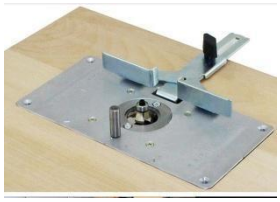
Making a National Deep or Brood box

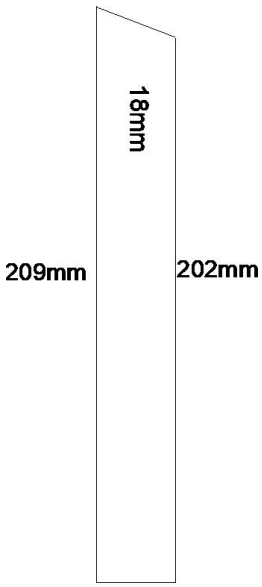
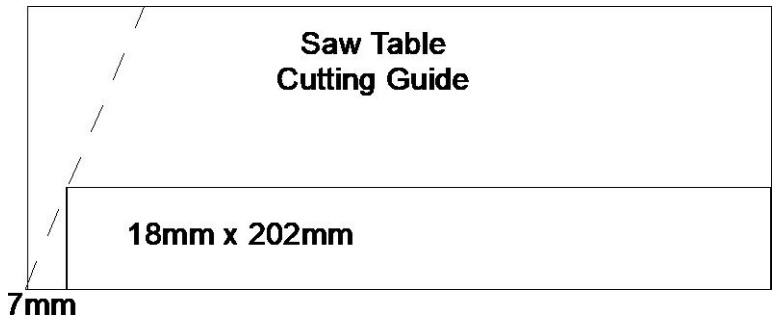
Equipment Required

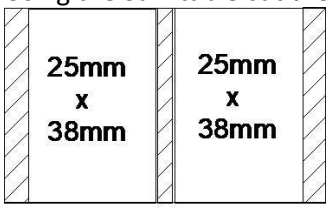
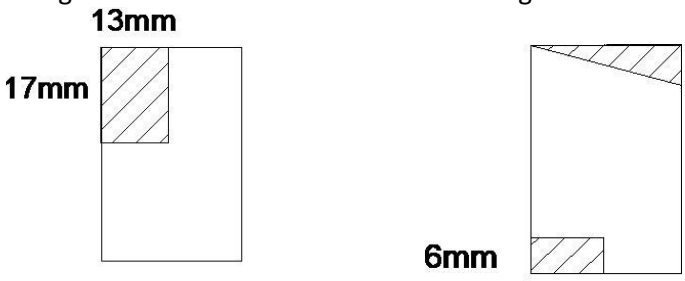
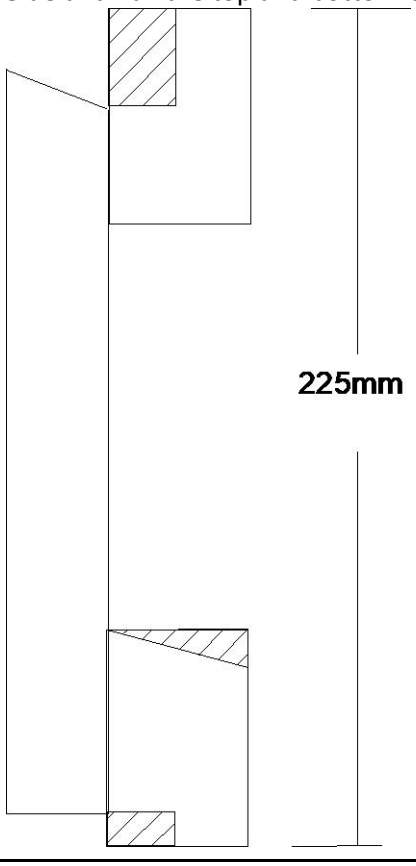
Equipment	What I used	Option	Comments
Saw table	 Saw Table	 Tenon Saw	Saw table makes life so much easier
Router Table	 Router Table	 Saw Table	A router table with straight sided bit gives a very good finish a saw table does it quicker but doesn't give the same finish
Cross cut saw			I use a Worx saw with a right angle cutting guide made from 9mm ply (corner of the sheet) and two thin lathes either side.
Clamps 4 or 5			Need to have about 300mm throat. Watch out on Aldi and Lidl websites
Hammer			
Battery Drill/screwdriver			Could use a standard screwdriver to match screws and a hand drill

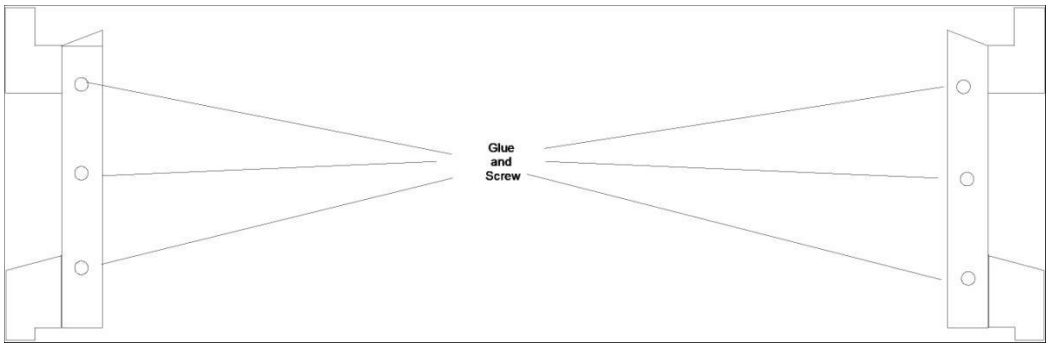
Materials List

Description	Supplier/Part No	Price @ Oct 2020	Comments
White wood 18mm x 144mm x 2.4M	Wickes 107023	£9.22	Select the straightest wood you can without twists. You'll use about 1.8M so you'll have 0.6M left
White wood 18mm x 94mm x 2.4M	Wickes 107019	£5.53	Select the straightest wood you can without twists. You'll use about 1.8M so you'll have 0.6M left
CLS 38mm x 63mm x 2.4M	Wickes 107177	£2.50	You'll use about 0.9M so you'll have 1.5M left
Everbuild D4 Glue	Toolstation 61864	£8.14	Totally waterproof you'll only use a very small amount
Frame runners pair	Thornes	£1.50	Optional see 'Alternative cutting' below
Screws 40mm long Use 12 per hive	Toolstation 88891 1.5" X 8 C/S stainless self tapping	£4.27 for 100 £0.0427 each	Should be minimum of Zinc plated, Stainless would be better
Nails about 12 per hive	Search ebay	Zinc plated 40mm annular nails about £5 for 100 or £0.05 each	I use annular stainless nails

Method

Step	Action
1	Using clamps glue the two 18mm thick planks to form a plank 18mm thick and 238mm wide. Leave overnight to completely dry.
2	Using the cross cut saw cut off two panels from the plank above 460mm wide. Then cut two more 424mm wide (460 - two thicknesses of 18mm). Keep the remaining panel safe see 'Fifth for Free'
3	Using the saw table, trim the two 460mm panels to be 225mm so you finish up with two panels 460mm X 225mm.
4	Using the saw table, trim the two 424mm panels to be 202mm so you finish up with two panels 424mm X 202mm See 'Alternative cutting' below
	Alternative cutting Instead of cutting the two panels in 4 above at right angles you can cut then at about 20°. This eliminates the need for Frame runners. I made a gauge to ensure the correct size and angle when using a saw table - see below
	 
5	Side Bars Cut about 900mm of the 38mm x 63mm CLS wood, this will leave enough for 1 ½ brood boxes

6	Using the Saw table cut the wood through the middle  **Cross section through 38mm x 63mm timber** Then cut the two pieces to be 25mm wide cutting off the rounded corner portions
7	Using the table saw or router table cut the grooves in the top and bottom bars  **25mm x 38mm Top bar** **13mm Bottom bar** The angle on the top bar isn't that important it's just to throw and water away from the hive
8	Cut the top bars into two pieces each 424mm long, same as the panels in step 4 above.
9	Cut the bottom bars into two pieces each 424mm long as step 8
10	Glue and nail the top and bottom bars to the side panels 

11	On a flat surface assemble the two 460mm sides with the two panels and bars in step 10  Glue and screw making sure the internal corners are at 90 degrees
12	When it's all dry give it at least two coats of a water based external paint

Fifth for Free

You've probably noticed that you have some material left

A. an 18mm panel about 600mm long and
B. about 1300mm of the CLS 38mm x 63mm

You have sufficient of the timber in item B above to make another brood box with about 600mm left over.

Should you decide to procure enough for 4 brood boxes you will have enough left over to make a fifth for free.

Excluding glue this gives you a cost of £16.15 for each brood box, that compares very favourably with £xx plus delivery from Thornes.

Any problems or suggestions email me – Roger Chapman at hitchambees@gmail.com