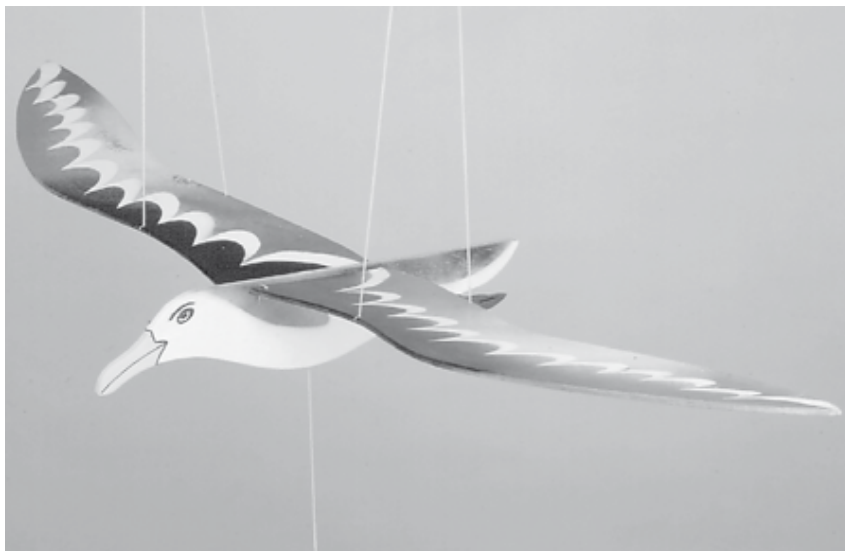


OPITEC

Hobbyfix

1 0 0 . 0 5 4

Mobile "Seagull"



CONTENTS

1	Plywood Sheet (A -body)	10 x 100 x 500 mm
2	Plywood Sheet (B-Wings)	5 x 200 x 590 mm
1	Dowel	ø 15 x 500 mm
1	Dowel	ø 6 x 50 mm
1	Wooden ball	ø 30 mm
5 mtr.	Nylon thread	ø 1 mm

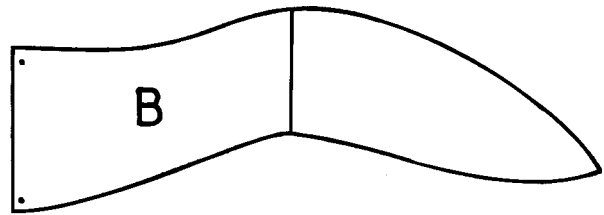
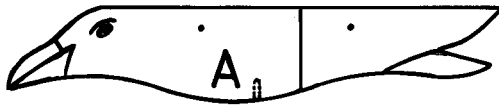
Please Note

The OPITEC range of projects are not primarily intended as toys for young children. They are for teaching Designing and Making to ensure that pupils experience a range of tools and processes.

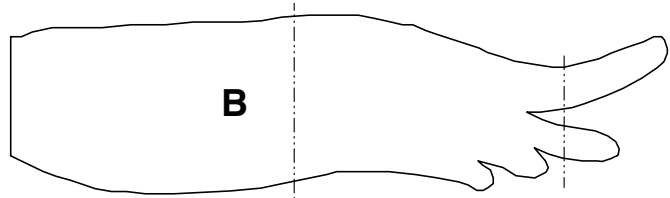
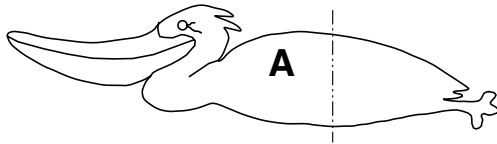
Instructions:

1. Choose the design you want to make and cut out the pattern A (body) B (Wings). Assemble and glue the plans together along the broken line. Trace the patterns directly on to the plywood, or make card patterns and draw around them.

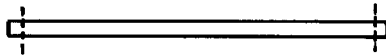
Seagull



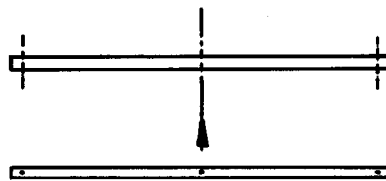
Pelican



2. Once the drawings (A & B) have been transferred to the ply sheet cut them out with a fret saw.
3. Drill the 2.5 mm holes in the body and wings as shown in the diagram.
4. Drill a 6 mm dia. hole in the underside of the body (pattern A) to fit the pull thread at a later stage.
5. Use glasspaper to round off any sharp edges.
6. When sanding the wings make sure they are both held together, so that they are the same size when completed (for balance).
7. The final colouring and design work can now be carried out. Use a good base coat to achieve the very best finish. The detail from the patterns can be used as a stencil for spray painting of other designs developed. Finally varnish (acrylic base is least messy) and leave to dry.
8. Whilst the body and wings are drying the support structure can be made. In the dowel 14 mm dia x 500 mm drill a hole 2.5 mm dia. at each end.



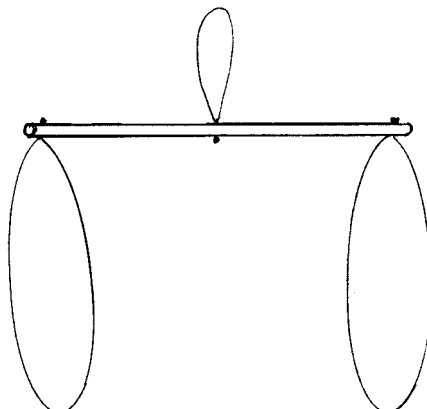
9. The next stage is to balance the dowel and determine the middle, then drill a 2.5 mm dia hole making sure all the holes are in the same axis.



10. Understanding and making the movement mechanism:

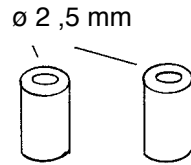
To hang the finished mobile cut off a length of thread approx 50 cm long and tie it through the centre hole of the dowel, secure with 2-3 knots (this is for hanging).

The wing fixing lines are 1 m - 1,5 mtr. long (as you wish) threaded through the outer holes on the dowel, looped and secured with knots.

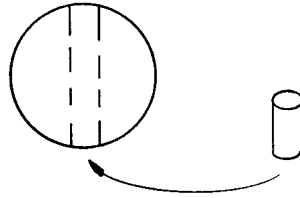


11. The pull mechanism:

From the 6 mm x 50 mm dowel cut off two 10 mm lengths. Drill through the middle them 2.5 mm dia holes.

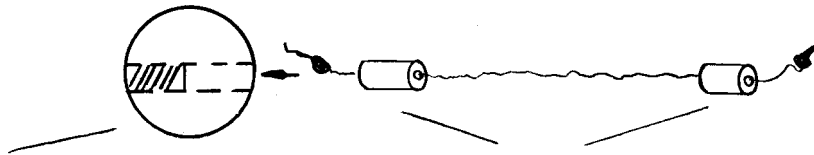


From the leftover dowel use a length 10-15 mm long and push it halfway into the wooden bead.



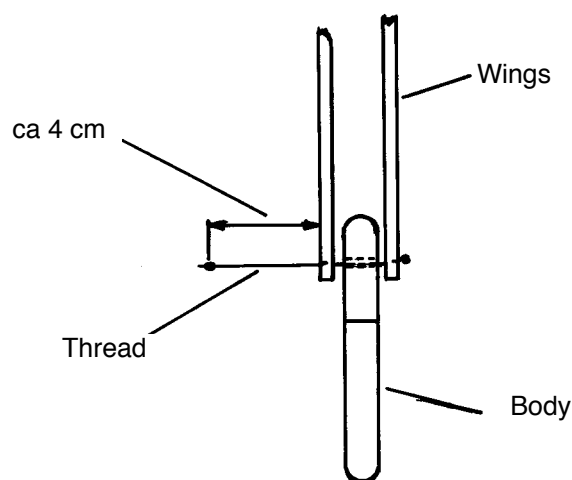
12. The completion of the pull mechanism:

Take 0,5 mtr. thread and pass it through the centre of the pre-bored dowels, then knot the ends to secure the dowels. Insert and glue one dowel into the wooden bead and the other in the 6 mm dia hole in the underneath of the seagull body.

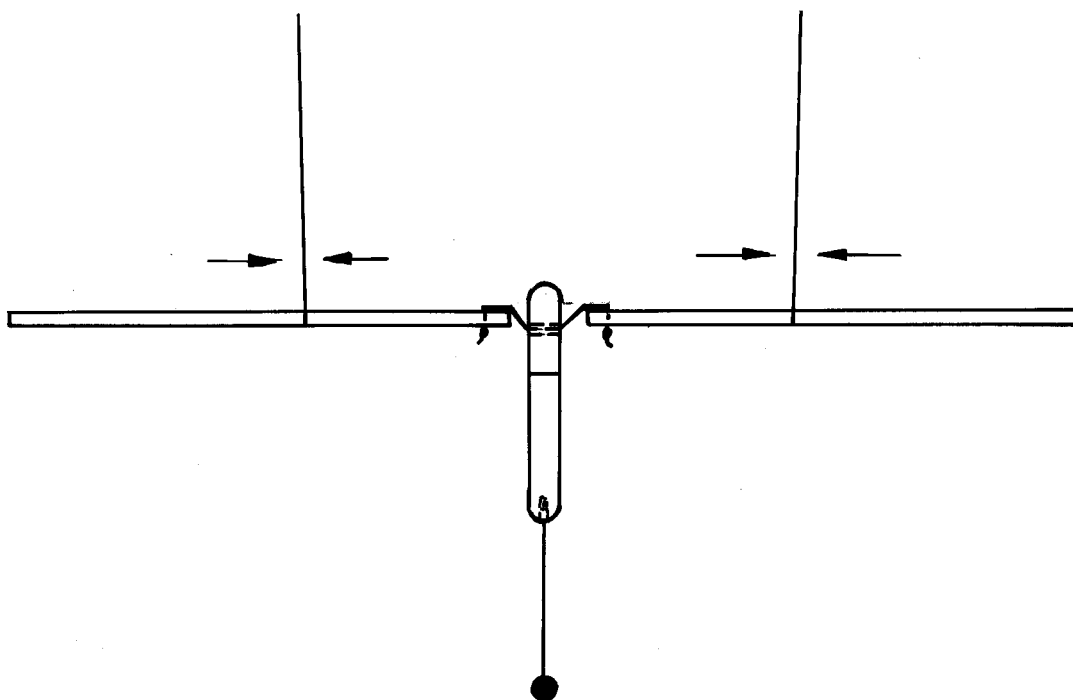


13. The wings and body:

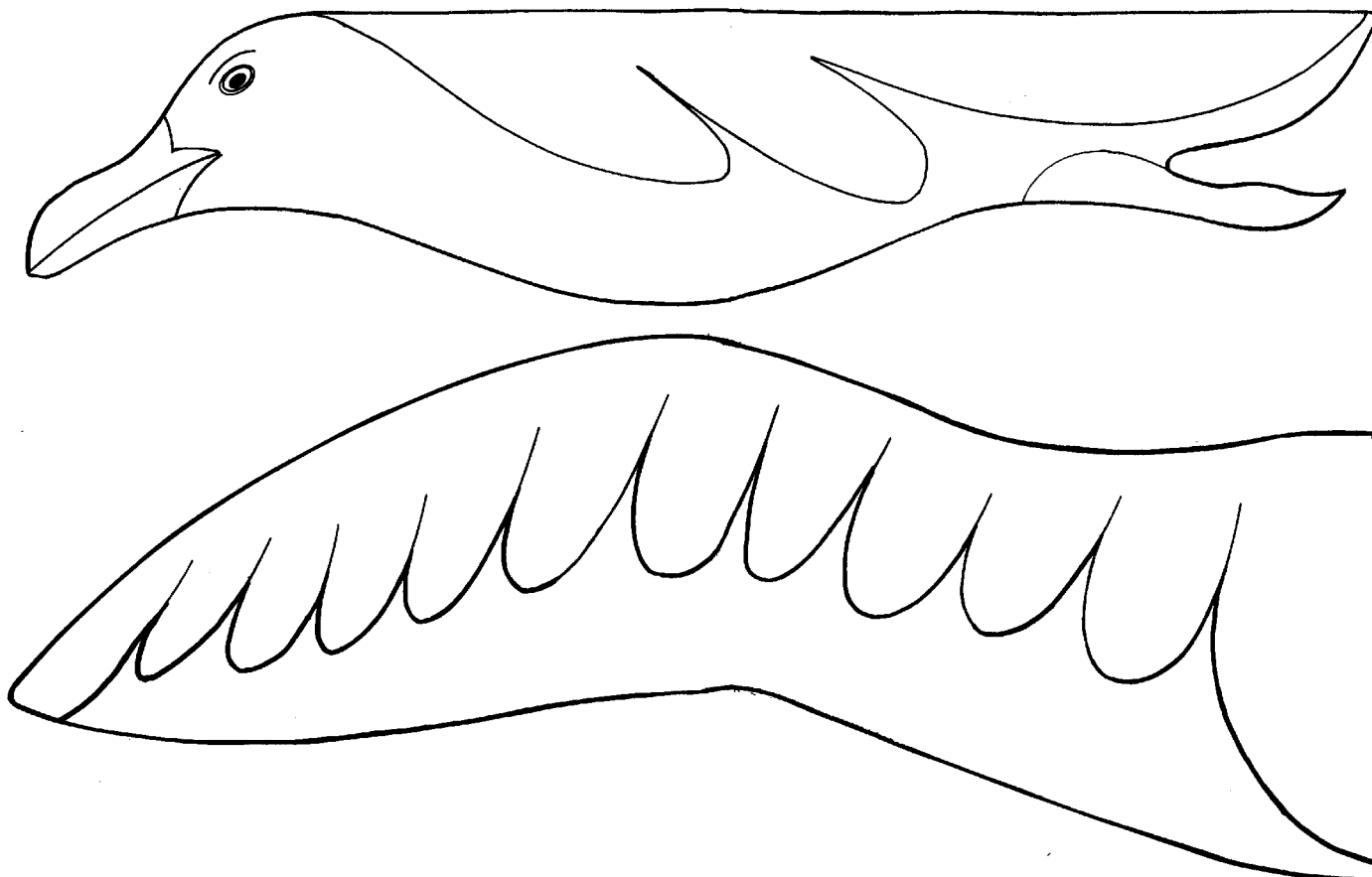
Cut two lengths of nylon 10 cm long. Thread each length through the holes in the wings from underneath and secure with knots. Take the thread over the top of the wing through the holes in the body and down through the holes in the opposite wing. Fold the wings up together making sure that 4 cm of thread is left standing out and then secure with knots (This ensures the free movement of the wings).



14. Hang the support dowel using centre thread from a hook. Pass the wings through the two loops for the wings and move them backwards and forwards until the "seagull" balances. Lightly mark the place where the thread passes underneath the wings. Finally saw a groove where marked approx 5 mm deep in each wing to take the thread. Now when the bead is pulled the wings and body will move in a balanced and controlled fashion.

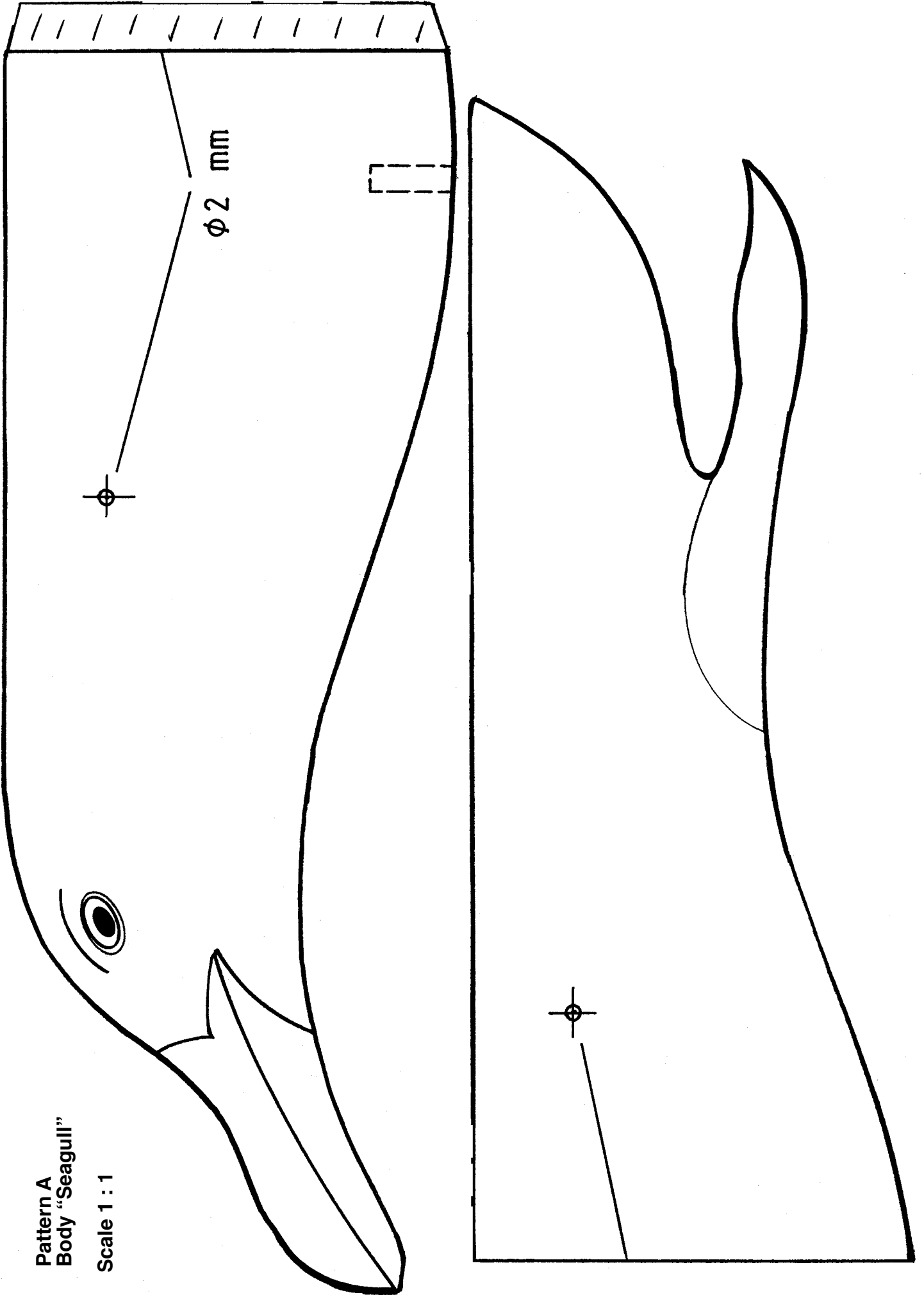


DESIGN POSSIBILTY



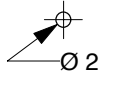
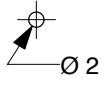
Pattern A
Body "Seagull"

Scale 1 : 1



**Pattern B
Wings for Seagull**

Scale 1 : 1



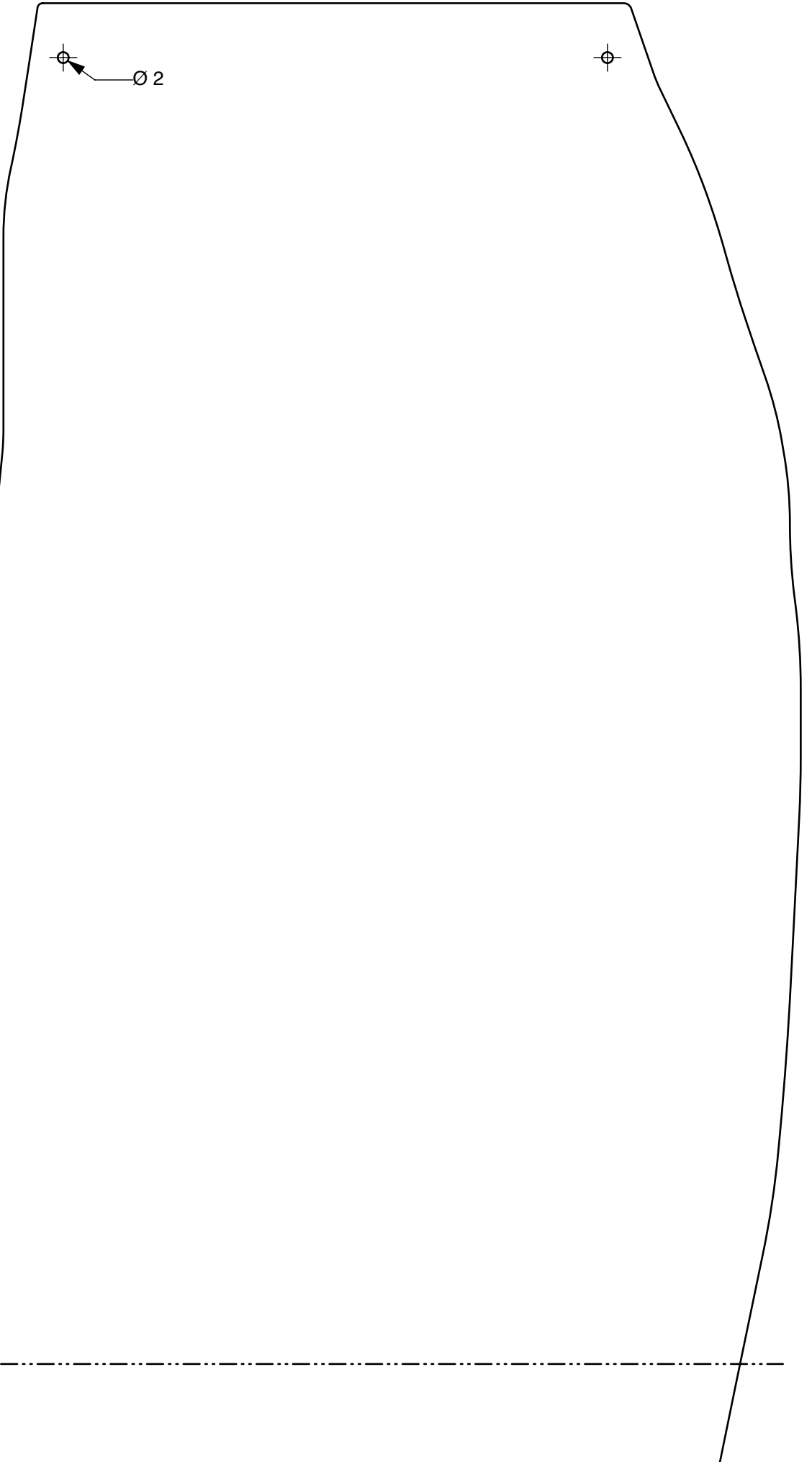
joining line

**Pattern B
Wings for "Seagull"**

Scale 1 : 1

**Pattern B
Wings for "Pelican"**

Scale 1 : 1



joining line

**Pattern B
Wings for "Pelican"**

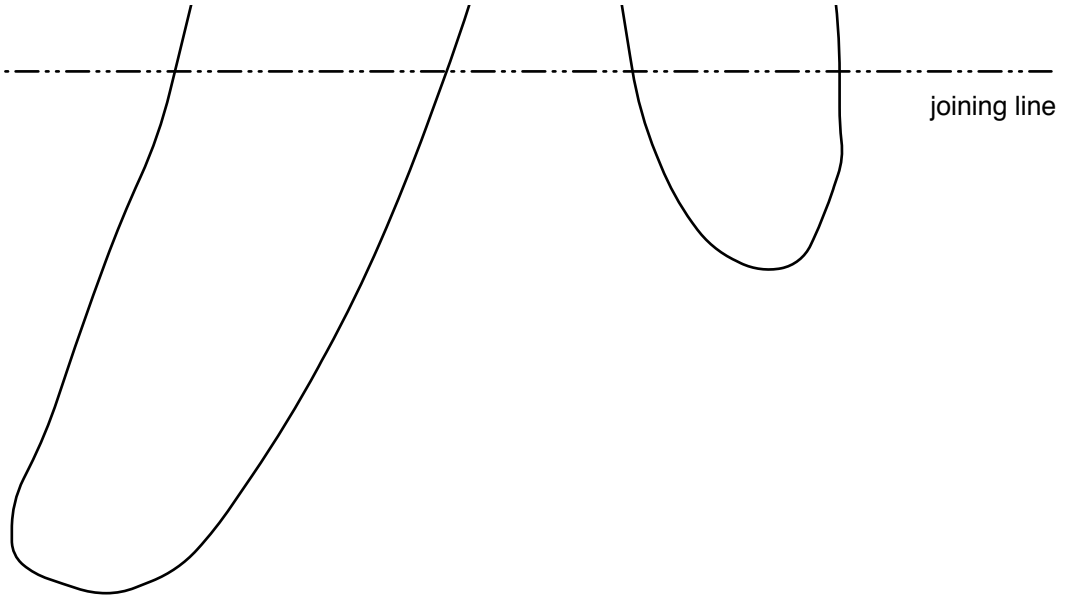
Scale 1 : 1

joining line

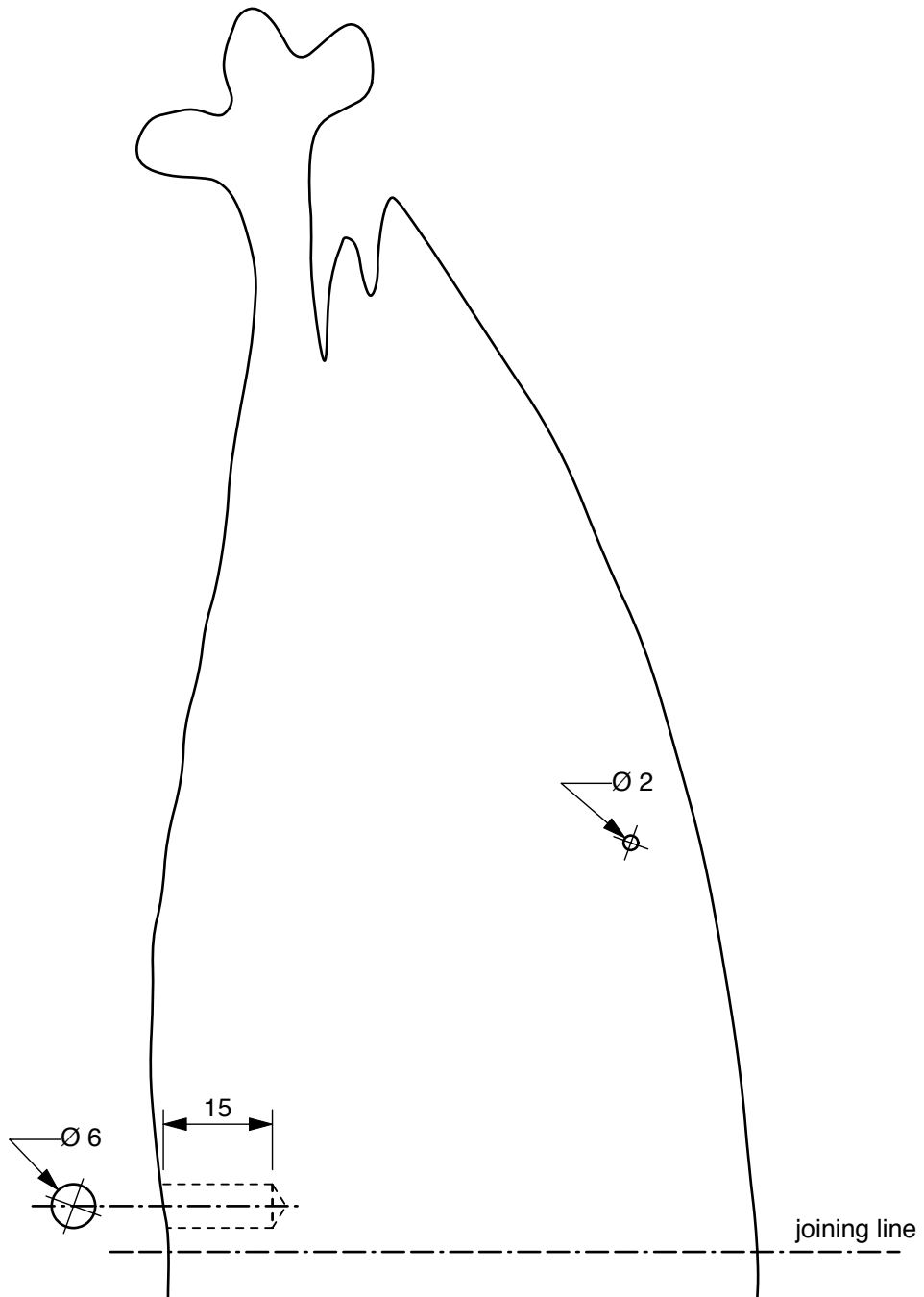
joining line

**Pattern B
Wings for "Pelican"**

Scale 1 : 1



A-Body pattern "Pelican"
Scale 1 : 1





A-Body pattern "Pelican"
Scale 1 : 1