

Cloud Skimmer – Immolation Rider

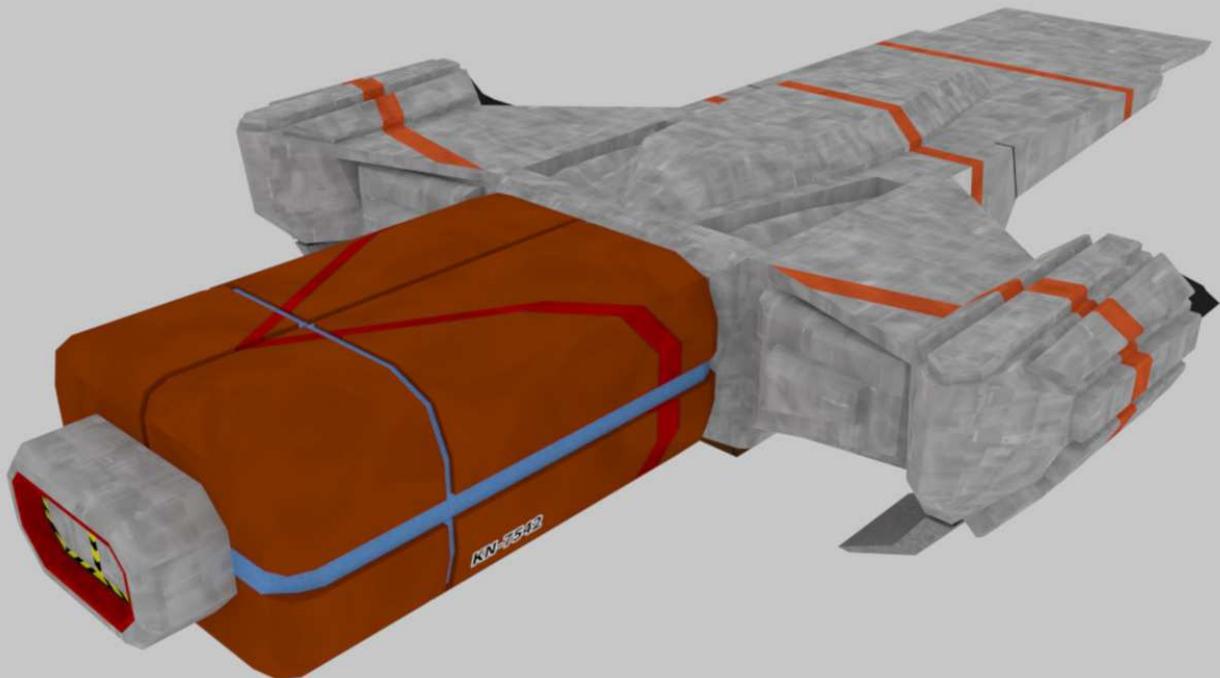
Original design by David Lukens, 2018

www.insanityunlimited.com

http://www.insanityunlimited.com/gallery/paper_models/cloud_skimmer/

Difficulty: Moderate

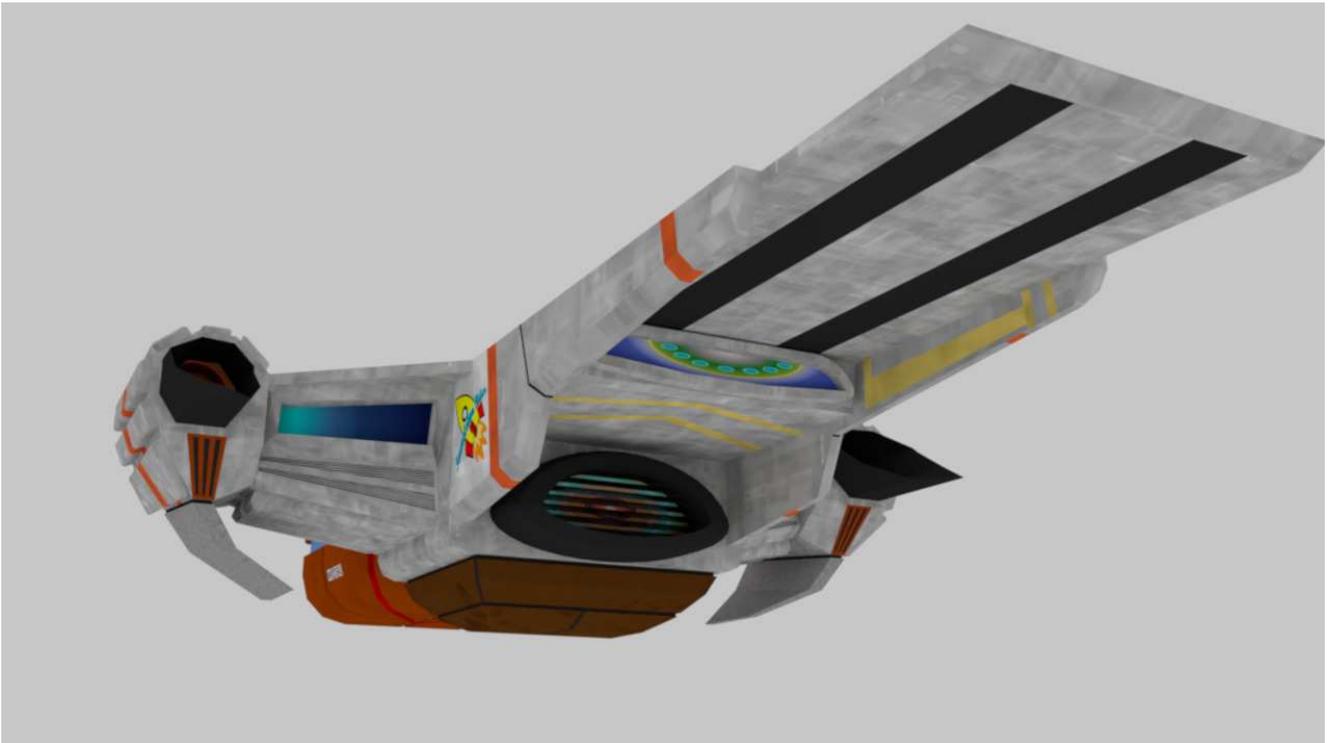
Version: 1.2, 20180107



Description

In the future, space travel is ubiquitous. These ships run upon an economy based upon Helium-3. He-3 is concentrated in the outer layer of stars and in gas giants. The preferred method for collecting He-3 is to build a large cloud mining platform in orbit of a large gas giant as a permanent industrial node. This allows for a stable and efficient mechanism to collect large quantities of He-3. On the downside, cloud platforms require a significant industrial investment and a relatively sophisticated level of industrial maturity.

For systems that do not yet have the industrial maturity or the economic resources to invest in a large platform the next best option is a purpose built set of ships called Cloud Skimmers. These ships make fast low passes through the upper atmosphere of gas giants to collect and process He-3. The lower these ships pass through the gas giant the higher the density of He-3 available. But the lower a ship goes the more resistance, turbulence, and heat is encountered. So there is a balance between getting the He-3 quickly and risk of not returning.

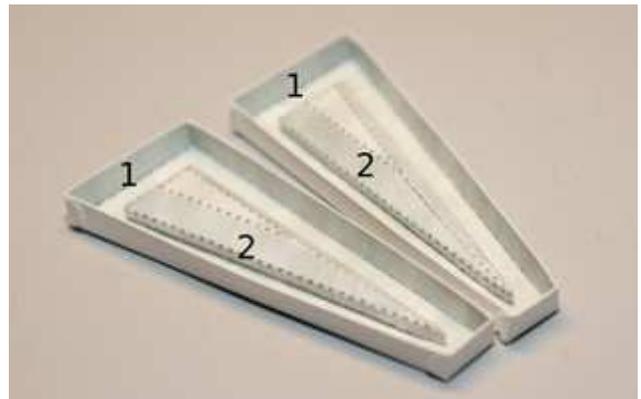
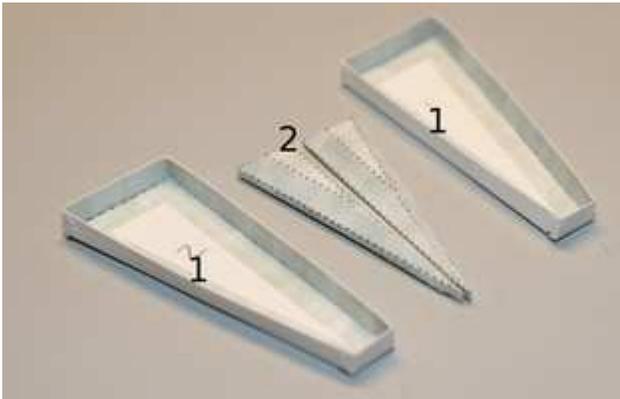


Instructions

This document follows the normal conventions for paper model making. I will describe very small sub-components before the sub-components are joined together.

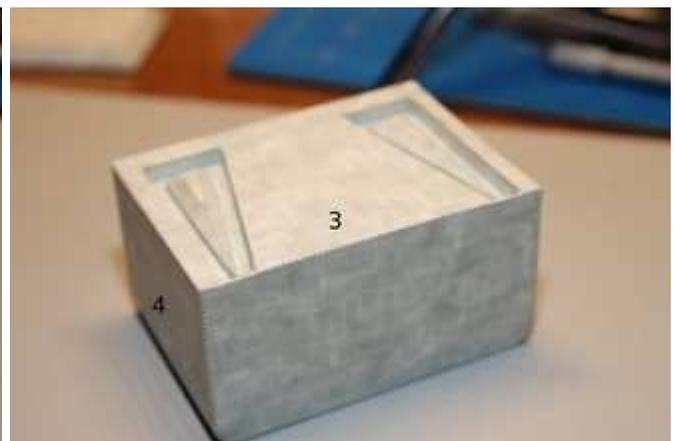
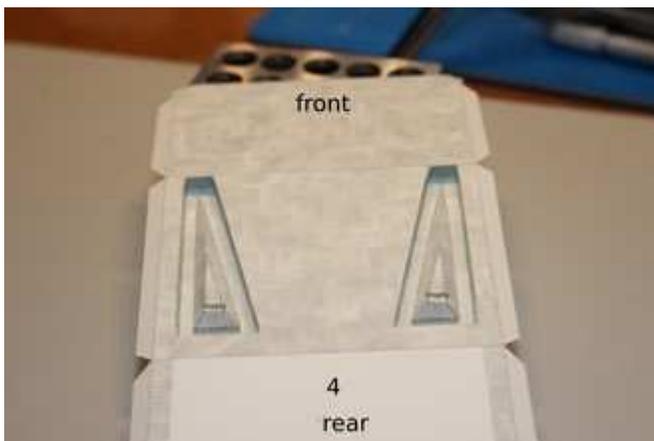
Insets

The insets are recessed panels that will go into the center section of the body.



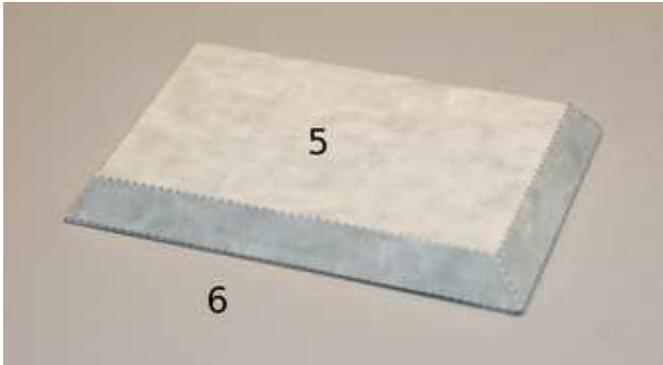
Center Body

The insets are placed into the cutouts of part 4. Part 5 makes up the sides and bottom of the center section of the body.



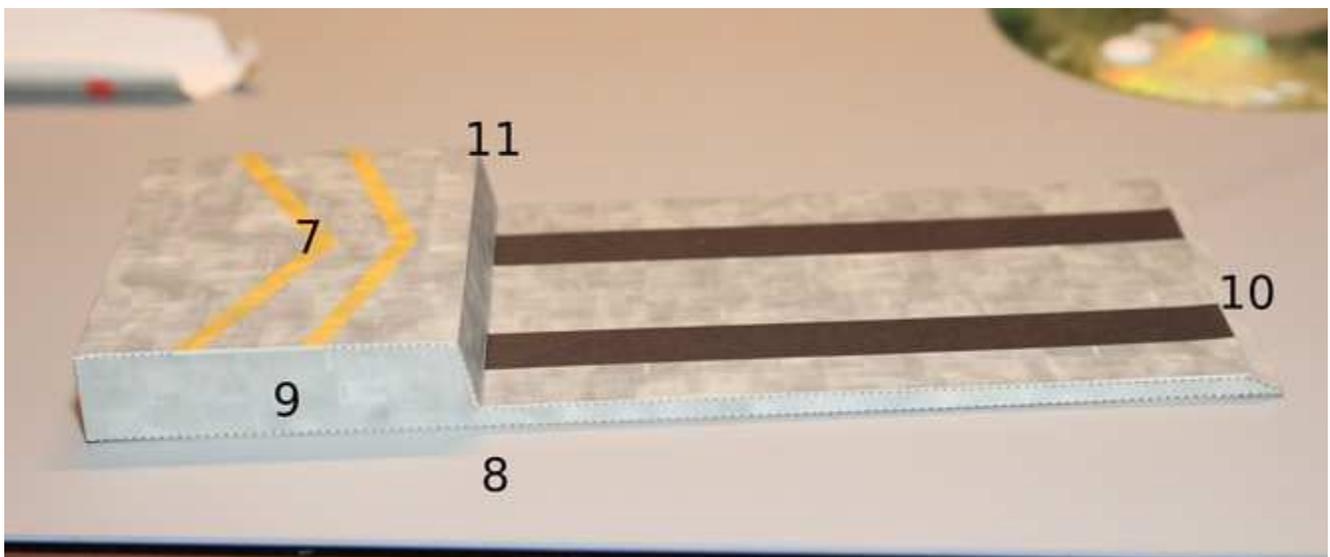
Rear of Center Section

This is the rear transition of the center body. Parts 5 and 6.



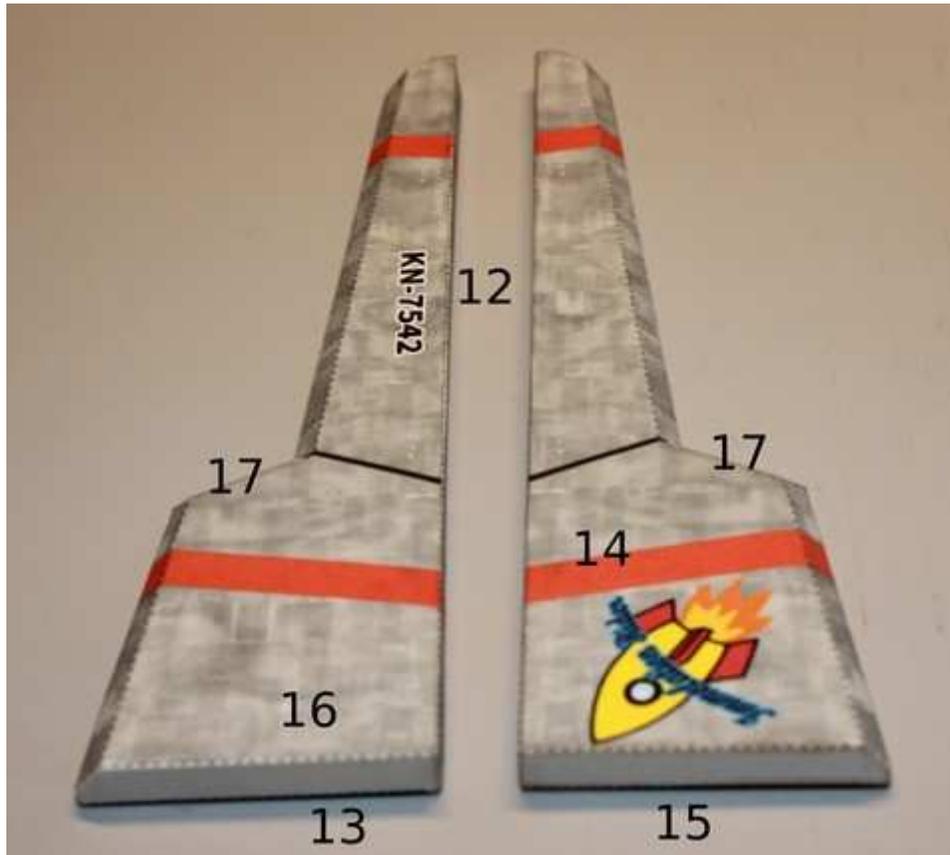
Plane

The main scoop plane is made up of several parts. The bottom is part 7, the leading edge is part 10, the top is part 8 (put the orange stripes closer to the rear). The sides are made of parts 9 and 11.



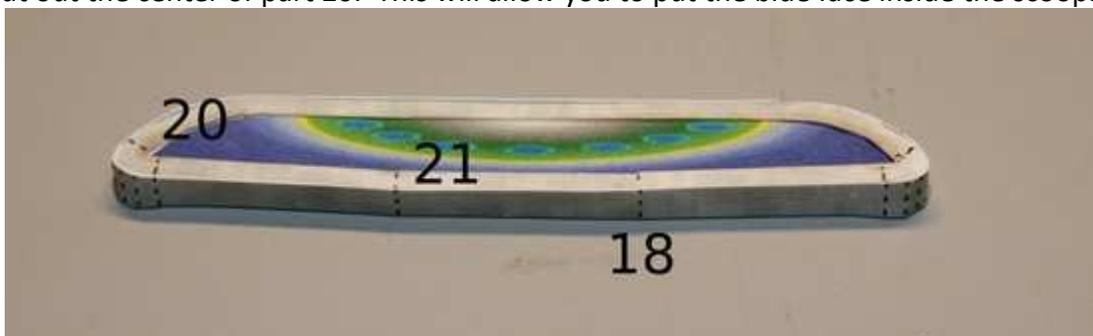
Plane Wings

The sides of the scoop plane are shown here. Parts 13 and 15 are the inside faces. The top rib on each is made from part 12. The outer faces are made from 14 and 16 with 17s used to fill in the beveled edge. Make sure the orange stripes line up across the parts.



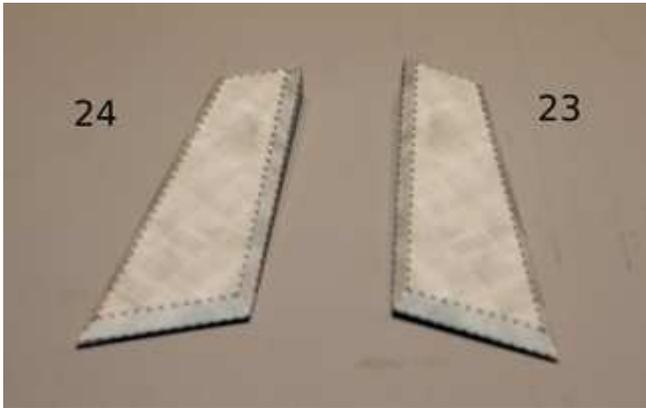
Scoop

The scoop on the main plane is made up of part 18, 20, and 21. Leave an edge of paper around part 21 and cut out the center of part 20. This will allow you to put the blue face inside the scoop.



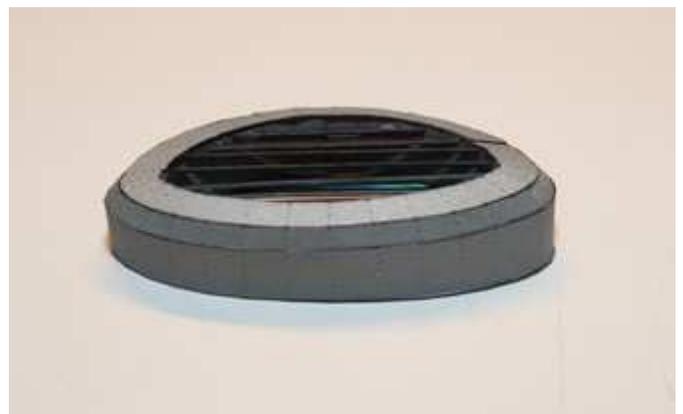
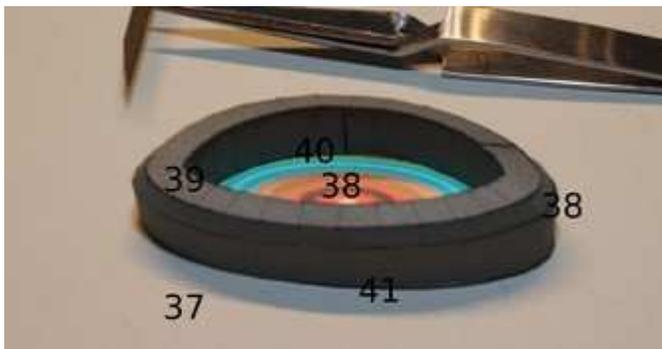
Dorsal Panels

The dorsal panels are lefts and rights. Panel 1 is made of part 23 and 24. Panel 2 is made of parts 25 and 26.



Inlet

The main He-3 inlet is made up of parts 46-41, p0-p6. The back is 37, the inlet face is 36. The outer ring of it is made from parts 41, with bevels from parts 38 and 39. The inside ring is made of part 40. The inlet vanes are made from parts p0-p6. These go in in order from the bottom to the top as you can see below. They should slant down and outwards.

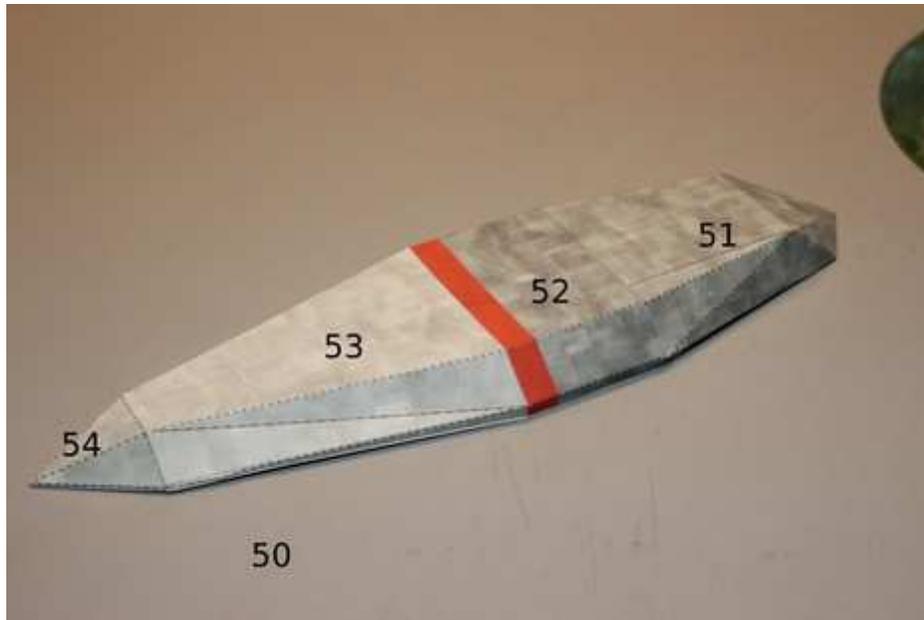


Belly Pan

[Forgive me, I forgot to take a picture of the belly pan on its own.] Laminate parts 30 and 33 to a 1mm thickness and edge color those black. Parts 31 and 32 make a larger pyramid type shape, and 34 and 35 make a smaller one. Sandwich all this together in this order 30, 31, 32, 33, 34, 35.

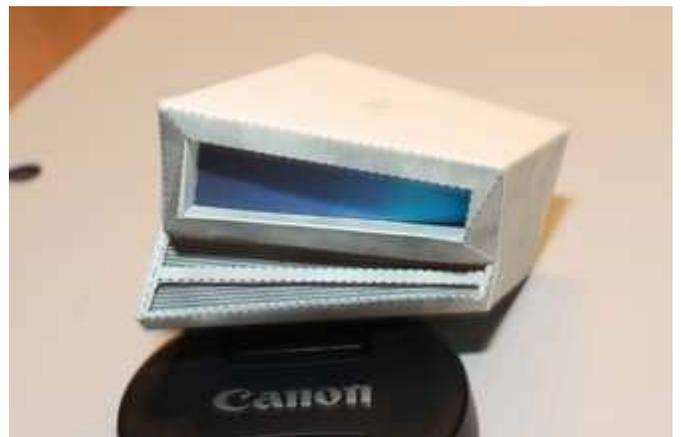
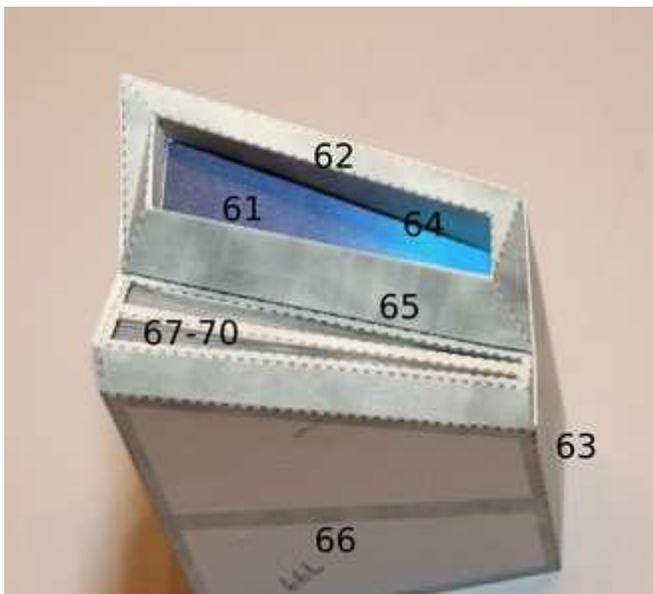
Top

This is the top of the ship. Assemble parts 50-54 as seen in the picture. Part 50 is the bottom of it.



Underwing

The underwing sub-assemblies are made up of parts 61-70. There are parts for each the left and right sections. Part 64 is the inner bezel for the blue face of part 61. Parts 62 and 65 are the outer ring for the bezel. The inset radiators are made from 69 and 70 each with 68 or 67 serving as the inner bezel. Parts 63 and 66 make up the main body of the component. Build up the blue face and the radiator insets prior to assembling the main body, otherwise you'll never get the parts in. Cut out the areas with X's in them.



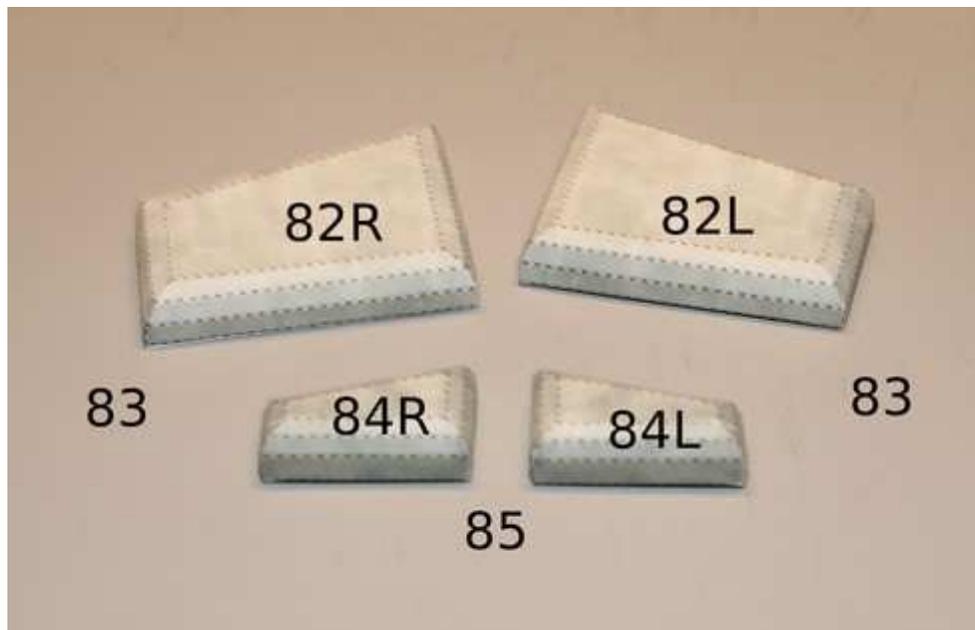
Wings

Parts 81 (L and R) make up each of the two wings. Form them as shown below.



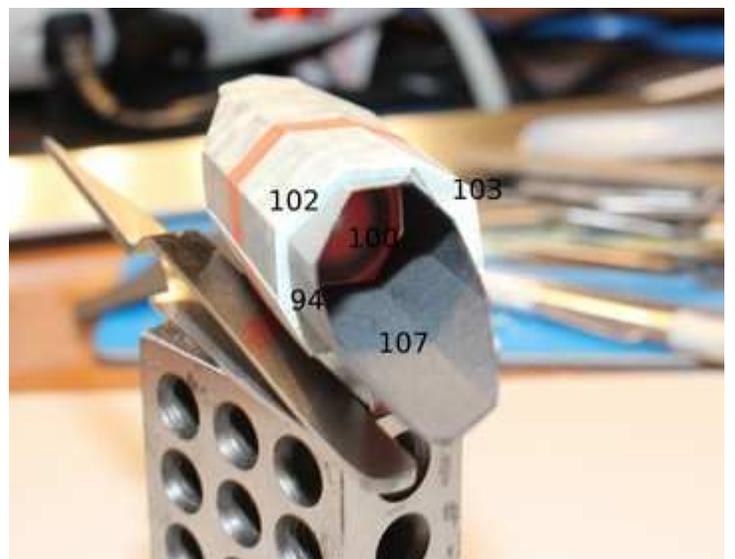
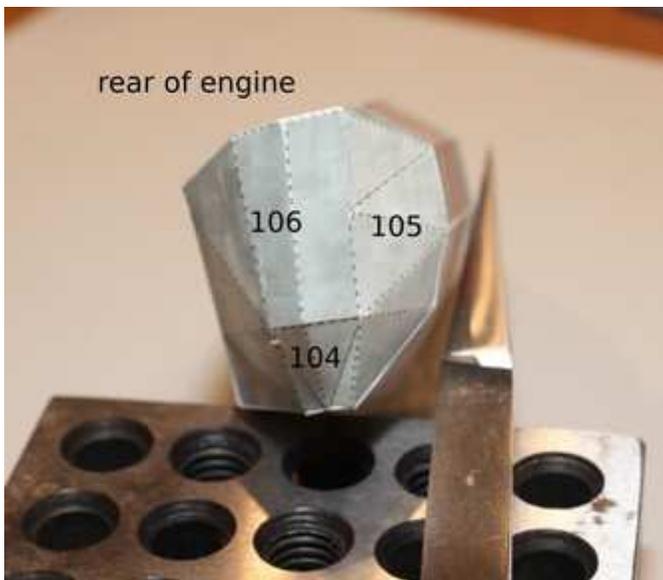
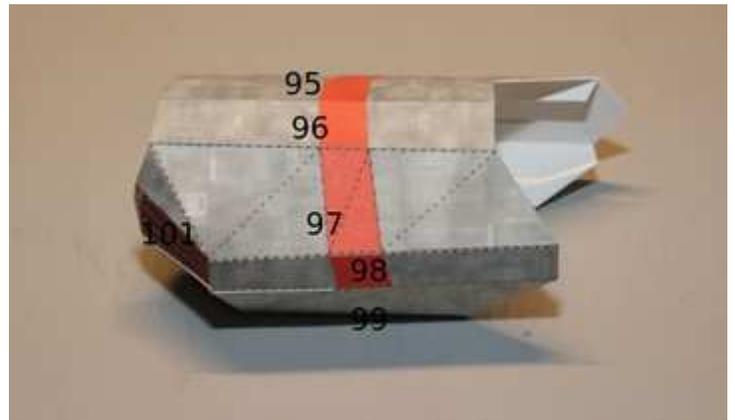
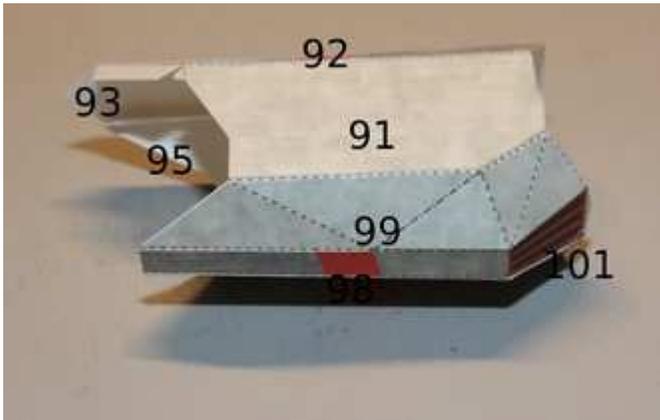
Underwing Extrusions

These are made from parts 82-85. Again they are two pyramid type shapes on top of each other. Parts 83 and 85 are the backs of each of these.



Engines

These are probably the most complicated part of the model. Each engine is made up of parts 91 through 107 with rights and lefts respectively. The engine face is part 100. The gray ring for the engine inlet is made of part 102 and 103. The inlet itself is made of part 107 for the inside and 94 for the outside.



Engine Panels

The 6 engine panels go on each of the engines. The orange stripes will line up on each panel with the stripe on the engine body itself.

Panel 1



Panel 2



Panel 3



Panel 4



Panel 5



Panel 6



All panels in place



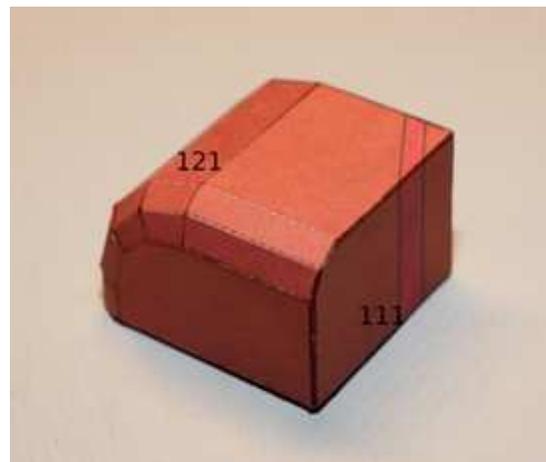
Engine Fins

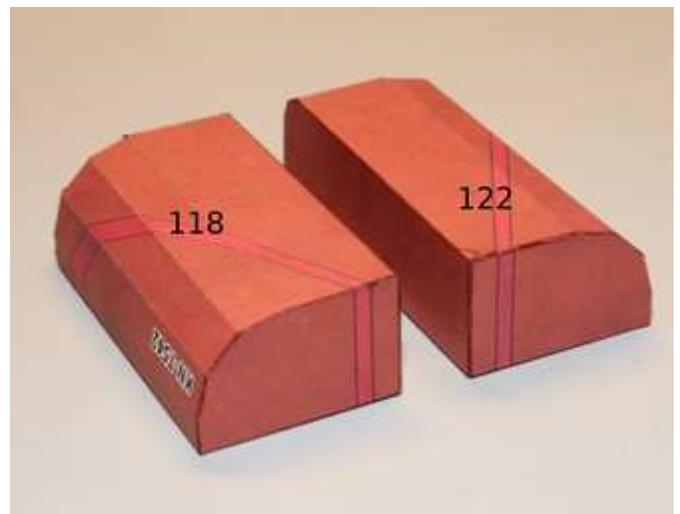
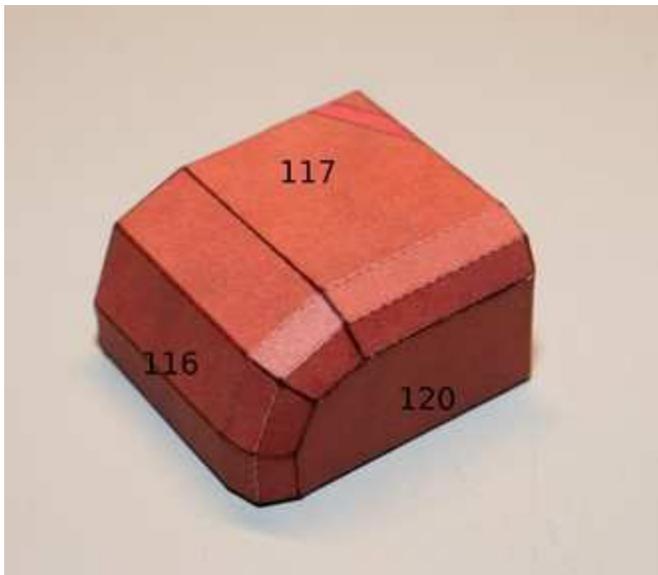
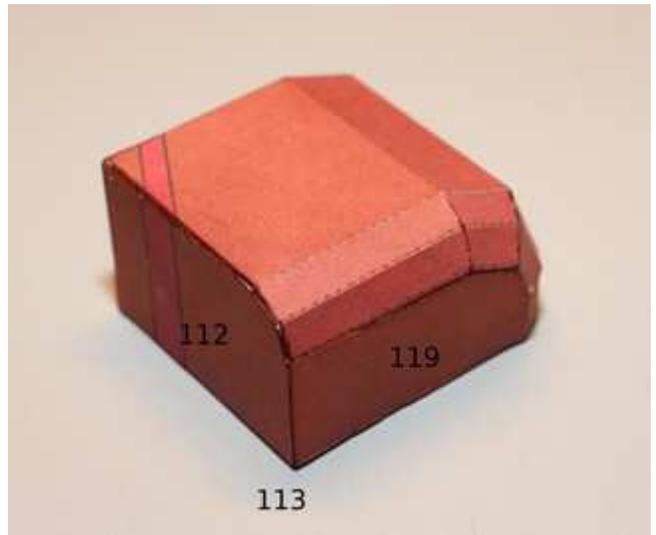
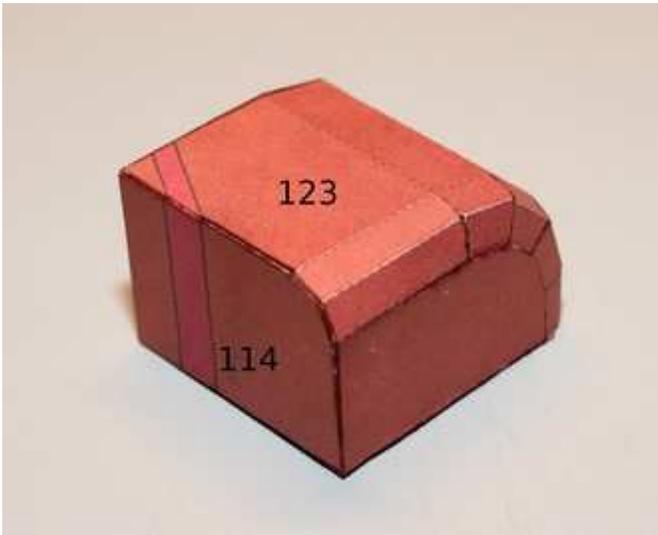
The engine fins are one part for each side, plus a separator that goes between the fin and the engine body.



Reactor Body

The reactor body is made up of several different components. I found that I had to work through them sequentially or I struggled to figure out which parts went together. Note that the top portion has two longitudinal edge bevels, while the bottom has three.



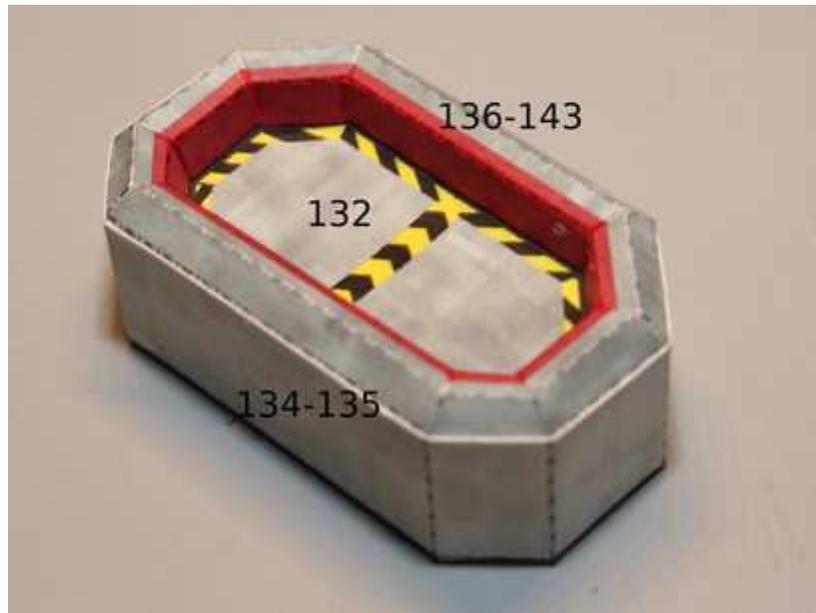


The blue separators are the same for iether the left or right side, but the top and bottom have a different number of edges. Part 126 is for the bottom and 127 for the top. Part 124 is the separator between the top and bottom sections. Parts 130 and 131 make up the vertical separator.



Rear Hatch

The rear hatch is made up of parts 132 through 143. The back is part 133, the ring is made up of parts 134 and 135. The trailing edge is parts 134-143 and the doors proper are made from part 132.



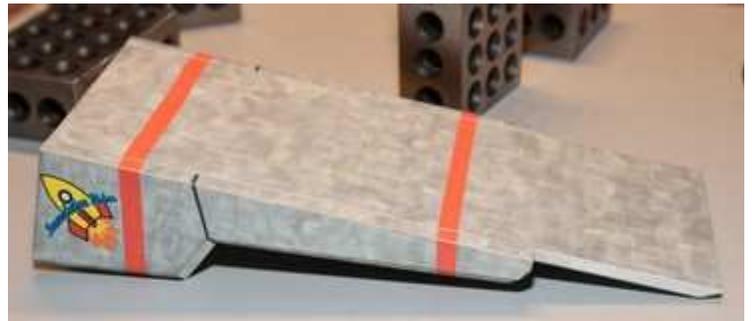
Assembly of the Reactor

All the parts go together to make something like this.



Overall Assembly

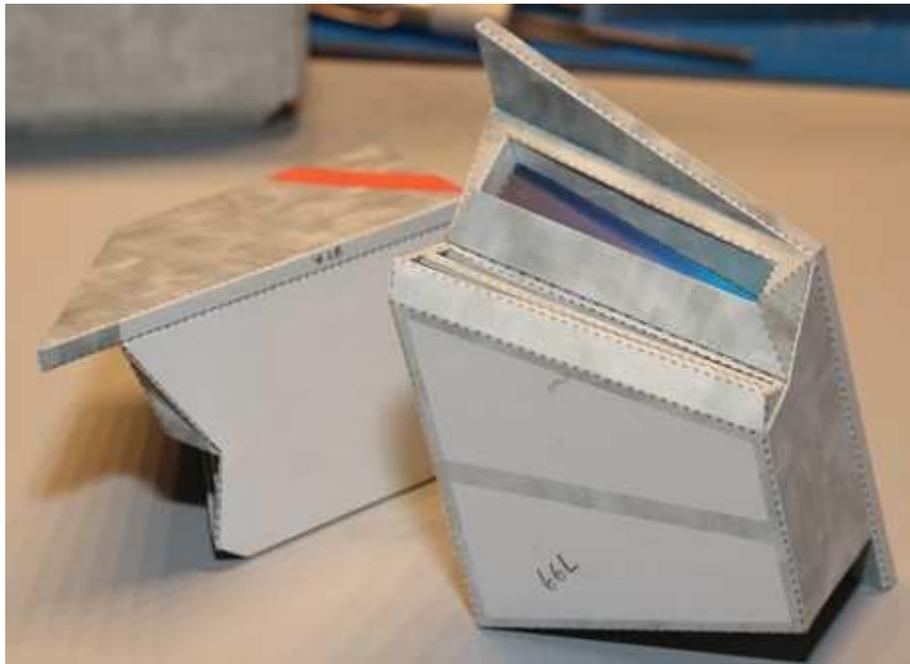
The main plane and the two plane sides go together as shown. Make sure to line up the orange stripes on them. In the step of the plane goes the scoop.



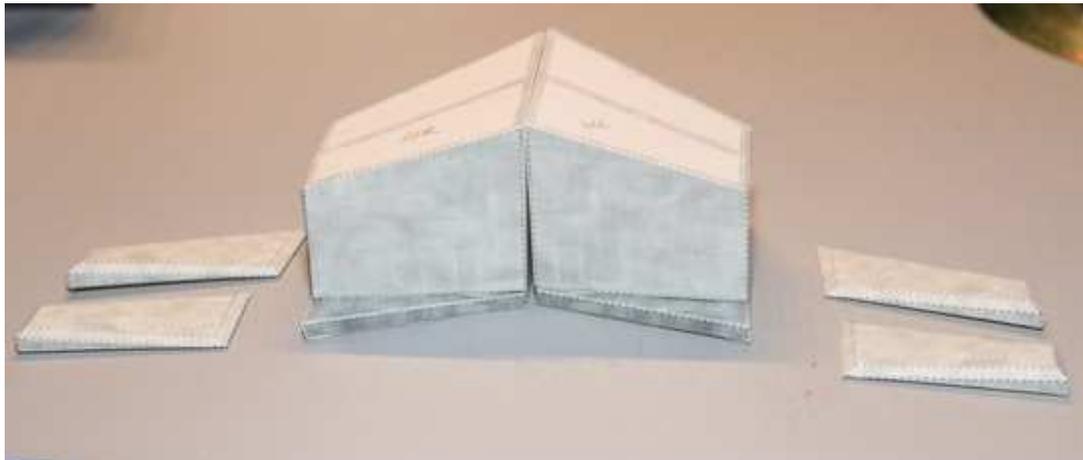
The plane/sides go on the front of the center body. Once affixed the main inlet goes on the remainder of the forward face on the center body.



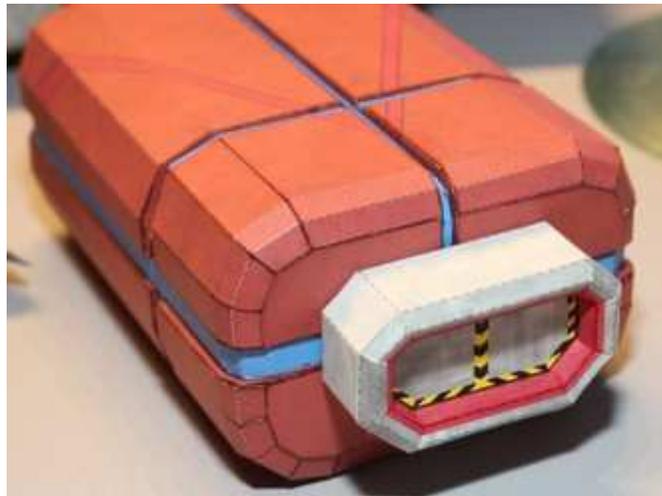
The wings are glued on top of the underwing assembly.



The dorsal panels are glued to the bottom of the underwing assembly.



The rear hatch is glued to the center of the rear of the reactor.



The top of the ship is glued to the top of the center and main plane. Be sure to line up the orange stripe.



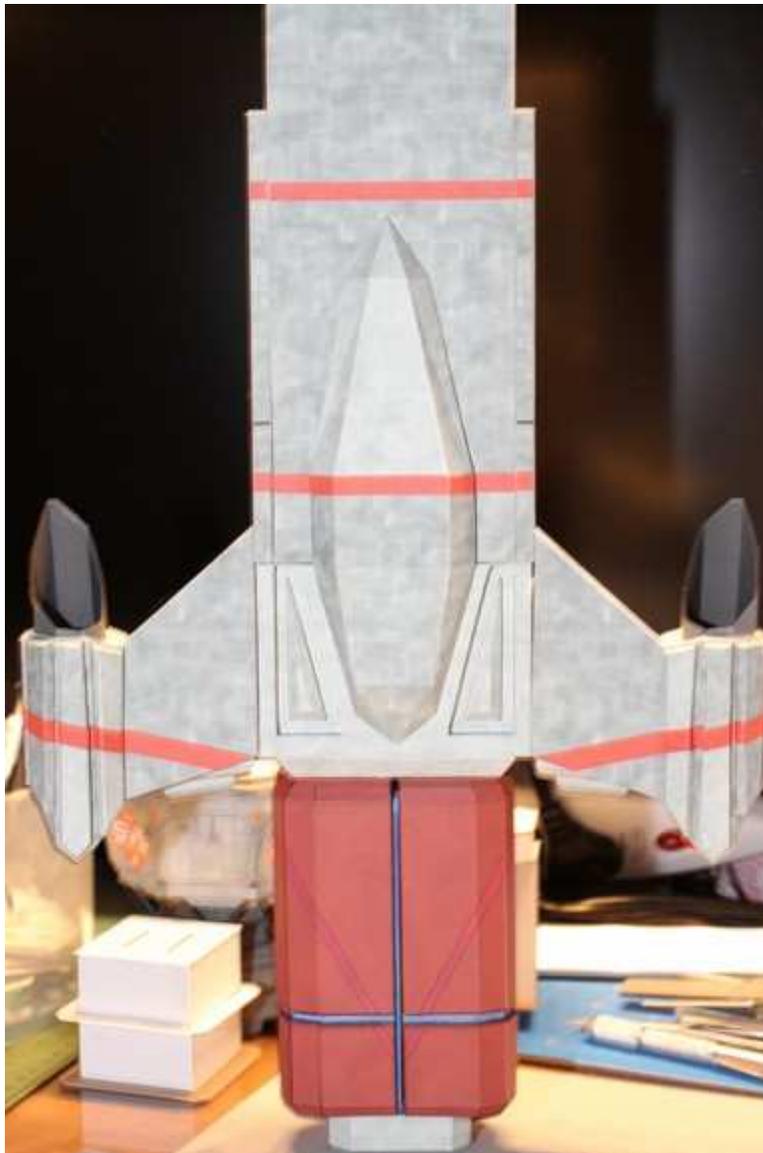
Glue the wing assemblies to either side of the center body. The top of the wing should be level with the top of the center section and the main plane.



Glue the engines on each wing assembly.

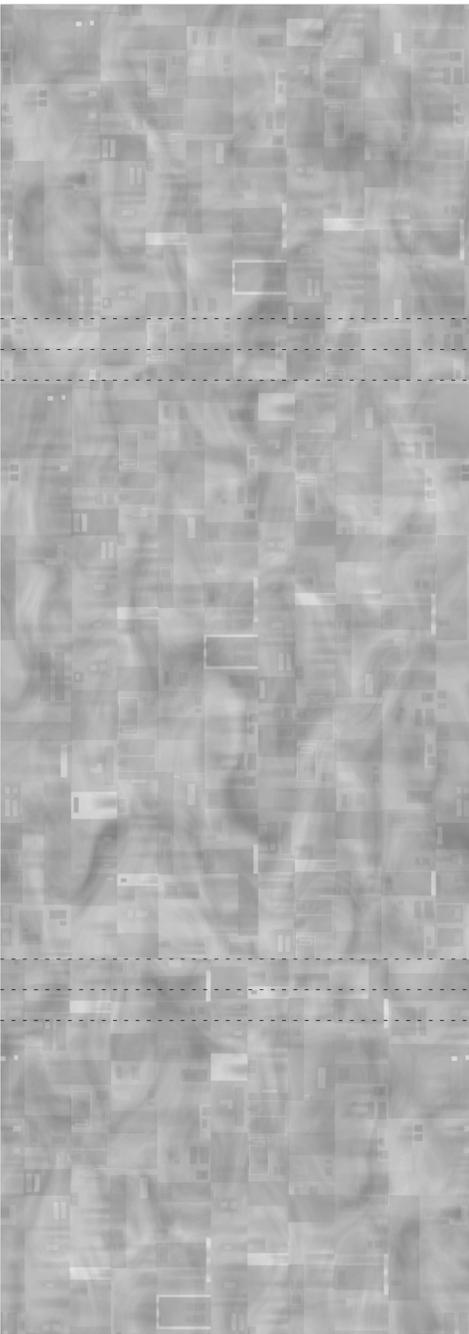
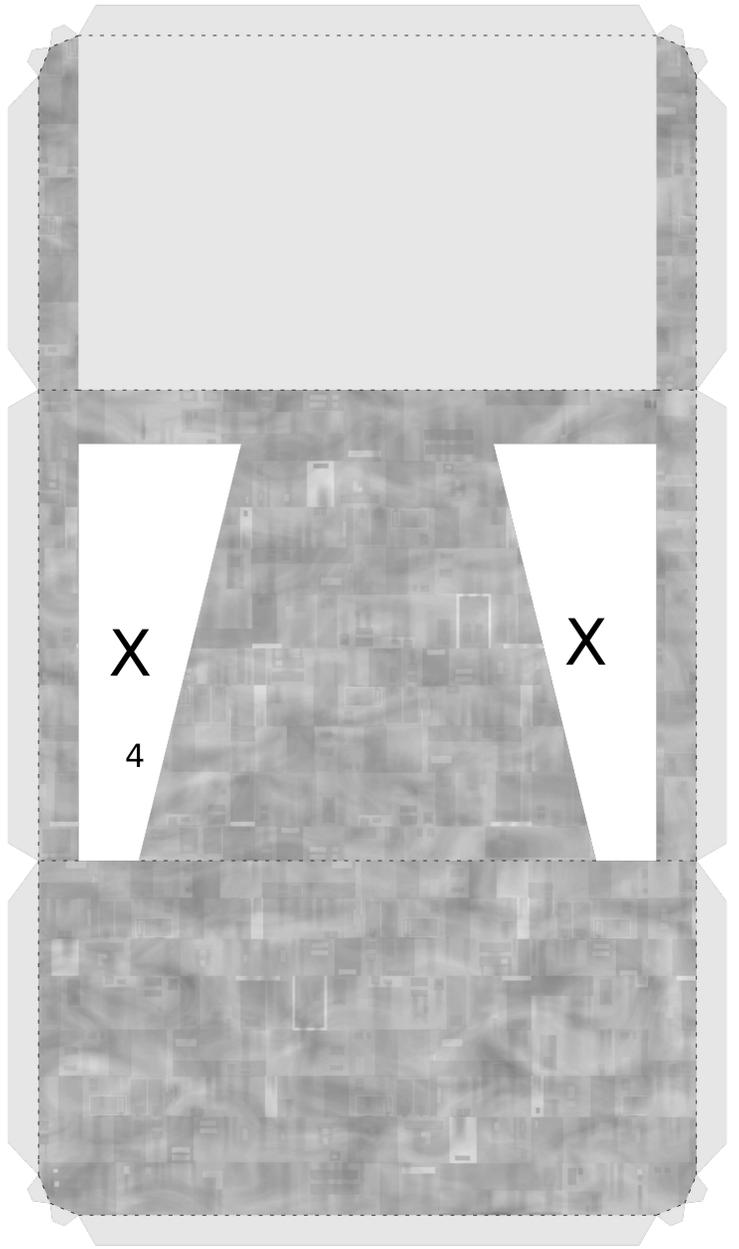
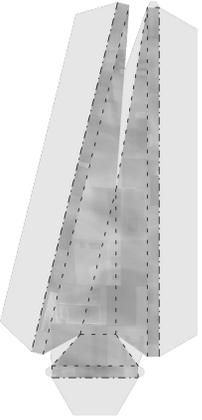
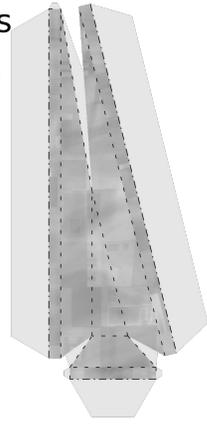
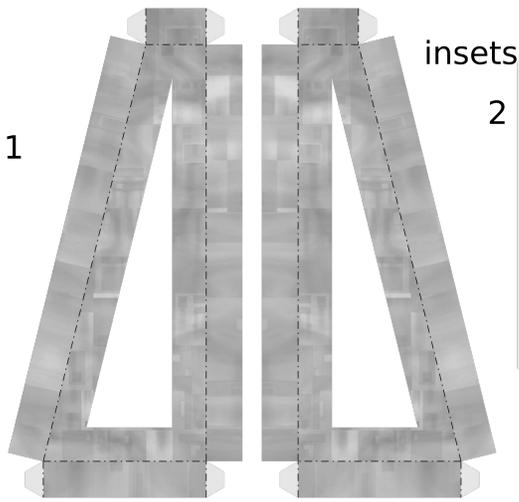


Glue the tapered rear of center section part to the rear of the center body. Behind that glue on the reactor.

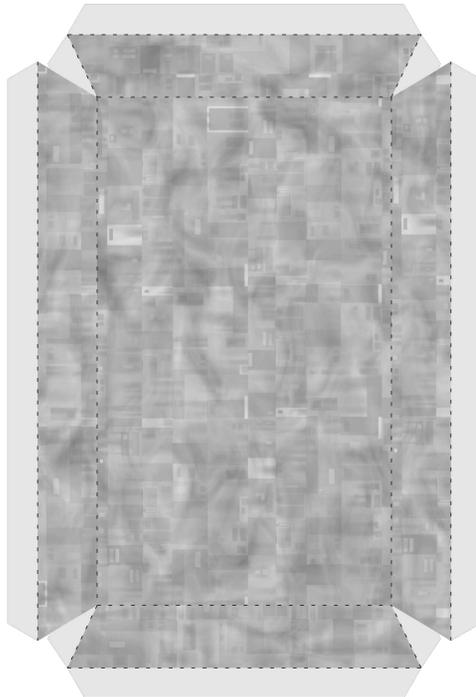


And you're done.





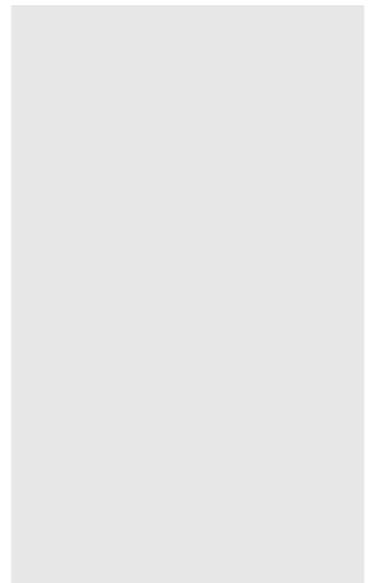
body center



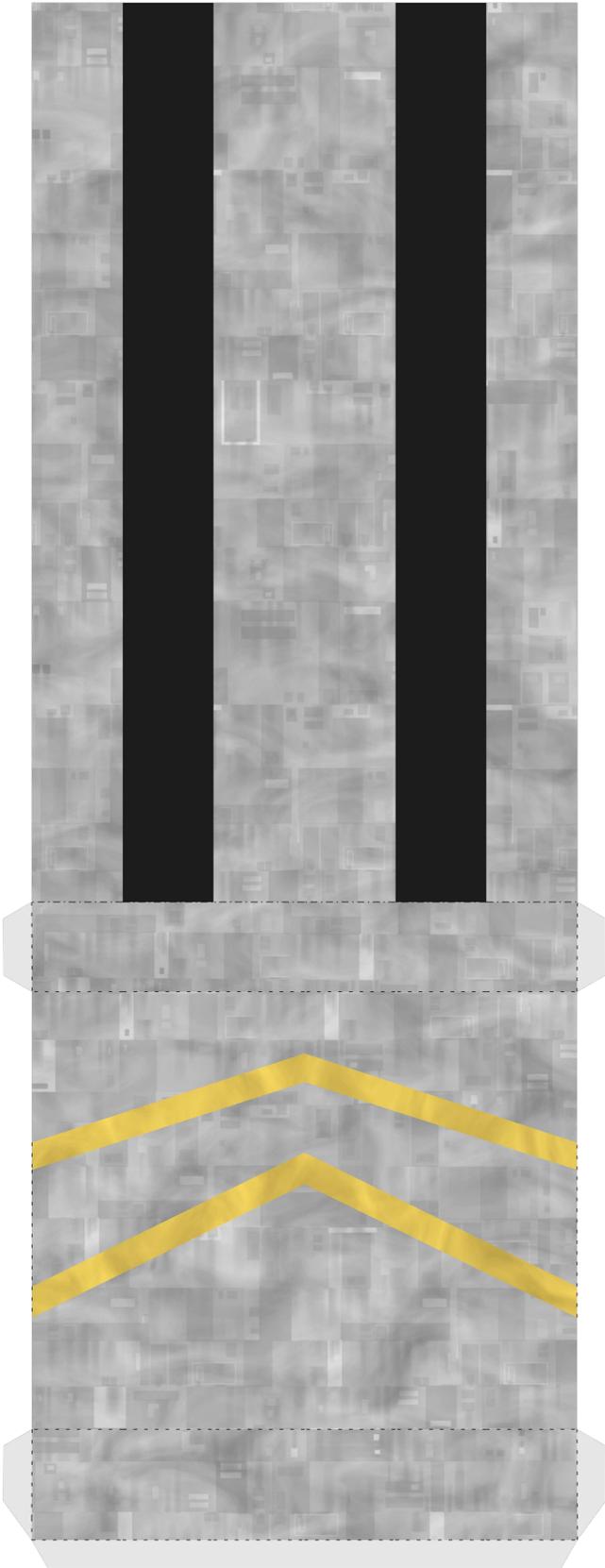
5

6

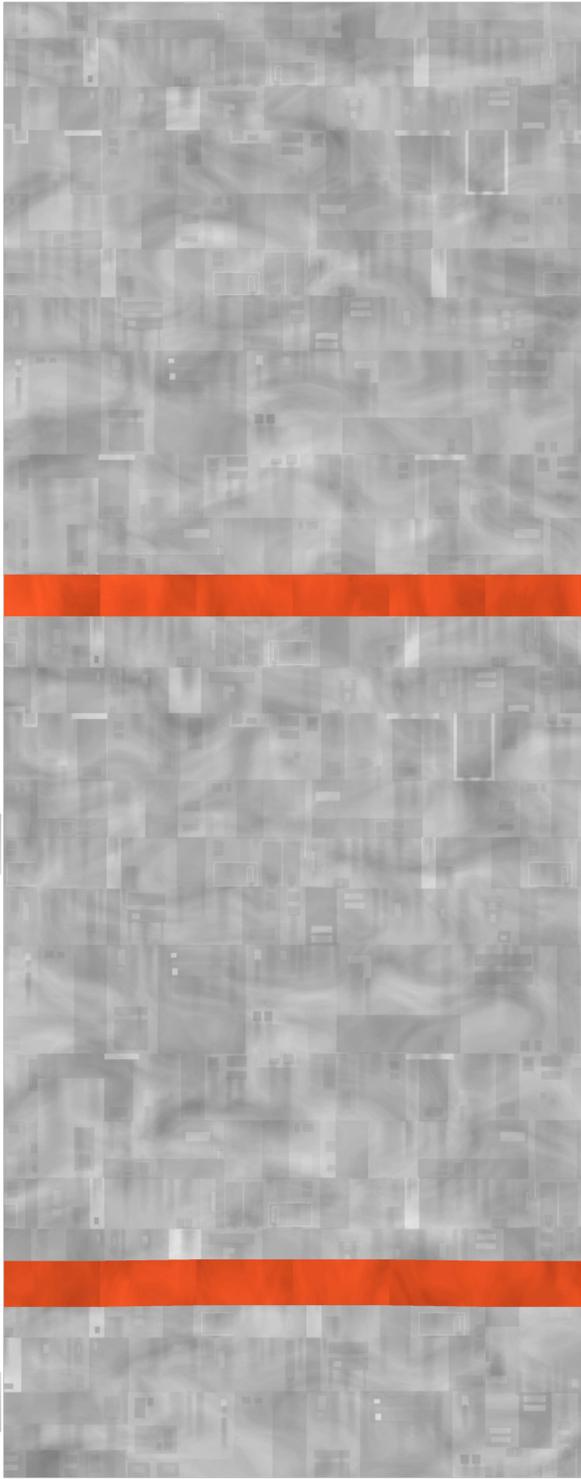
body rear



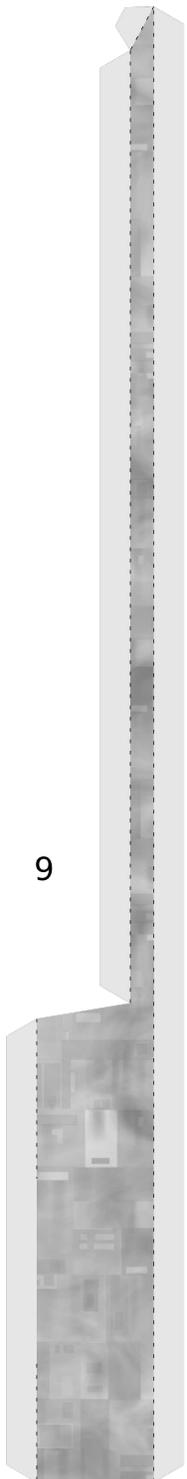
scoop plane 7



8



9

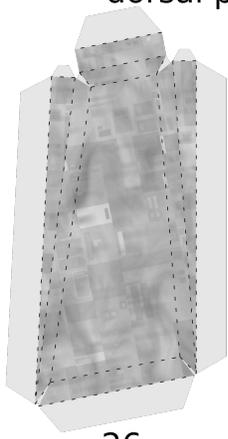


10

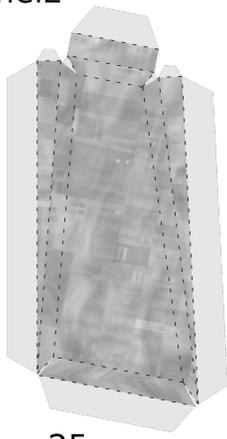


dorsal panel2

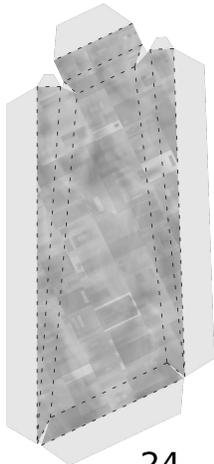
dorsal panel1



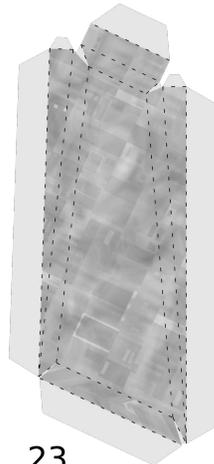
26



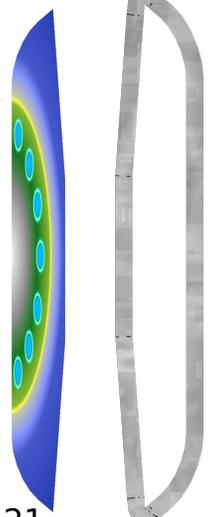
25



24



23



21

20



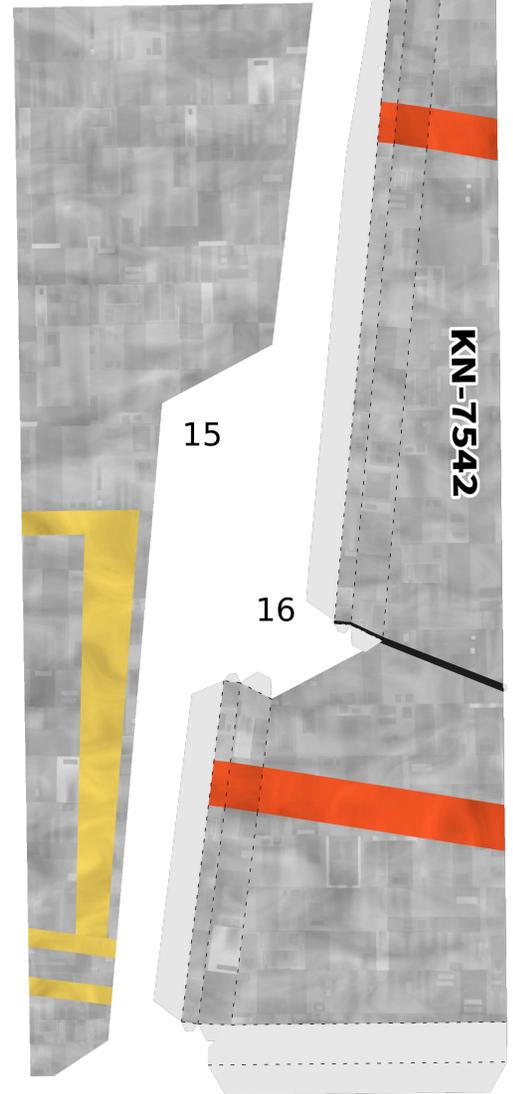
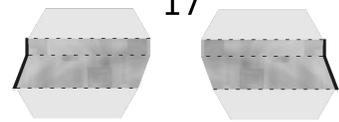
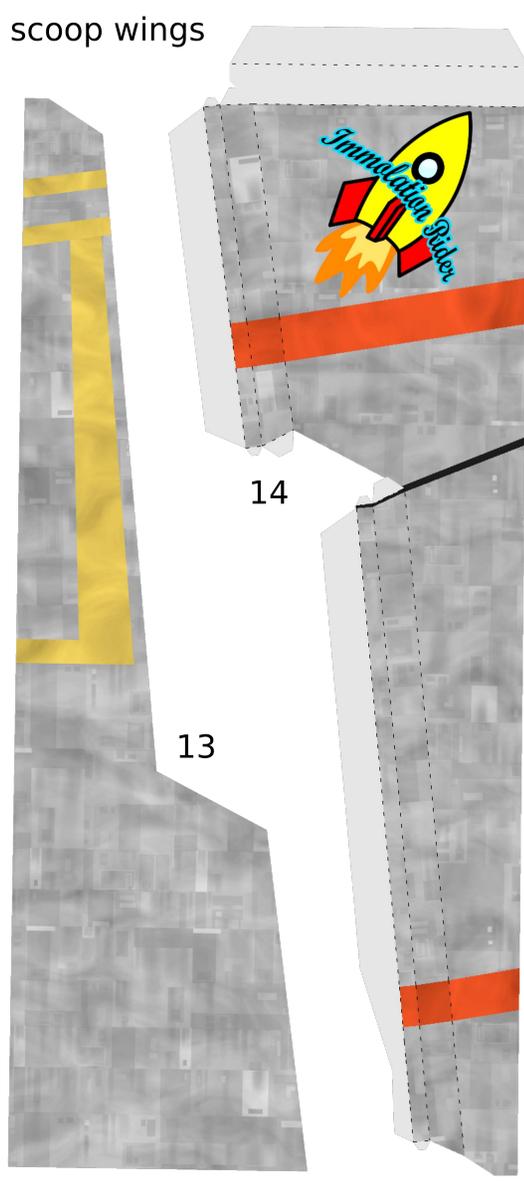
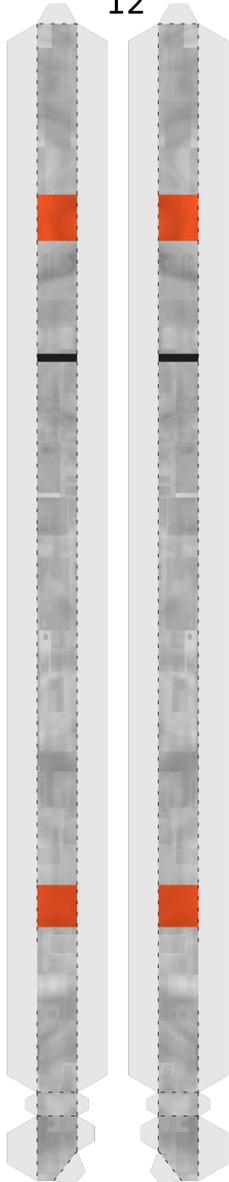
18

scoop

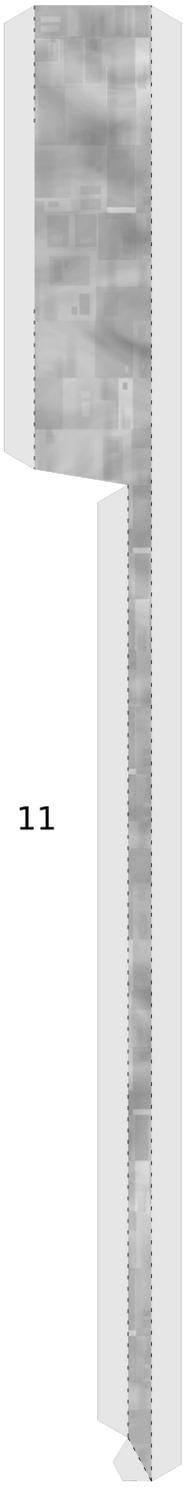
12

scoop wings

17



11



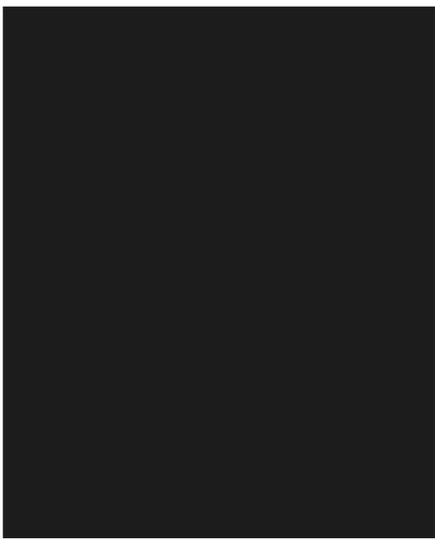
14

13

15

16

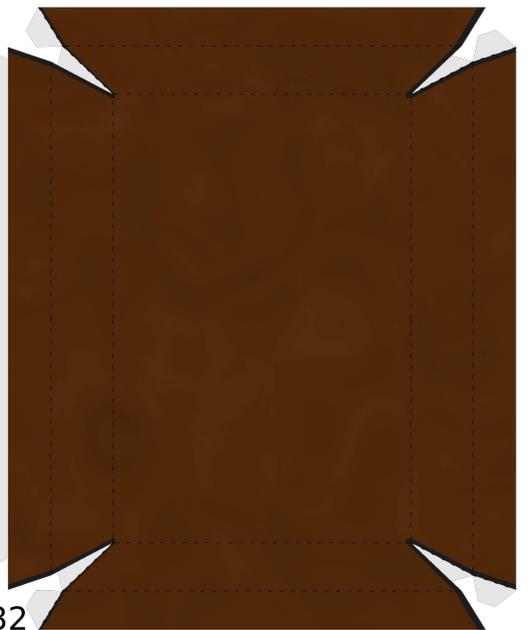
KN-7542



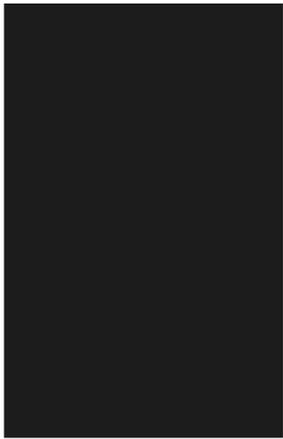
30-laminate to 1mm and edge color-belly pan



31



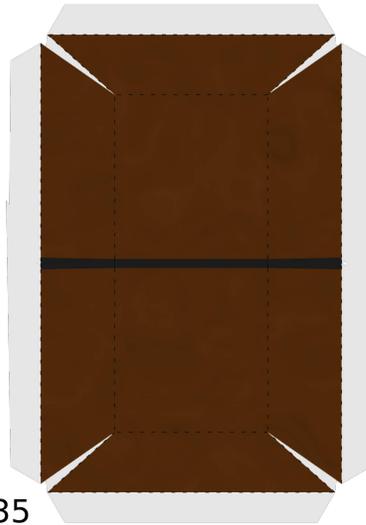
32



33-laminate 1mm and edge color

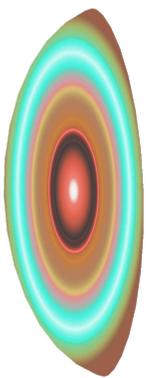


34

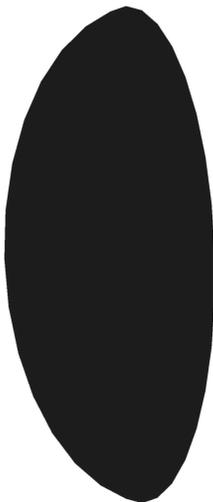


35

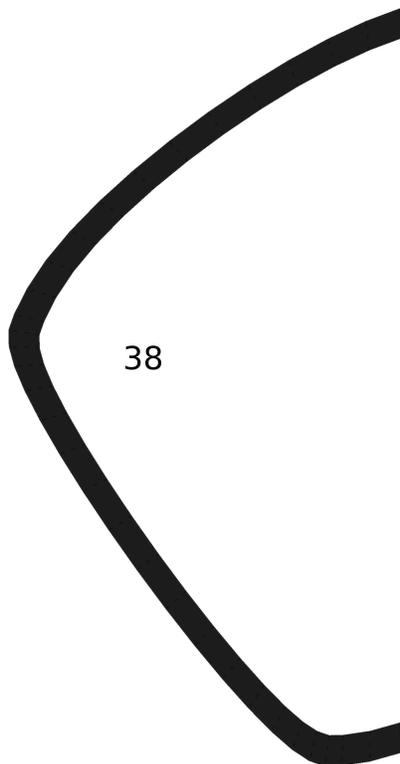
inlet



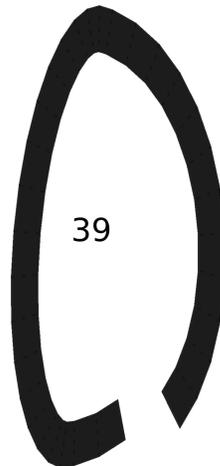
36



37

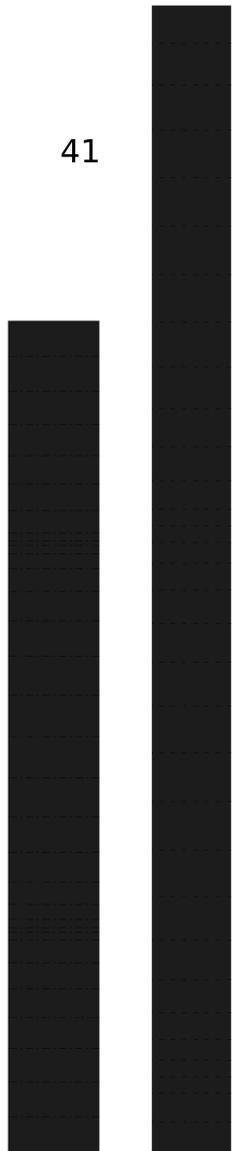


38

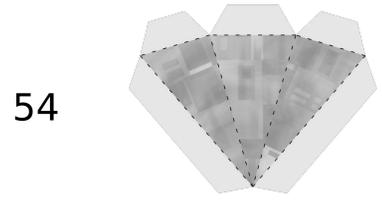
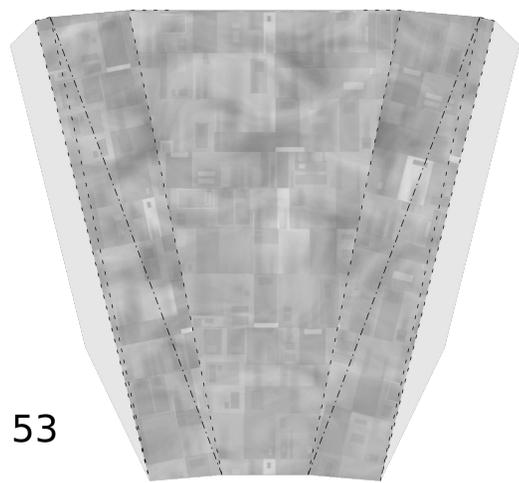
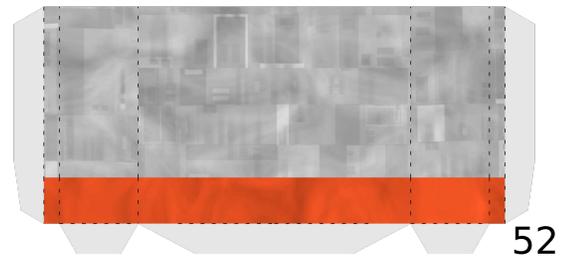
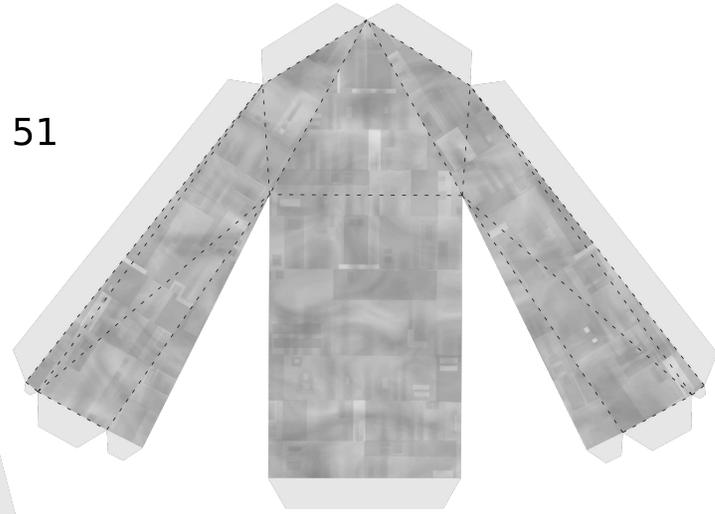
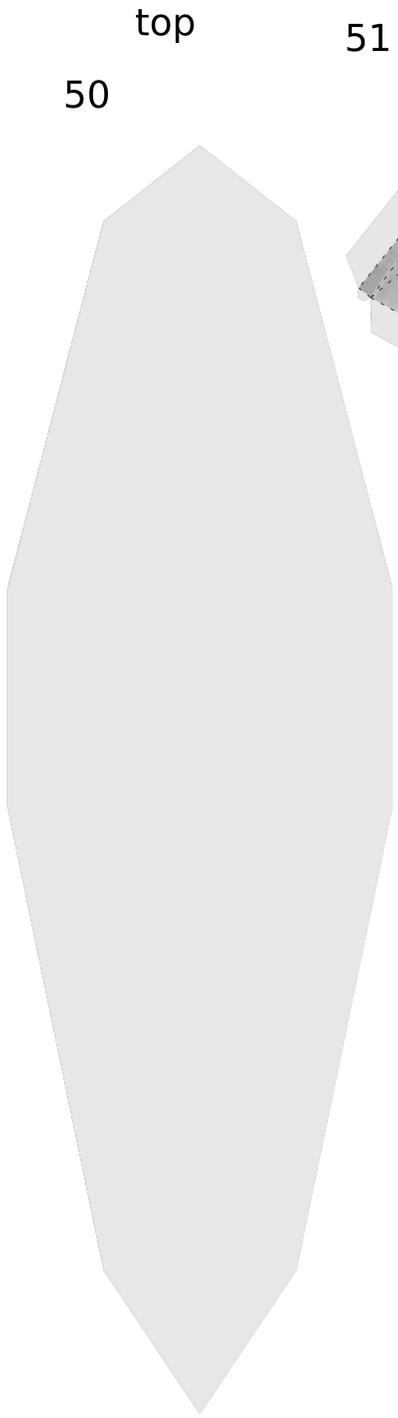
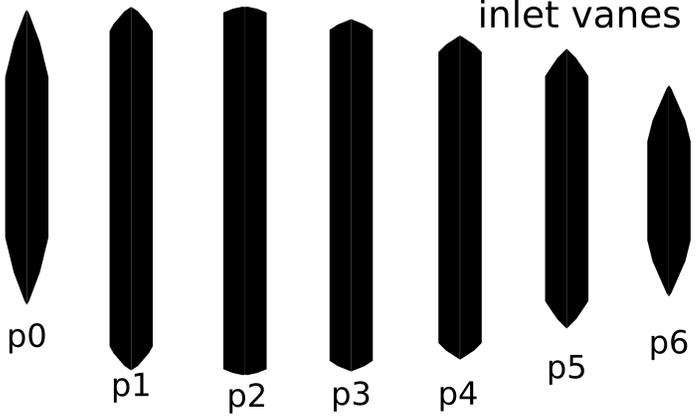


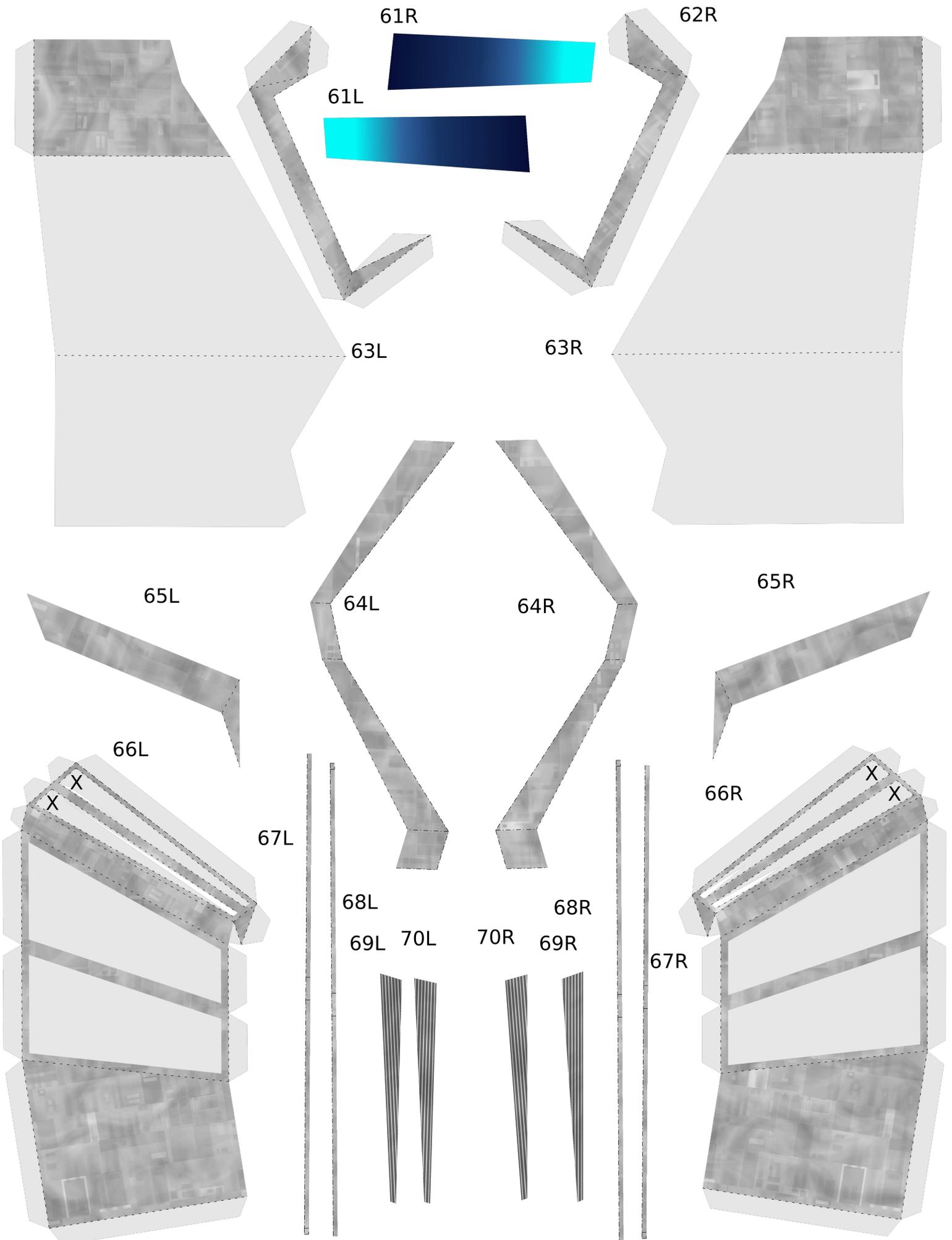
39

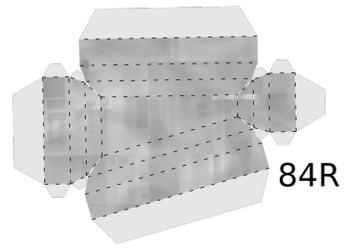
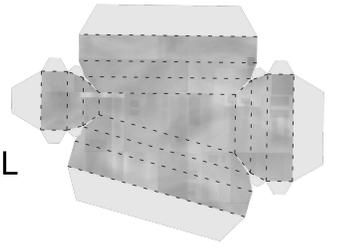
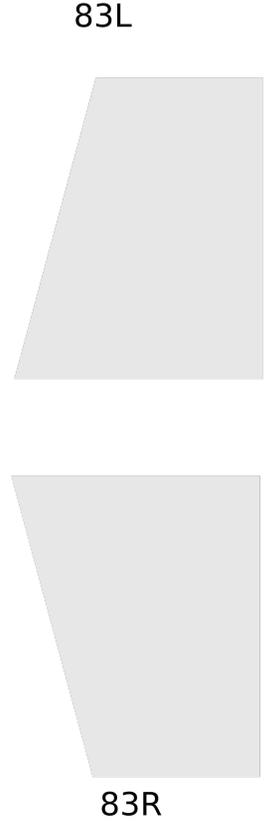
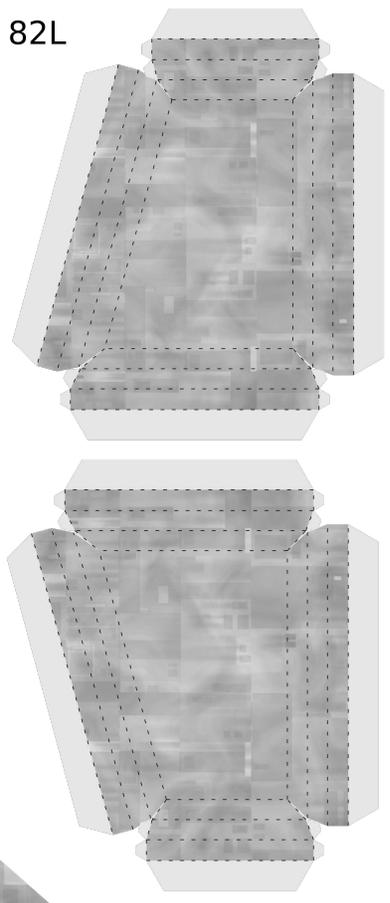
40

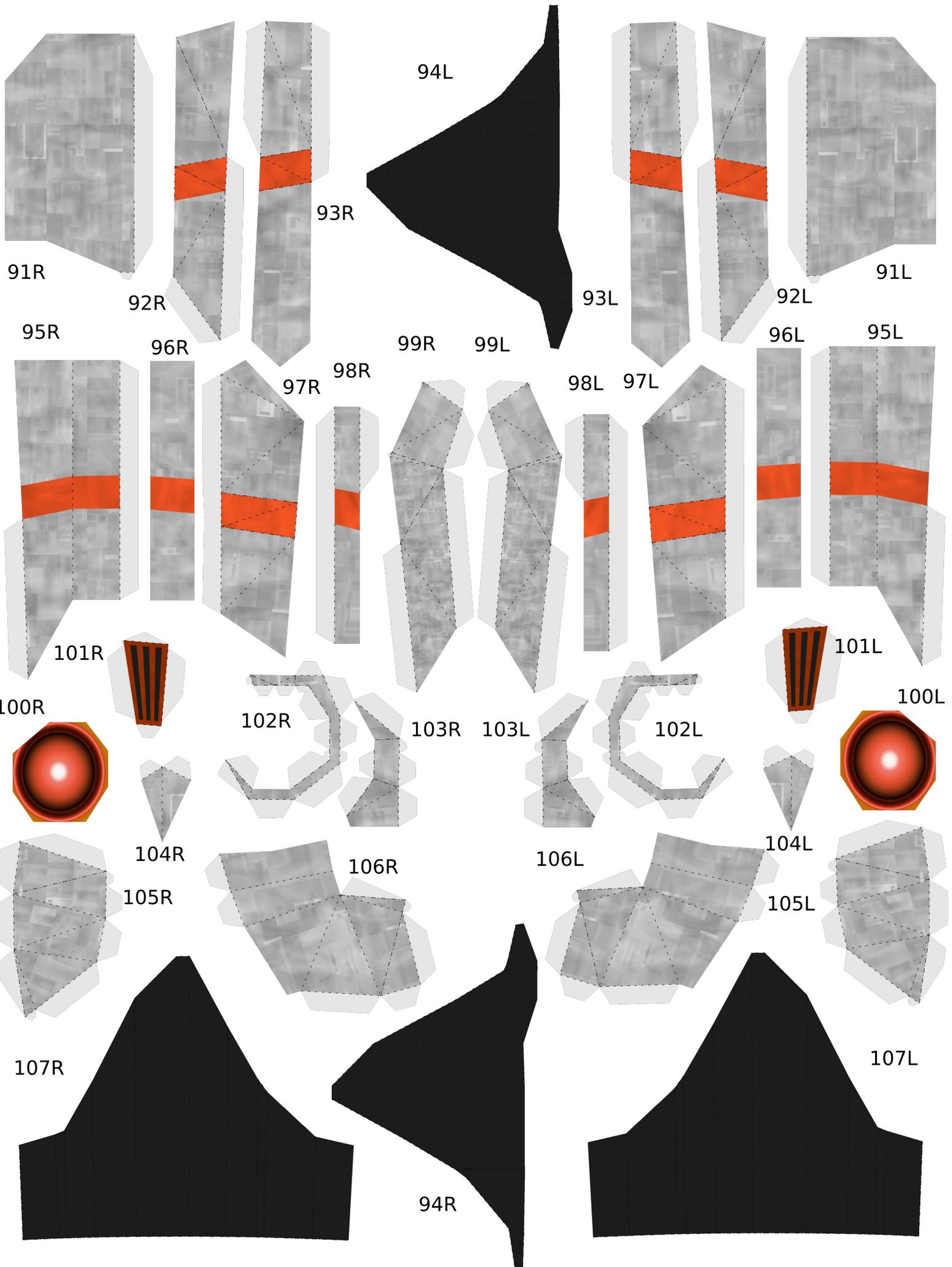


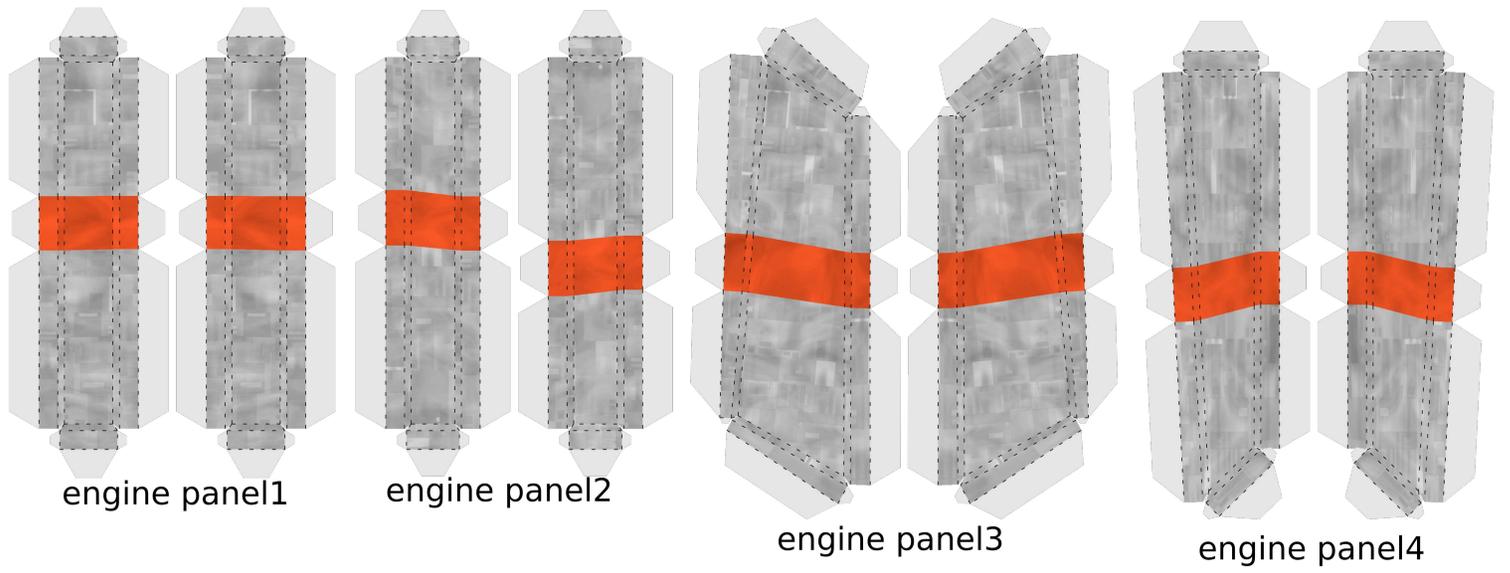
41









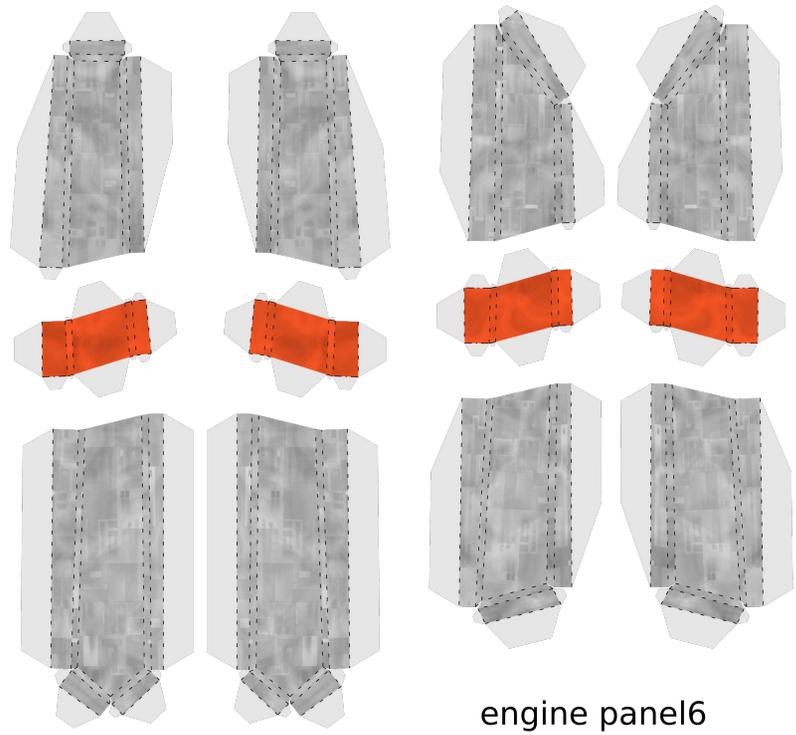


engine panel1

engine panel2

engine panel3

engine panel4

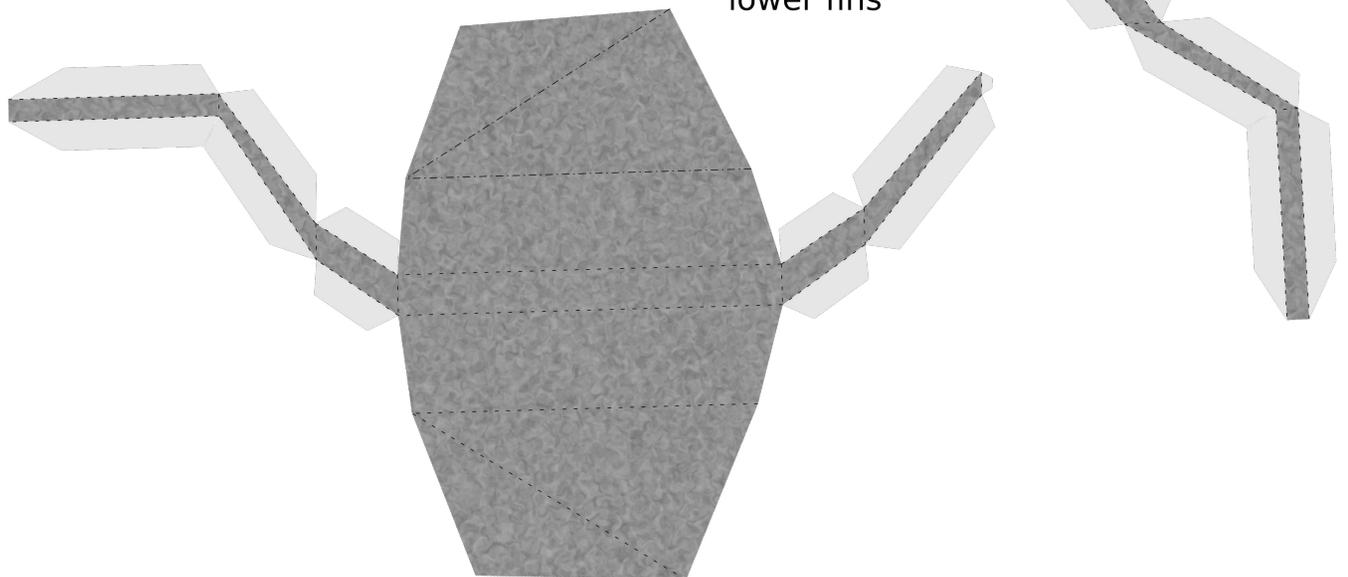


1mm fin separator

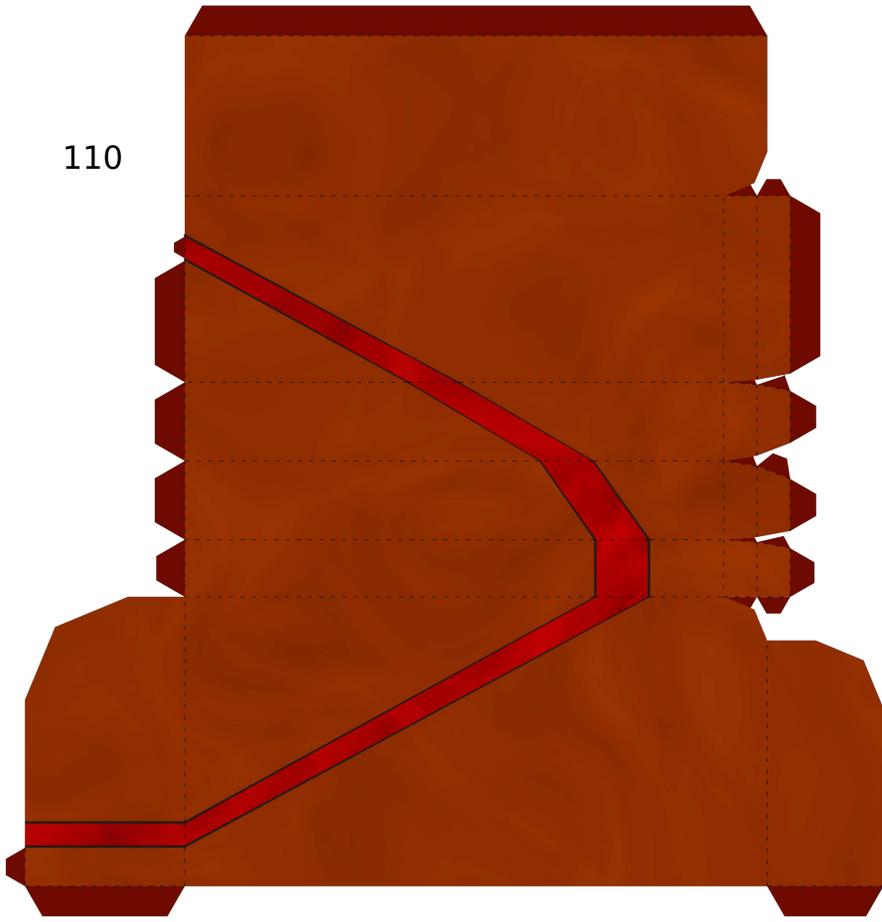
engine panel5

engine panel6

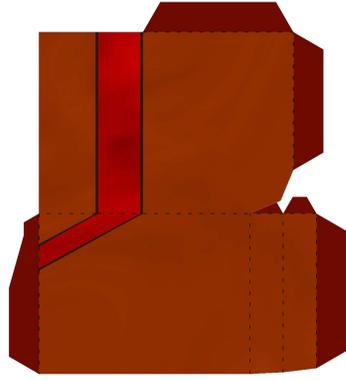
lower fins



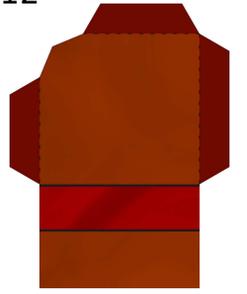
110



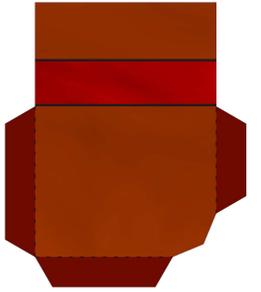
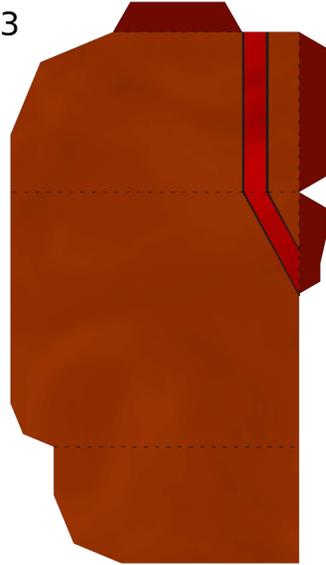
111



112

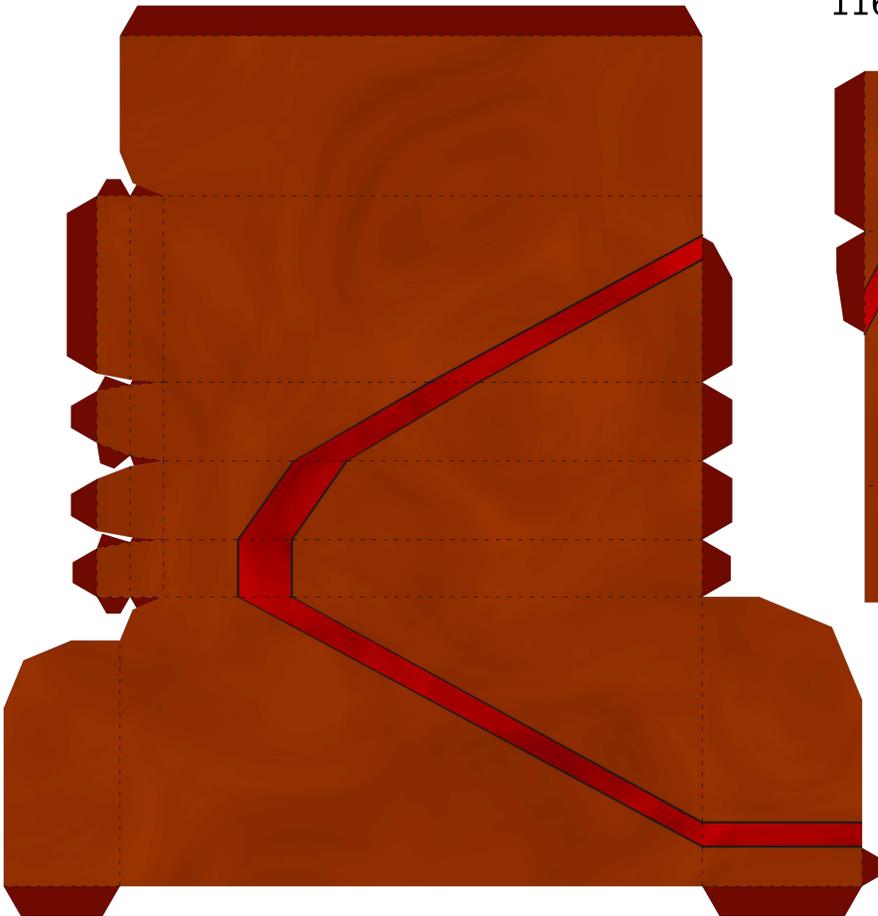


113

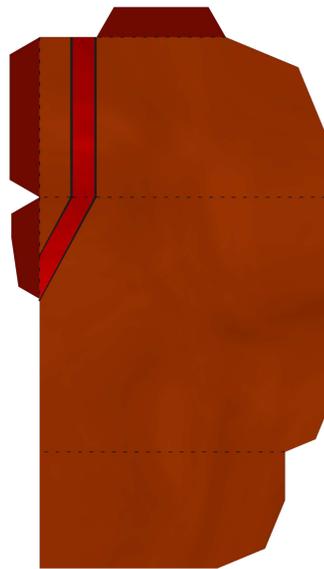


114

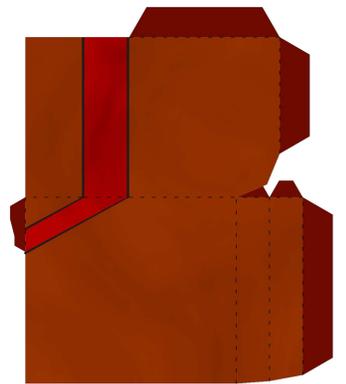
115

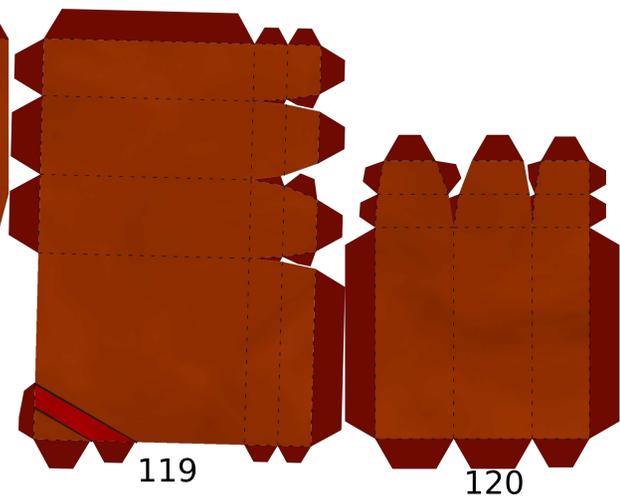
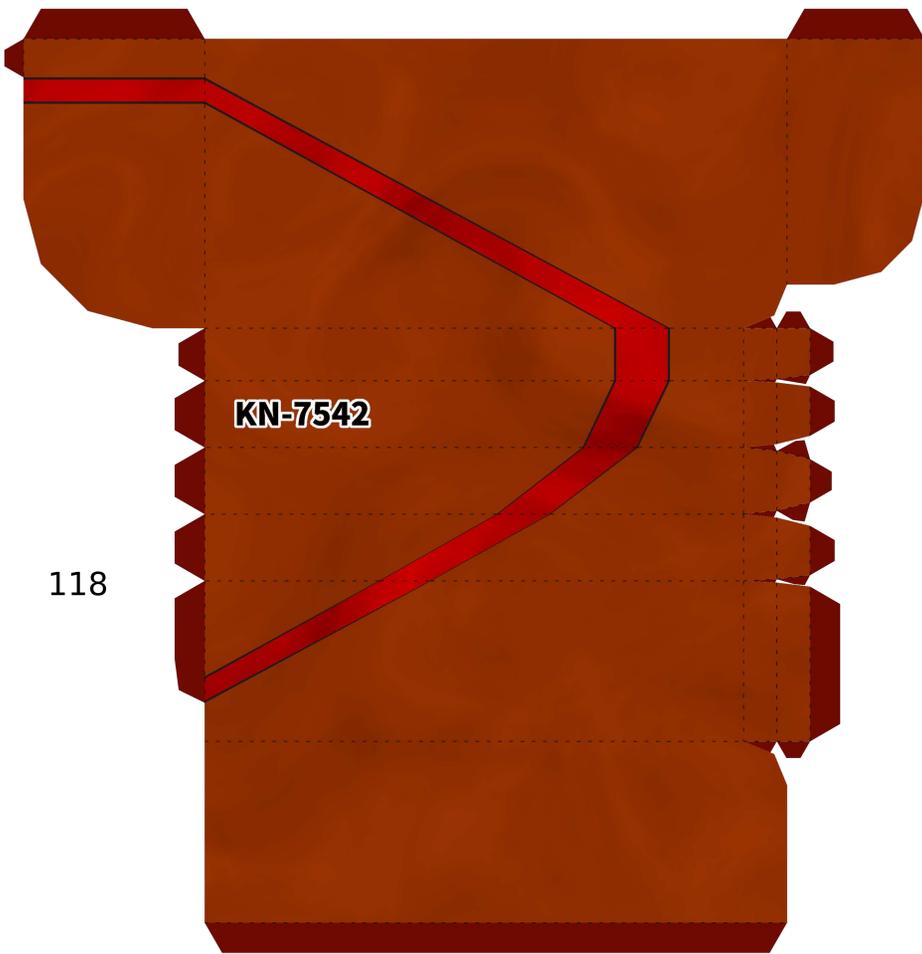


116

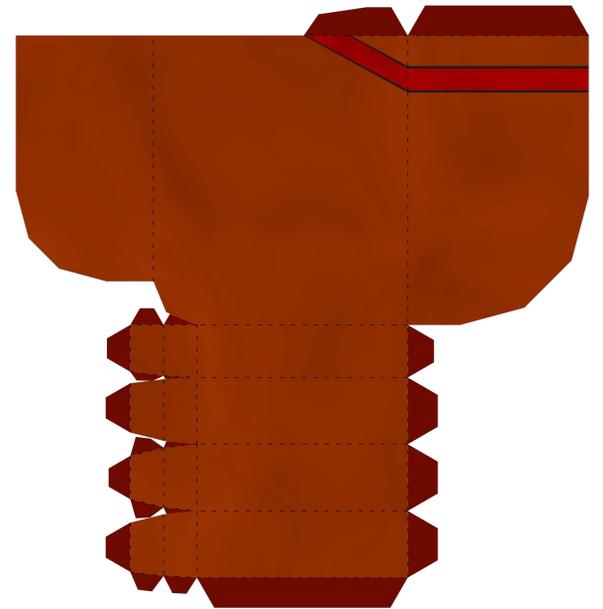


117

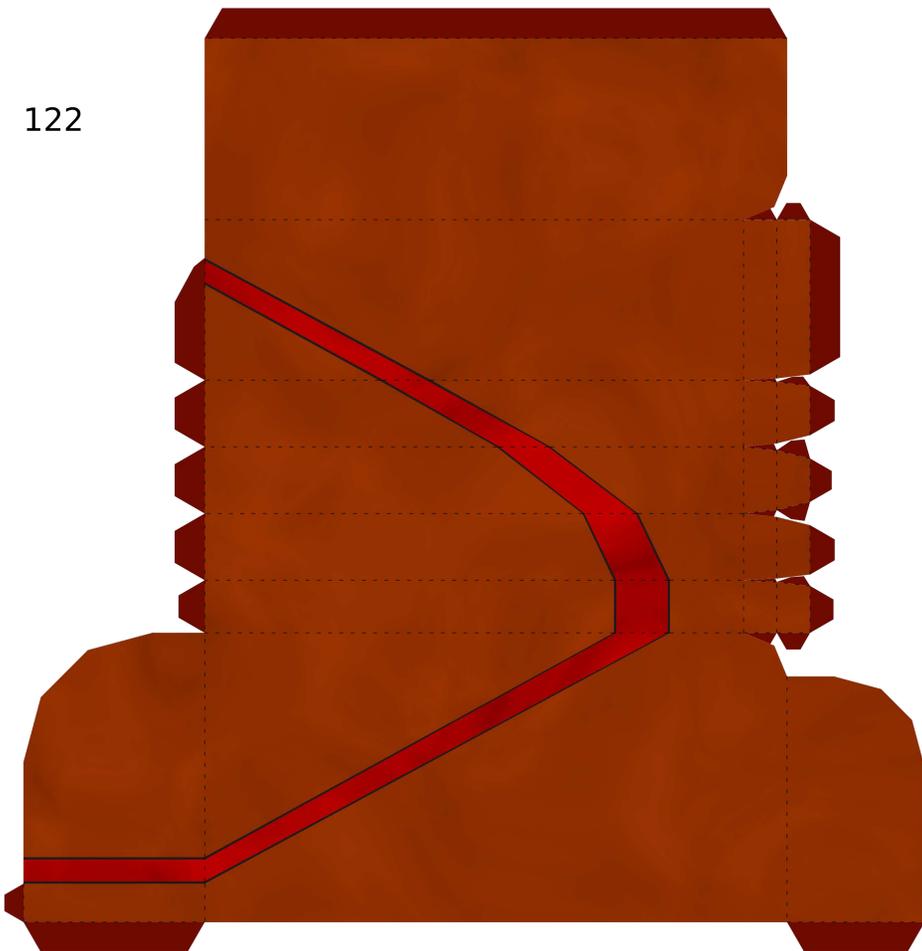




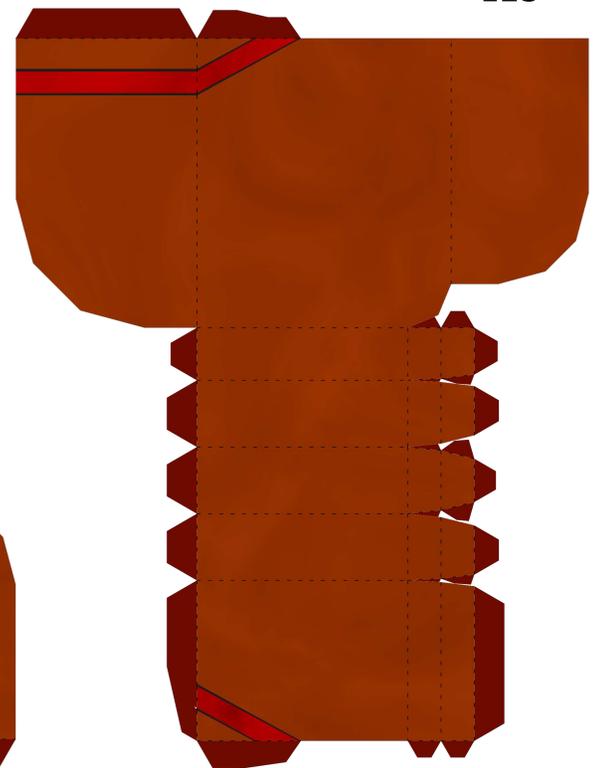
121



122



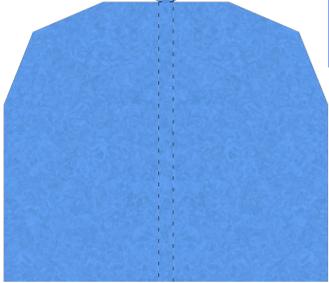
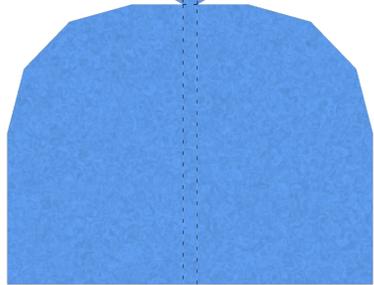
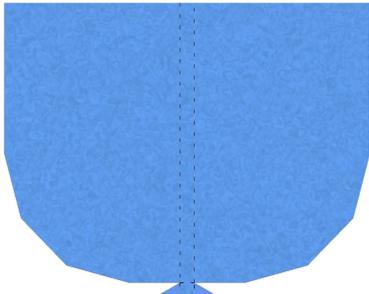
123



124

125

126



127

