-19

## Notice:

The Skymasters Breakfast  
At Iris Café

Is cancelled until further notice  
due to COVID-19

# May 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26 Student night begins Scripps field	27	28	29
30	31					

# Skymasters Information...

[The Skymasters field is located in Lake Orion, within the Bald Mountain Recreational Area](#) on Scripps Road, between M24 and Joslyn (see map). A recreation passport or sticker is required and can be obtained from the Park Headquarters located on Greenshield Road or you can check the box on your tab renewal for a "Recreational Passport".

## Flying hours:

**QUIET ELECTRICS ONLY** from 8AM to 10AM and 8PM to 10PM. **The noise limit is 80dBa at ten feet.** Regular flying is permitted between 10 AM to 8 PM. **The noise limit is 94 dBa at 10 feet.** These noise limits are enforced.

## Student Instruction & Pot Luck

Every Wednesday, May through September. Flying any time but we eat at 6:00 p.m. - rain or shine, literally!

For those participating we ask that

you bring something for the grill -

enough to feed (at least) you and your guests. **Notice:** a dish to pass -OR- bring your own (non-alcoholic) beverage. **For 2021, there will be no potluck on student night. Please continue to observe social distancing and wear a mask if you are closer than 6' to anyone unless everyone is fully vaccinated.**

We start cooking about 5:00 p.m. - help us get everything ready on time.

**Potluck dish to pass:** Don't know what to bring? **#####** Each week we'll let you know what is needed for the next week from plates, cutlery, etc. **Pick one of the OUT items to bring instead!** Not one to cook? A quick stop at local supermarket deli

for a side salad, or bakery for dessert always works!

**From June through August**, club meetings are held at the field, on the second and fourth Wednesday of the month at 8 PM. A great chance to fly and socialize. **Winter meetings (September through May)** are held at the Orion Center, 1335 Joslyn, in Lake Orion. Bring a model for Show and Tell, enjoy coffee and donuts and listen to the speaker of the evening.

The Skywriter newsletter is available online at the Skymasters web site and is free to all. It may also be printed from the web site if desired. All contributions are welcome. Please send photos and articles to [newsletter@skymasters.org](mailto:newsletter@skymasters.org) If you know of anyone who may be interested in R/C Aviation, please give them a link to this newsletter or give them a copy of an AMA magazine. It may spark their interest!



## 2020 Club Officers & Appointees...

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## Newsletter Submissions

Please send all articles, photos and announcements to the Skywriter editor at:

[newsletter@skymasters.org](mailto:newsletter@skymasters.org)  
Deadline is the 20th of each month.

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[www.skymasters.org](http://www.skymasters.org)