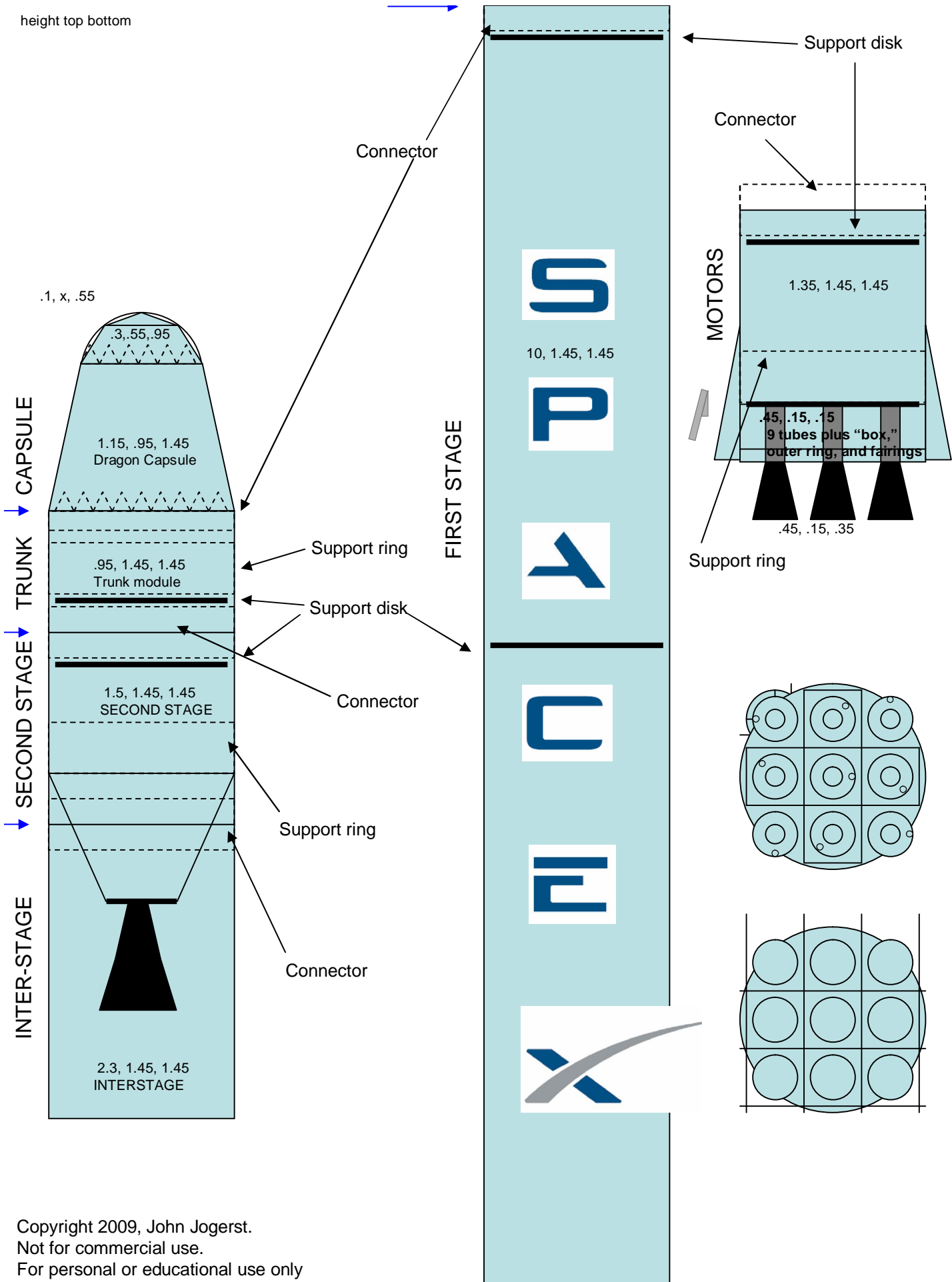


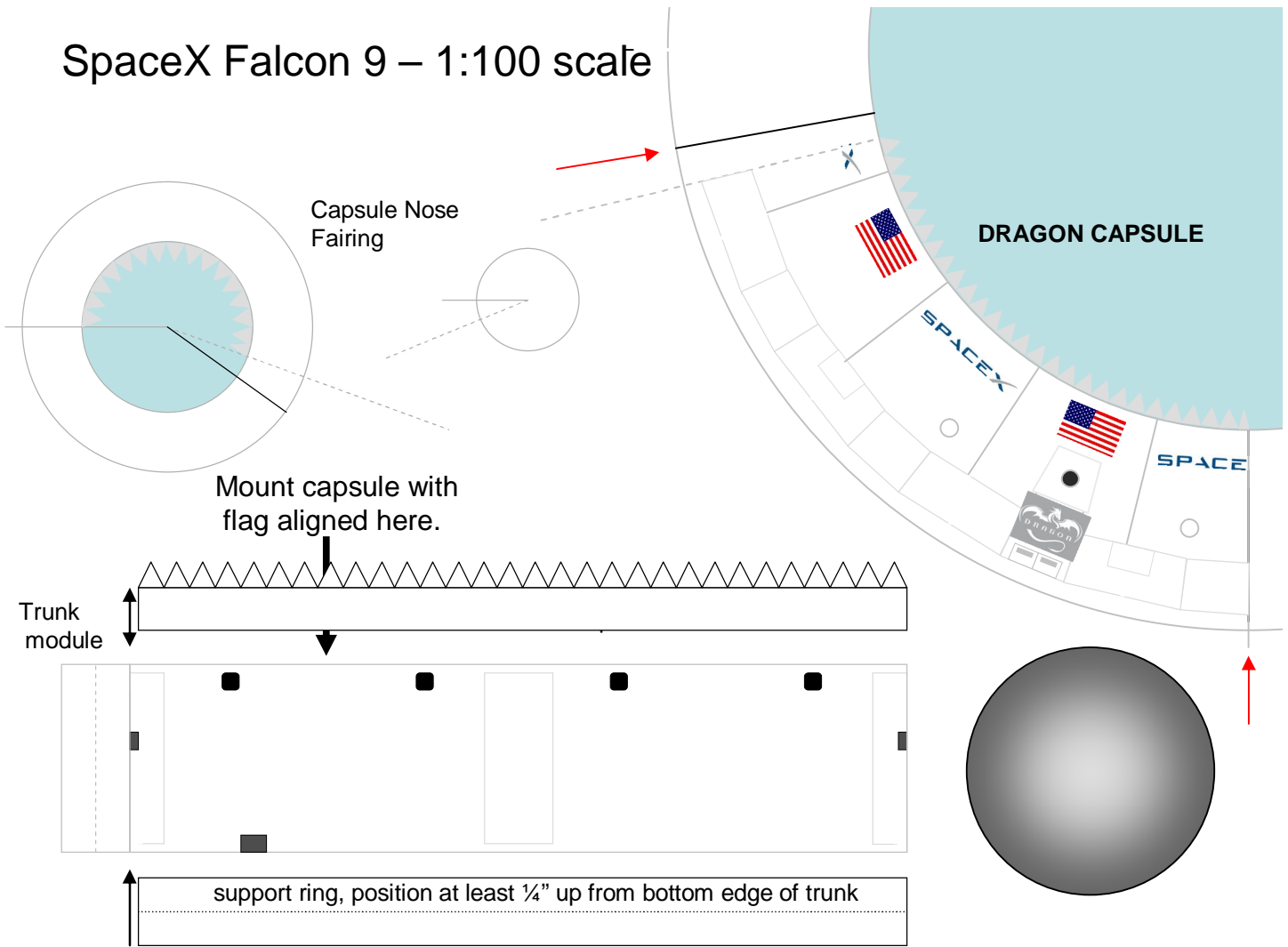
# SpaceX Falcon 9 – 1:100 scale Flight Vehicle 01

- Where it is not obvious, red arrows mark the places to cut.
- Dragon Capsule:
  - Cut out the three parts for the capsule. Roll the smallest part into a shallow cone, overlapping to the dotted line, and secure with glue. Roll the remaining pieces into frustums and secure. Bend the “teeth” in slightly, apply glue to the inside of each upper piece, and assemble the stack to make the capsule (align the seams). The capsule and trunk will mount to the top of the second stage with the dragon logo lined up with the other graphics on the rocket.
  - Assemble trunk module like other rocket body cylinders, closing the bottom with a disk, recessed to allow room for the second stage connector to insert.
- Rocket Body:
  - Cut out and roll the second stage, inter-stage, main body, and bottom of the rocket body into cylinders and secure by gluing the tabs (or cut the tab free and glue half its width under one edge of the cylinder part, then secure the remaining cylinder edge to the strip, butting the edges together). Cut out the connector strips, curl to fit inside the rocket body, and attach to the inside top of the second stage, interstage, main body and bottom parts. Curl the two remaining connector strips (mounting support rings) and glue one inside the bottom part just less than  $\frac{1}{4}$ ” (6mm) from the bottom edge – this will support the rocket motor structure. Glue the remaining strip about  $\frac{3}{8}$ ” (10mm) up inside the bottom of the second stage to support the second stage motor structure.
  - Cut out the rocket motor mounting and internal support disks. Glue one support disk inside the upper end of the second stage, one inside the upper end of the main body and one in the top end of the lower rocket body, using the connector strips to locate the disks. Glue another disk inside the main body at about the mid-point. Glue the motor mount inside the bottom cylinder, using the mounting strip for alignment. NOTE – the “corner” rocket motors must line up with the triangles on the outside of the rocket body bottom. Glue the second stage motor support into the bottom of the second stage, using the mounting strip for alignment. Complete the second stage motor mount with the disk.
  - Cut out the fairings for the “corner” rocket nozzles, fold the tabs at the edges inward (away from the printed side), and curl the fairings into half-cones. Using the tabs, glue the fairings in place to cover the triangles on the rocket body bottom. The fairings will extend a little ways past the bottom edge of the main rocket body tube.
- Rocket Motors: Cut out and roll the motors into long cylinders and glue. When dry, carefully cut each into three individual tubes on the marked lines (makes 9). Slit the white end of the motor and bend tabs inward – this will slip inside the small end of the nozzle. Wrap the small rectangular parts around the bottom of the motors to provide a “shoulder” to locate and attach the nozzles. Cut out and roll the nozzles into cones and glue. Use the large outer circle to make the second stage nozzle (make 9 short and 1 long nozzles). When dry, glue the cylinders (motors) to the small end of the 9 short nozzles. Glue the long nozzle to the bottom of the second stage. Optional turbopump exhausts should be laminated to thicker stock and attached to the side of the motors if desired. See picture for detail and diagram on page 6 for orientation.
  - Motor supports – cut out the two rectangles, scoring the lines and cutting the marked red slits. Fold each into an open box, colored side out, and glue the tab. Interlock the two parts using the slits to make a cross shaped support structure. Glue the support structure in place on the motor mounting disk using the lines as a guide. The “box” will extend a little way below the bottom edge of the rocket body tube.
  - Glue each motor assembly in place on the motor mounting disk using the dark circles to locate the motors.
- Final Assembly:
  - Apply glue to the inside of the bottom end of the main body and insert the bottom section of the rocket. The SPACEX lettering will be to the front for display.
  - Slip the Capsule and trunk module over the top of the second stage. Slip the second stage over the inter-stage. Slip the inter-stage over the top of the main body/first stage. The Falcon logo on the second stage should be to the front for display and the Falcon 9 logo and SPACEX lettering should be aligned.

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Idiosyncratic Carpentry &  
Shade Tree Engineering

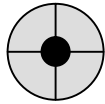


# SpaceX Falcon 9 – 1:100 scale



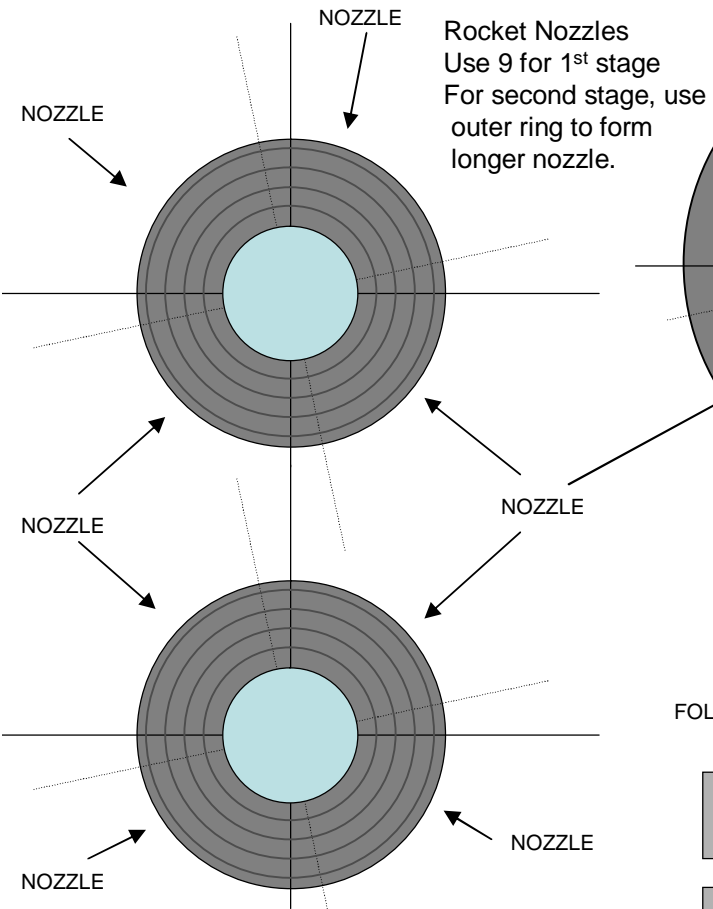
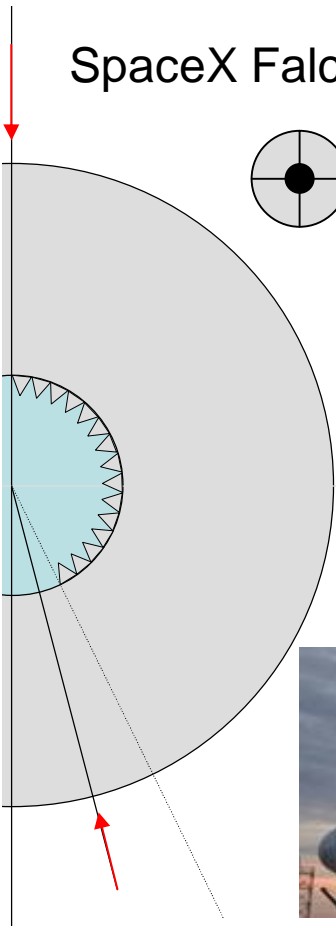
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# SpaceX Falcon 9 – 1:100 scale

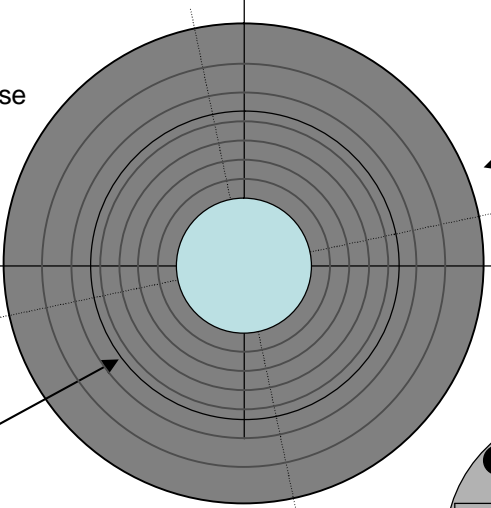


inner support ring for second stage rocket motor mounting

2<sup>nd</sup> stage motor support

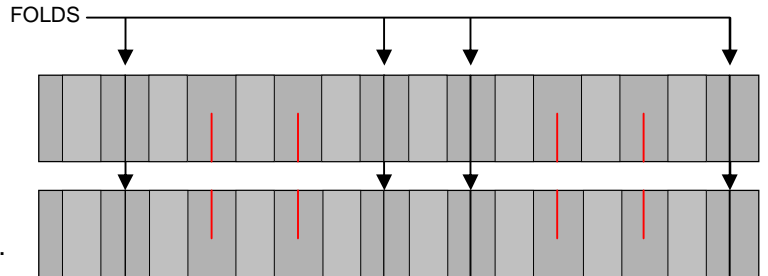
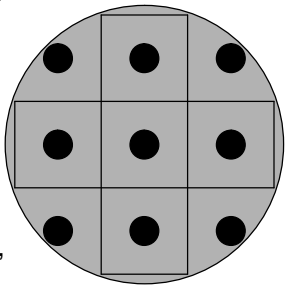


Rocket Nozzles  
Use 9 for 1<sup>st</sup> stage  
For second stage, use  
outer ring to form  
longer nozzle.

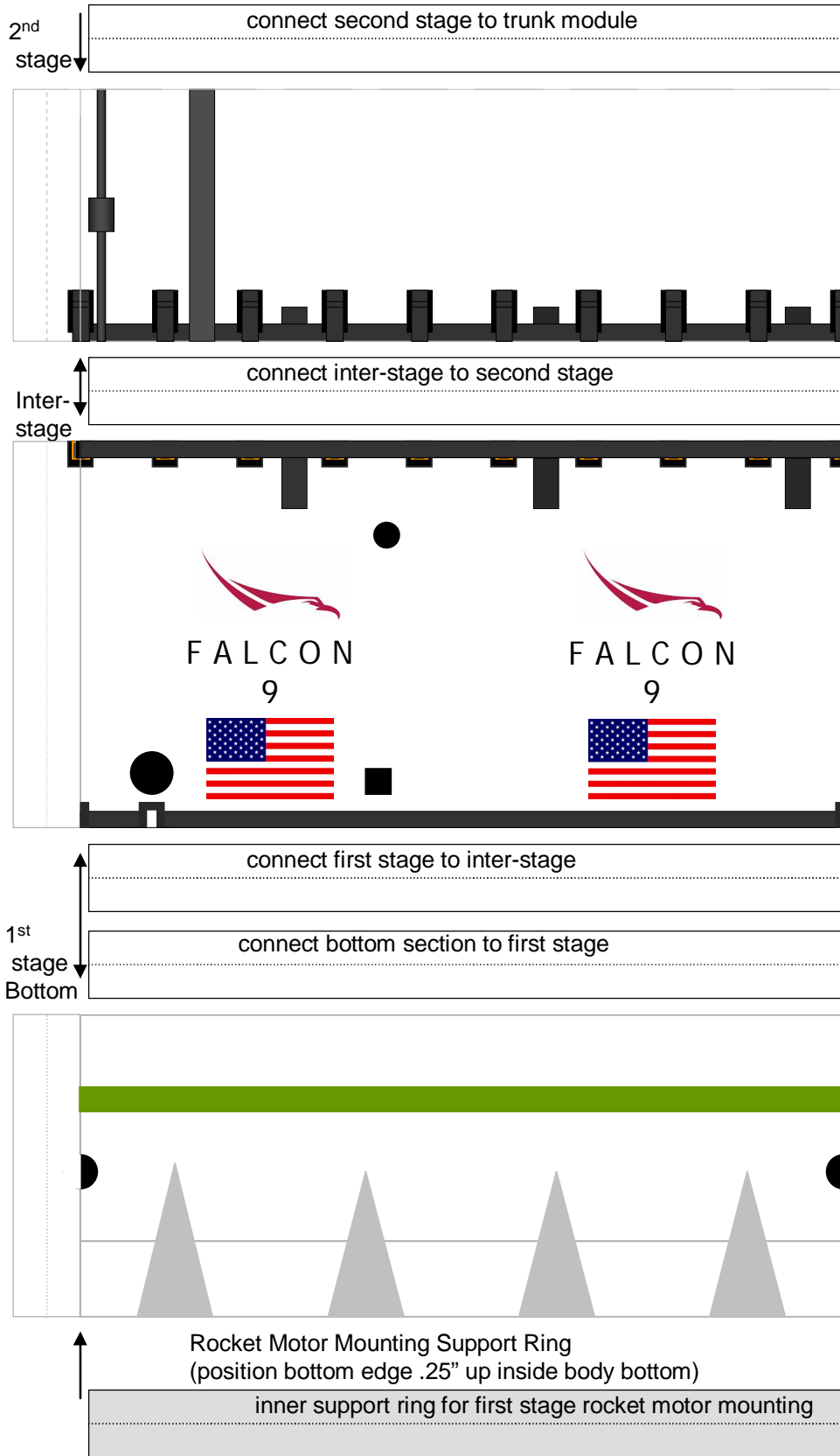


Use middle circle for  
the ninth first stage  
nozzle. Use outer  
circle to form one  
second stage nozzle.

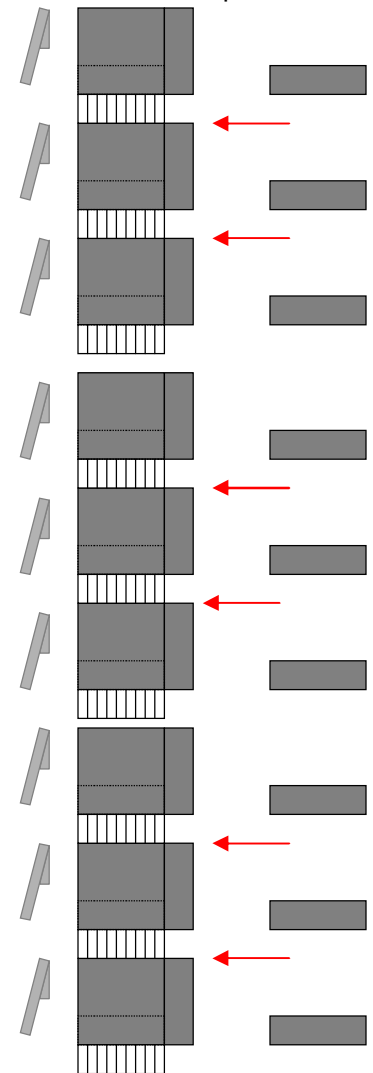
Rocket Motor  
Mounting  
Form crossed boxes and  
interlock, egg-crate style,  
by slitting along red lines



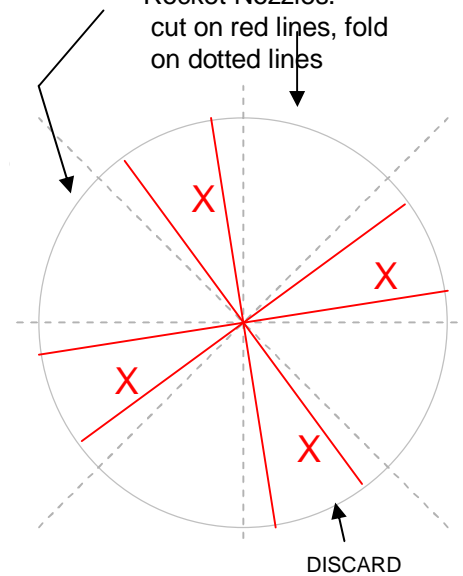
# SpaceX Falcon 9 – 1:100 scale



Rocket Motors  
Roll into cylinders then  
cut into thirds to make  
individual parts.



Fairings – “Corner”  
Rocket Nozzles.  
cut on red lines, fold  
on dotted lines

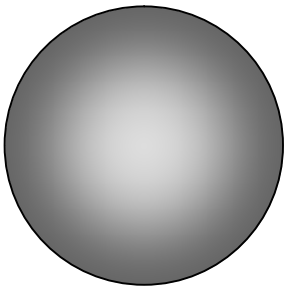
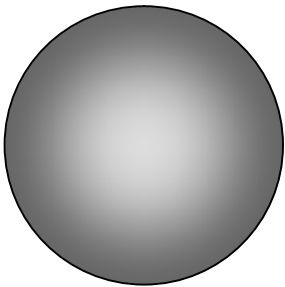
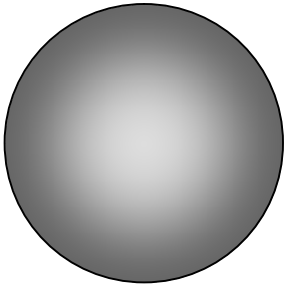
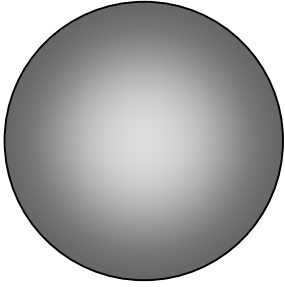
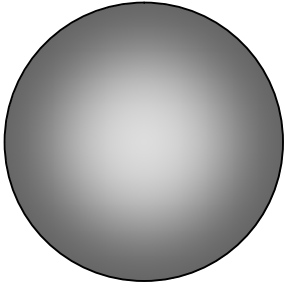


# SpaceX Falcon 9 1:100 scale

First stage

use as connector  
or tab →

Internal support disks, position  
as needed.



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