



Bug Hotel

The Bug Hotel is a simple design that can be easily assembled by children around 8 years old and above.

Assembly requires the usual activities at the Shed when local school children visit:-

- Measuring
- Marking
- Drilling
- Screwing
- Hammering
- Sanding

The finished Bug Hotel:-



A simpler design has shorter roof sections to make assembly easier and a simpler cutting list.

Materials

Timber

1. Rough sawn board: 22mm x 150mm. A length of 800 should be sufficient for one bug hotel. A 3.6m board would be sufficient for 3 or 4 hotels.

A board purchased from Grant & Stone, Aldermaston; 22x150x3600 cost £7.08 at the time of writing.

2. Bamboo cane: depending on diameter, but a 9' cane will fill one hole.

Timber cutting list

Assuming board width is 6" (150mm):-

Back: 255mm length with mitred end 45° to meet in center top. Sides should now be 180mm.

Top triangle(s): The offcuts from the back piece mitre cut.

Sides: 180mm length with 45° bevel cut across the width (see below) then rip down the center to give **2 pieces**.

Roof (large): 200mm length with 45° bevel cut across the width (see below) then rip down the center to give **2 pieces**. Reduce the length of one piece by the board thickness.

Or,

Roof (small): 180mm length with 45° mitre cut across the width (see below) then rip down center length wise to give **2 pieces**. Reduce the length of one piece by the board thickness.

Shelf, base, retainer: 150mm length ripped into 3 pieces (2 cuts). 2 pieces 50mm (depth of box) for the shelf and base, the remaining piece is the retainer.

Fixings

Screws. 22 off: 4x40mm or 4x45mm should suffice.
Or for a more rustic look use 40mm galvanised nails.

Other materials

Small twigs, dried leaves, cones, straw etc

Tools

Preparation tools

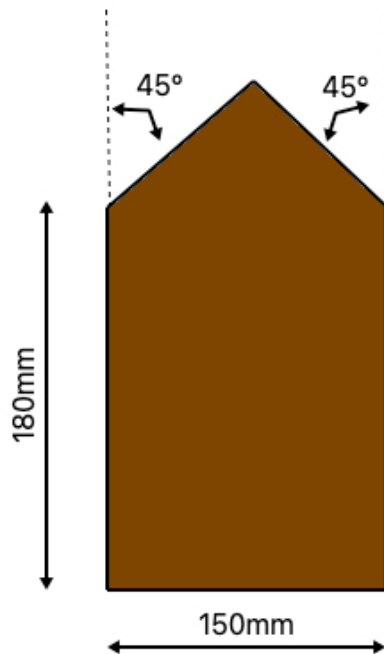
1. Mitre saw
2. Rule
3. Square
4. Pencil/marker/marketing knife

Assembly tools

Drill
3 - 4 mm drill bit (screw pilot holes)
2.5 - 3mm drill bit (nail pilot holes)
6-8mm drill bit (hanging hole)
Countersink bit (optional)
Screwdriver/screwdriver bit
Hammer/mallet
Sandpaper (optional)
Finish (optional)

Preparation

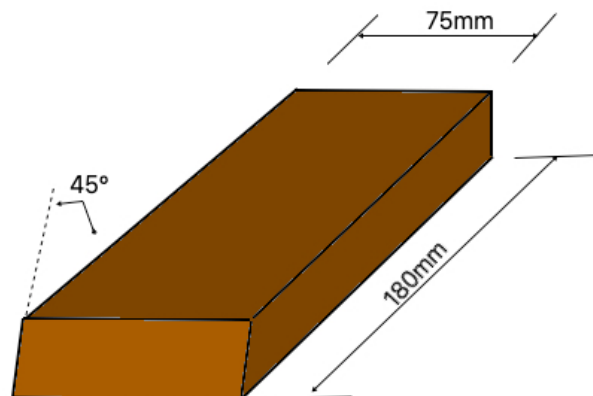
Back



1. Draw a centre line and cut equal corners at 45° meeting in the middle of the board edge.
2. **Keep the corners** to be used later to wedge in the bamboo strips.
3. Measure down 180mm from the mitred shoulder.
4. Cross cut square at the 180mm line.

Alternatively start with a board cut to 255mm then the mitre cuts should give a side length of 180mm.

Sides (2x)



Both side pieces are cut from one piece.

Bug Hotel plans

6 May 2026

1. Cross cut a piece 180mm long with a 45° bevel. 180mm on the long edge to align with the back panel.

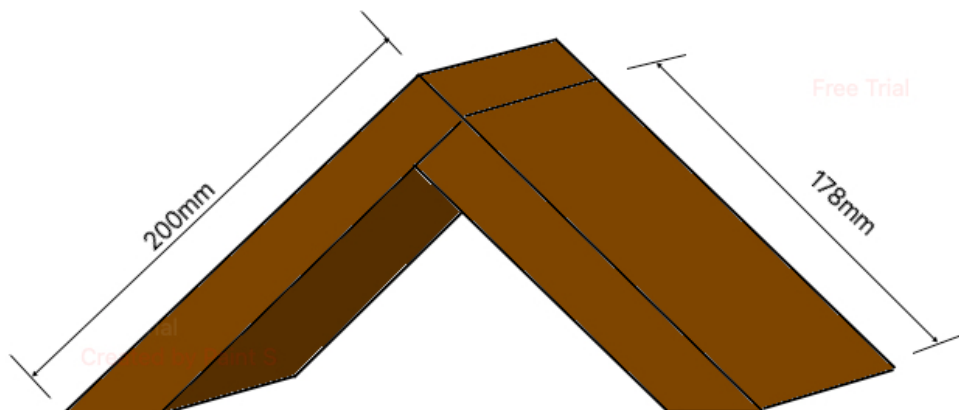


2. Mark a centre line and rip in half to create 2 side pieces.



Roof

As above, cross cut a 200mm (or 180mm) length for the two roof parts measuring from the bevel already sit for the side pieces.



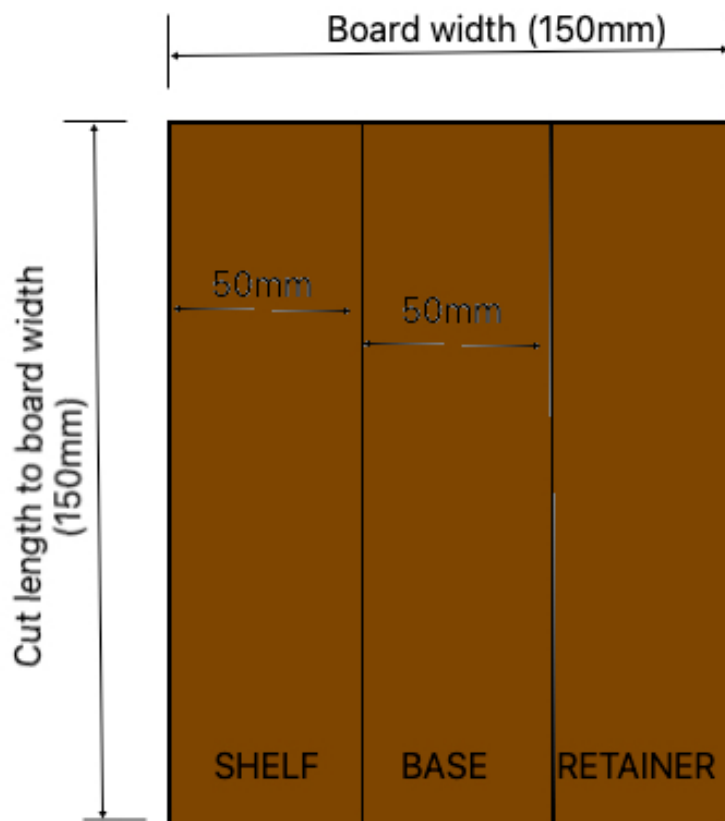
Bug Hotel plans 6 May 2026

1. Make a square cross cut from the board with the bevel from the previous cut.
2. Mark a centre line and rip the roof panel into two equal pieces.
3. Reduce the length of one piece by the thickness of the board to leave the second piece at ~180mm.

Note: for the simpler roof, cut the board to 180mm (same as sides), then reduce the second piece by the board thickness.

Shelf, bottom, and retainer

1. Measure the internal depth; back to front edge. This will be ~50mm.
2. Rip lengthwise two strips the same width as the measured depth (~50mm). These will be for the middle shelf and base.
3. Keep the remaining strip for the retainer board.



Bee tubes (bamboo)

Saw 50mm lengths from a 9' bamboo cane: one cane will be required for each bug hotel.

Assembly

Sand as required before assembly of after. Do not oversand to keep a rustic look.

Drill a hole in the back part for easy hanging.

Drill pilot holes in one piece then screw or nail the together to create the bug hotel as in the initial photo.

The shelf is attached such that the top of the shelf will be level with the lower part of the roof for the longer roof. For the shorter roof the top of the shelf should be around 35 - 40mm from the top of the side piece.

Fix the retainer so that there's a gap above and below.

Fill the top compartment with the bamboo lengths using the kept triangle off-cut(s) as a wedge. Fit the bamboo tightly. Use a hammer if necessary. Use split bamboo strips as a wedges.

Fill the lower compartment with leaves and twigs. If and fir cones are available place them in the container BEFORE screwing the retainer part.

Revisions

4 Apr 2026	TG	Original
6 May 2026	TG	Alternative roof dimensions for simpler assembly. Add assembly details. Include use of nails.