

How to... create a folding bed/coffee table/toy box

Watch our video or follow these instructions to create Peter's multi-purpose creation for the multi-purpose room

Materials

- Plywood sheet, 2400x1200x21 thick. I used CD grade, which has 1 good face.
- Wood Screws 50mm x 8g Surefix screws to fasten the panels.
- Holdfast Gorilla Aliphatic PVA Wood glue
- Castors, Heavy Duty, 2 with brakes.
- Hinges.
- Resene Colourwood Whitewash
- Resene Aquaclear

Methodology

- Essentially I am making 2 boxes, 1 on top of the other, that will then pivot open when the hinges are fitted.
- The upstand on the top box is exactly the same height as the castors, this is crucial as it provides support to the top box when it is folded open.
- The size of the unit is determined by the mattress, so get that first, then build the unit to suit.

Instructions

- Once I have the sizes based on the mattress, I use a table saw to cut the plywood sheet.
- To fix the sides to the base/top, I'm simply screwing the panels together but I will pre-drill 12mm holes where the screws are going.
- Apply PVA to the edges, then fix together with screws.
- Using a plug cutter, I can then make plugs from the plywood offcuts, and glue those into the 12mm holes to cover the screws. Sand flush when glue dries.
- Remember, you are essentially making the top section upside down and back to front – opposite to the previous part made.
- When you know the height of the castor (mine were 76mm) you can cut the end piece for the top section. When this folds out, the 76mm projection holds the top section level with the base that has the 76mm castors fixed to the base.
- I found some small hinges that have a long leaf (40mm) while being quite narrow (20mm)
- Rebate the hinges into the plywood using a router.
- Mark the position of the hinge, pre-drill for the screws, then fix in place.
- The screw may be slightly proud of the hinge leaf, but the depth of the rebate means this is ok.
- Castors -Mark a line parallel to the corner of the base section, and line the base plate of the castor up with this.

- Mark the centre of the hole where the screws will screw into
- Pre drill the holes for the screws
- Screw all 4 castors in to each corner.

Finishing

- Use sandpaper to smooth all the edges, and joins, and especially the plugs covering the screws.
- I used Resene Colourwash Whitewash to lighten the plywood and give it that contemporary look.
- Use Resene Aqualclear to top coat the unit and give a long lasting coating that can be wiped down.

Side notes

- If edges are not quite flush, you can always sand down a few millimetres at the end.
- If there are any hiccups tend to them before the glue sets
- Screws are better than nails – They'll hold better over time,
- Use a plug cutter to make plugs that cover the screw holes. It is much less obvious than wood filler.
- Hinges – Use smaller hinges that will sit flush with the ply so that when the Multipurpose Box is opened, nothing will attach its self to it