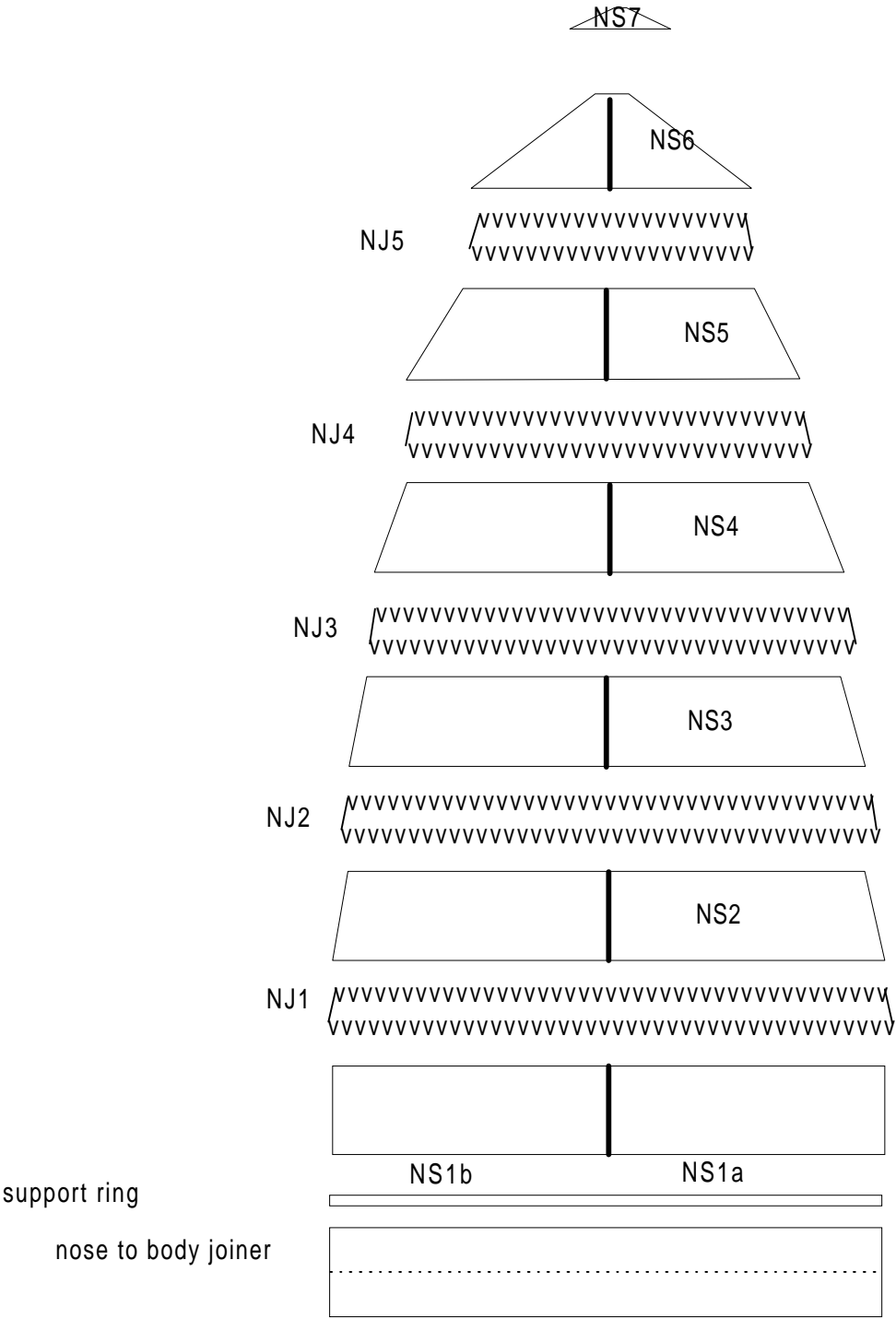
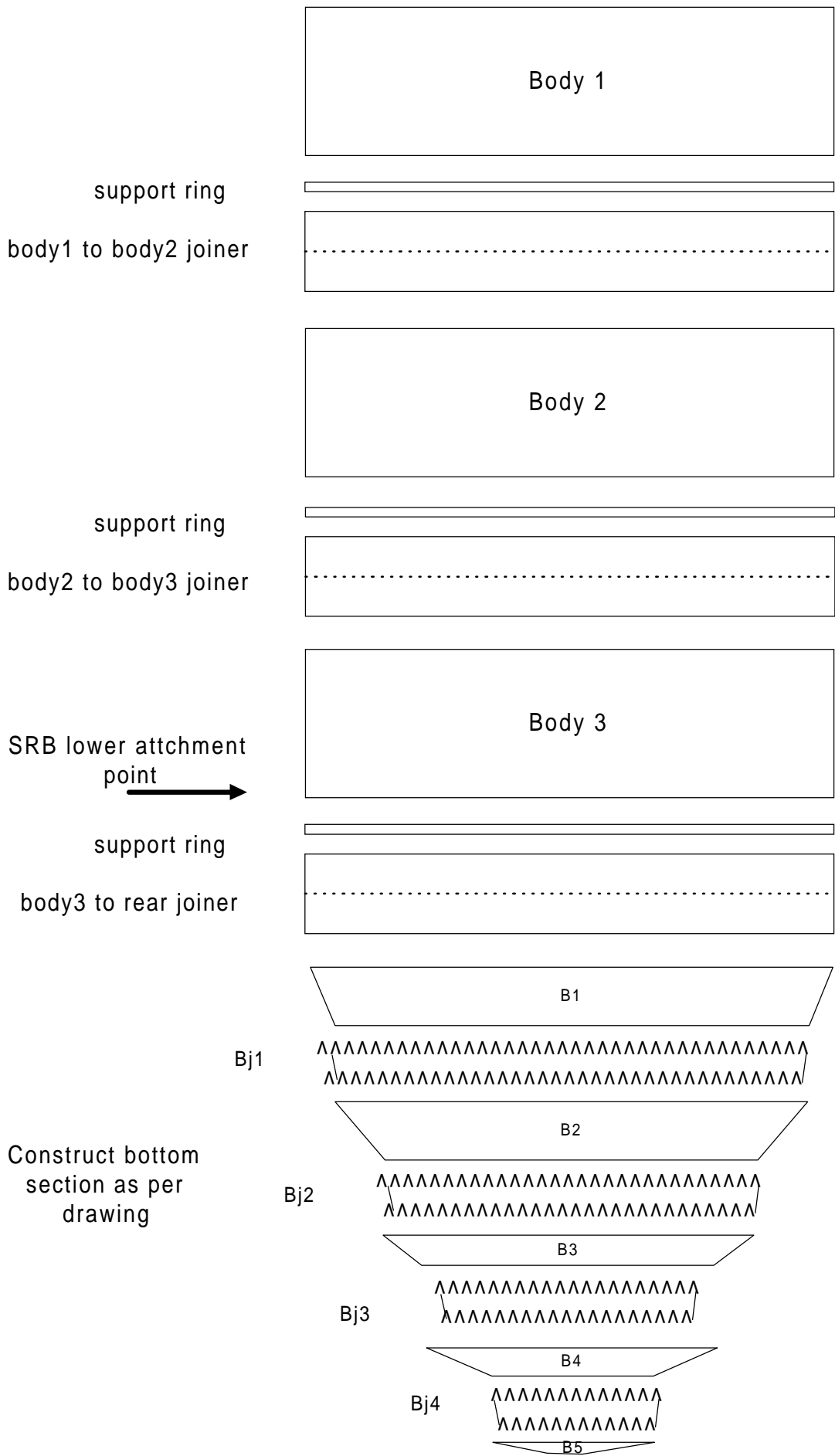


Shuttle External Tank

Construct nose section as per drawing





Each body section consists of two parts which are joined together to make a rectangle 10.4in/ 263.9mm long which in turn forms a tube 3 ^{5/16}in /84 mm dia. Make Nose and Bottom sections as per drawing, use pinking shears to cut out joiners for nose and rear from card, saves a lot of cutting.

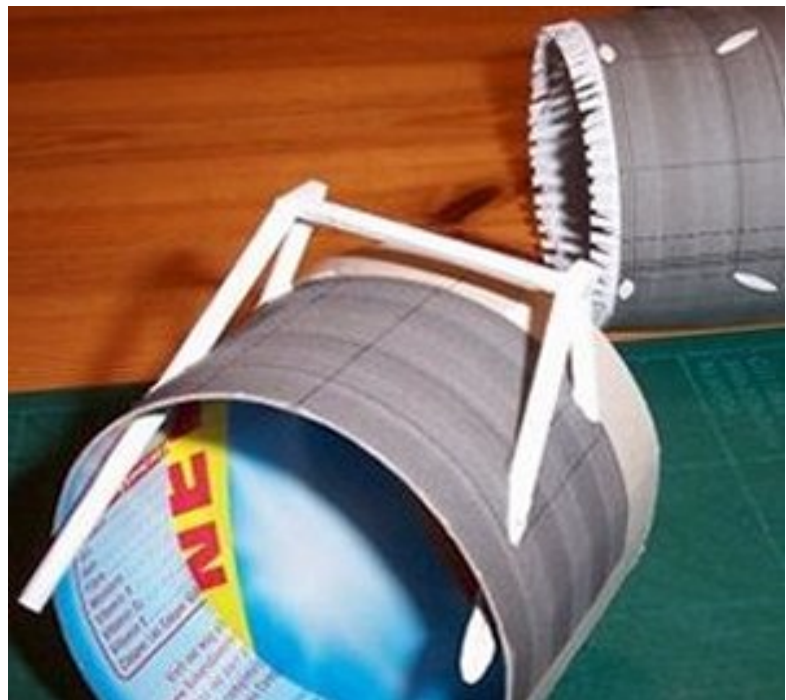
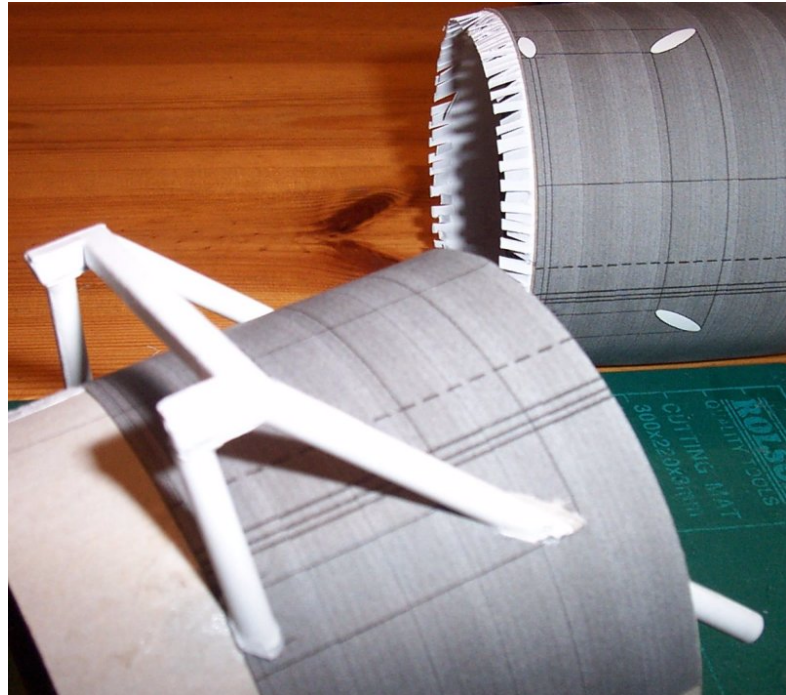
NS7 is optional, I think the tank looks OK without it.

When assembling nose section and body sections together, ensure the black lines are aligned.

Cut out and make up the Aft attachment beam and allow to dry.

Cut out four struts from the paper sheet and roll them around a rod of 1.6mm,(1/16in) dia, (16swg). At the end you should be left with 4 black coloured tubes.

Cut two tubes to size as indicated on the drawing side end plan, these are the rear most tubes for the rear attachment point. Glue these two tubes to the Aft attachment beam (use the drawing to aid alignment). Cut the other two tubes to the angle as shown on the drawing side end plan (don't cut off too much, these tubes are not too generous in length). You can attempt to cut the two forward angles on these tubes by eye/hand skill or you can do as I did and make up a dummy tube the same dia as the tank. Onto this I glued the drawing 'template' and cut the two forward holes into the dummy tank. Using a piece of blue tack or similar, attach the rear posts over the marks on the template and insert the other tubes into the hole in



the dummy tank and align them with the Aft attachment beam. Glue the tubes in this position and allow to dry. Once dry mark where the tubes enters the dummy tank then remove the rear attachment assembly from the dummy tank. Cut off the surplus and you should find the attachment point is a good fit on your tank.

Roll two tubes from the paper sheet for the front attachment point and using the drawing, side end plan as a guide cut them to shape. A small piece of paper glued to the top end of these tubes will keep them together and make it easier to glue them to the tank just to the rear of body 1.

Cut out and form the Fuel line fairing and fit it into position on the tank. You have a choice of how you make this part, with the colour inside or outside. If you make it with the colour inside then just paint the outside with black felt pen or paint. Use the corresponding colour base to glue it to.

I have not included a model of the propellant feed line that runs from the front of the tank to the back as it is a piece of paper rolled into a tube 4.5mm / 5/32in dia but it is more than 10in / 260mm long. A piece of paper 95mm / 3^{3/4}in wide will roll into a tube approx 4.5mm / 5/32in dia. I constructed the pipe from four sections as these are easier to roll and joined them together with a small roll of paper inside the hole in the tubes. At the rear end of this tube it bends up to join with the Orbiter body. To make this bend make three 2mm / 1/16in wide 'V' cuts 1mm / 1/32in apart cutting ³/₄ the way through the tube. Start at least 10mm / 3/8in from one end and bend the tube to shape and glue. You may need to hold the tube in shape while the glue dries. When the tube is fitted to the tank it should be flush with the top the Aft attachment beam and the other end should be inside the fuel line fairing. Glue onto tank when your happy with it.

You will need another piece of tube this diameter for the other fuel line that runs from the connection point on the underside of the Orbiter to the rear of the tank. See picture right.



That's it construction finished. Apart from gluing the Boosters to the side of the tank , aligning the lower att point with the body 3/rear join, and gluing the Orbiter onto the attachment points.

It should be possible to rig up some method by which you can make the boosters and Orbiter removable from the Tank but that up to you, I will not be responsible if your model of the Shuttle falls on the floor and gets eaten by the Dog.