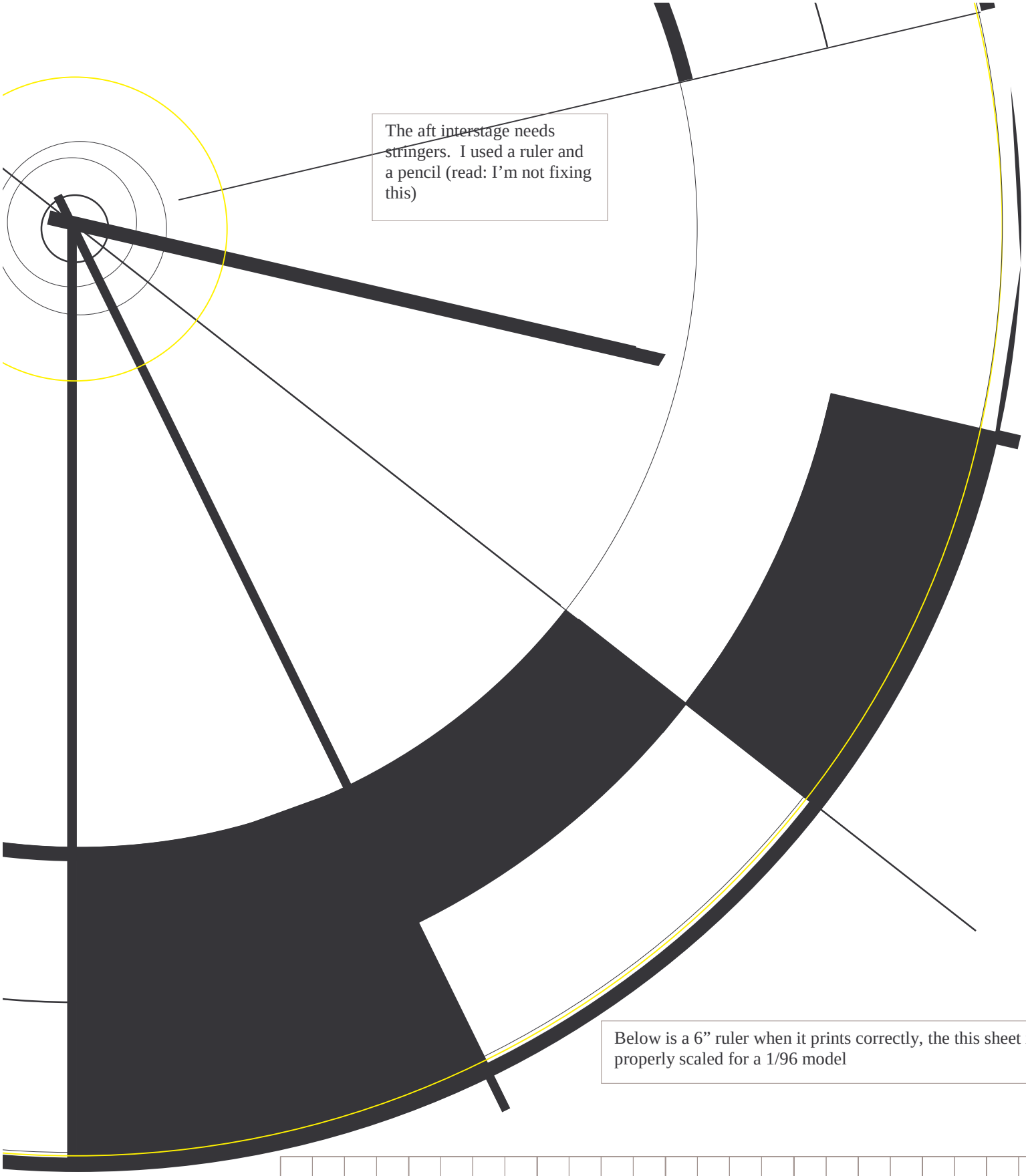
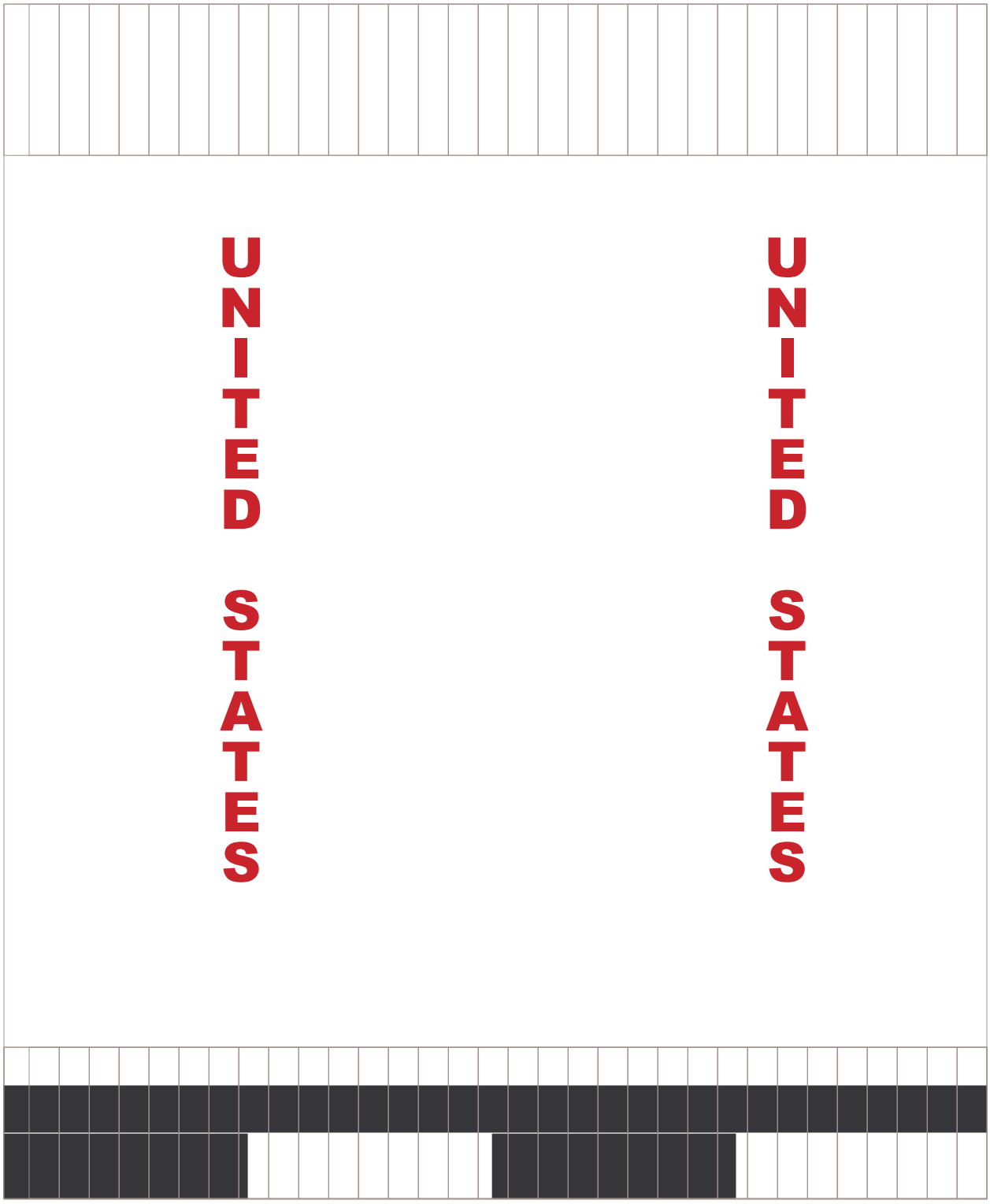


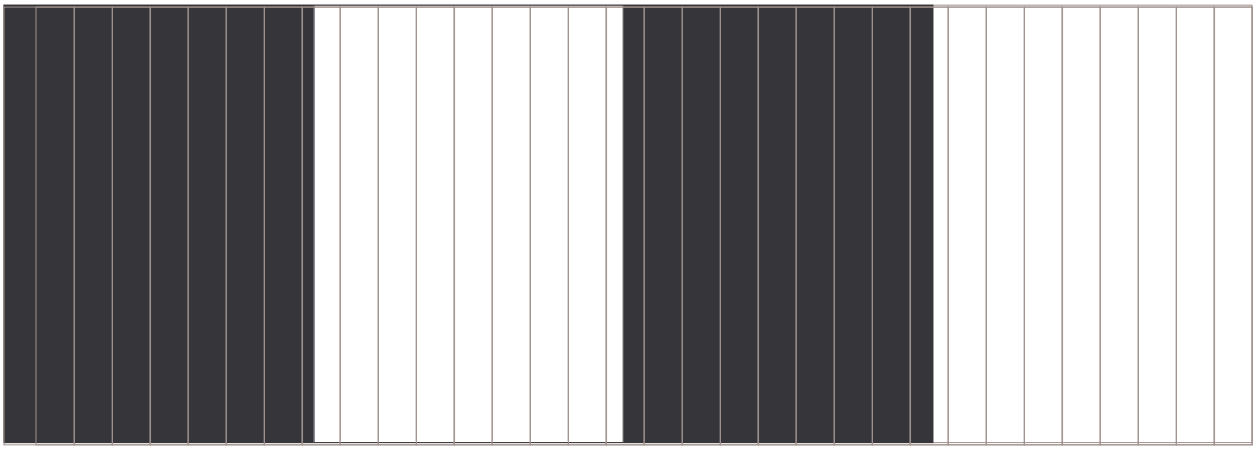
The aft interstage needs stringers. I used a ruler and a pencil (read: I'm not fixing this)

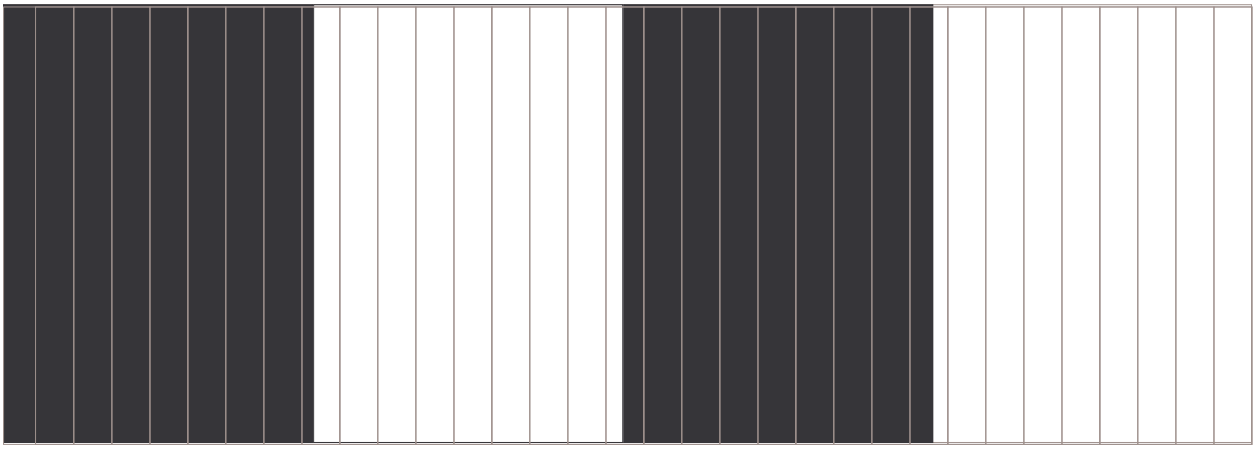
Below is a 6" ruler when it prints correctly, the this sheet is properly scaled for a 1/96 model



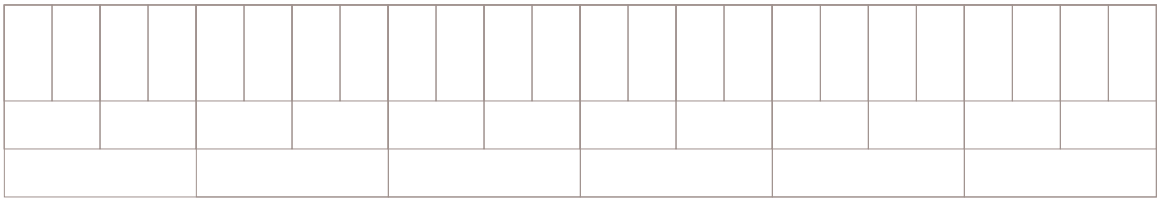
Above is a 6” ruler when it prints correctly, the this sheet is properly scaled for a 1/96 model

1/96 STAGE II print two and cut out two inner layer cardstock layers the same size. Glue halfway between each.

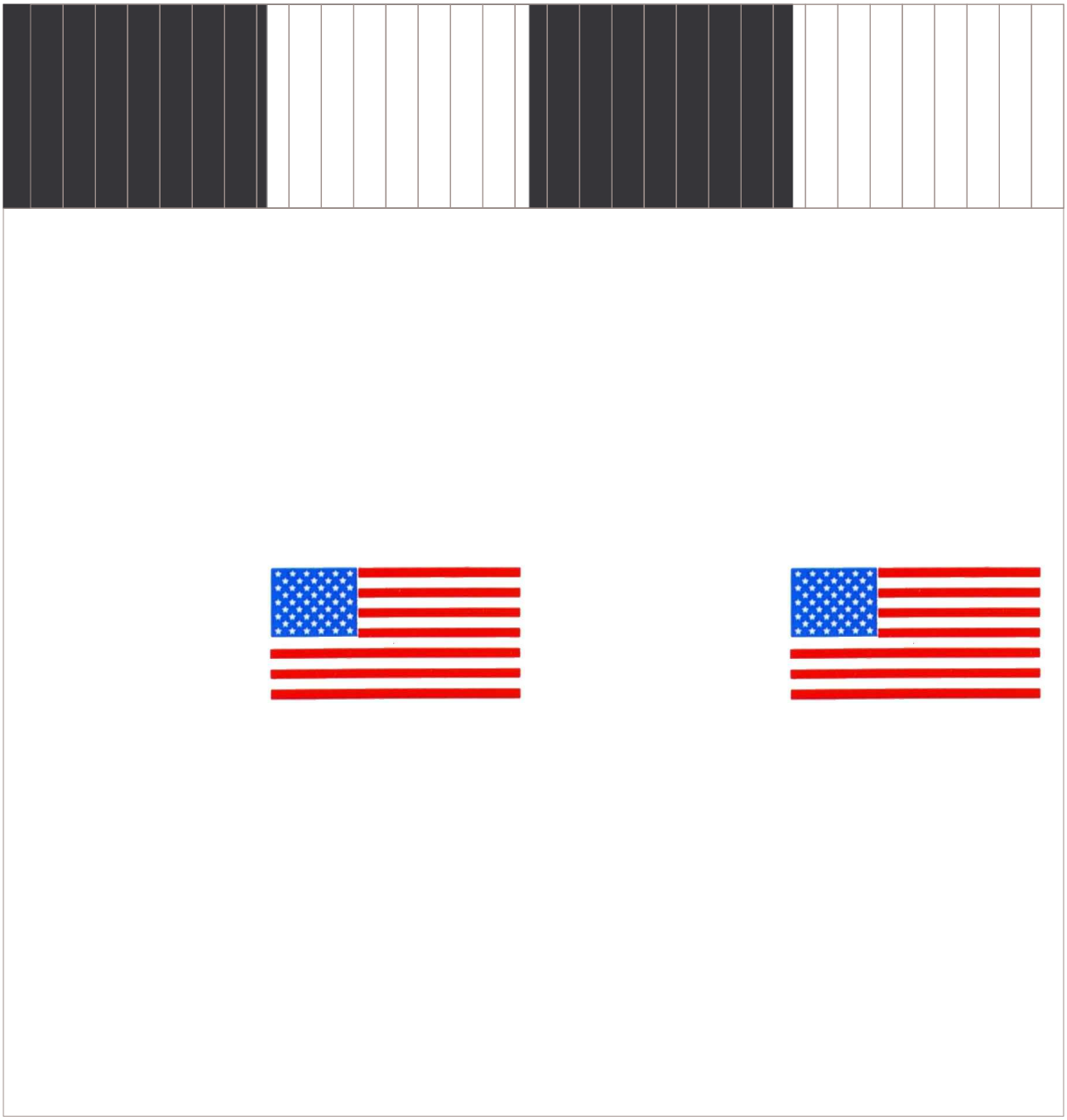




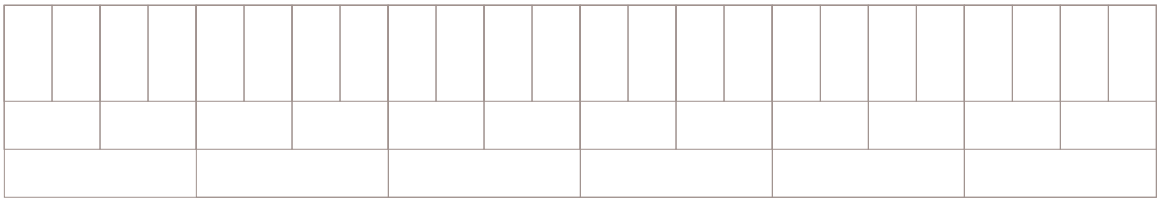
1/96 Interstage



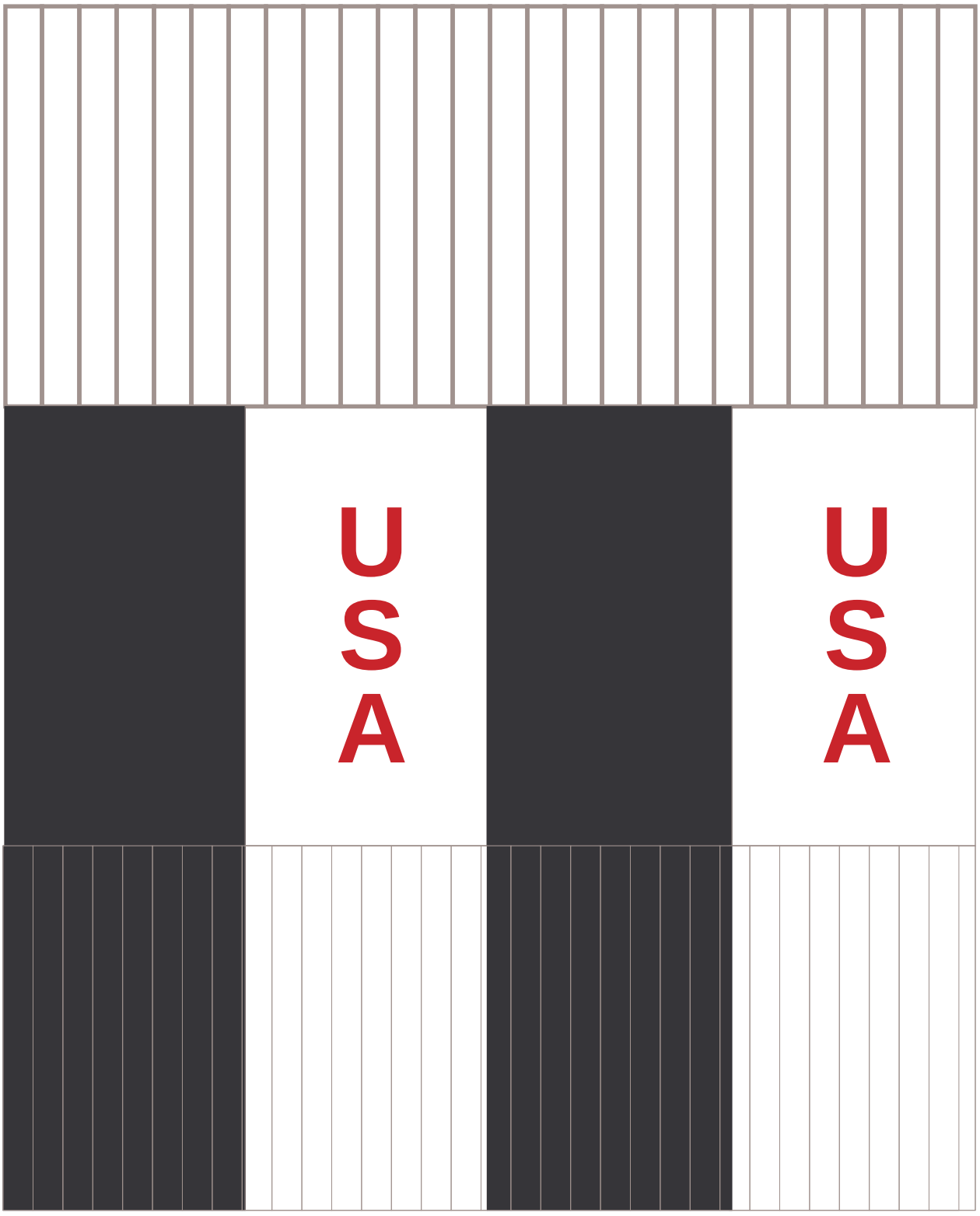
Above is a 6” ruler when it prints correctly, the this sheet is properly scaled for a 1/96 model



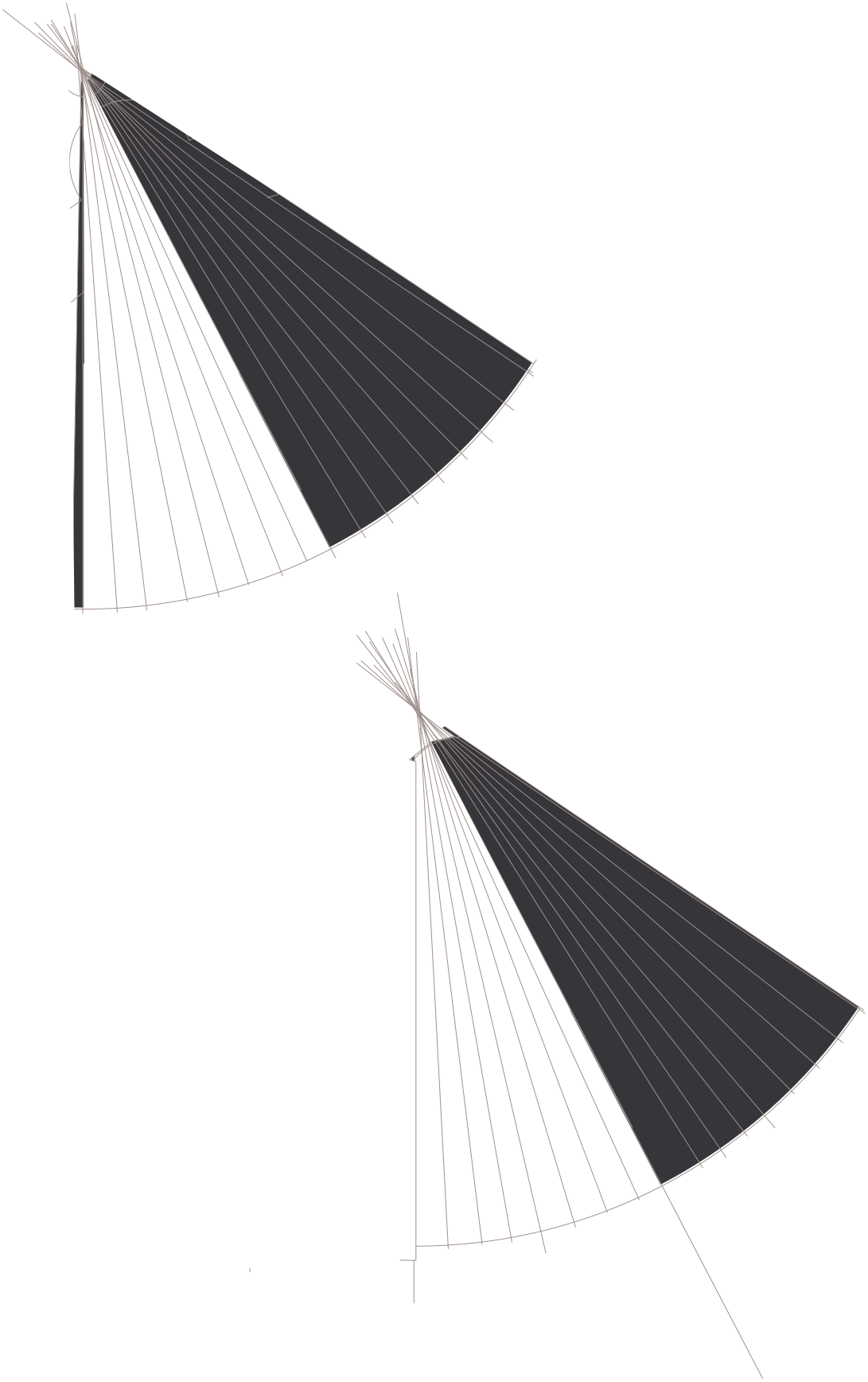
1/96 topof SIC – top skirt and upper tank. (print 2 and connect)



Above is a 6” ruler when it prints correctly, the this sheet is properly scaled for a 1/96 model

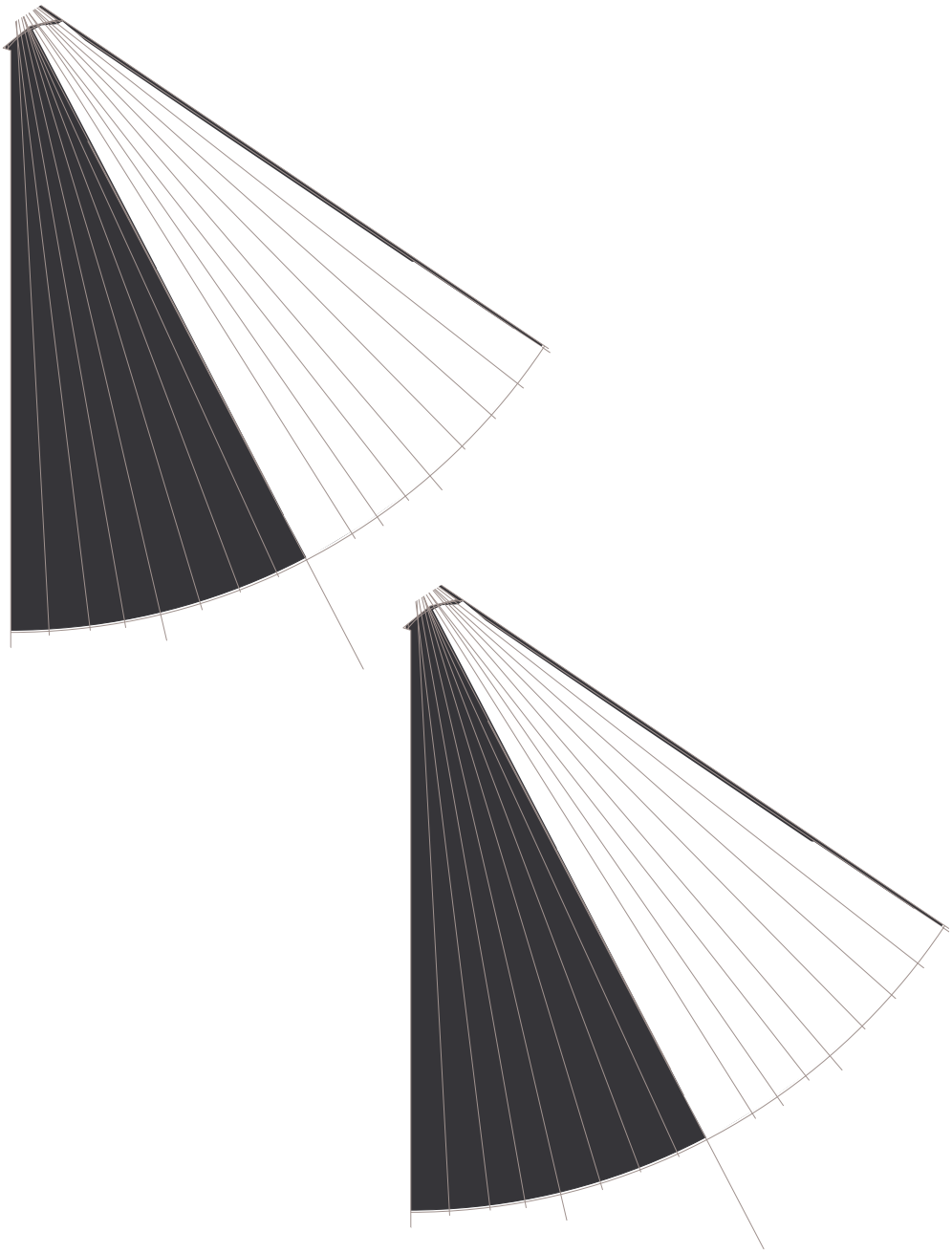


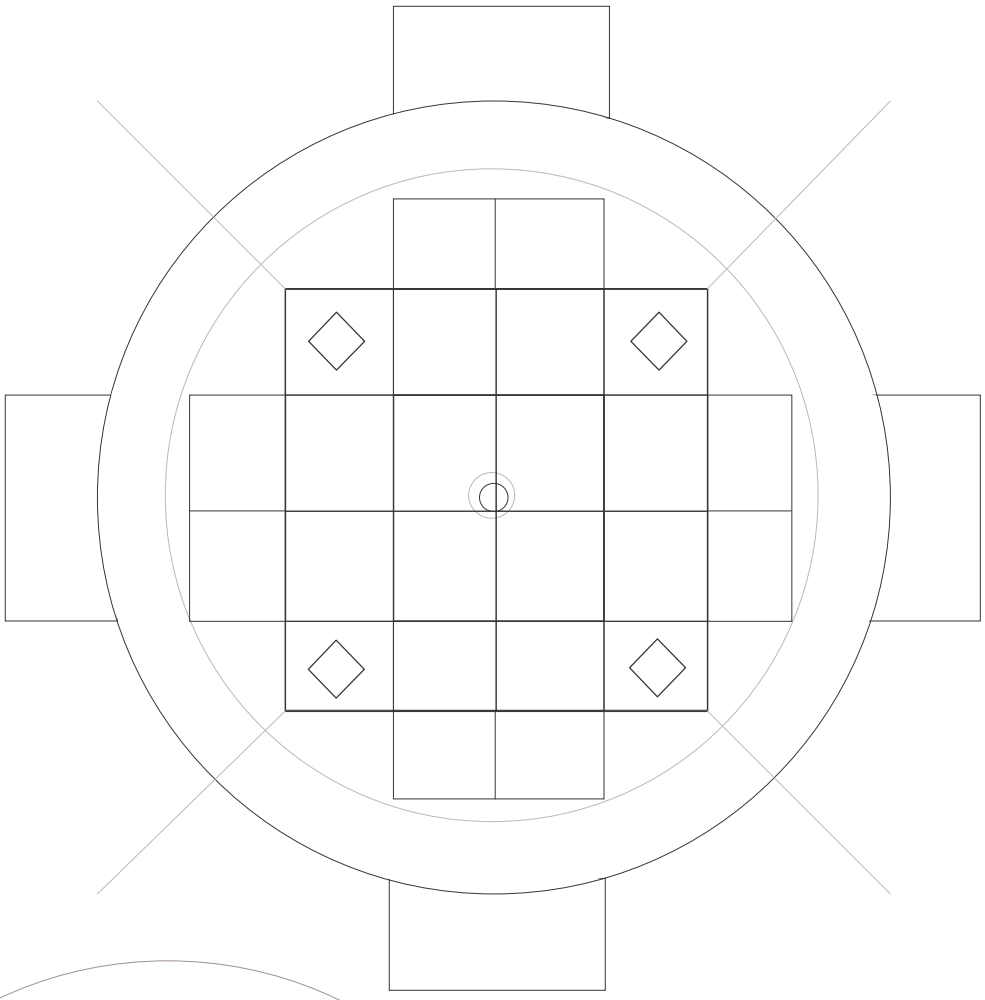
Bottom half of S-IC. The intertank, lower tank, and thrust structure. Print two and connect.

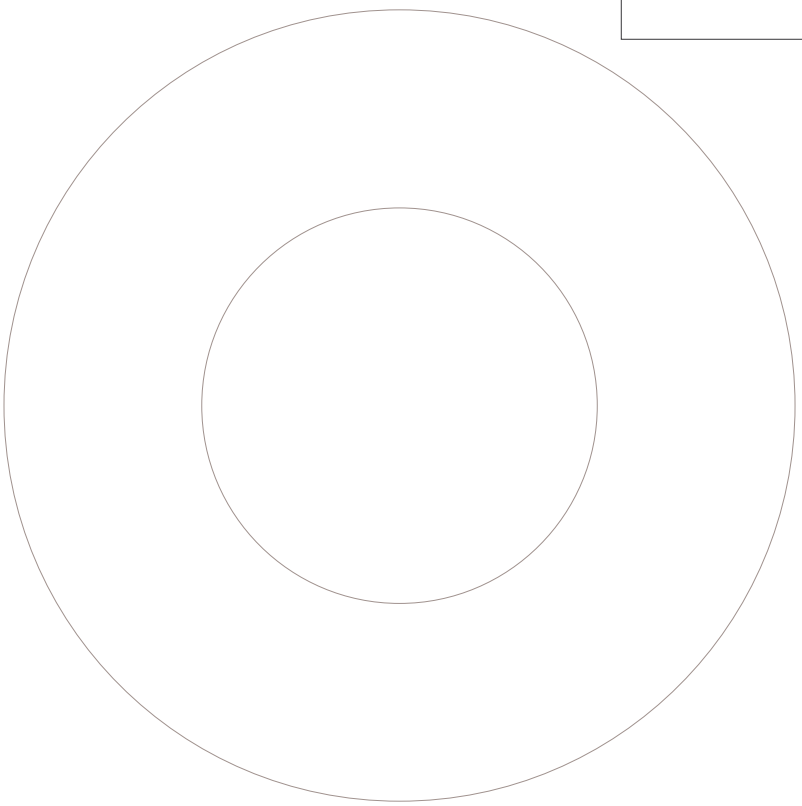


Engine fairings, print 2 and cut leaving room for glue mounts (not shown)
(these are reversed, I glued my thrust structure bottom plate 45 degrees out of phase, only use these if you make the same mistake use the next set if you do it right!!!! –JL)

These are the correct markings.



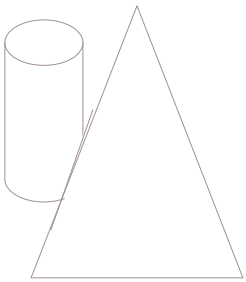




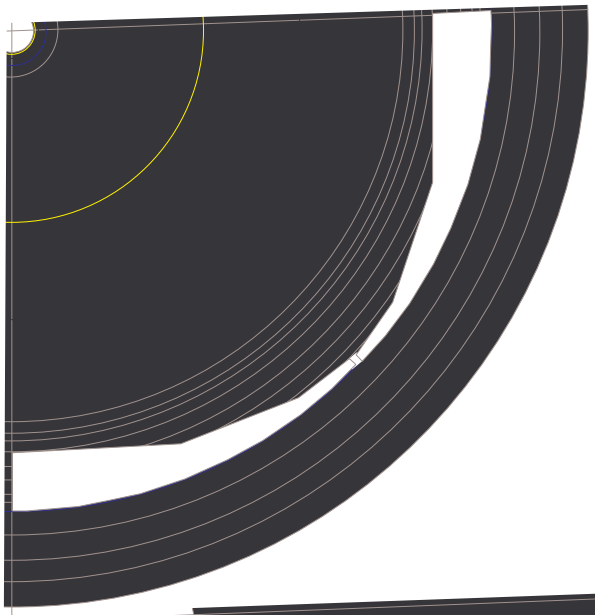
This is a bulkhead for internal support for SI and SII. You will need many of them, I use the priority mail envelopes corrugated cardboard for best results. I use three per cylinder construction, resulting in 9 donuts for SI and SII; plus two more for each of the interstages.

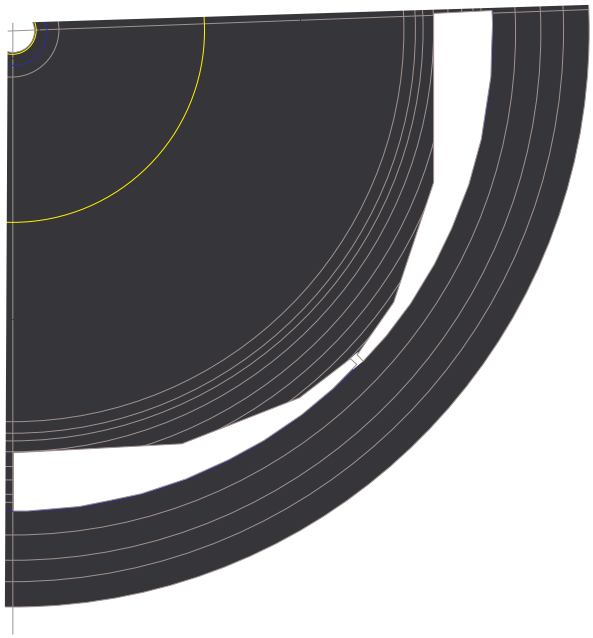
Above is a 6” ruler when it prints correctly, the this sheet is properly scaled for a 1/96 model

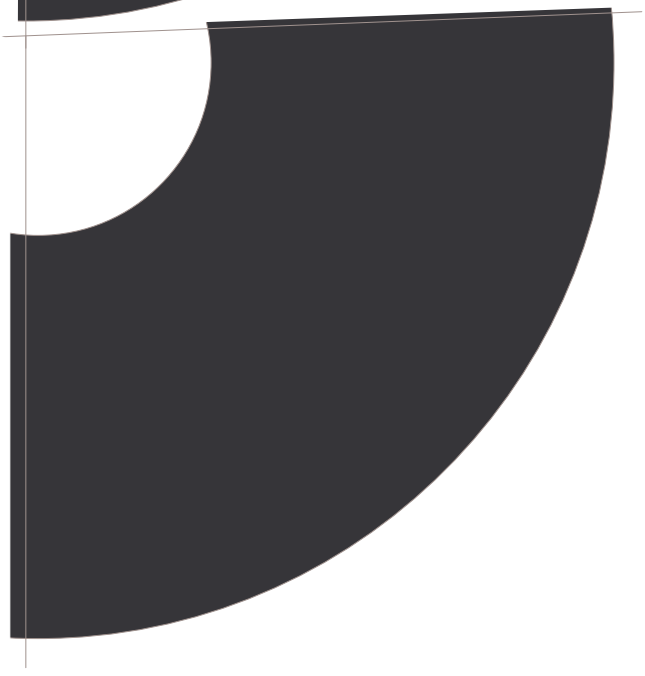
Roll into cones/cylinders, slice off corner and mount to F1 engine at thick point of white band to make heat exchanger.

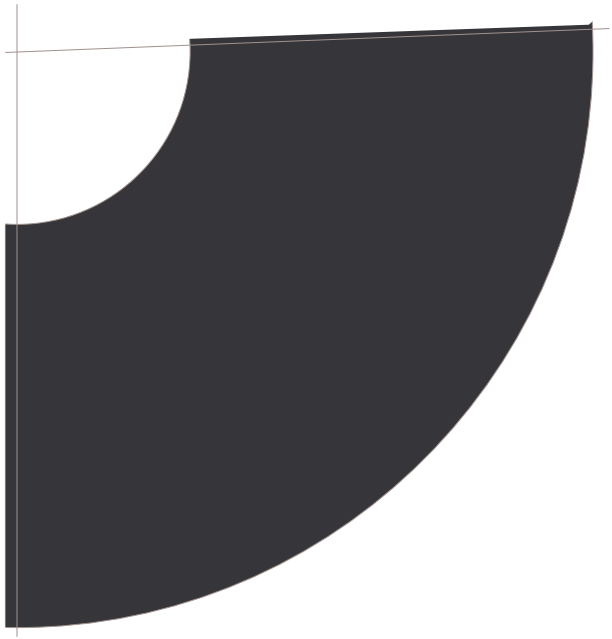


These are two of the F1 engines. You'll need 5 all together. The solid black is the Inside part of the cone. Glue outside halfway around the inside, after turning the inside backwards , ie, both color sides should be on the outside of the glue point. Roll into cone.

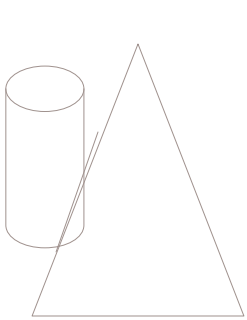




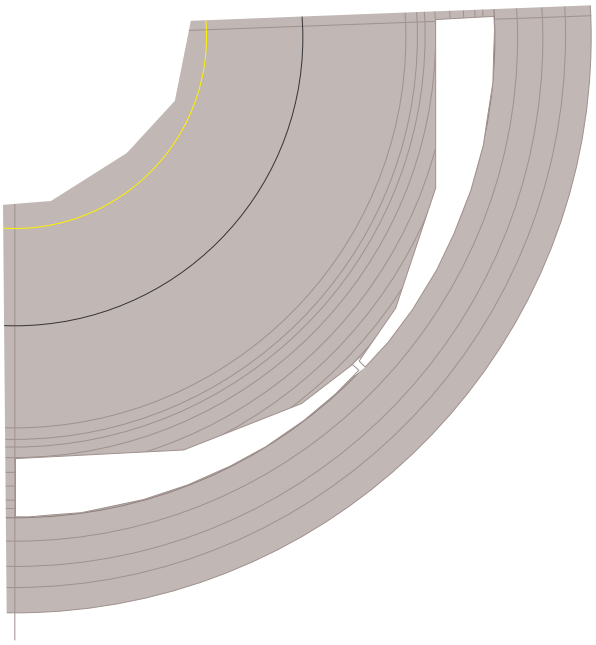


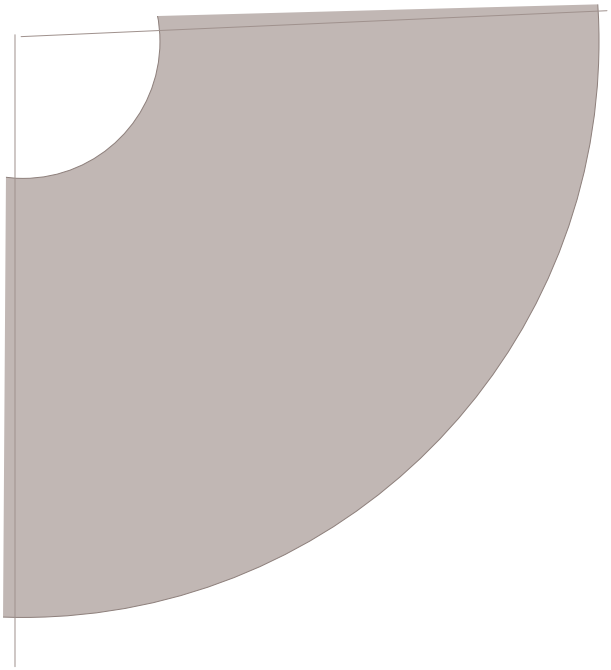


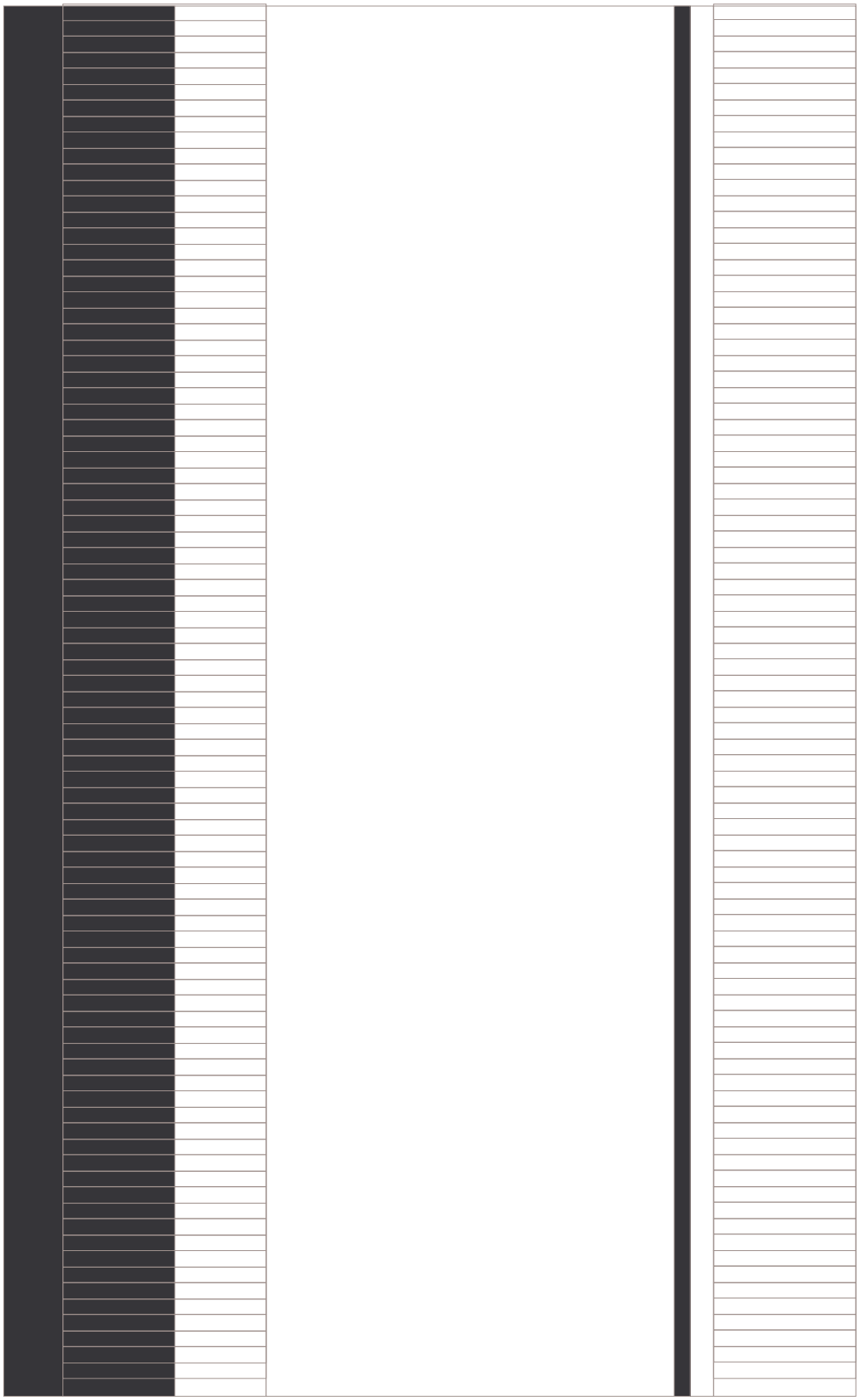
Roll into cones/cylinders, slice off corner and mount to F1 engine at thick point of white band to make heat exchanger.



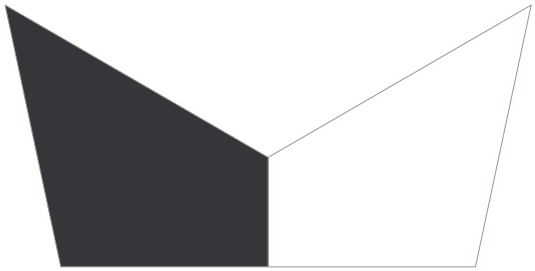
Proper color scheme for F1 engines as per Mike.

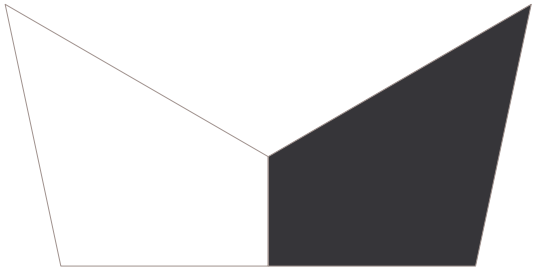


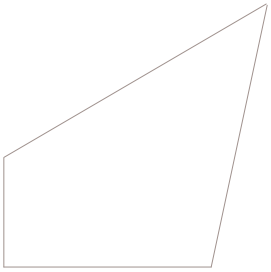


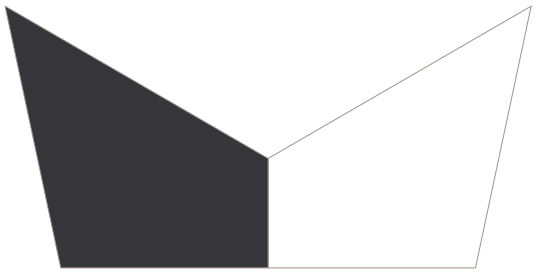


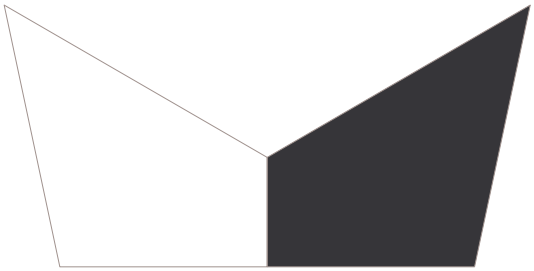
Skin of S-IVC

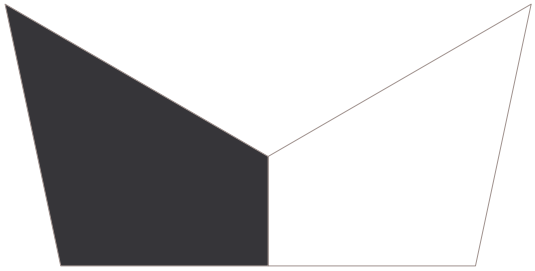


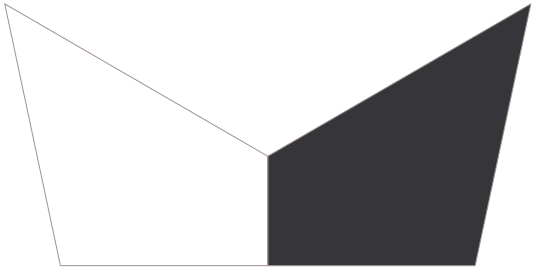


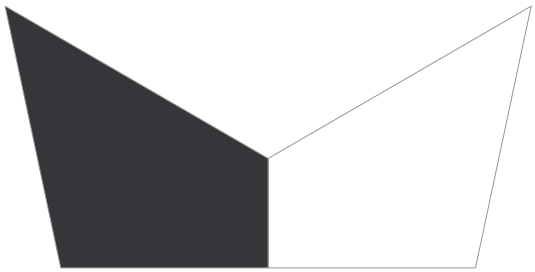


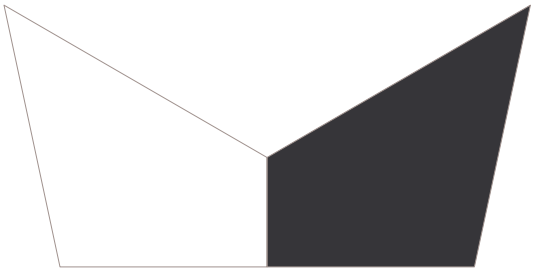




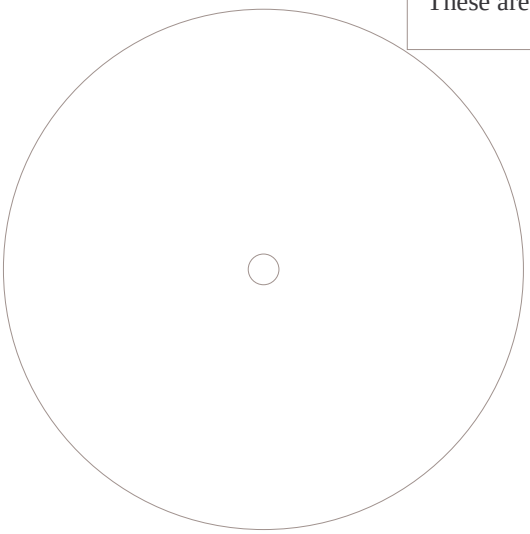


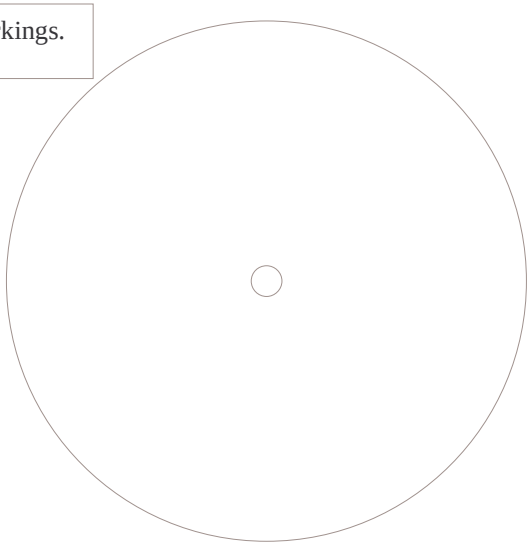




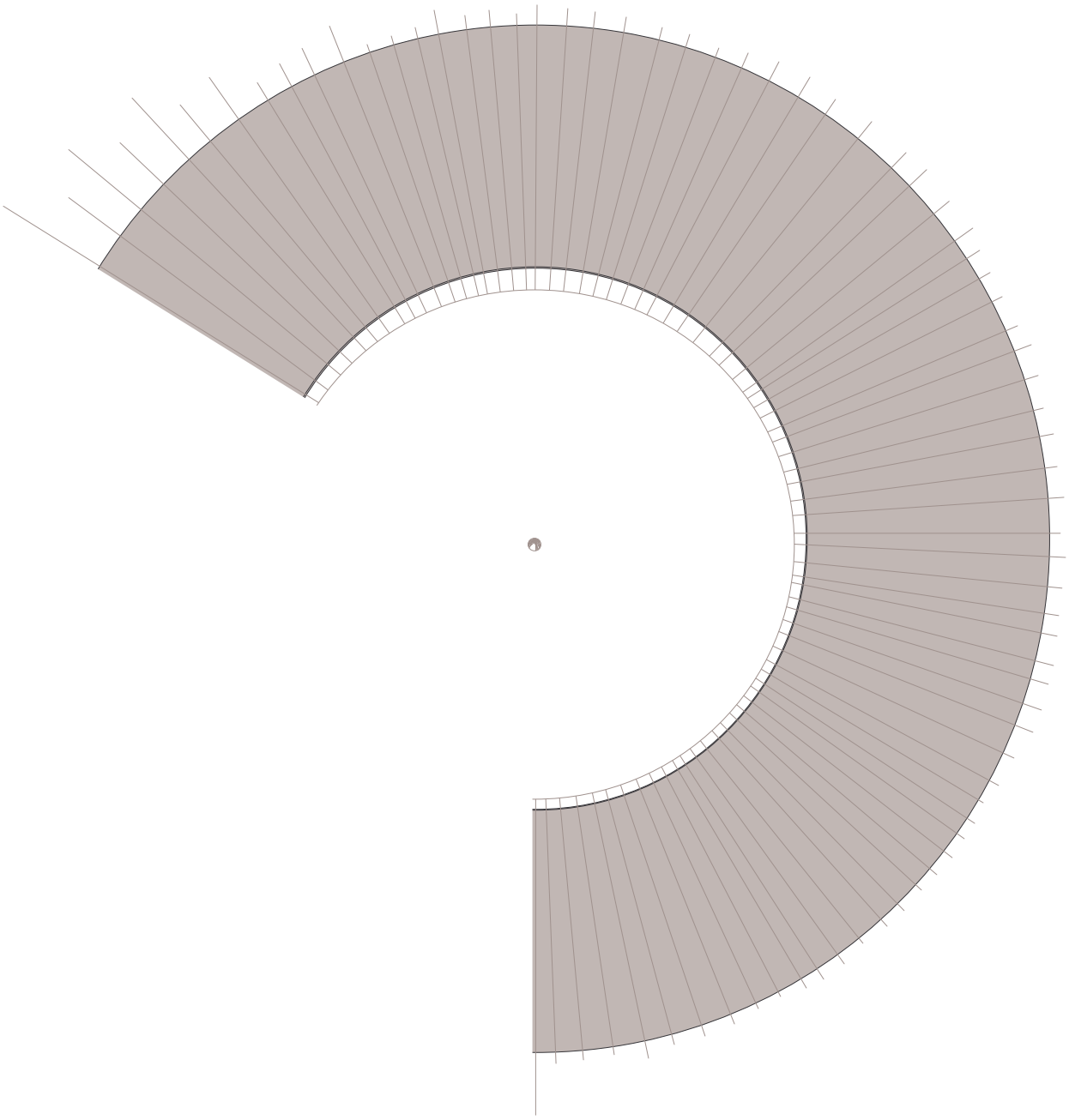


These are the correct fin markings.

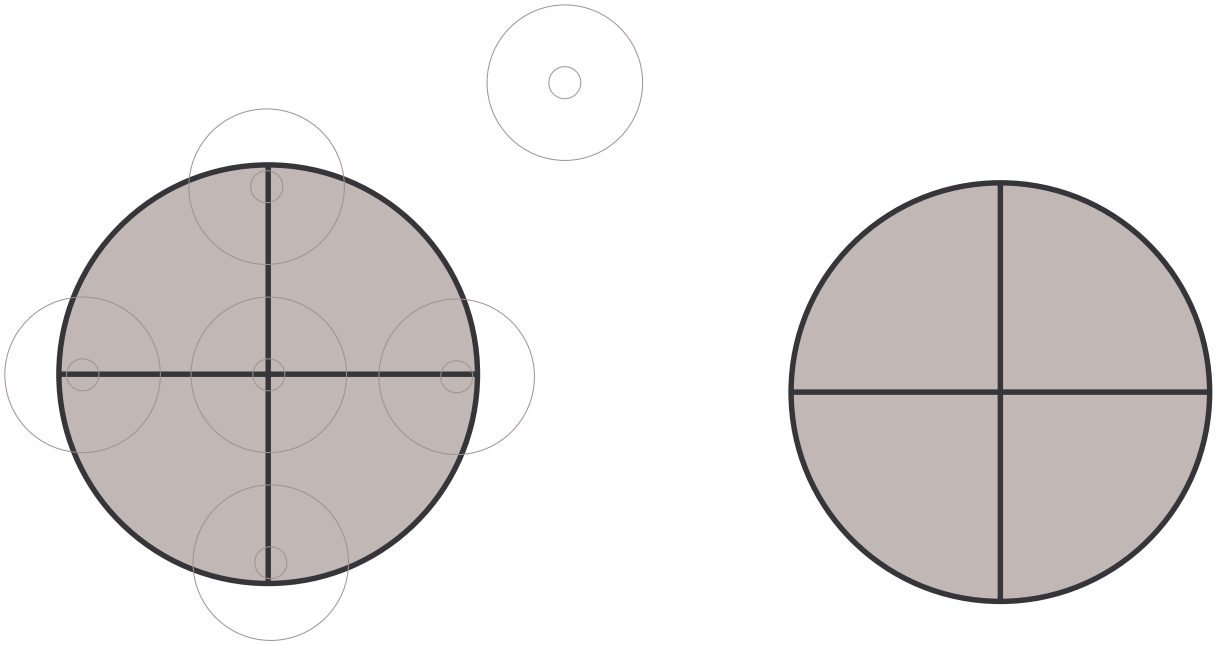




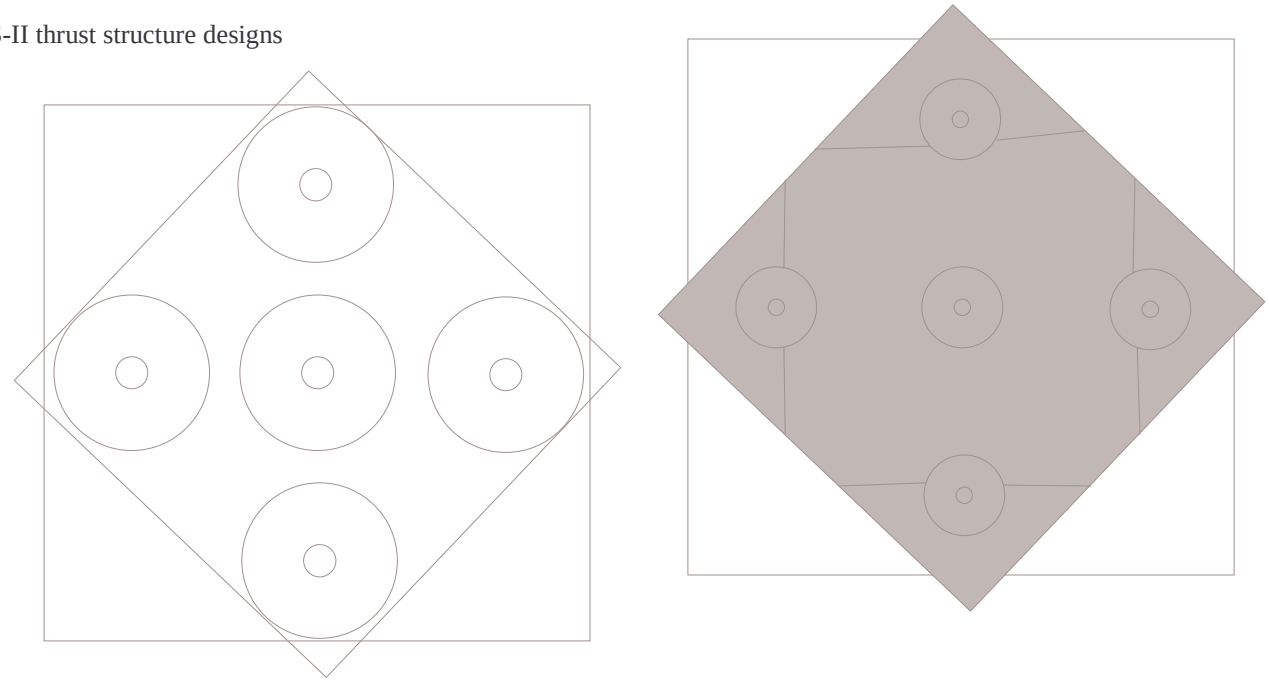
S-IVC bulkheads



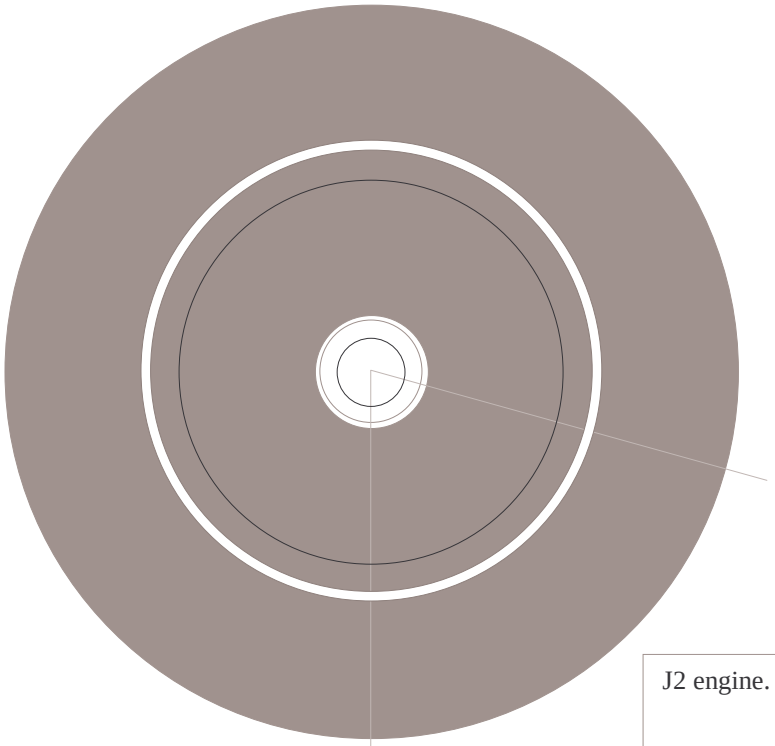
The thrust structure for S-II.



Base of S-II thrust structure designs

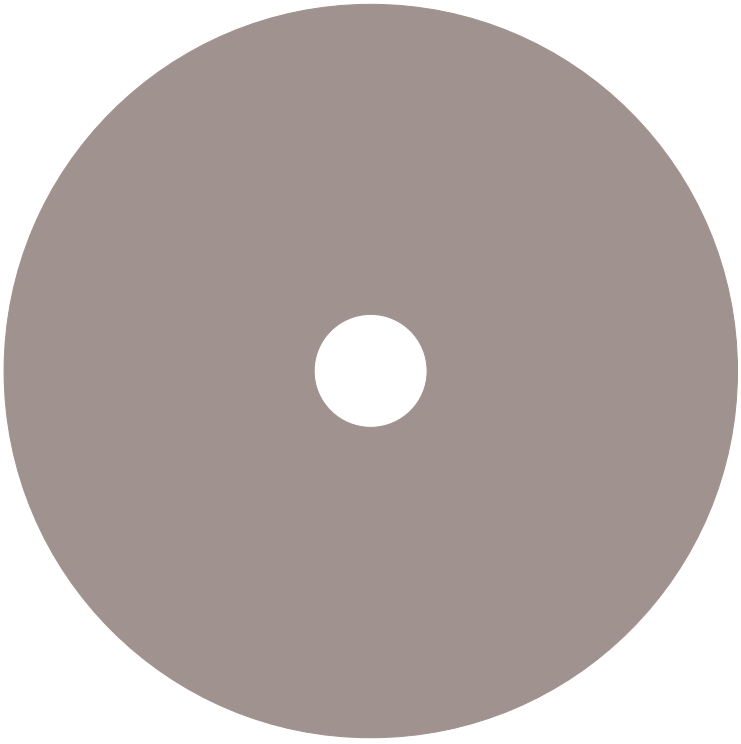


S-II heat shield design



Hole for heat shield

J2 engine.



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Instructions:

1) Build tim johnsons saturn1B S-IVB, http://www76.pair.com/tjohnson/ppsm.html substituting the skin for the S-IVC from this file for the one that tim has. This will give your S-IVC the correct markings for Saturn V Apollo 11.

2) Using the technique used to make the SLA in step 1), make the aft interstage. Add donuts, a 4.125"- ~.25" and 2.7125 + ~.25" used to support the aft interstage. (The SLA shows one donut for internal support, on the Aft interstage we are using two, one towards the top, and one towards the bottom.)

3) See change log for more building instructions and a bibliography of reference material.

Change log/More instructions/Bibliography:

020501-15:30 EST JL First Creation.

020501-16:11 EST. JL fixed white line in stage II in black section.

020502-10:38 EST JL used 3 4.125" (4 1/8") diameter circular donuts to support stage II internally. Used a 2.7125" diameter cylinder at about ¾" high as an internal connector for the aft interstage to connect to the SIVB this part was not glued to allow stages to separate. Two donuts, a 4.125"- ~.25" and 2.7125 + ~.25" used to support the aft interstage.

020502-14:30 EST JL added interstage, and top half of stage I, the top skirt and the upper tank.

020503-15:30 EST JL added bottom half of stage I, the intertank, lower tank, and thrust structure. Added a ruler to each page confirm 1/96 scale.

020506-09:30 EST JL added fairings, bottom of thrust structure, and a template for a 4.125" donut (use liberally to support S-II S-IC tubes, I cut them out of corrugated cardboard and used 3 per building section.)

020507-08:00 EST JL added F1 engines with heat exchangers. These need to be trimmed to guide lines as I overprint black, to the aft interstage.

020509-12:00 EST JL added S-IVC skin, made mirror fairings, fixed stringers, made mirror engines in gray, made two sets of of fins.

020510-08:00 EST JL S-IVC: fixed markings, stringers, enlarged S-ivC diameter. it may be slightly larger than the Aft interstage, it may need to be trimmed a little. Test fit before gluing.

020515- 08:00 EST JL v15- moved stuff around so the pdf will print all parts. Used Ghostview to make pdf file(15). Added S-II thrust structure, started S-II heat shield. Started instructions section.

020516-17:00 EST JL v16- added J2 engines, (cut 4 out of circle) and refined the heat shield to fit inside of J2 engines. During assembly turn S-II upside down. Place heat shield on thrust structure in position, glue the center j2 engine around it, allow to dry. Turn S-II over, glue heat shield to center J2 aligning the holes for the other J2 engines
with the cross member of the thrust structure. When dry glue other 4 J2 engines in place.

030127-15:00 EST JL I believe that tim johnsons J2 engine is not in scale. I took my measurements for the J2 and F1 Engines from the documents here:

http://history.msfc.nasa.gov/saturnV/index.html

From those measurements I calculated the the necessary measurements to make the conic sections from segments of a circle. The first conic section I produced was for the Aft Interstage between SII and SIII(S-IVB). Using the measurments from these websites:

http://www.nasm.si.edu/apollo/FIGURES/Fig49a.jpg
http://www.apollosaturn.com/poster.htm

I made my the Aft interstage using the following mathematical calculations to ensure the proper angle of inclination and height of the interstage:

http://community.webshots.com/photo/43834090/46799294tIAmyC

Using the formulas from above the J2 and F1 engines were calculated and applied.Please check the Change log for instructions on the J2 Engines. I believe I added them to version 17 of the the PDF.
I was also supplied some detailed measurements for the Fairings and Fins and I
am equally confident that they also are accurate.

Current version of this document, Work in progress pictures and pictures are available here:

http://jleslie48.topcities.com/0206pr/