



The Dead Stick Flyer

Newsletter of Swan Harbor RC

Volume 33, Number 1, February 2022

www.swanharborrc.com



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February 2022 issue of the Swan Harbor RC Newsletter

Review of December 2021 minutes

Membership & Treasury Report

2022 dues renewal: Deadline March 31, 2022

Old business from 2021

New business for 2022:

- *Grass care & mower maintenance*
- *Club projects*
- *Club events*
- *New member - New Flyer Program*
- *Other area events*
- *New hobby shop: Bear, Delaware*

Tech Talk:

- *Steve's servo discussion at the meeting*
- *DAG214.com "Servos 101"*

Next Club Meeting:

- *Date: Tuesday, March 8, 2022, 7:00pm*
- *Location: Havre de Grace Activity Center*

Indoor Flying

Club Pics

What members are working on:

- *John Landbeck's "Walker Stand"*
- *Tom Kottke's "3D Printer Project"*

General Information



On Sunday, January 30th I stopped by to get some pics of the field during this cold winter morning with some recent undisturbed snow on the ground. The temperature at the time I took this shot was 19 degrees. The field looked to be in great shape and all was quiet. The field seemed to be holding out for some warmer temperatures and a return of its loyal RC flyers for a whole new flying season.

We'll be back soon! See you all at the field this year!



Review of December 2021 Minutes

There were no December newsletter minutes to review since the club's annual Christmas Party was held in place of a December club meeting. There wasn't a club meeting in January 2022.

Membership & Treasury Report

***Membership:** Steve informed the members attending the meeting that the club ended the 2021 year with 86 members. That has to be one of the highest membership years Swan Harbor RC has seen. At the time of the February meeting, Steve said we now have 57 paid up returning members and 29 members yet to renew their membership.*

***Treasury:** Steve reviewed the club's financial status as of the meeting date and noted the club is in great shape starting the new year out. We are rapidly approaching the membership renewal deadline of March 31st so we urge members to get their renewal dues paid in time.*

2022 Dues

An important reminder that the deadline for regular dues renewal of \$75.00 is March 31, 2022. However, the sooner you get them paid we will be able to forecast what we can accomplish in 2022 with a fresh new budget.

As a reminder you can send your dues payments to Steve Snyder by check, PayPal, or cash. You can also give your dues to any board member but it would be good to drop Steve an email or text advising him to whom you gave the dues. Please make your checks payable to Swan Harbor RC. Also, see the section below on Membership Dues Policy for information on how to pay your dues, including by PayPal.

Steve's contact information:

Mobile: (443) 243-4323

Email: snyder800@gmail.com

Address: 800 Van Dyke Lane, Bel Air, MD 21014

Old Business from 2021

There were no unresolved business items from 2021 to review. All old business matters were resolved by the November 2021 meeting.

New Business for 2022

- **Grass Care & Mower Maintenance:** *The plan for 2022 is to continue with the regular grass lawn treatment maintenance and hold off on any grass overseeding for a couple of years. We will take a wait and see posture to determine how well the past two years' grass treatments have taken effect. The new Zero-Turn mower will be sent to Coales for its first annual warranty service in March. All other mowers will be serviced as usual to get them ready for the 2022 grass cutting season.*
- **Club Projects:** *The club has submitted two capital expenditure requests to the county that should be completed between mid-summer and the fall of 2022 .*
 - *The two project requests are:*
 - *Replace the fencing for the Pit area and Flight Line. The Pit area fence height will be raised to 4 feet to provide a better margin of safety for spectators behind the Pit area. There will be a 3 foot opening in the middle of each fence line so that flyers can walk through to their planes. The top of the fencing will have a padded wrap cushion.*
 - *Replace the stone crush that is under the two canopies with concrete and expand the outer sides of the canopy areas with the stone crush removed from the canopies. This will provide a better surface to walk on when the ground is wet and help to eliminate stagnant water and bugs under the canopies.*
 - *Two additional projects the club will work on will be 1) installing concrete bases and tubes for the plane hold downs in the Pit area and 2) installing electric fans under each canopy nearest the side with the electric outlets.*
- **Club Events:** *Club events to be scheduled for 2022 are:*
 - *Spring Fly-in on Saturday, June 11th*
 - *Fall Club Picnic on Saturday, September 10th*
 - *Club Flea Market on Saturday, September 24th*
 - *Annual Christmas Party on Saturday, December 3rd*
- **New Member - New Flyer Program:** *Steve introduced the idea of a "New Flyer Program" he would like to get going in 2022 that would help interested and potential new members ease into the RC hobby.*
 - *This would include a pamphlet with information for getting started in the hobby to include a couple options for affordable trainer type RC planes, flight simulators, AMA & FAA low cost membership, basic RC tips, and club flight mentors/instructors.*
 - *Steve would like to review the membership policy and produce an affordable newbie trial membership to help a potential RC hobbyist get started without initially breaking their financial resources and scaring them off.*

- **Finally, we would like members to be mentors when prospective RC hobbyist come to the field to inquire about what it takes to get into the hobby. We should try to make them feel that the initial entry into the hobby can be affordable and fun by providing them low cost yet effective options for getting started.**

- **Other Area Events in 2022:**

- **CPAA Lebanon Flea Market:**
 - **Saturday, March 12th**
- **Warbirds Over Delaware:**
 - **July 13th – 16th**
- **Antiques & Classics, Delaware RC:**
 - **Saturday, August 7^t**
- **Wings Over Piper Annual Fly-In:**
 - **August 4th – 7th**

CENTRAL PENN AEROMODELERS ASSOC.

41st Annual Radio Control EXPO

PLACE: LEBANON FAIRGROUNDS
80 Rocherty Road
Lebanon, PA 17042

DATE: **Saturday March 12, 2022**
(Regardless of Weather)

TIME: **8:30 A.M. for General Admission**
7:00 A.M. for renters Only
Open 'til 3:00 P.M.

For space availability
cpaatablemaster@yahoo.com

Advance general admission
tickets available at \$8.00
each (non-refundable)

Space
Reservations and
Advanced tickets
Recommended!

For advanced tickets send
your order and check
(payable to CPAA) to:
CPAA
344 Ridge Hill Road
Mechanicsburg, PA 17050

Admission: \$10.00 Donation at door (under 12 free)
Aisle Spaces: \$18.00 each (5 ft. long)
Wall Spaces: \$25.00 each (5 ft. long)

For Information Call Todd (717-857-4726)
or E-Mail info@cpaa.us

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41,000 Sq. Ft. Indoors, 602 Spaces of bargains
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...featuring: Radio Controlled airplanes, Sailplanes, cars, boats, control-line airplanes, and related accessories.

- **New “Hobby Town” Hobby Shop: Located in Bear, Delaware**

HobbyTown Bear Delaware Open till 7 PM Choose Another Store

Home Toys & Hobbies Airplanes Boats Cars & Trucks Drones FPV Racing Helicopters Rock Crawlers

Top Brands Specials Just Arrived Top Selling Upcoming Products Traxxas Spring Savings

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View Store Inventory

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Rock Crawlers Repair Services

STORE HOURS

SUN	MON	TUE	WED	THU	FRI	SAT
12:00 PM 5:00 PM	10:00 AM 7:00 PM	10:00 AM 7:00 PM	10:00 AM 7:00 PM	10:00 AM 7:00 PM	10:00 AM 7:00 PM	10:00 AM 6:00 PM
				TODAY		

Tech Talk – Servo Setups

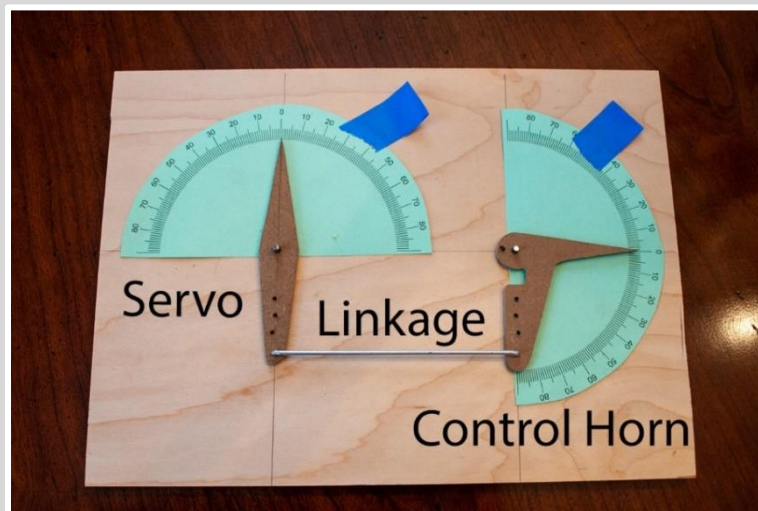
- **Steve’s servo discussion:** *At the meeting, Steve led a discussion on how to set up servos, the importance of proper linkage installations, and using a Servo Tester. Steve talked about topics relative to the right sizing, installation and resolution of servos and control surfaces (ex. Elevator, Ailerons, Rudder, Throttle).*
 - *A recommended first step in the right sizing of servos for each control surface would be to fill in the Excel spreadsheet “Servo Torque Calculator” (shown below). The servo torque calculations derived with this spreadsheet will help you determine how many ounces of torque each servo needs to be. You do not want to undersize a servo and cause the control surface to flutter and not perform as you intended. Additionally, you may not want to oversize the servo needlessly and spend more money than you have to. To complete the spreadsheet, you need to measure each control surface’s dimensions, control arm lengths and key them in the appropriate cell. The last step would be to determine which type of aircraft and type of flying you do from the chart below the spreadsheet and key that component in the Airspeed Factor cell. The result will be the servo torque needed in ounces.*

This spreadsheet can be downloaded from the SHRC website in the Tech Section under Servo Setups.

Servo Torque Calculator							
Right Elevator Half	Only Change Blue	Left Elevator Half	Only Change Blue	Rudder	Only Change Blue		
Span	1	Span	1	Span	1	All Units in Inches	
Root Cord	1	Root Cord	1	Root Cord	1	Torque in Ounces	
Tip Cord	1	Tip Cord	1	Tip Cord	1	Airspeed Factors in chart below	
Servo Arm	1	Servo Arm	1	Servo Arm	1		
Control Arm	1	Control Arm	1	Control Arm	1		
Airspeed Factor	1.25	Airspeed Factor	1.25	Airspeed Factor	1.25		
Torque	0	Torque	0	Torque	0		
Right Aileron	Only Change Blue	Left Aileron	Only Change Blue	Right Flap	Only Change Blue	Left Flap	Only Change Blue
Span	1	Span	1	Span	1	Span	1
Root Cord	1	Root Cord	1	Root Cord	1	Root Cord	1
Tip Cord	1	Tip Cord	1	Tip Cord	1	Tip Cord	1
Servo Arm	1	Servo Arm	1	Servo Arm	1	Servo Arm	1
Control Arm	1	Control Arm	1	Control Arm	1	Control Arm	1
Airspeed Factor	1.25	Airspeed Factor	1.25	Airspeed Factor	1.25	Airspeed Factor	1.25
Torque	0	Torque	0	Torque	0	Torque	0

- *The next step would be to securely mount the servo and choose an appropriately sized servo arm, control horn, and a strong linkage rod and clevis to connect each control surface to the servo.*

- **The final step would be to evaluate and verify that you have installed the optimal size servo arm and control horn that will generate full servo resolution without any binding with a servo tester.**
 - **The goal would be to match the size and resolution (throw) of the servo arm to the control horn's size and resolution (deflection) of the control surface.**
 - **Obtaining full resolution of the servo arm and full deflection of the control surface is desirable but it may require changing the size of the servo arm and/or control horn to get the desired result.**
 - **The servo tester would be used to individually move each servo through its full range of motion until you achieve the best resolution for both arms and resulting surface deflection.**
 - **Digital servos operated with a digital servo tester can correctly determine and adjust the center point of each servo and ensure you are getting the full resolution of the servo.**
 - **When all surfaces are fully evaluated you can then adjust the Dual Rates and Exponential functions on the transmitter to give you the desired performance you want for your plane.**
 - **For demonstration purposes, Steve put together a servo/control horn model to show the effects on the range of motion for the servo/arm and control horn.**



- **DAG214.com: In this next section, we will provide several videos that pertain to servo setups, from an expert modeler found on YouTube under the name DAG214. The modeler's name is Damon G. Atwood (DAG, for short) and has been a long time giant scale modeler who designs and builds all his own giant scale electric RC aircraft. His passion is to teach and demonstrate better RC designs and setups to all modelers through his videos found on his website. Even though DAG discusses topics in terms of giant scale planes, the theory applies to all RC aircraft sizes. Click on each video to watch his presentation.**

- **DAG's first video on "Servos 101"** DAG discusses the selection of servos, their resolution and why it is important to correctly match the servo arm resolution to the control surface deflection. He also discusses what problems users get into if they over deflect the control surface and then how they try to correct the issue by adjusting transmitter settings. It is more difficult to make counteracting adjustments on a poor servo and control horn setup with the transmitter than it would be to design it more effectively at the start with a better servo arm and control horn size relationship. This video should really help you understand the importance of servo installations with good control linkage set ups.

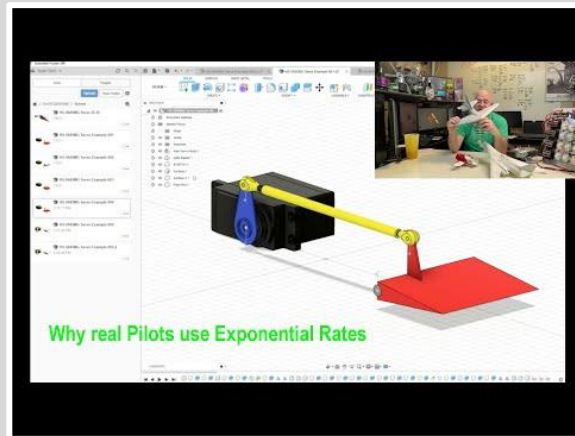


- **DAG's second video on "What Servo Size Do I Need?"** DAG discusses how do you know what servo size you need for your airplane. He talks about how to calculate the servo size in terms of "ounces of torque" needed for each control surface. He uses a simple spreadsheet calculator (reference the "Servo Torque Calculator above) to determine the size of the servo needed for each of his control surfaces. If you use this calculator you will find that you can better match the size of the servo needed for your plane.

Span	Root Cord	Tip Cord	Servo Arm	Control Arm	Air factor	Torque
9	7.4	9.8	2	2.4	1.5	405.05466827
11	7.6	9.8	2	2.4	1.5	955.6547619
13	7.6	9.8	2	2.4	1.5	783482

What Size Servo do I need

- **DAG's third video on "Exponential Rates"** DAG discusses what transmitter Expo (Exponential) is, what it does, and how you can set up your transmitter to get better control of your airplane.



- **DAG's fourth video on "Taming Adverse Yaw"** DAG discusses what Adverse Yaw is, how the plane's set up causes it, and what changes to make to reduce or eliminate it. Depending on how your plane's servos and control linkages are setup, it will determine the way you need to fix or reduce the effects of Adverse Yaw. This situation can be deadly for some high wing and larger scale planes if not corrected.



In summary, we hope you enjoyed this "Tech Talk" segment about how to set up servos and linkages for better and more enjoyable flying.

See you at the field!

March 2022 Club Meeting

- *The next club meeting will be held on Tuesday, March 8th starting at 7:00pm.*
- *All 2022 winter club meetings will be held at the Havre de Grace Activity Center until further notice.*
- *We will send out the agenda prior to the meeting.*
- *We welcome everyone to the meetings to help shape the future of our club.*
- *The address for the Havre de Grace Activity Center:*
321 Lewis Lane, Havre de Grace, MD, 21078

Indoor Flying

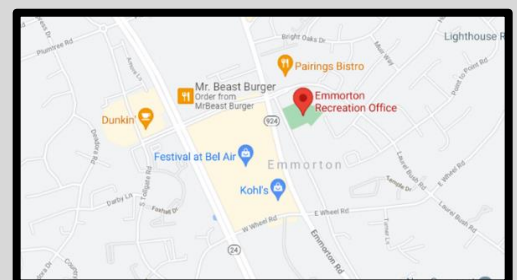
Members Flying on Friday, January 28, 2022



Dale has Indoor Flying booked and scheduled for all members to enjoy which started on Friday, October 1, 2021, and continues every consecutive Friday through April 1, 2022 from Noon to 2:00pm at the Emmorton Recreation Center.

The Emmorton Recreation Center is located at:

- *2213 Old Emmorton Rd, Bel Air, MD 21015*
- *www.emmortonrec.com*



Club PICS

***A Day at the Field
Saturday, February 12, 2022***



Bob Sinsky and his Helicopters



Tom Insley and his P51 Mustang "A Trusty Flyer"



Pics of Bob Walker's Timbers at the field – submitted by Bob



What members are working on

Adjustable Walker Plane Stand

submitted by John S. Landbeck

This is an adjustable, folding plane stand made from a used walker and various 1" PVC pipe pieces. Walkers are available free: total cost of PVC under \$20.00; can make the upper shelves as wide as you need; this is about 10".

If any member is interested in building one of these, I'm happy to share details of this build.



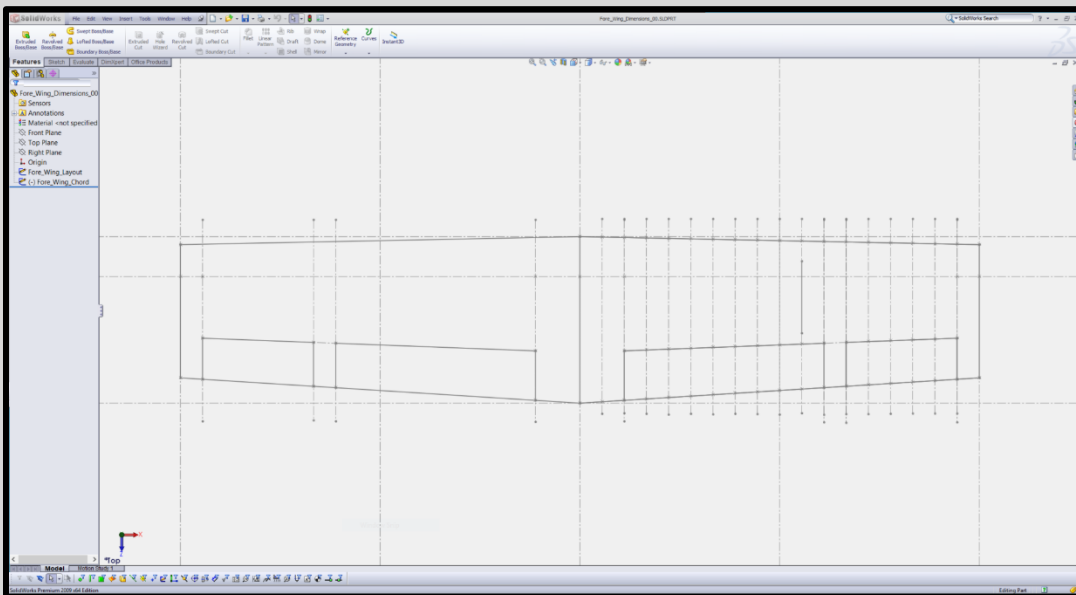
Swan Harbor RC member, Tom Kottke, has submitted this picture build he is doing with his 3D Printer of an RC plane of his own design. Several meetings ago, Steve Snyder gave a 3D Printer presentation in one of our "Tech Talk" discussions and since then we have found that there are several members in the club that have and use 3D Printers: Steve, Tom Kottke and Dan Seldomridge. The sharing of information is fun and at the same time we are learning something new at each meeting.

Thanks Guys!

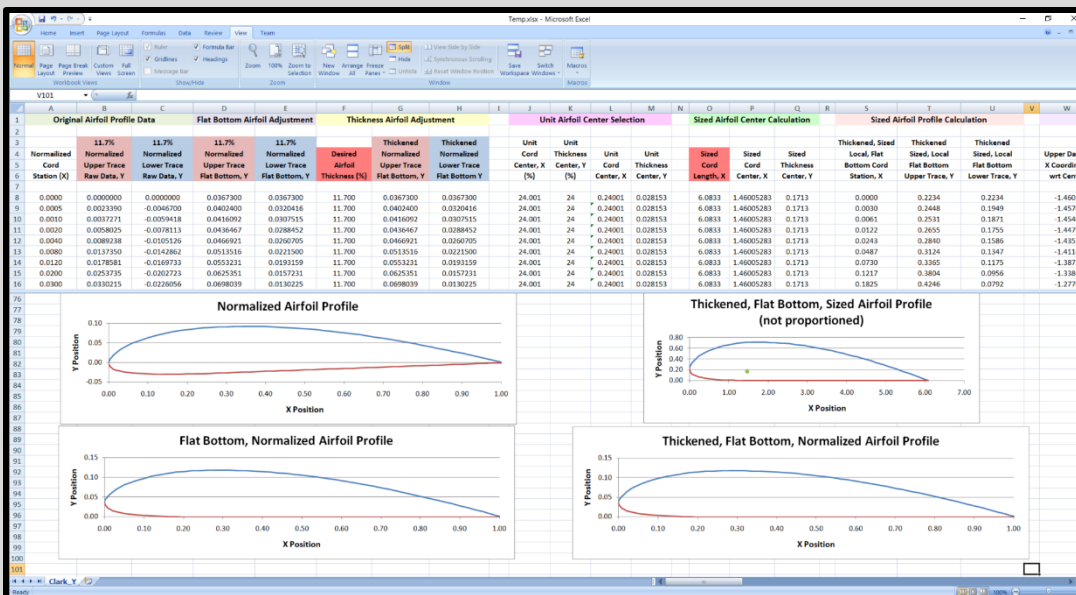
Tom Kottke's 3D Printer Build

Pictorial Review of a 3D Printed Wing Design Exercise

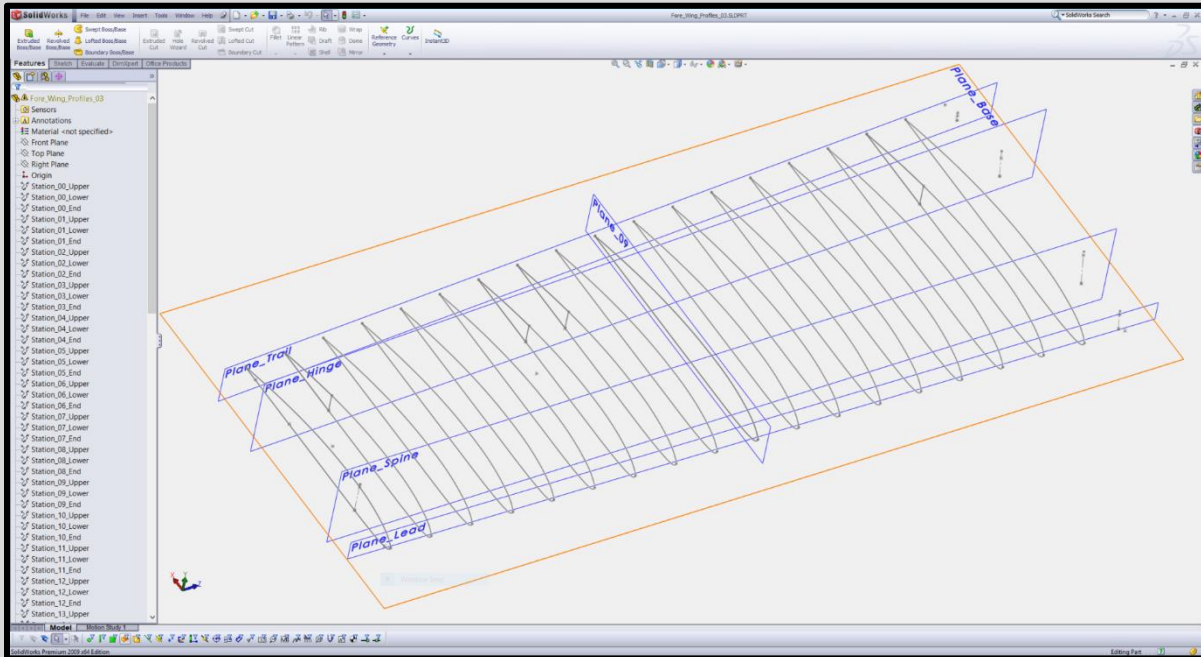
Beginning with basic decisions about the planform of the wing including span, chord, rib locations and overall shape.



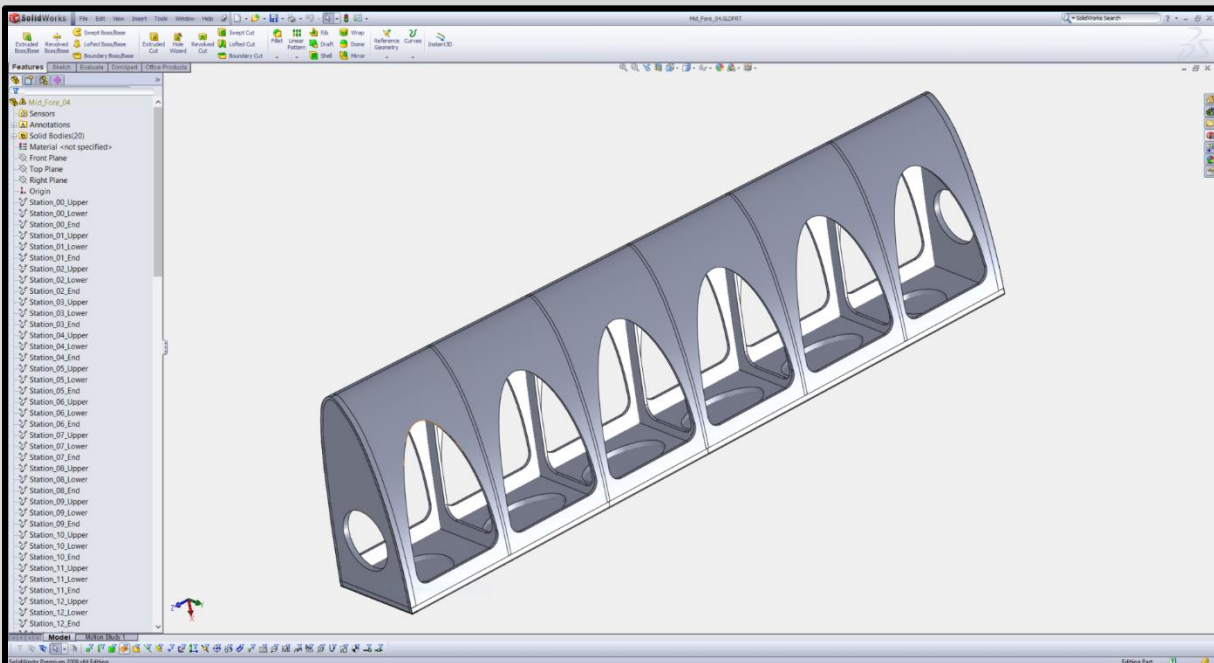
Generating the profile of each wing rib using an Excel spreadsheet. For construction convenience, a flat-bottom Clark Y airfoil is used.



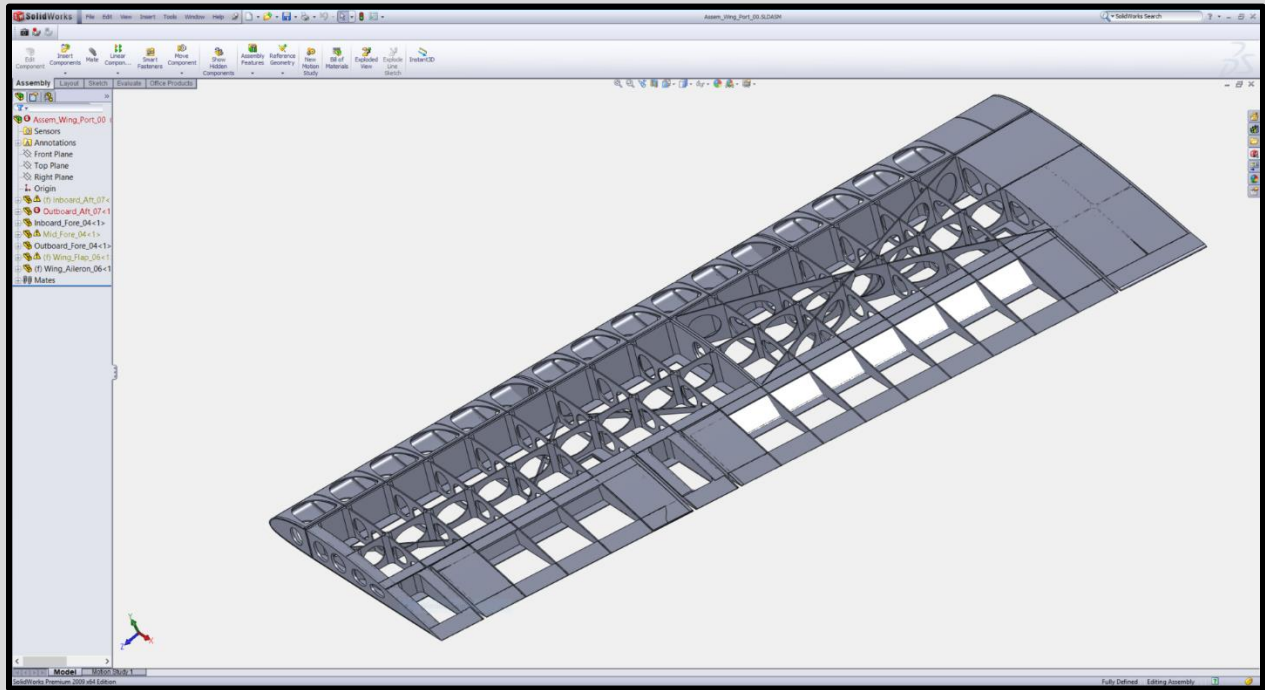
Each wing rib profile is transferred into a global SolidWorks wing design file.



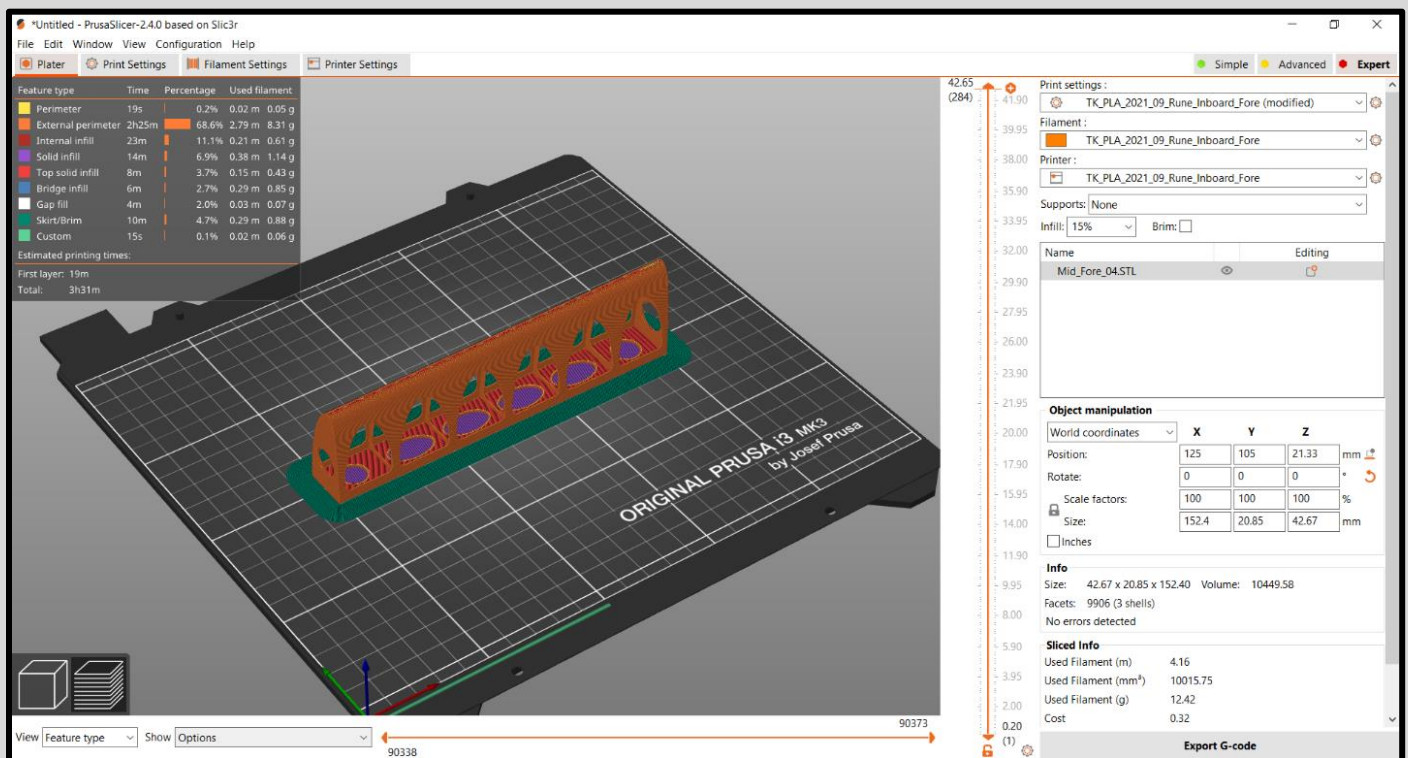
Subsegments of the wing, sized to the building space of the 3D printer, are designed in Solid Works



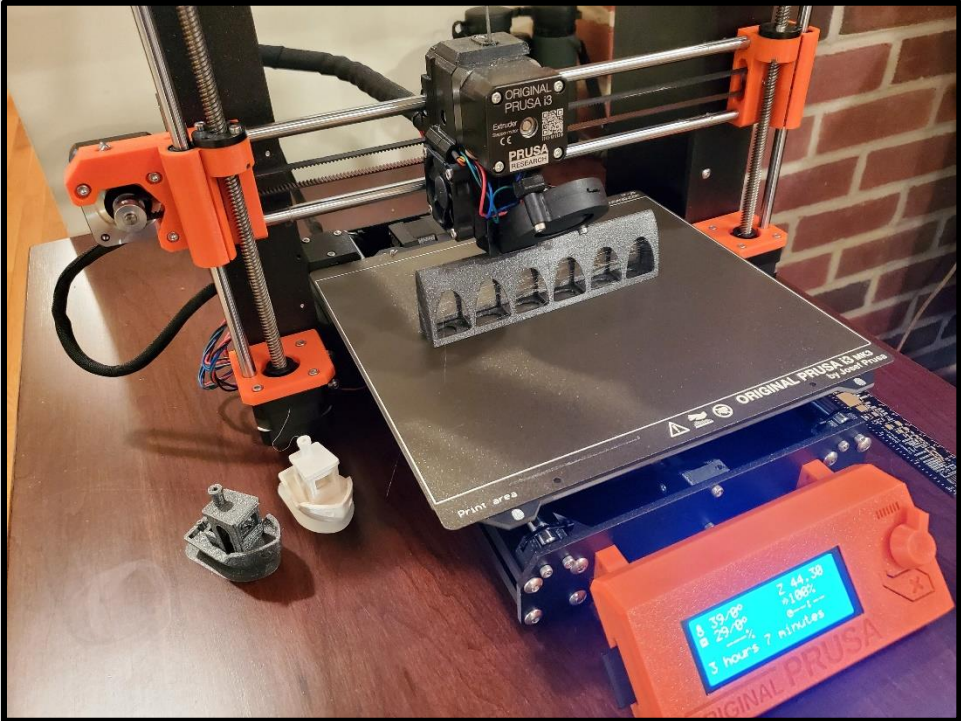
....and then pieced back together in SolidWorks to evaluate their fit.



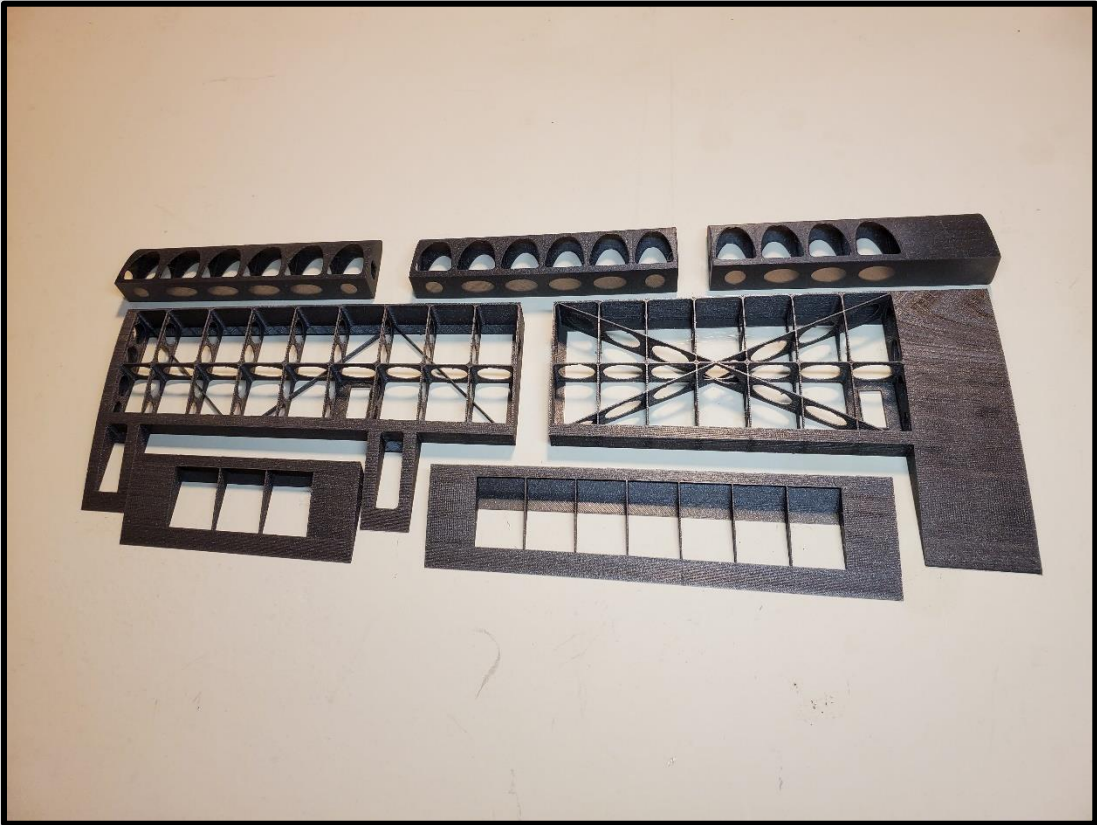
Individual segments are prepared for 3D printing using a slicing program that subdivides the object into many layers and outputs an .STL file that the printer can understand.



The individual subsegments are 3D printed using PLA filament.



All the wing segments prior to assembly...



...and after being epoxied together.



The wing half after the bottom surface has been covered with Japanese tissue paper and the servos installed. That's it for now.



General Information:

Membership Dues Policy

To pay your club dues for the season, either as a renewing member or a new member, please forward them to Steve Snyder, Treasurer. As you all know we depend on our dues to fund projects and general maintenance for our club.

Existing Annual Membership Renewals:

- Annual renewal membership fee: \$75.00
- Renewal period: 1/1/YR thru 3/31/YEAR
- Payment is due by: 3/31/YEAR

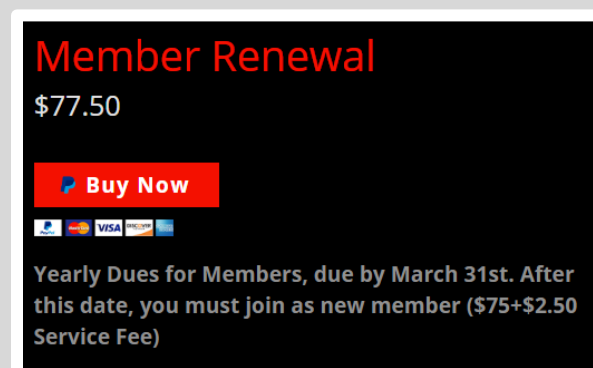
New Membership Dues:

- Full year new membership fee: \$125.00
- Joining period: 1/1/YR thru 12/31/YEAR (*)
 - Fee Includes:
 - \$75.00 annual membership fee
 - \$50.00 first year initiation fee

() Note: New members joining the club on 9/1/YR or after of that same year are considered paid in full for the current year and the immediately following year. The reason for this exception is that the current flying season is about 75% over and we want to give new members an incentive to join our club.*

You can pay your dues with PayPal:

If you decide to pay your dues with PayPal go to the club's website: swanharborrc.com and click on the top menu item How to Join. This section will explain everything you'll need to know regarding how to join as a new member or pay your dues as a renewing member. In this section you will see the PayPal payment option as pictured below. Please take note that the PayPal payment option has a PayPal service fee of \$2.50 added to the payment total.



What members are working on: Building a new aircraft, assembling an ARF, working on an old reliable, or want to sell something? We would love to hear about what you are working on. Send us some information and a couple of pics of your project and we will post it in the next monthly newsletter. Send your emails to: ronlazzeri@verizon.net.

Newsletter: To receive the Swan Harbor RC Newsletter by email, please send a request to: sslotnick@mac.com.

Photos: Anyone who would like to have new photos appear in the slideshow or the photo gallery is encouraged to send their photos to Stephen Slotnick at sslotnick@mac.com and he will add them as soon as he can.

Interest in Joining the Club: Please see the instructions on the Swan Harbor RC website www.swanharborrc.com under the heading "How to Join." Additional membership information or questions can be obtained from Steve Snyder at (443) 243-4324 or email: snyder800@gmail.com.

Harford County's No Smoking Policy on County Property:

We follow all county rules and regulations and ask for your cooperation.

Thank You!

