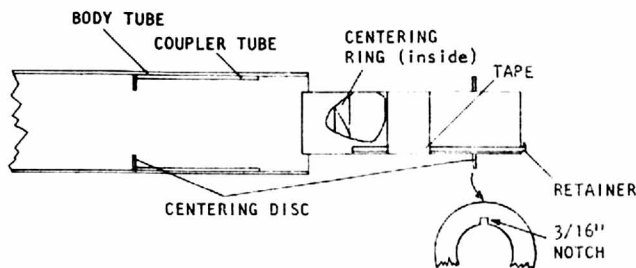




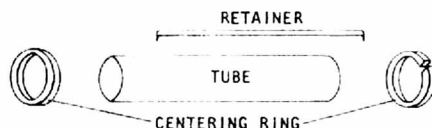
CONSTRUCTING ENGINE MOUNT



- Make a vertical cut in the coupler tube. Squeeze the tube and insert it into one end of the main tube (PT-400). Draw a line along the inside of the coupler where it overlaps. Take out the coupler and cut it along that line. When re-inserted the two ends should meet, and the coupler fit tightly in the tube. Remove the coupler.
- Take the large engine tube (PT-200) and cut a slit 2-3/4" from one end. Place a spot of glue on the slit and insert one end of an engine retainer into it. Wrap a strip of masking tape around the tube and retainer about 1 1/2" from the end of the tube. Spread glue around the inside of the forward end of the engine tube (just in front of the retainer) and slip one of the centering rings into place till it rests against the retainer. This acts as an engine block.
- Place a line of glue on one side of a centering disk along the outer edge. Place a line of glue around the inside of the main tube 3" from the rear. Slide the centering disk into the tube till it is in the glue. Smear glue around the outside of the coupler and slide it into the main tube till it meets the centering disk.
- Cut a 3/16" square notch in the other centering disk. Spread glue around the engine tube 1" from the rear, and slide the centering disk onto the glue. The notch should be positioned over the engine retainer.

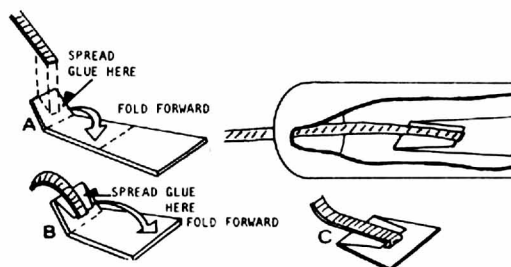
E. Place a line of glue around the inside of the tube 3/4" from the rear (immediately in front of coupler), and around the front of the centering ring around the outside engine tube 3/4" from the end. Now fit engine holder assembly into the coupler inside the tube so that all parts fit

18 mm. ENGINE ADAPTER



Cut a slit 2 1/2" from the end of the small engine tube (PT-100). Place a spot of glue on the slit and insert one end of an engine retainer into it. Wrap a strip of masking tape around the tube and retainer in the middle of the tube.

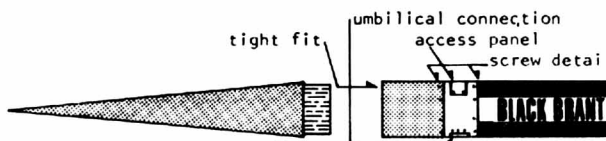
Cut a 3/16" notch from a centering ring. Spread glue around the rear of the adapter and slide the centering ring into place so that the notch is positioned over the retainer. Spread glue around the other end and slide the centering ring onto the tube.



Assemble the shock cord mount as shown.

PAINTING

- The entire rocket should be given an undercoat of glossy white. Another coat may be added to thoroughly cover all parts of the rocket. Set aside the model to dry thoroughly. NOTE: It is best to let the model sit over night before masking if a laquerized enamel is used. If regular enamel is used, it should be left several days.
- Mark off where the stripes go in reference to the fins from the fin marking guide. Extend the lines to either end of the tube.
- Mask off the stripes... The stripes must be masked off extremely accurately, because the lettering decals must fit perfectly inside them.
- Mask off the fin indicated on the marking guide as "WHITE FIN".
- Run your thumbnail down all masking tape edges to be sure they are sealed.
- Paint the entire rocket and nose cone a glossy cherry red. When the paint is dry, run the blade of a modeling knife lightly along all the masking tape edges. Remove the tape by peeling it back against itself.
- Decals may now be added. To apply, first trim them down to the desired size, peel back the protective backing and press them down in the proper position.



STRIPES

Stripe sizes and locations may be found from the marking guide (top stage) and the fin marking guide (lower stage).

DECALS

Trim the excess material from around each decal (including details), lift them from the backing with a sharp knife, and apply them to the positions shown.

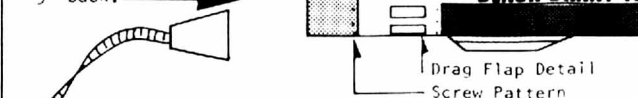
TOP STAGE

BLACK BRANT IV
Screw Detail
Screw Detail
Top of Stripe
Bottom of Stripe

Bristol aerospace limited 11 00" (

Screw Detail
Screw Detail
Igniter Access
Door
Umbilical
Connection

Glue inside tube at least 3" back.



FIN CONSTRUCTION

- Cut out the fin pattern and trace three of them on the balsa. Be careful that the grain direction is as marked. Cut out each of the fins carefully with a modeling knife or razor blade.
- Cut out the fin mount detailing and trace six of each on the thin balsa material. Carefully cut them out and glue to the position shown on the fin pattern on both sides of each fin.

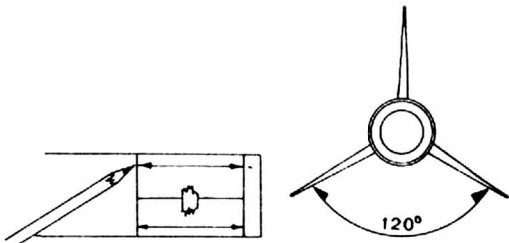


LAUNCH LUGS

Cut out the lug standoffs from the thick balsa material and shape as shown. Cut the launch lugs in half and then to the shape shown. Glue the launch lugs to their standoffs. The lugs are glued to the tube at the position shown on the blueprint drawing. Take care that they are properly in line by sighting them through each other.

SEALING Balsa PARTS

Apply a coat of sanding sealer to the fins. Both sides should be done at once, then propped on its side to avoid warping. When thoroughly dry, sand lightly with fine sandpaper, then apply another coat of sealer. Repeat this, sanding between steps with extra fine sandpaper until a smooth glossy surface is attained. Repeat this procedure for all other balsa parts.



CUTTING THE TUBES

The large body tube must be cut to a length of 21.4". Do this by wrapping a straight strip of paper around the tube .6" from one end and marking a pencil line around it. The tube is then carefully cut with a modeling knife or single edge razor blade. It should take several attempts to cut completely, with the first being light and getting harder with each consecutive cut.

FIN PLACEMENT

- Cut out the fin marking guide and wrap it around the rear of the body. Mark the tube at each arrow indicated "FIN!" Connect and extend the lines.
- One by one, glue the fins to the body tube. This is done by placing a thin film of glue along the root edge of the fin and positioning it along the lines made. Check to be sure the fin is aligned properly. When the fins are dry, place a thin line of glue along each joint to form a fillet and strengthen them.

SAND THE TUBES

Prepare the body tubes by sanding smooth with extra fine sandpaper.

ls

Screw Patterns

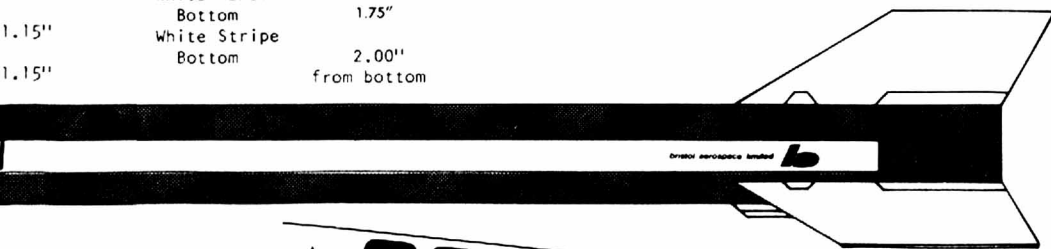
Tight Fit

Screw in the screw eye into the conical shoulder. Unscrew it, squirt glue into the hole, then replace the screw eye.

<u>BOTTOM STAGE</u>		
1.9"	BLACK BRANT IV	2.15"
1.0"	bristol aero-	
1.5"	space limited	16.00"
1.52"	Ignitor Access	at very
	Door	top of tube
.19"	(location shown on marking guide)	
from base)	White Panel	
at very	Top	.76"
e of tube	White Panel	
	Bottom	1.75"
1.15"	White Stripe	
	Bottom	2.00"
1.15"		from bottom

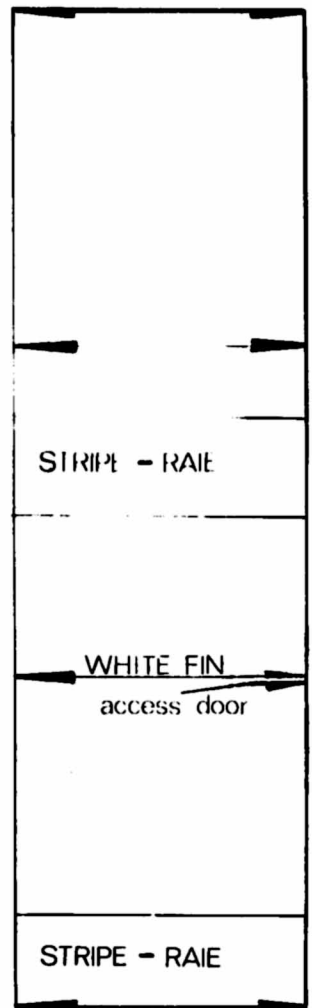
(all measurements from the top of the tube to the top of the detail)

Knot shroud lines and shock cord to screw eye.

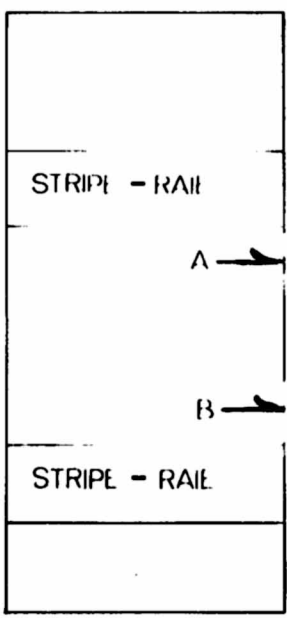


FIN MARKING GUIDE

GUIDE DE MARQUAGES

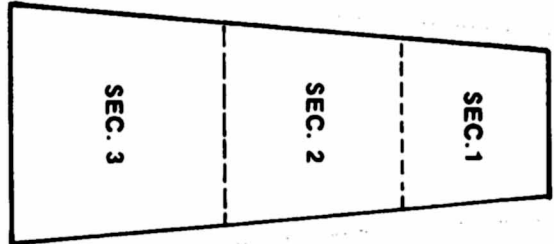


STRIPE MARKING GUIDE

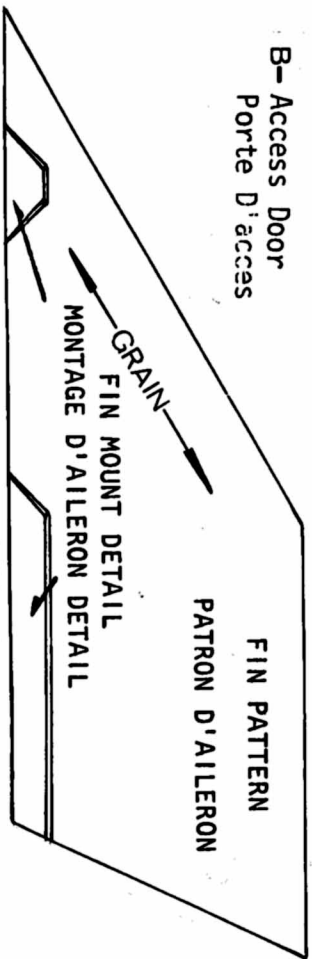


A- Umbilical Hatch
Hublot Ombilical

B- Access Door
Porte D'accès



SHOCK CORD MOUNT
CORDON-AMORTISSEUR



BLAGK BRANT IN

bristol aerospace limited

