

Making of a pine children's toy box with an optional play niche under the lids using Eureka cut-screws – By Abraham van Zyl (0794988794)



Eureka screws required

1 x 50 piece packet of 4.5mm x 45mm cut-screws

1 x 25 piece packet of 4.5mm x 30mm cut-screws

Cutting list

19mm thick Pine shelving

1 x 2400mm x 530mm - Cut in half against grain

1 x 1800mm x 530mm - Cut into 3 x 530mm x 456mm

1 x 1800mm x 450mm - Cut into 2 x 450mm x 565mm then cut the off-cut in half again against grain, should be 330mm x 450mm

22mm x 44mm pine strips

1 x 2400mm cut into 4 x 560mm lengths

1 x 1800mm cut into 4 x 405mm and

1 x 1800mm cut into 2 x 320mm, 1 x 405mm then 2 x 100mm (Optional)

Masonite board

1198mm x 498mm

Additional items required (Optional)

2 x Small Magnetic door latches, any strong latch can be used

1 x 8mm dowel

2 x packets of Eureka white cup hooks 45mm, 3 per bag

Assembly:

Step 1: Building of box sides

1.1 Pre screw 45mm cut-screws 10mm from short sides three per side to make assembly easier.

1.2 Take one 530mm x 456mm and apply wood glue onto one of the 530mm sides.

1.3 Place the 530mm side against one of the 1200mm lengths at the side but the side of the 1200mm length must protrude. Make sure it is square.

1.4 Completely screw in the screws

1.5 Repeat with another 530mm length on other side.

1.6 Repeat 1.1 on the remaining 1200mm length

1.7 Apply glue on the open 530mm sides of the 456mm lengths

1.8 Place 1200mm length against glued parts and fasten screws



1.1 Pre screw in the cut-screws



1.2 Apply glue onto 530mm side



1.3 Place glued side against 1200mm piece



1.4 Screw in the screws



1.5 Screw the second piece on



1.7 Apply glue onto 530mm sides



1.8 Position second 1200mm length and screw in screws

Item 2: Install middle section and bottom sheet

- 2.1 Place hollow box on one long side and place both 565mm x 450mm pieces flat on 1200mm side with 450mm side butting the box side. Make marks in the middle sides.
- 2.2 Repeat 2.1 on other side.
- 2.3 Place box so that hollow sides is above and below.
- 2.4 Place both 565mm x 450mm pieces inside on the bottom.
- 2.5 Mark the centre of the 1200mm length

- 2.6 Place 530mm x 456mm piece inside the box and space between 565mm x 450mm pieces.
- 2.7 Screw 45mm cut-screws into centre section, three per side
- 2.8 Draw a line onto the box sides above the flat 530mm x 456mm pieces in the bottom. This will be the markings for the strips onto which the lids will rest
- 2.9 Place the bottom sheet onto the box and align with the four sides. Screw 45mm cut-screw on each corner and the middle section to fix the bottom sheet. Either continue with the screws or use panel screws to continue fixing the sheet.



2.1 Marking for position of middle section



2.4 Place the lids on the bottom

2.5 Positioning of centre piece



2.6 Marking of middle

2.7 Fixing of screws



2.8 Marking for positioning of strips



2.9 Fixing of bottom sheet

Item 3: Fit the lids

- 3.1 Place the box on the long side.
- 3.2 Take a 560mm batten and apply glue on the flat side then place below previous market line and use three 30mm cut-screws to fasten batten
- 3.3 Repeat with second piece on adjacent side.
- 3.4 Flip of box and repeat number 3.2
- 3.5 Place box vertical upright and repeat step 3.2 with 405mm lengths on flat sides.
- 3.6 Flip box 180deg again and repeat.
- 3.7 Take the 450mm x 565mm planks which will form the lids. Drill a 25mm hole 50mm from the side in the middle of the 565mm length in each lid
- 3.8 The lids can now be placed on-top and will fit snug inside the two halves.



Item 3.2 Placing of sides for lid to fit onto on the long length



Item 3.2 Fastening of batten



Item 3.5 Fitting battens onto short sides



Item 3.5



All sides fastened



Item 3.7 Drilling of hole in lid for finger hole





Item 3.8: Lids fitted

The Children toy box is now complete, but I added some extra items under the lids for them to play with which is optional. Any other items can be used which will fit underneath. The first item I added was a boxed flap that collapses when the lid is placed back in position and can be flipped up when the lid is turned around. This flap then makes a small niche which can be used to create a play centre from where items can be hanged or attached. In this case I made it a small stove. I made wooden hinges as I could not find small hinges that would be strong enough. The second item I added was a black board. I just bought a framed black board and screwed it onto the bottom of the lid with the 30mm cut-screws

Optional Items: Boxed flap and black board

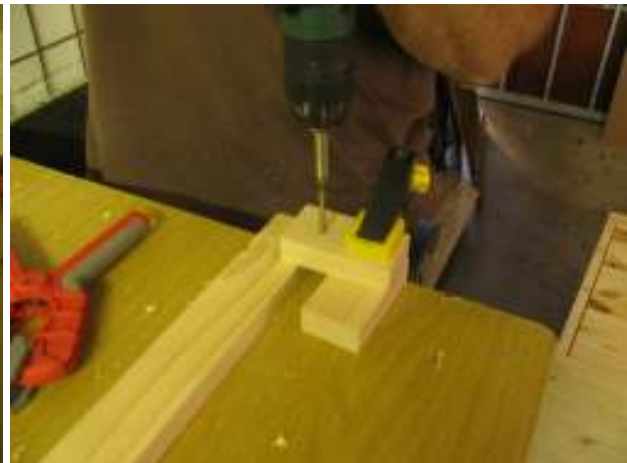
Item 4: Making and fitting of boxed flap

- 4.1 Take the 450mm x 330mm piece and two 320mm x 44mm x 22mm battens. Fasten the battens on the 330mm sides with the 330mm side showing but flush and flush with one corner. The battens must be flush with both top corners. The 320mm length should stop 10mm from the bottom of the flap.
- 4.2 Fasten the 405mm batten on the flap between the 320mm battens but flush with the top 450mm side and the side showing.
- 4.3 Draw a 20mm line lengthwise from the bottom of each 100mm length, this will be the bottom of the hinge. And vertical line 40mm from the vertical side (44mm side), this will be the front of the hinge.
- 4.4 Clamp the 100mm length and take a 30mm cut-screw and drill it through the batten where the lines cross.
- 4.5 Reverse the screw then put the drill on hammer. While drill is on hammer and in reverse press hard down and start drill. The screw will then drill a very tight fitting hole. Remove the screw.
- 4.6 Repeat with second 100mm length
- 4.7 On the flip box bottom (where the 10mm space is) mark a point 10mm from the bottom of the batten and 10mm from the front side of the batten and drill a 3mm pilot hole. This place is just to close to the edge for the size of cut-screw to be used as it will cause a crack.
- 4.8 Repeat on other side
- 4.9 Take the 100mm lengths and drill two 4.5mm holes through the 44mm width for each length. Followed by a 9mm sink hole approximately 10mm deep. These 100mm lengths will later be fastened onto the lids.

- 4.10 Take a 45mm cut-screw and place it through the one made in 4.5 making sure hinge is showing forward. Screw in the cut-screw into the pilot hole drilled in the flip box but not tight. It must still swivel
- 4.11 Repeat with second 100mm length
- 4.12 Place the flip box onto the bottom of the lid facing aft, this is done to allow for easy lift and flipping of the lid. Position it so that the top part of the flap is approximately 30mm from the side of the lid and equally spaced from the sides. Fasten the hinge onto the lid with 45mm cut-screws.
- 4.13 Place the two magnetic or mechanical latches on the sides of the flip box but at the front and fasten with screws supplied.
- 4.14 Place flip box upright and drill a 8mm hole through the hinge and the batten of the boxed flap. Take note that the hole must only be drilled through the 44mm x 22mm section of the flap and not the sheet. Repeat on other side.
- 4.15 Stick the 8mm dowel through both holes and cut of the extra dowel. This will keep the flip box fixed in the open position and prevent accidental collapse
- 4.16 I screwed in five Eureka 40mm hooks in the top batten to allow items to be hanged from the flip box



Item 4.1 and 4.2 Fitting of flip box sides



Item 4.5 Drilling of snug fit hole using cut-screw



Item 4.9: 4.5mm holes drilled



Item 4.9: 9mm sink holes drilled



Item 4.7 Drilling of pilot hole



Item 4.10 Attaching hinge



Item 4.10 Hinge attached



Item 4.12 Placing of boxed flap and fastening



Item 4.15: Dowel keeping flap in position



Finished box



Items hanging from screwed in hooks

