

MORE - THAN - A - TOYS – CHEST – Piet Nel

This toys' chest is easy to make in half a day and very practical in that it doubles as a seat when closed, and also provide the possibility of using the lid as a blackboard, hence my name for it, "More-than-a-toys'-chest".

1 DESIGN

The design of the more-than-a-toys-chest is indicated in the isometric view and cross section indicated in Figures 1 and 2 below.

When I originally designed this in the early 1980's for my children, I made the width 800mm, but you can change the width to suit yourselves.

For this project, I chose the width as 680mm to economise on material use, thereby cutting two chests out of a standard 2,75m x 1,83m board.

(See Figures 1 and 2 attached)

2 CUT LIST

All the required parts are cut out of half a 2,75 m x 1,83 m board, (see layout sketch, Figure 3), which imply you can make two chests out of a standard 2,75m x 1,83m board.

(See Figure 3 attached)

Various materials can be used e.g. 16 mm MDF, 16mm chipboard, 12 mm plywood, etc. ; the dimensions just need to be adjusted for the different board thicknesses.

Let your timber dealer cut the following parts.

(Note :- dimensions are based on 16mm thick board, and width 680mm) :-

Part no	Description	Dimensions	Remarks
1	Back panel	680mm wide x 800mm high	
2	Front panel	680mm wide x 370mm high	
3	Board for side panels	550mm x 1220mm	Will be used to cut out two side panels with jig saw.
4	Bottom panel	680mm x 488mm	
5	Lid	678mm x 450mm	Note :- 2mm less than width to allow for play between lid and side panels.

6	Hinge panel	680mm x 70mm	
7	1 x Support strip	680mm x 25mm	For hinge panel
8	2 x Support strips	680mm x 15 mm	For bottom panel
9	2 x Support strips	472mm x 25mm	For lid and hinge panel
10	2 x Support strips	456mm x 15mm	For bottom panel

3 CONSTRUCTION INSTRUCTIONS

3.1 SIDE PANELS

Photo 1 shows all the various parts of the box, with the side panels marked out on part 3.



Photo 1

Cut out the two side panels out of the section of board (part no. 3), according to the layout and design indicated in Figure 4, using a standard hand-held jig saw. (See photo 2)

(See Figure 4 attached)



Photo 2

3.2 SUPPORT STRIPS

Drill 3,5 mm holes through all 7 support strips (and countersink), as follows :-

- 4 holes through support part no's 7 (1 off) and 8 (2 off)
- 3 holes through support part no 9 (2 off) and 10 (2 off)

Align, glue and screw the support strips with 3,5 mm Φ 30mm Eureka Cut Screws, as follows :-

- i) Two support strips onto the back panel (part no. 1), one (part 8) flush with the bottom, and the other (part 7), such that the top is 370mm from the bottom.
- ii) One support strip (part 8), flush with the bottom of the front panel (part no. 2).
- iii) One support strip (part 9), onto each side panel (part no. 3), such that the top is 370mm from the bottom and the edge is 32mm from the back.
- iv) One support strip (part 10), onto each side panel (part no. 3), flush with the bottom and the edge 32mm from the back.

Tip :- Use spacer blocks to align the 32 mm from the back. See Photo 3.



Photo 3

3.3 MAKING THE BOX

The various parts of the box are glued and screwed with 3,5mm Φ 40mm long Eureka Cut Screws.

Accurately mark and drill 3,5 mm Φ holes through the various panels prior to alignment.

Countersink for the heads such that wood filler can be used to conceal the heads, prior to finishing.

- i) Align the back panel (part no. 1) with one side panel (part no. 3), and fix with glue and four screws, screwing through the side panel into the back panel.

(Tip :- Clamp a builders square onto the top supports to keep the two pieces sturdy and square.)

(See Photo 4).



Photo 4

- ii) Apply glue on the bottom supports and 16mm up on the back- and side panels.

Align and fix the bottom panel by screwing through the back- and side panel with four screws in the back panel and three screws in the side panel. (see Photo 5)

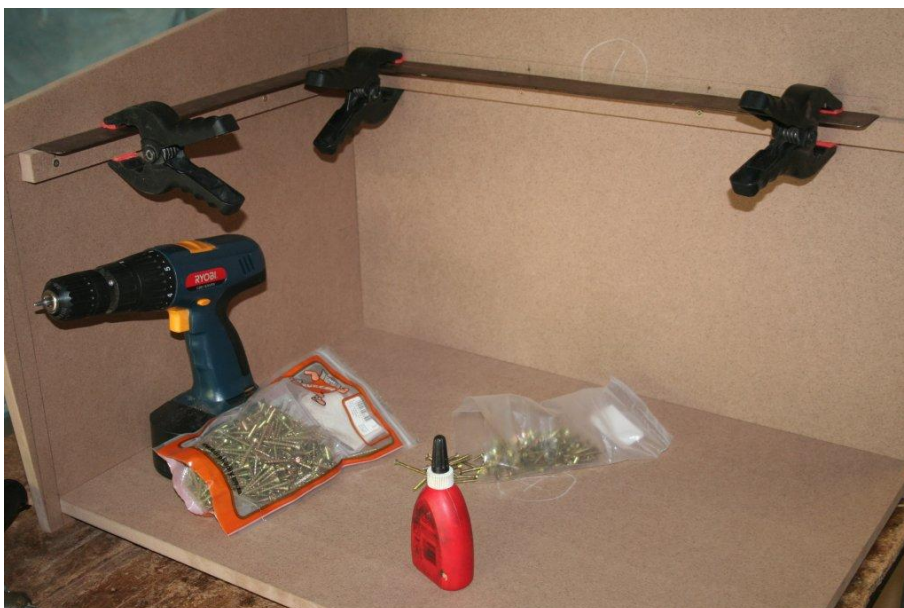


Photo 5

- iii) Apply glue on the front of the bottom panel, as well as on the relevant side of the front panel and on the support on the front panel. Then align and fix the front panel (part no. 2), onto the bottom panel and against the side panel with four screws in the bottom panel and three screws through the side panel into the front panel. (See photo 6).



Photo 6

- iv) Fix the other side panel after gluing and with the same number of screws as on the other side panel.

3.4 FIXING THE LID

- i) Ensure that the lid (part no. 5), was cut to 678mm width to give it 1mm play on each side to prevent it from touching the side panels when it is opened.

Clamp the lid and hinge panel (part no. 6), together. Ensure that the lid is centre to the hinge panel, i.e. 1mm from each end.

Combine the lid and hinge panel with a 680mm section of piano hinge. Use 16mm Eureka Screws, and screw in alternate fixing holes.

(See photo 7)



Photo 7

- ii) Apply glue to the top of the top support strip and 16mm up on the side of the back panel, and similar but for only the back 70mm of the top support strips of the side panels, to take the 70mm wide hinge panel.
- iii) Align the hinge panel firmly in position, pushing down onto the support strips, and screw with four screws through the back panel, and two screws through each side panel. (See photo 8)



Photo 8

4 FINISHING

- i) Fill all screw holes with wood filler, and sand smooth when dry.

- ii) Sand all exposed edges to a smooth and slightly round finish, before applying primer.
- iii) Paint the toys chest to the colour of your choice, and to the manufacturer's specifications.

5 OPTIONAL TIPS

- i) Cut a section of 3mm MDF or hardboard to size 600mm x 400mm, paint it with black or green school board paint, and fix it to the underside of the lid with a number of 16mm Eureka Screws. Ensure that it is positioned such that it is as near as possible to the hinge to ensure not fouling the lid-to-front panel support.

Once the lid is opened, this black board can be used to draw or write with school board chalk crayons.

- ii) To prevent the lid from accidentally falling down when open, and possibly causing injuries, screw in two open-eye screw eyes at the back of the back panel, and two closed-eye screw eyes in the bottom front of the lid.

Fix elastic bands to the closed eyes, and hook them onto the open eyes when the lid is open.

Using two sets will ensure safety when one elastic band breaks. Replace elastic bands regularly as required.



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