

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...*

**July, 2020**



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*Hi All*

**THE FIELD IS OPEN!!!!!!** Need I say more?

Thanks all for your patience while we worked through reopening with the DNR. I'd really like to thank the EOC+ members who made it to an emergency Zoom meeting on less than an hours notice. We had a work party at the field and reopened the field less than 20 hours after I got the official notice from the DNR. Great job guys. Since we reopened, I'd really like Chuck Kosiak for stepping up and sanitizing most mornings when the retirees open the gate.

We are open under some basic common sense rules required by the state:

- Do not come to the field if you are symptomatic.
- Maintain 6 foot separation at all times from anyone not from your household. PPE recommenced and to be provided by the individuals using the Scripps Field. (Note there are disposable masks in the locked cabinet

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under the pavilion.

- You **MUST** sign **IN and OUT** for safety in case someone tests positive. Bring your own pen if possible!
- If you open the gate, please spray the fence rails and gate with bleach/water from the sprayer stored under the pavilion. Mix instructions are on the sprayer. Note that bleach/water can/will permanently stain or damage clothing.
- Bring your own chair and take it home with you as well as all your trash.
- All seating (bleachers, pavilion bench, picnic tables) is closed.
- Bring your own trash home (the trash cans will be locked up for now).
- Instructors and students must maintain 6 foot separation and use hand sanitizer after touching any equipment owned by someone else.
- No shared food and drinks with anyone not from your household.

**If you become symptomatic you must notify Skymasters and the DNR!**

**Stay safe and come out to fly!**

Thanks  
**Pete Foss**  
President, Skymasters RC

### **Instruction while social distancing.**

From right to left Joe Finkles-tine, new member James on his first flight, James' mom Shu while Henry and his dad Scott watch in the background before their first flights!



### **Front Cover**

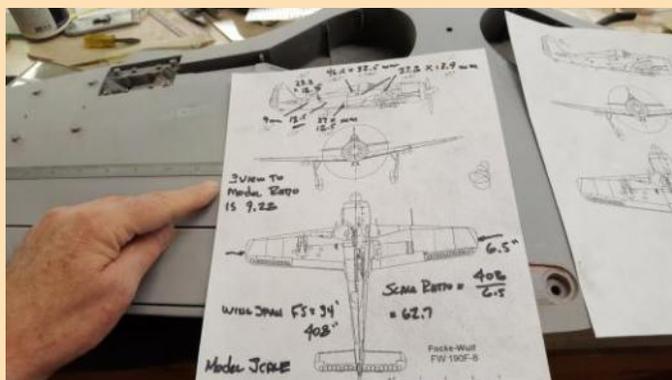
Steve Kretschmer finally enjoying some FLYING with Joe Finkelstine assisting the launch.

*Paul Goelz photo*



## Nats Control Line "Authentic Scale" FW-190 Project: Panel Lines and Rivets

I've mentioned in previous articles that the static judging in the "Authentic Scale" class allows the judges to examine the model up close. That means that surface detail is important. The most obvious surface details includes the rivets, panel lines and hatches. So to maximize the static judging score, I need to add those details. Part of the documentation package that I must provide the judges includes 1 or more 3-view drawings. The 3-view drawings must correctly depict the specific full scale aircraft you are modeling and the model must match the 3-views. Finding a proper 3-view drawing turned out to be far more difficult than I imagined. Actually, the best drawing reference would be a 6-view (top, bottom, left, right, front, rear). Anyway, I found (2) 3-views to work with. One shows the panel and rivet detail. So that was my starting point. The first step was to calculate the scale ratio of the 3-view drawing to the scale of the model so that I could determine the proper location of the panel and rivet lines as well as the size and location of the hatches.



*view scale ratio calculation.*

It turns out that the ratio of the 3-view to the model size is 9.28:1. Using that ratio I can measure the location and size of the features I will be adding. So, I first drew all of the panel lines on the model with a pencil. The model is of course a 3-D object so to help with the drawing I set the fuselage (for example) in a cradle and

level it. I then used a laser level that will project a straight laser line. So I use the laser to help me draw a longitudinal reference line which is used to lay out all of the panel lines.



*Laser used to layout a reference line.*

There are several ways to make the panel lines. I've covered them in previous articles but a quick review would be:

1/64" chart tape applied over the primer, then paint the model and then remove the tape. This is a good method if you don't intend to have rivet detail. With rivets, the panel lines must be done first and then the rivets and then the color paint. The 1/64" lines mostly disappear under the finish paint.

Sharpie pen drawn lines. This is way too ARF looking for a quality scale model and you still have the problem of needing the panel lines before the rivets are done.

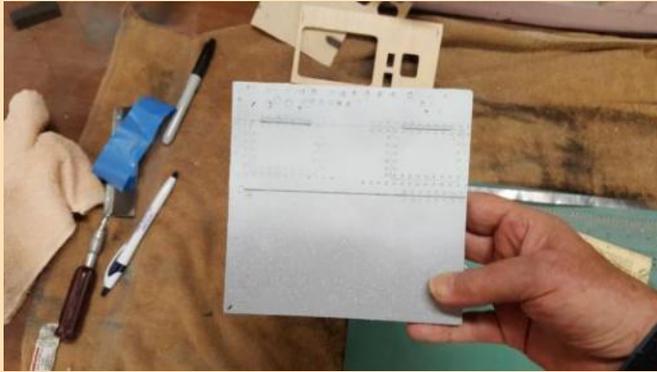
Scribe or burn the panel lines into the primer. While scribing works well, the lines are very fine and tend to disappear under the finish paint. The "burning" method makes a line that is more prominent and remain visible under the finish. So that is the method I chose.

Before I do ANYTHING on my model surface, I work

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out the technique on a test panel. For the FW-190 project I made a 6" x 6" panel and applied fiberglass and primer the same way as I did on the actual model. I've done so much experimenting, I've had to re-do the panel several times. I guess I should have made the panel much larger eh?



**6"x6" test panel.**

To burn in the panel lines I use a variable temperature soldering iron with a fine tip.



**Variable temperature fine tip soldering iron.**

So we have the panel lines drawn on the model and we will use the soldering iron to burn them in. I'll show the process on the test panel first. I use a steel ruler as a guide. It sometimes helps to tape the ruler to the surface to keep it from moving.



**Burning a panel line on the test panel.**



**A completed panel line on the test panel.**

The soldering iron temperature should be set to a temperature that melts (not burns) the primer.

Doing the straight lines on the model is now pretty easy. Sadly not all lines are straight. To help with this I made a straight edge that is made of .005" aluminum. I use it to wrap over the top of the fuselage and around the leading edge of the wing.



**.005" thick aluminum straight edge.**

In some instances I needed to do in-plane curves. In that case I made a guide out of 6 layers of vinyl electrical tape cut to a width of about 1/4" and applied to the model. I do the tape layering on a piece of glass and then use a new Xacto #11 blade to cut to the desired 1/4" width. The vinyl electrical tape is very flexible.

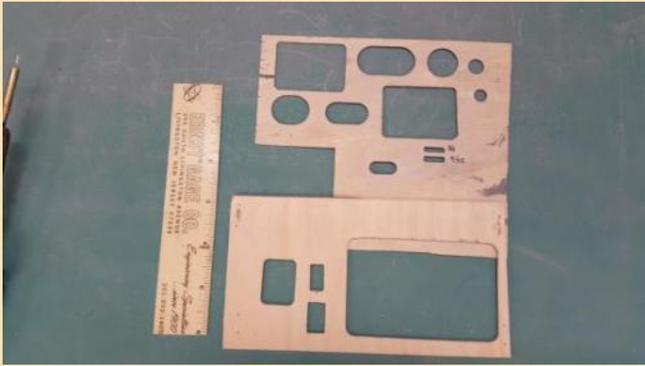


**Curved panel line guide made of 6 layers of vinyl electrical tape.**

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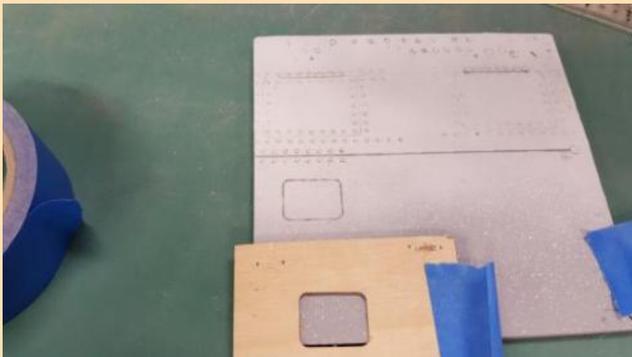
After the panel lines are done I did the hatch outlines. To accomplish this I scaled the sizes off of the 3-view and cut templates in a piece of 1/32" plywood.



**Hatch outline templates.**



**Hatch template positioned on test panel.**



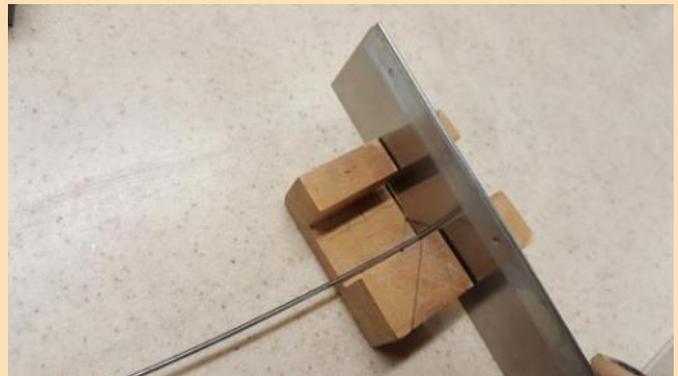
**Panel shape burned into the surface.**

Some panels are hinged on the skins. They typically use continuous (piano) hinges. To simulate the hinge I start with a piece of appropriate diameter aluminum wire. I use my belt sander and a block of wood to sand the wire to a "D" shape so that the simulated hinge is only half visible on the surface.

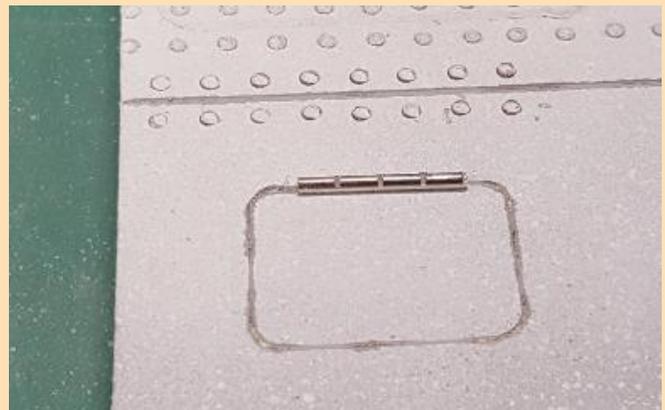


**Making a "D" shape in an aluminum wire using a belt sander.**

The next thing is to notch the "D" shaped wire so create the piano hinge illusion. I use a razor saw in a miter block with a spacing mark.



**Notching the "D" shaped wire.**



**Simulated piano hinge.**

You will note that the hatch edges look a little ragged. That is because the melted paint creates an uneven ridge as the line or hatch outline is formed. This ragged look is eliminated by a light sanding with 600 grit paper.

If you make a mistake on locating a panel line it can be fixed with a little spot putty. I use the Bondo brand that is available in any auto parts store.

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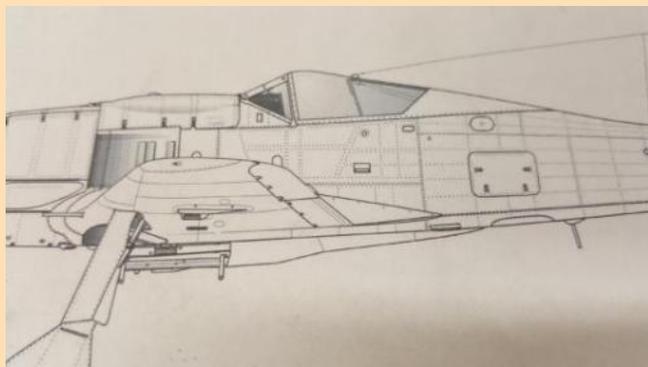
ets. The vast majority of the 20,000 rivets I applied are made with a tip using a 3/32" diameter tube. That tube has a 1/16" inside diameter which is the size of the resulting simulated rivet. This is slightly larger than a "scale" rivet diameter. The next size smaller tubing would make a 1/32" diameter rivet which is too small and impractical to do using this method. The melted paint clogs the tip and makes a really bad looking rivet. The 1/16" rivets look good to my eye. I'll quote master scale modeler Dave Platts' law #4 "How right it looks matters more than how right it is". Anyway, that's how I form the rivets.

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### ***Panel line repair.***

So now that the panel lines and hatch details are finished we can do the rivets. My second 3-view drawing has the rivet details.



### ***3-view with rivet details.***

Using the same pencil line drafting on the model I drew the rivet lines. I scaled the spacing from the 3-view. You must take great care to get the left and right side pencil lines to align properly so that the rivet lines that go from one side to the other match up right.

I will use some shop-made tools to form the simulated rivets. I will burn them into the primer the same way as I did the panel lines. But in this case the pointed soldering tip is replaced with a brass tube that is slightly sharpened by sanding a slight bevel on the tip. I made aluminum adapters to fit the tube tip in the nose of the soldering iron in place of the standard tip. I made tips with different sized tubes to make different sized riv-



### ***Simulated rivet forming tools.***

If you don't have a variable heat soldering station, you can make one pretty simply. I made one from a basic pencil soldering iron with a piece of brass tubing crimped on the soldering iron tip. You can then put larger tubes over the outside and smaller tubes inside. To vary the heat I took a double gang metal outlet box and installed a duplex outlet on one side and a lamp dimmer on the other side. The dimmer works great for adjusting the heat. Use your test panel to dial in the right heat.

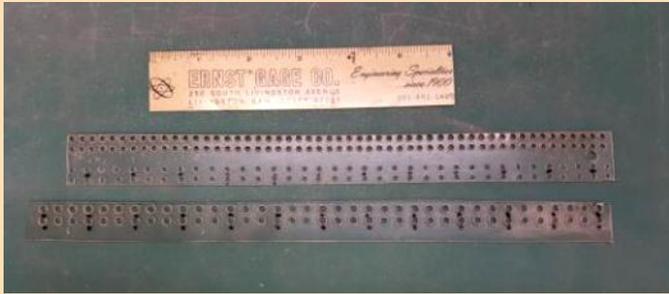


### ***Adjustable heat standard pencil soldering iron.***

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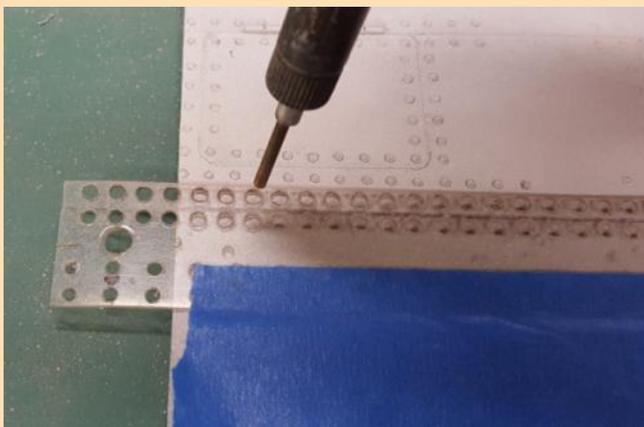
So what about spacing? To get uniform spacing and alignment of a row of rivets I use a shop made spacing guide. I made the guide out of a piece of 1/32" clear polycarbonate. I got the plastic from Home Depot. I used my milling machine to accurately drill the holes in the guide. The guide is 1" wide and 10" long. This allowed multiple rows and sizes. I made two guides with different hole sizes and spacing. I like the 1"x10" size because it is easy to handle and is flexible enough to conform to the curved surfaces. Being clear makes it easy to align with marks on the model.



*Rivet spacing guide.*

Note that I made 2 parallel rows of spacing holes. This allows me to put properly aligned and spaced rivets on each side of a panel line.

To use it I place the guide over the marks on the model or in the following example, straddling a panel line. I then place the properly heated soldering iron tip in a guide hole with VERY LIGHT PRESSURE. I then rotate the soldering iron handle in a circle as if following the surface of a cone with its apex at the tip of the tool. This assures that you get a complete rivet "circle" on curved surfaces. In most instances you can hold the plastic guide with one hand and make the rivets with the tool held in the other hand. The guide can also be held in position with a piece of masking tape as shown below.

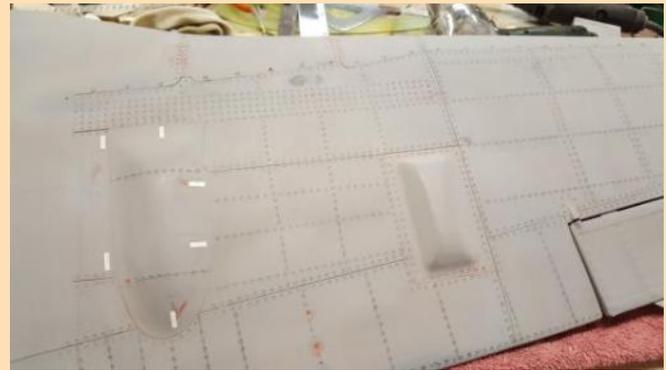


*Rivet guide held in place by tape.*



*Completed rivets with a panel line.*

As mentioned before, the rivets and panel lines are cleaned up with a light dusting with 600 grit sand paper. So here are a few pictures of the completed rivet project.



*Inboard starboard wing rivets.*



*Fin rivets and rudder with rib stitching.*

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*Fuselage side rivets.*



*Cowl with rivets and latch details.*

That's it for this month. For next month I have a number of things I need to work on and I'm not sure at this point what I'll have ready for publishing. See you next month....stay safe and stay well.

**Steve Kretschmer**

# At The Field!!!

Yes, we are flying again!

The field re-opened on June 11th and a bunch of Skymasters immediately got together for some control line and RC flying. Seen here are Steve Kretchmer, Jim Satawa, Phil Saunders, Pete Foss and Joe Finkelstine.



*Click anywhere in the collage to view the entire photo album on the Skymasters web site*

# 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

## Breaking News:

As of June 11th,  
the field is now  
**OPEN!**

In addition to the usual social  
distancing requirements, we are  
now required to sign in **AND**  
**OUT**. This is for contact  
tracing purposes if needed so....  
**DON'T FORGET!!**

Log into the web site to get the  
new gate code.



# June 2020

Sun

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Sat

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Due to COVID-19 guidelines and restrictions, all Skymasters events for July have been cancelled until further notice.

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As of June 11th, the field is now OPEN. Don't forget to sign in AND OUT.

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Please check with the [Skymasters web site](#) for any updates.

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# 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 -OR- bring a dish to pass -OR- bring your own (non-alcoholic) beverage. **Something for the grill:** The obvious choices are burgers, sausages/brats and hotdogs - but other alternatives are welcome. If you bring it we will cook it! We've cooked pork tenderloin and chops, salmon, venison burgers, steaks and more. Don't forget the buns.

We start cooking about 5:30 p.m. - having grill items by then helps us get everything ready on time.

**Potluck dish to pass:** Don't know what to bring, working late? Each week we'll let you know what is needed for the next week from plates to condiments, charcoal, etc. **Pick one of the needed 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...

President:	Pete Foss	Oxford	<a href="mailto:president@skymasters.org">president@skymasters.org</a>
Vice Pres.:	John Billinger	Troy	<a href="mailto:vicepresident@skymasters.org">vicepresident@skymasters.org</a>
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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.

The Skywriter newsletter is published bi-monthly by the Skymasters Radio Control Club of Michigan

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