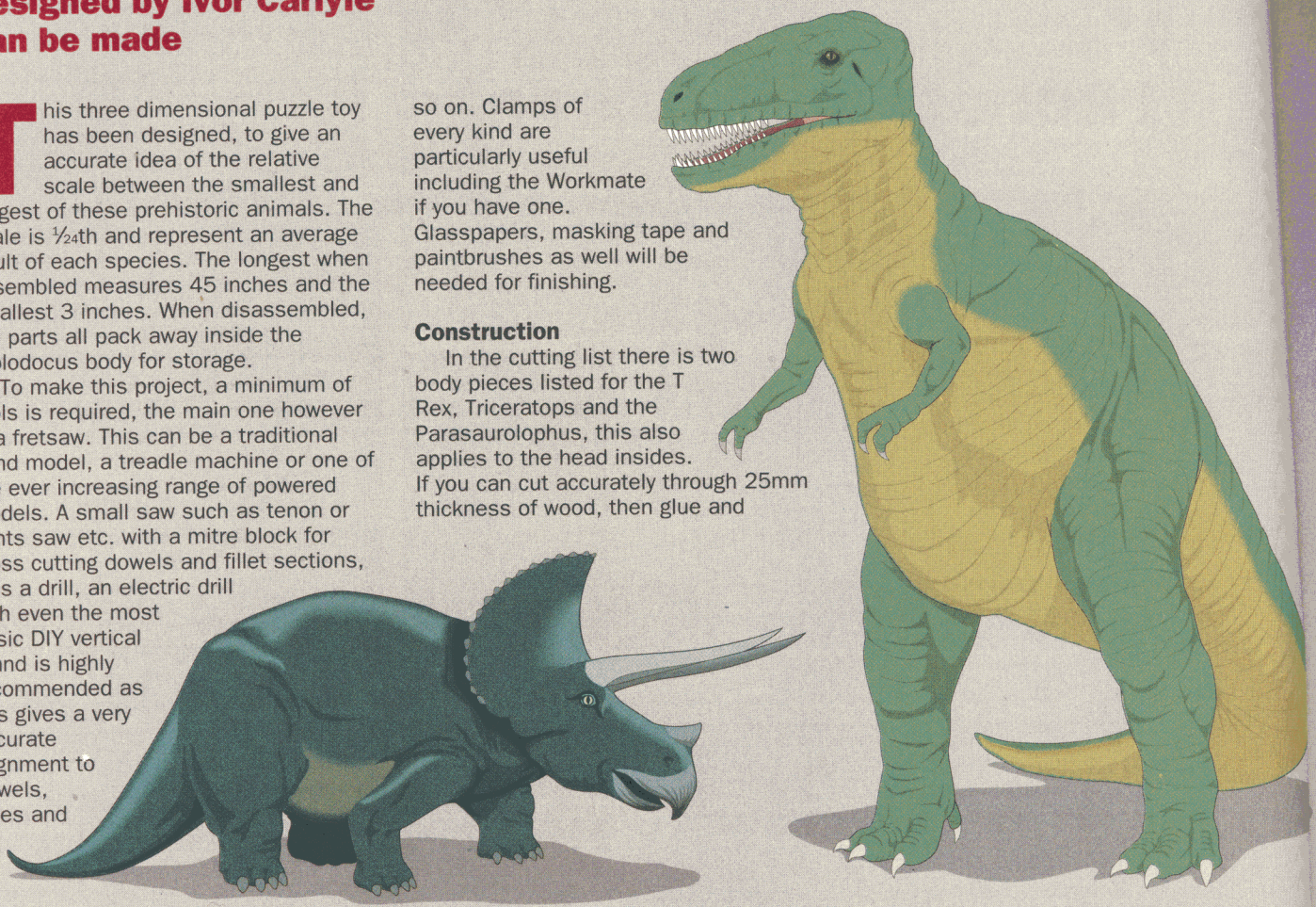
PROJECT
FOR THE CHILDREN

Prehistoric puzzle toy

With only the minimum of tools these attractive puzzle toys designed by Ivor Carlyle can be made

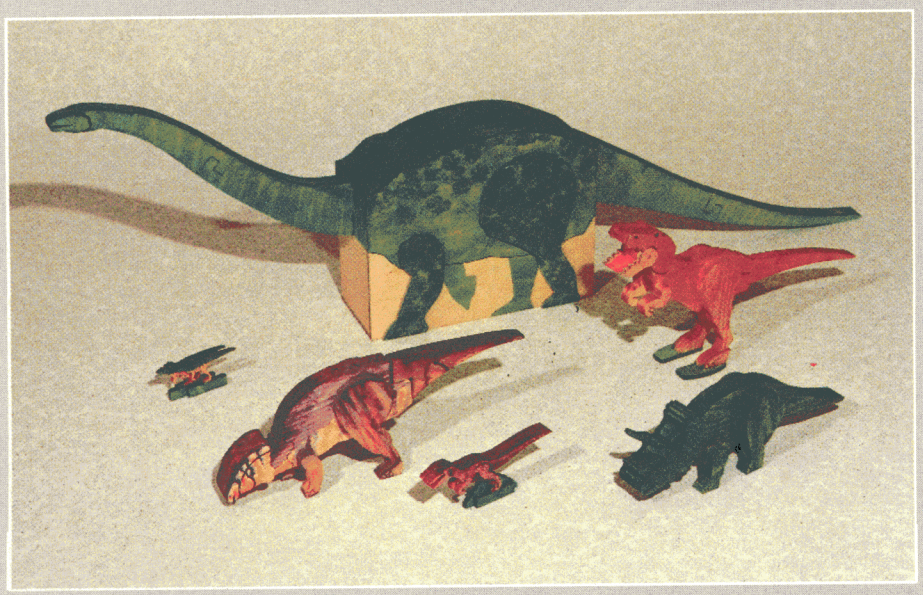


This three dimensional puzzle toy has been designed, to give an accurate idea of the relative scale between the smallest and biggest of these prehistoric animals. The scale is 1/24th and represent an average adult of each species. The longest when assembled measures 45 inches and the smallest 3 inches. When disassembled, the parts all pack away inside the Diplodocus body for storage.

To make this project, a minimum of tools is required, the main one however is a fretsaw. This can be a traditional hand model, a treadle machine or one of the ever increasing range of powered models. A small saw such as tenon or gents saw etc. with a mitre block for cross cutting dowels and fillet sections, plus a drill, an electric drill with even the most basic DIY vertical stand is highly recommended as this gives a very accurate alignment to dowels, axles and so on. Clamps of every kind are particularly useful including the Workmate if you have one. Glasspapers, masking tape and paintbrushes as well will be needed for finishing.

Construction

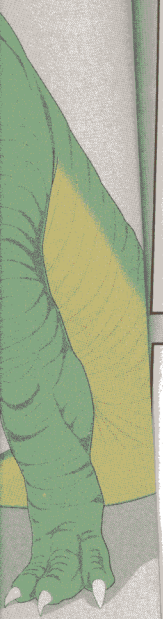
In the cutting list there is two body pieces listed for the T Rex, Triceratops and the Parasaurolophus, this also applies to the head insides. If you can cut accurately through 25mm thickness of wood, then glue and clamp two pieces of 12.5mm together before cutting. Otherwise cut first, then join together. Where two ply shapes are required, join two pieces of ply together with double sided tape and separate after cutting, there again cut singly if this is easier. Either trace out the shapes or somewhat easier, photocopy, then cut them out and use as templates.



Complete dinosaurs family

Carefully drill the holes in the bodies of these three animals along with the holes in the tail section. Counter bore holes also to about half the thickness of the wood in the legs, taking care that you end up with a left and right version of each.

Glue the toe profile to the outside edge of the Para' and T Rex's feet. Also glue the Platforms to the base of the T Rex feet. All three heads are similar in construction, simply glue the sides to the inside section which gives a hollow



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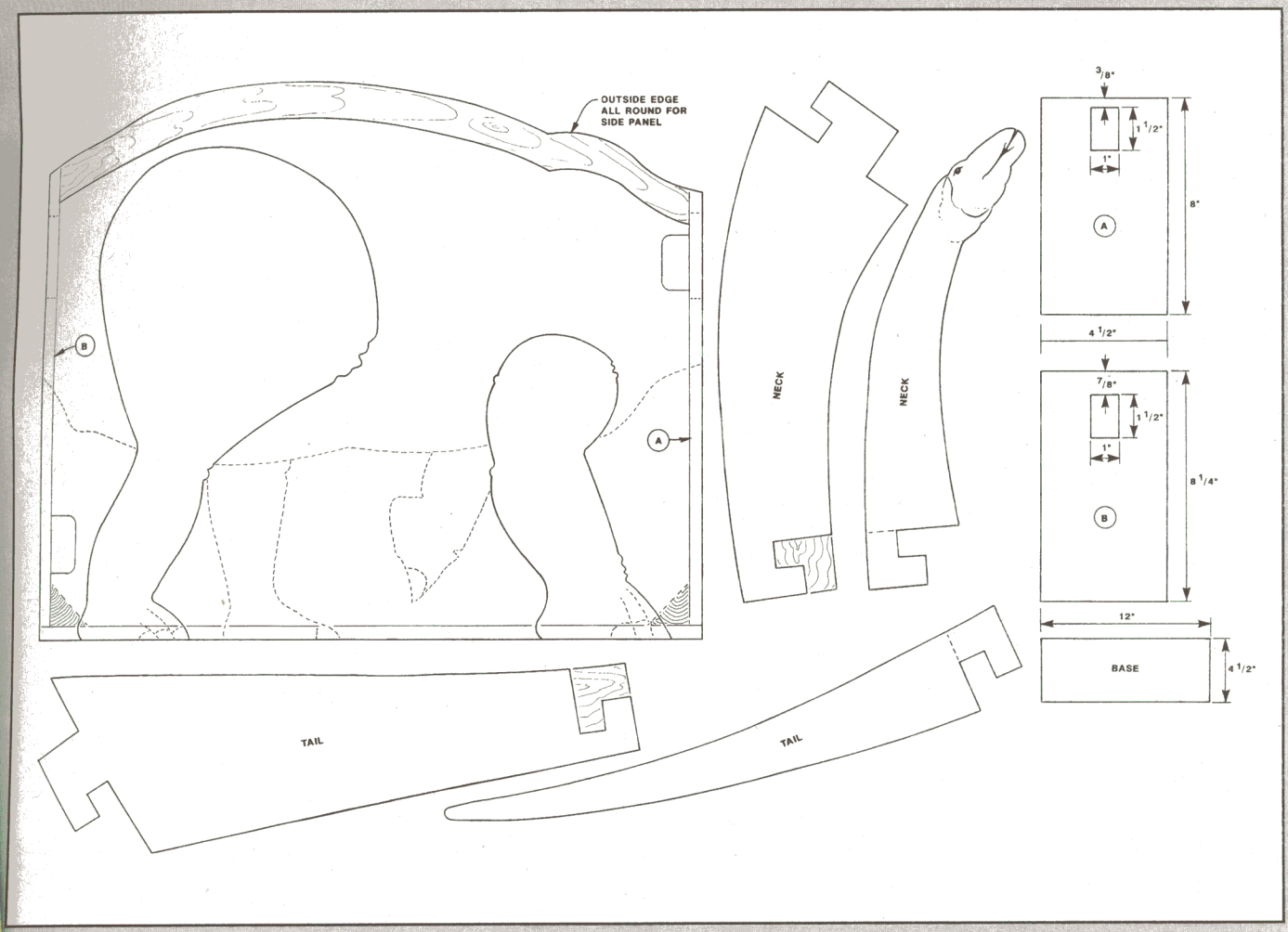
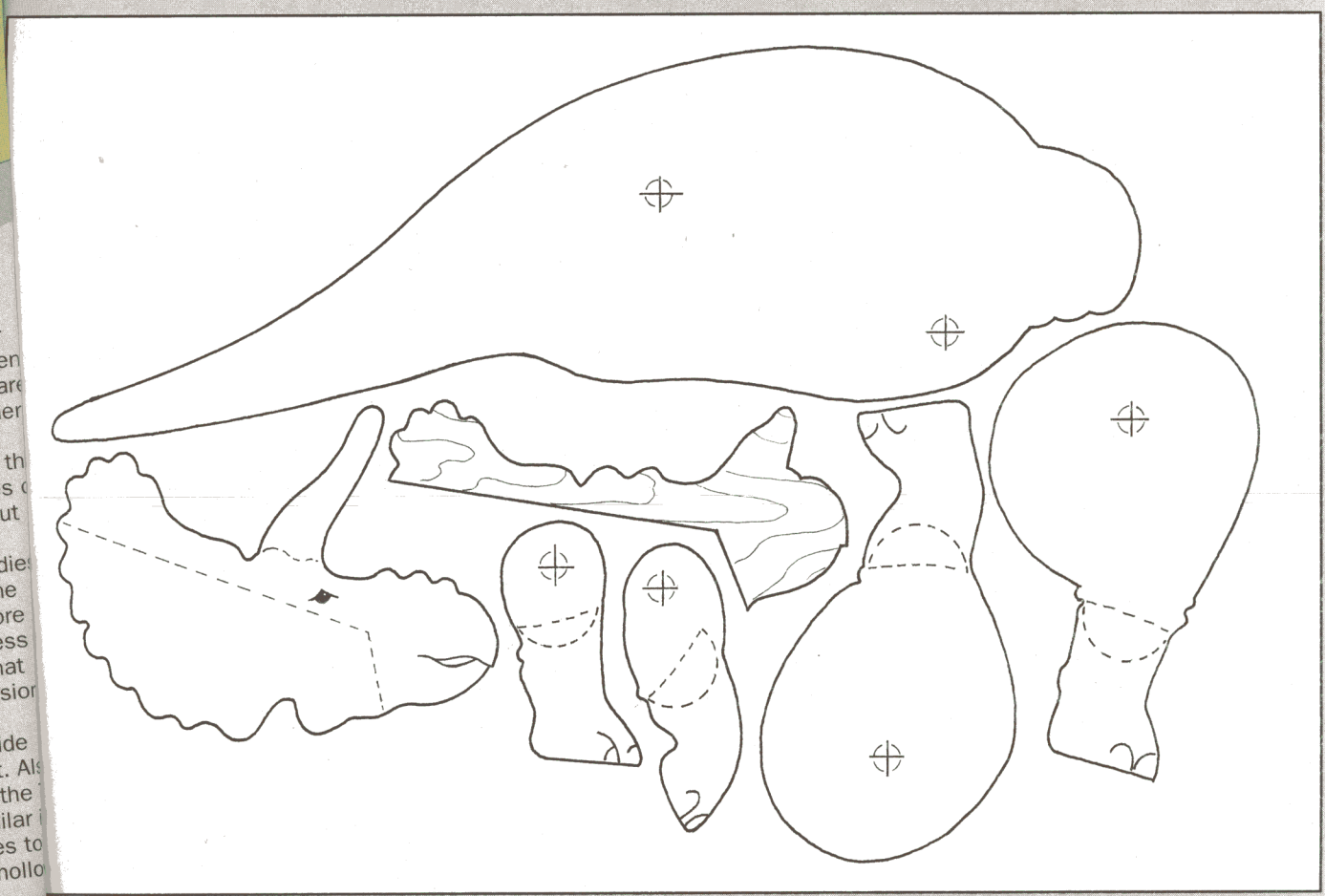




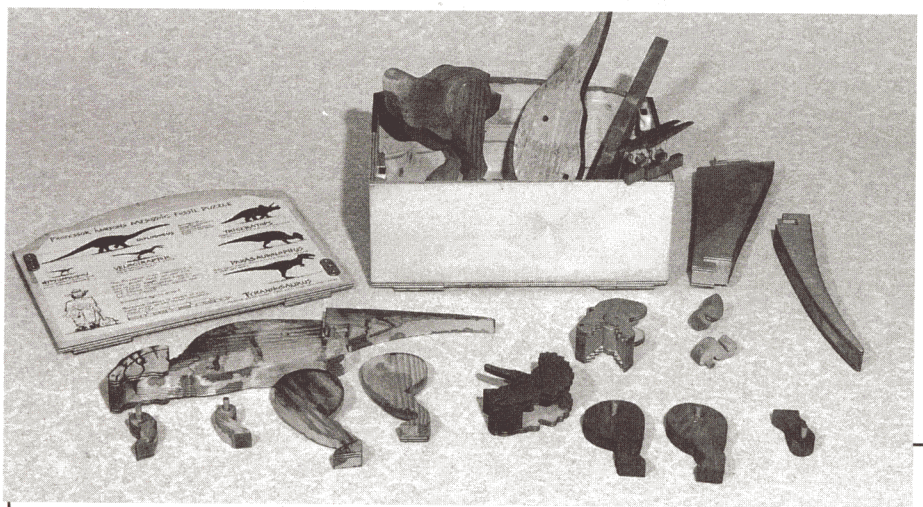
Cutting list

Parasaurolophus

No.	Item	Material
2	Head sides	6mm ply
2	Head inside	12.5mm pine
2	Bodies	12.5mm pine
1	Tail	12.5mm pine
2	Hind legs	12.5mm pine
2	Front legs	12.5mm pine
2	Hind toes	6mm ply
4	Knee rests	6mm ply
5	20mm dowels	6mm doweling

Hypsilophodon

No.	Item	Material
3	animals	6mm ply



head which push fits on and off the body. The T Rex has a working jaw.

Cut the head sides out in one piece and then along the tooth and jaw line. Refer to the diagram for assembly making sure the assembly works smoothly before finally fixing the 3mm dowel pivots in place.

To give extra stability to the legs cut out and glue to the inside surface the knee rests. You will need them on the T Rex as it stands on its hind legs alone.

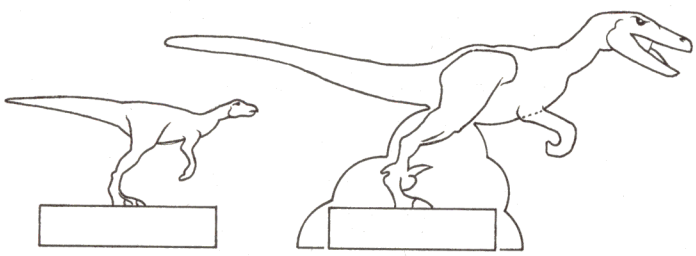
Cut two side sections of the Velociraptor with the front and hind legs in place. Cut a centre section minus the front legs and the triangular foliage outline in place of the hind legs, then glue together.

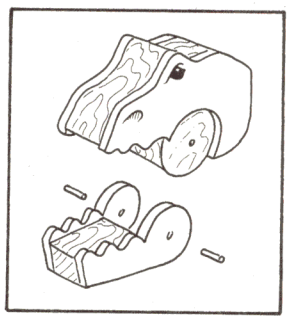
Cut out three Hypsilophodons and glue together in a staggered formation, leave this until after they have been coloured in.

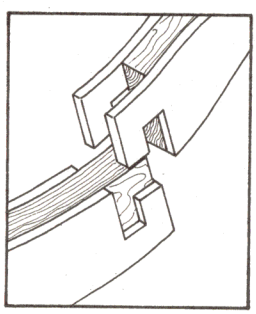
The Diplodocus body acts as a storage box for the animals when they are disassembled. Glue the base, front and back ends and one of the side panels together using the fillet sections to reinforce the base. Refer to the diagram, if in doubt. Masking tape is very helpful to bind pieces together while gluing and also stops them sliding around while clamping, or having a weight placed on top to aid adhesion. Glue the pine back sections together, first in pairs then bring these sections together, taking care to keep the whole piece flat and parallel.

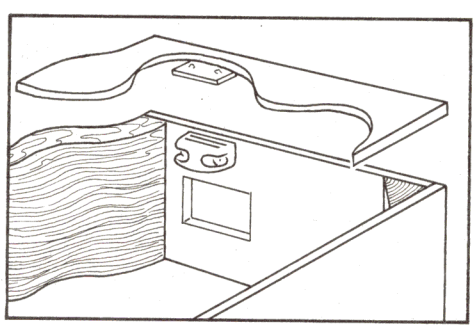
Clean up what will become the inside surface before fixing in place and check with the side that will now become the lid, accuracy of fit and alignment before finally gluing.

Cut the neck and tail sides in one









All the parts pull apart for easy storage

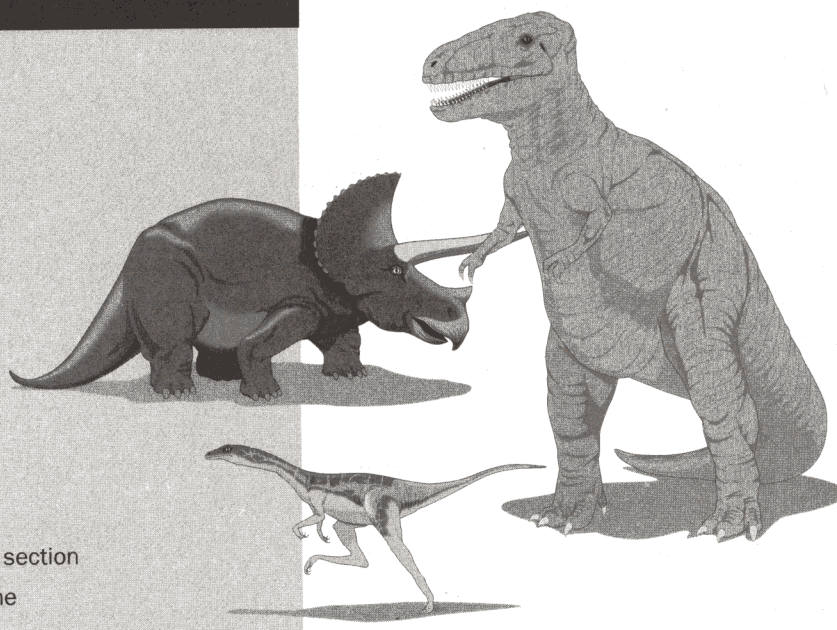
Cutting list

Diplodocus

No.	Item	Material
◆ 1	Base	6mm ply
◆ 1	Front panel	6mm ply
◆ 1	Back panel	6mm ply
◆ 2	Side panels	6mm ply
◆ 2	Front legs	6mm ply
◆ 2	Hind legs	6mm ply
◆ 2	Neck sides	6mm ply
◆ 2	Tail sides	6mm ply
◆ 1	Neck 12.5	pine
◆ 1	Tail 12.5	pine
◆ 2	fillets for base	20mm fillet section
◆ 9	Back sections	12.5mm pine

Triceratops

No.	Item	Material
◆ 2	Head sides	6mm ply
◆ 2	Head inside	12.5mm pine
◆ 2	Body	12.5mm pine
◆ 1	Front leg	12.5mm pine
◆ 1	Front leg	12.5mm pine
◆ 1	Rear leg	12.5mm pine
◆ 1	Rear leg	12.5mm pine
◆ 4	Knee rests	6mm ply
◆ 4	Dowels	20mm x 6mm doweling



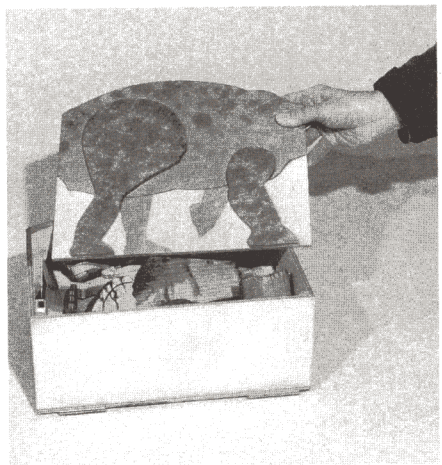
Cutting list

Velociraptor

No.	Item	Material
◆ 2	Sides	6mm ply
◆ 1	Inside	6mm ply

Tyrannosaurus

No.	Item	Material
◆ 2	Head sides	6mm ply
◆ 2	Feet platforms	6mm ply
◆ 2	Head inside	12.5mm pine
◆ 2	Jaws inside	12.5mm pine
◆ 2	Bodies	12.5mm pine
◆ 1	Tail	12.5mm pine
◆ 2	Hind legs	12.5mm pine
◆ 2	Front legs	12.5mm pine
◆ 2	Knee rests	6mm ply



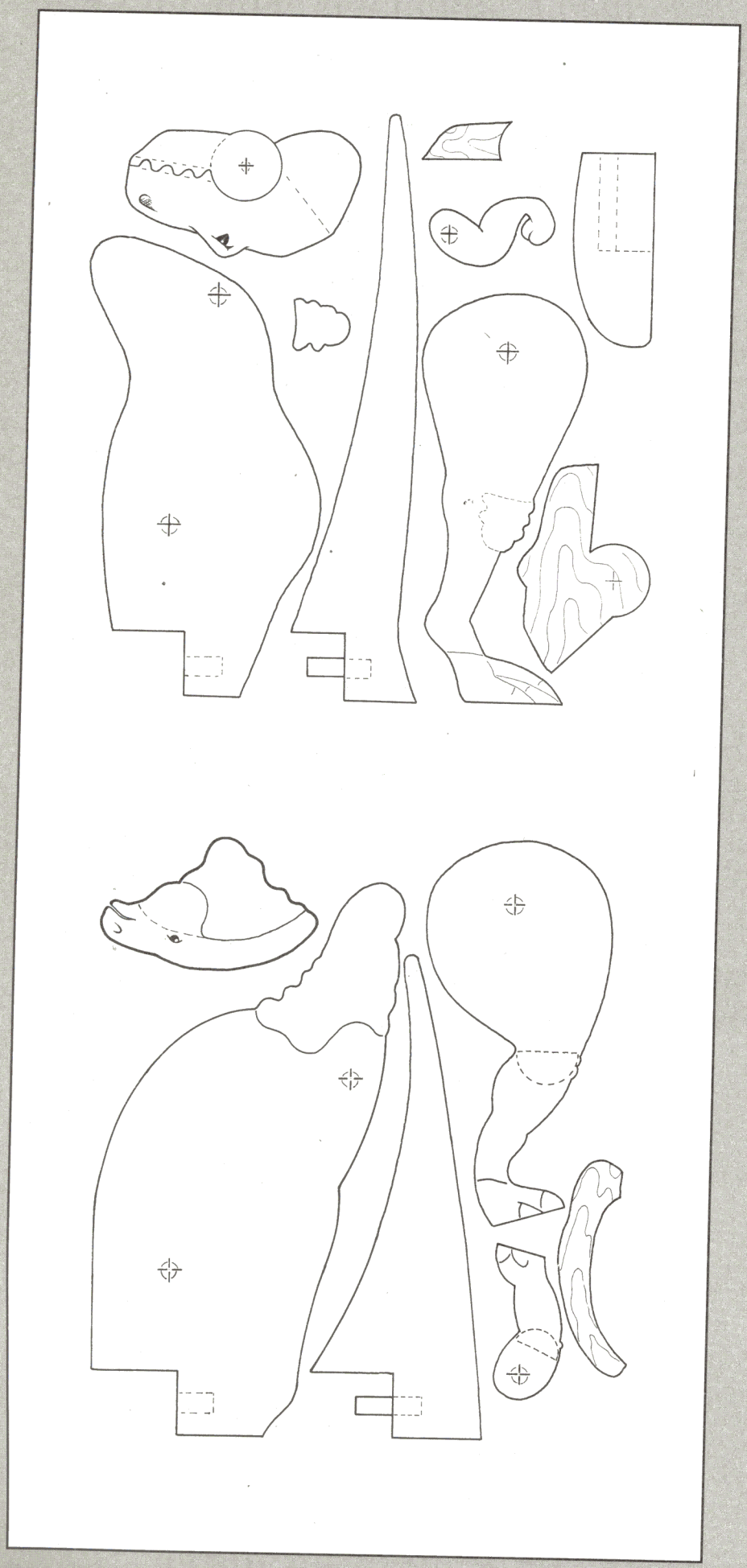
All components store away neatly into a small box

piece if possible and then cut the knock down joint line. Glue these to the pine inside sections, noting the way they are assembled on the joint diagram. Draw the body and leg outlines on the sides before gluing the legs on.

Use epoxy resin for the legs on the lid which should be laid on a flat surface with some weight on top to prevent it 'winding' while setting. Resin glue the magnetic catches in place making sure the catchplate lies flush with the edge.

Put some blobs of ink on the catchplate top surface and then lay the lid on top, this will show where to glue the plates on the lid.

With some glasspaper wrapped around a block finish off the top, making the front and rear ends line up with the



Materials for the job

- 12.5mm prepared pine or equivalent softwood in plank widths of about 120mm minimum.
- 6mm plywood, Scandinavian birch multiply is best for models.
- 6mm hardwood doweling and a small amount of 3mm dowel, plus 9 inches of 20mm fillet section.
- Two magnetic catches.
- P.V.A. glue.
- Epoxy resin adhesive.
- Coloured inks or water colours. Non toxic transparent lacquer (such as Japlac).

neck and tail surfaces.

Colour the models with diluted inks or water-colours. Dribble the colour onto the wood with an overloaded brush and dab on with some scrunched up kitchen towel to obtain the camouflage patterns.

Draw the eyes, mouth and other details in with a black pen. Finish with a non toxic transparent lacquer.

Dinosaur fact file

Diplodocus -
Amongst the longest dinosaurs. Plant eater. Small head with nostrils set above eyes.

Hypsilophodon -
Plant eater. Small and fast. 'Dinosaur Gazelles"

Velociraptor -
Flesh eater. Fast and fierce. Big brain, keen eyes.

Triceratops -
Plant eater with massive armoured head.

Parasaurolophus -
Huge plant eater. Powerful hind legs for making a fast getaway.

Tyrannosaurus -
Massive flesh eater. Fast with huge saw-edged fangs. ❑