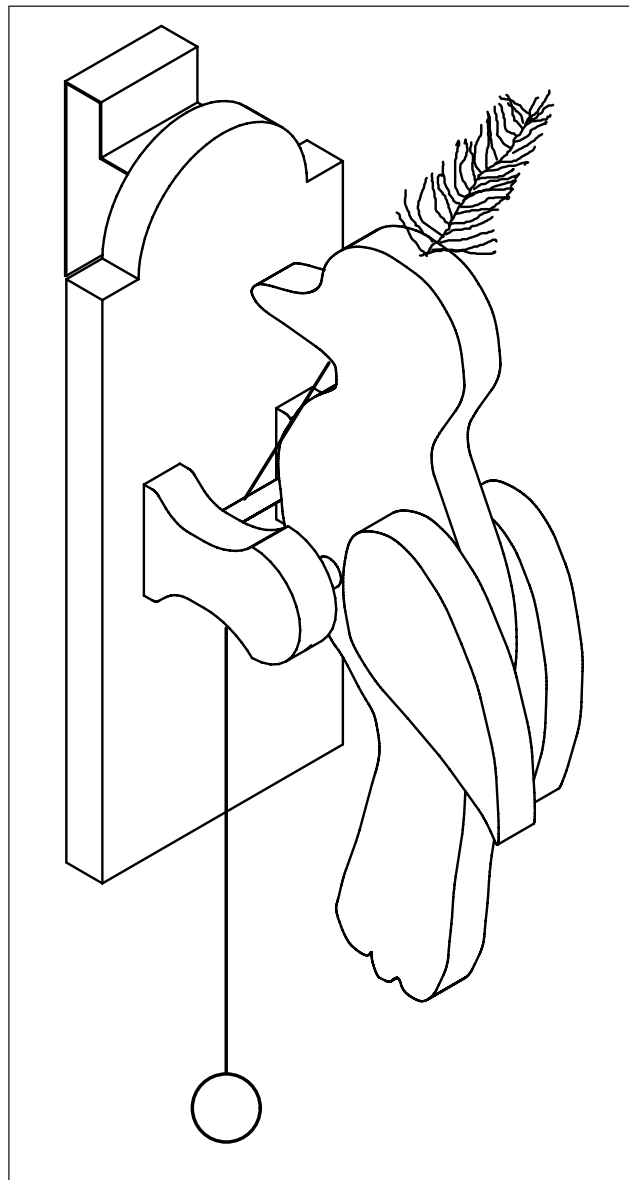


# OPITEC

## *1 0 0 . 0 8 7* *Woodpecker*



### **Please Note**

The OPITEC range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation!

### **Warning!**

This product contains small parts that can be swallowed  
There is a danger of choking

## 1. Product Information

**Article:** Artefact for general use

**Use:** In Design Technology, Key Stage 3

## 2. Materialkunde:

**2.1. Material:** Pine (conifer), softwood  
Beech (deciduous), hardwood  
Wood should be relatively dry before use

**Working:** Wood can be planed, sawn, shaped and drilled  
Measure to size or use patterns

**Joining:** Use PVA white glue

**Finish:** Wax (fluid or hard):  
Wood varnish (clear):  
Staining (water soluble colour-finish with clear varnish)

**2.2. Material:** Sheet metal  
Zinc plated

**Working:** Drilling and bending

**Joining:** Screws

**Finishing:** None necessary

## 3. Tools:

**sawing:** ***Fret saws*** for all curves and round shapes that cannot be tackled with other types of saw.

***Note!*** fret saw blades should be inserted with the teeth facing forward.

Use a fret saw board, saw with constant slow strokes, moving the work towards as you go.

**Shaping:** Use a rasp or wood file.

***Note!*** these tools only cut on the forward stroke.

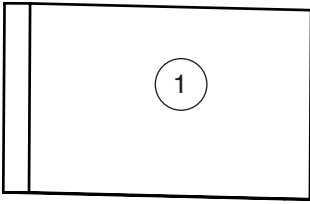

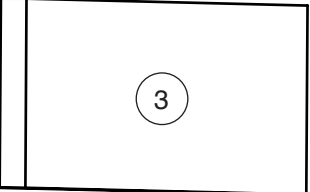







**Finishing:** Use a glasspaper and block for flat surfaces.  
Use loose sheet for curves.

**Drilling:** Use a pillar drill or hand drill

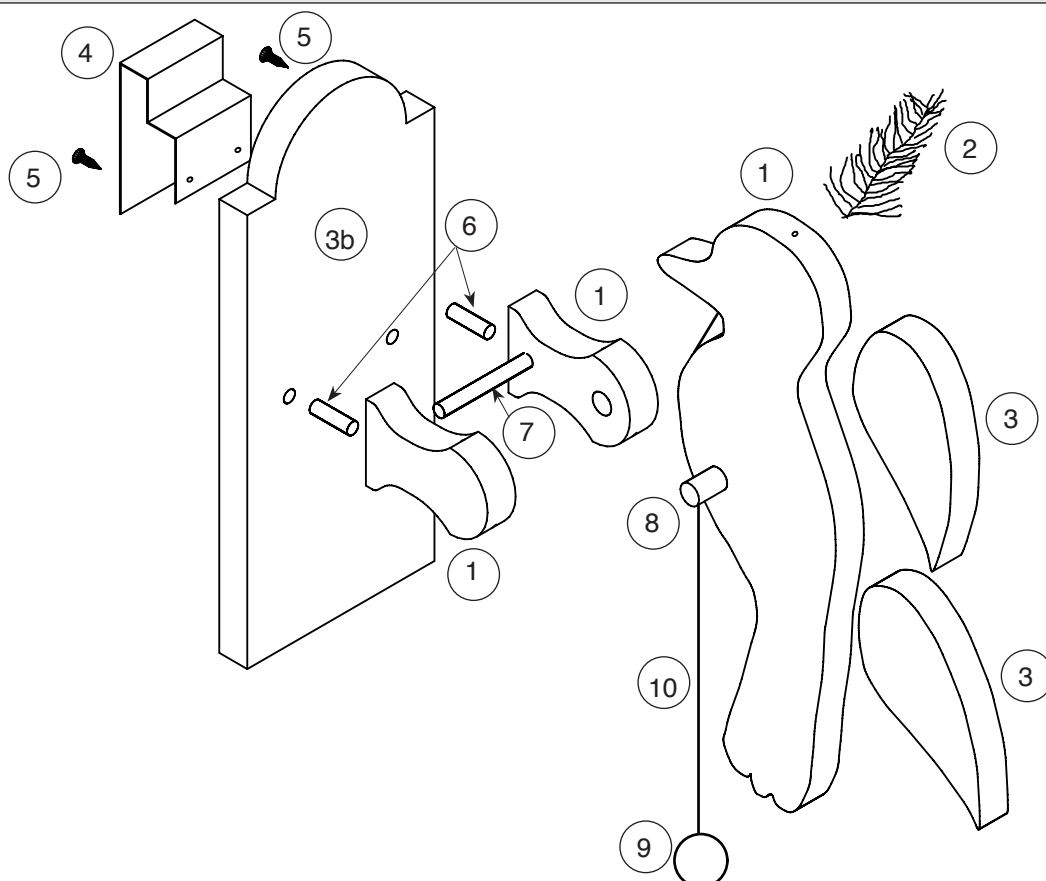
***Note:*** the safety rules, tie all long hair back, wear safety glasses, wear an apron and remove all jewellery  
- hold the work in a hand vice.

**Clamping:** Use G clamps to hold your work whilst it is drying.

#### 4. Parts list

Part	Material	Quantity	Size	Diagram
<b>Woodpecker</b>	Pine	1	15 x 100 x 350 mm	
	Feather	1		
<b>Base holder</b>	Pine	1	15 x 100 x 350 mm	
<b>Clip</b>	Metal sheet	1	0.5 x 40 x 150 mm	
	Screws	2	3 x 10 mm	
<b>Dowel Spacer</b>	Pine	1	6 dia x 50 mm	
	Pine	1	6 dia x 50 mm	
	Dowel	1	10 dia x 50 mm	
<b>Wooden ball</b>	Beech	1	20 mm dia	
<b>Cord</b>	Thread	1	500 mm	

#### 5. Exploded diagram

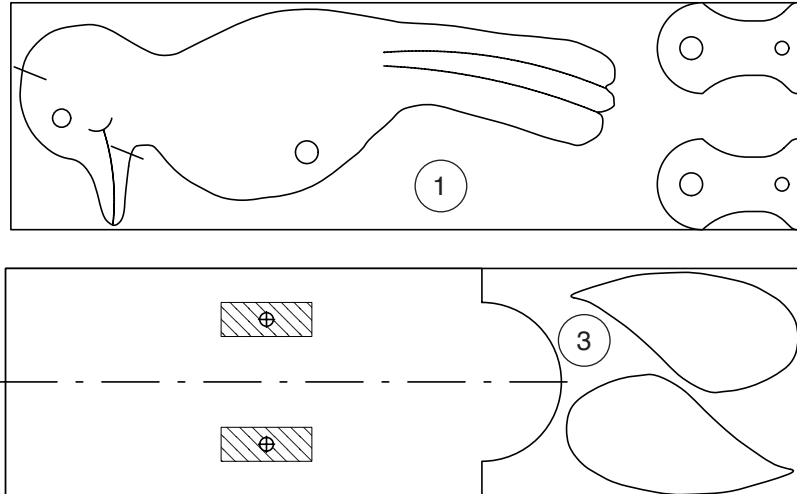


## 6. Planning overview

- 6.1 Making the woodpecker body
- 6.2 Making the base
- 6.3 Making the side support arms
- 6.4 Assembling the parts

### 6.1. Making the woodpecker body

6.1.1 Use the patterns (page 7) to trace out the shapes of the woodpecker and base holder on to parts 1 and 3, 15 x 100 x 350mm. Saw out and shape the parts.

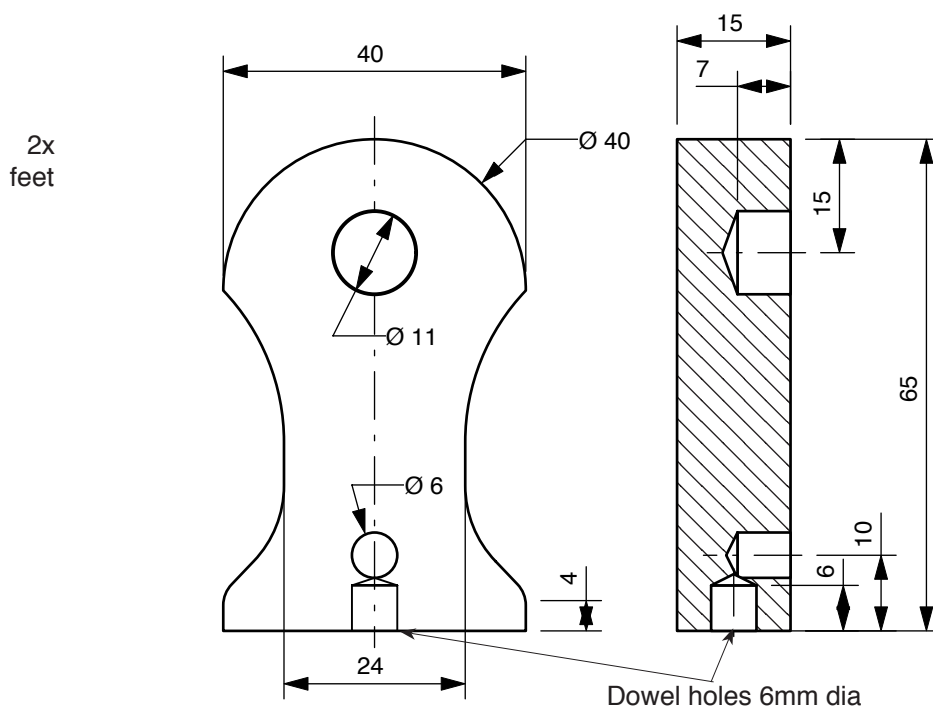


6.1.2 Chamfer and round the edges.

6.1.3 Drill the 10mm hole for the axis dowel (8) and the 2mm holes for the feather and pattern (see page 7)

6.1.4 Drill the three blind holes 11mm dia and 6mm dia in the side arms.

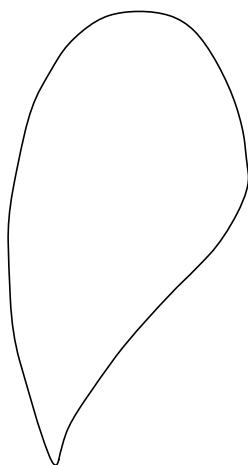
**Note!** To make the project easier the 6mm blind holes for the dowels in the base of the side arms can be left out.



6.1.5 Shape the wings as shown (make them thinner on one side at the top)  
Remember one will be a left hand wing and the other the right wing.

**Note:** To make the project easier this thinning stage can be left out.

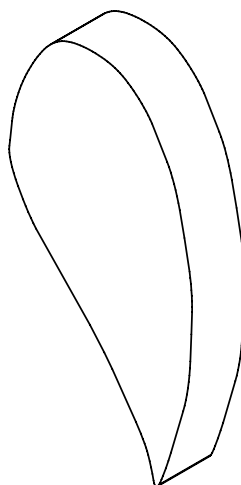
Front view



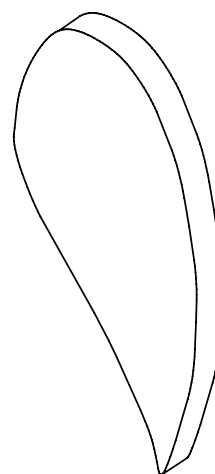
Plan



Wing (not  
thinned)

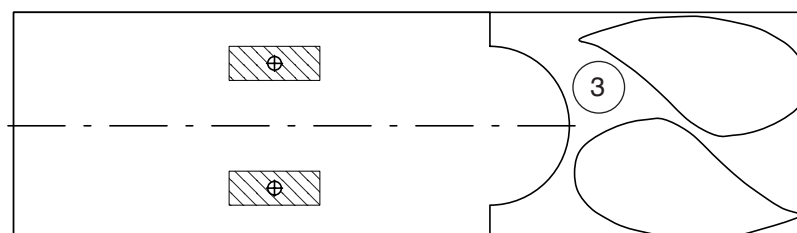


Thinned  
wing



## 6.2 Making the base

6.2.1 Saw out the shape of the base and wings from part 3 as shown



6.2.2 Chamfer and round the edges

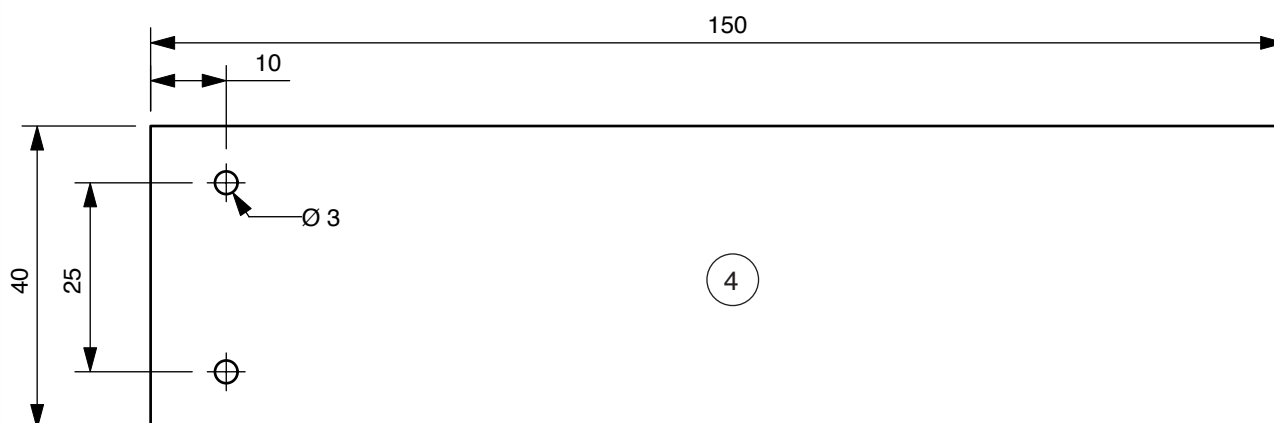
6.2.3 Drill the two 6mm dia holes for the the arm fixing dowels

**Note:** to make the project easier this stage can be left out.

## 6.3 Making the holder

6.3.1 Drill the metal strip (4) as shown and bend it to the edge profile of the door where it will hang.

**Note:** The woodpecker can be simply screwed to the door or fixed with double-sided sellotape.



## 6.4. Assembling the parts

**Note:** Paint and decorate the model at this stage, before assembly!

6.4.1 Saw two lengths, each 20mm from the 6dia x 50mm dowel.

**Note:** if you have decided not to use dowels for fixing the arms, this stage can be left out.

6.4.2 Glue the wings (flat side innermost) to the body of the woodpecker.

6.4.3 Insert the 10dia x 50mm axis dowel (8) through the body of the woodpecker

6.4.4 Insert the feather into the head and glue the pull cord into its hole.

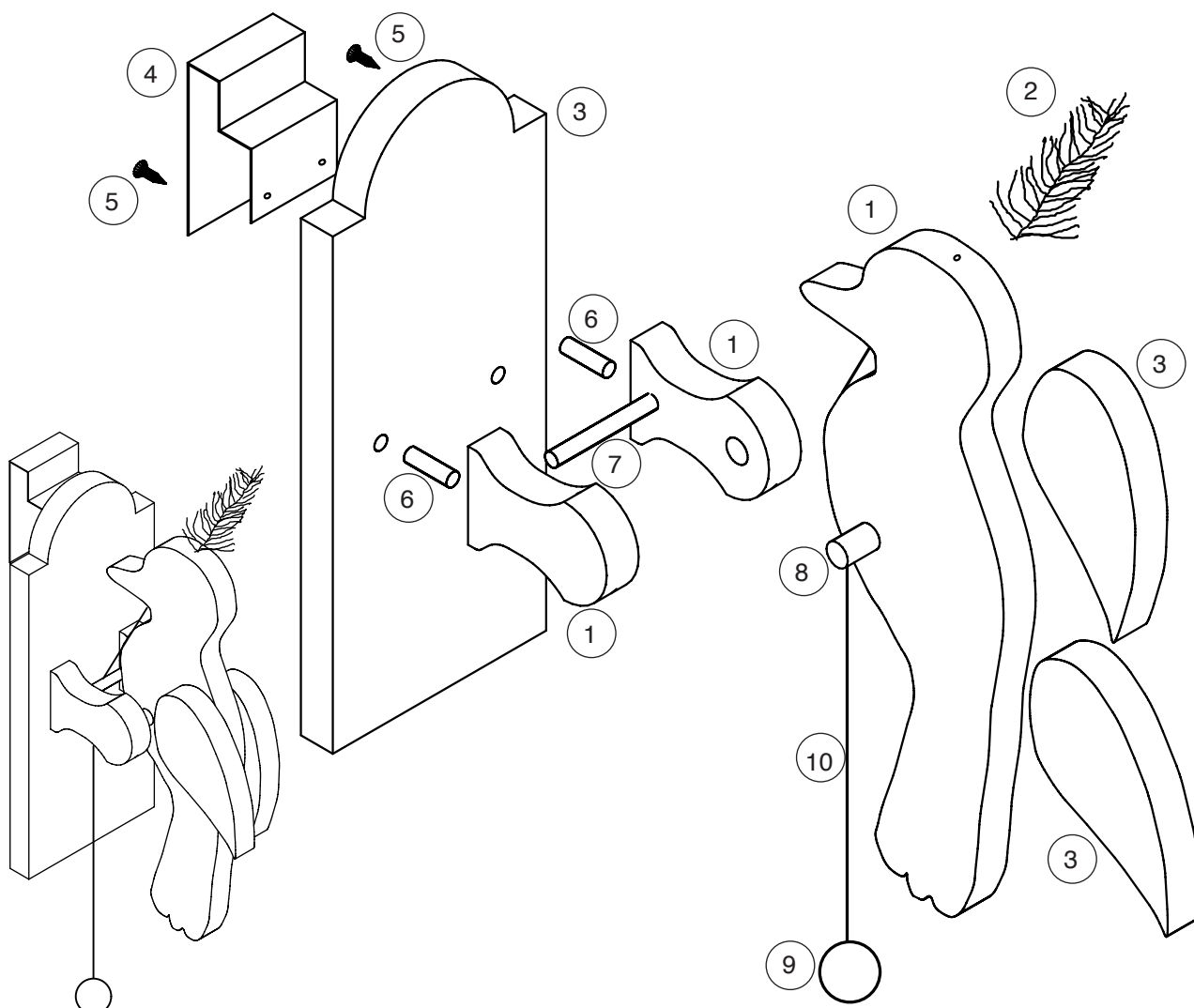
6.4.5 Once the glue has dried, assemble the side arms and axis dowel, complete with the arm spacer dowel into the base holder..

**Note:** the axis dowel (8) and spacer dowel (7) should not be glued in place.  
If the side arms are not to be dowelled in position, they should be butt jointed and glued 40mm apart. See pattern on page 9)

6.4.6 Thread the cord (10) between the base holder and the spacer dowel (7) and glue the wooden ball (9) to the end.

6.4.7 Once dry fix the metal clip to the base holder.

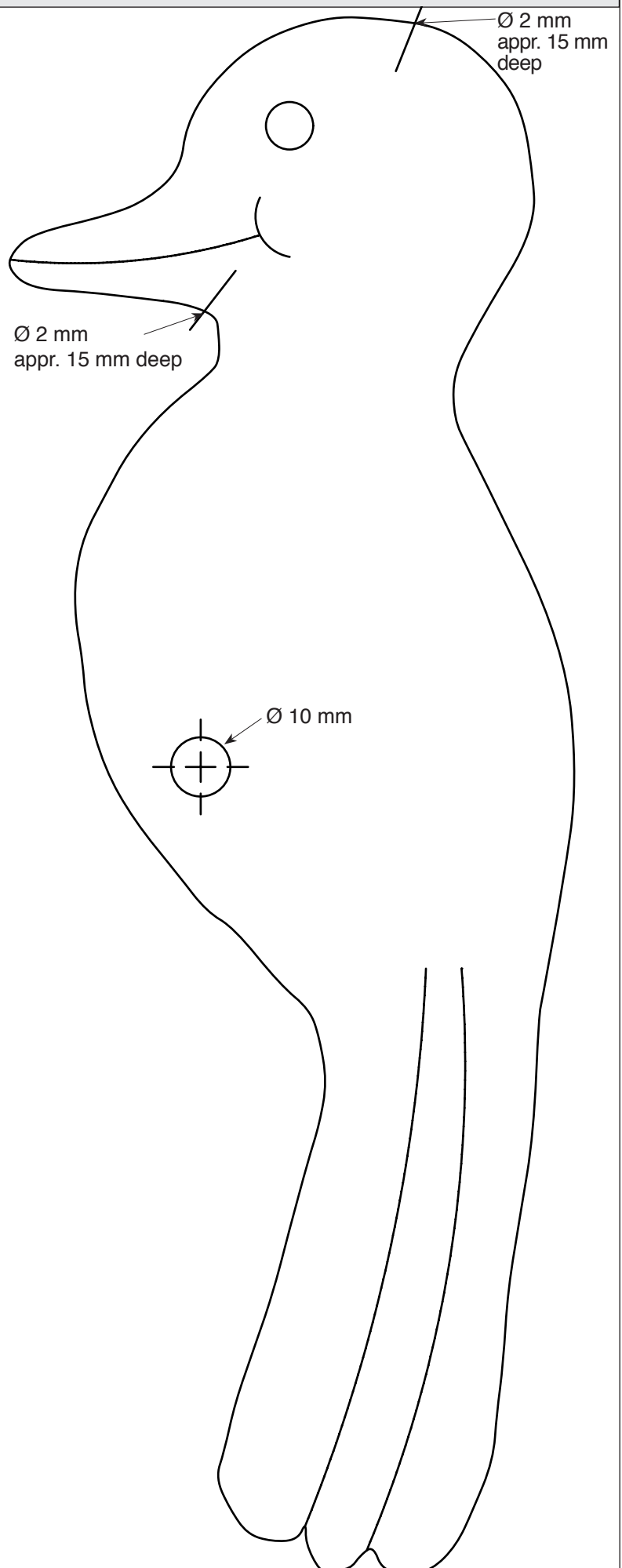
**Note:** if you design a different fixing this step can be left out.



## 7. Patterns

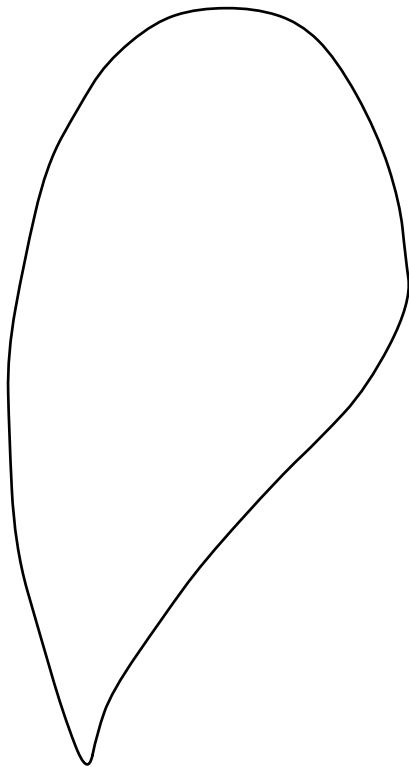
Body

Scale 1 : 1



Wing

Scale 1 : 1







## 7. Patterns

Base holder

scale 1 : 1

