

## Build a Bookcase

- Easy to follow step-by-step guide
- Important and handy tips
- Materials check list
- Project cost estimator



Before you begin your exciting new project, please read through this entire pamphlet carefully and estimate and assemble all the materials you will need for the project and gather your tools and equipment together. Refer to the checklist and estimating form on the back panel of the pamphlet to assist in this preparation. If you require any help, please don't hesitate to speak with one of Colli's experienced trade team.

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TIMBER AND HARDWARE 1969-2009



# DIY Bookcase Building made easy

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## You can build a bookcase

### Economical and practical storage

Our treasured books hold a special place in the heart for many of us and at one time or another, we've been required to find or create more space for our favourite books. This convenient Colli DIY brochure explains just how simple it is to construct a sturdy, stylish and sophisticated bookcase in which to store those treasured volumes. With a little assistance from the team at Colli, and some basic DIY know-how from this brochure, you can make a valuable addition to your home and showcase your favourite titles. To make it even easier, we have included a number of different construction methods which will meet the needs of every handy person and most books.

### Construction – your choice

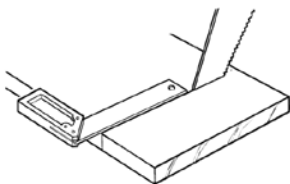
You can make a timber bookcase in a number of ways and we have chosen three different, yet common methods that will be well within the reach of most people who can handle a screwdriver and drill. Essentially this bookcase is a simple box with an adjustable central shelf. You can use screws, block fittings or dowels to join the bookcase components together. In each of these cases, the timber will be joined at right angles in a 'butt' joint. The simplest method of achieve a solid and secure fit is to use block fittings while if you wish to conceal the joins, you should use dowels which combine both strength and simplicity. For an explanation of each of these methods, read on.

### Choose your timber

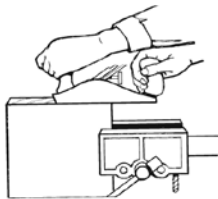
Colli stock a huge range of timber varieties and colours, enabling you to make your choice depending on both the look you want for the finished piece, and your budget. Perhaps the best all round choice is Radiata pine, which is available in 19mm thickness and widths up to 290mm from your local Colli store. Pine is easy to stain, clear finish or paint and comes already dressed all round (DAR) which means the timber is planed smooth on all surfaces so there is less prep work for you. For the purpose of this brochure, we will assume that the project will be constructed in 290 x 19mm pine. To make it even easier, if you simply take your cutting list (which is available on the rear panel of this brochure) to the team at Colli we'll be happy to pre-cut your timber to your specifications.

## Cut your own timber

If you choose to cut your own timber, measure the first 780mm length, mark a line across the board with a carpenter's square and cut square just to the waste side of the line with a sharp handsaw (see Fig 1). Repeat this process for the remaining pieces. Check that the cut ends are square, and if some are not, you'll need to plane the ends with a bench plane (see Fig 2). This process is made much easier if you have a bench and vice to secure the timber. Once you are happy that all the ends are square, and the components are the correct length, proceed to the next steps.



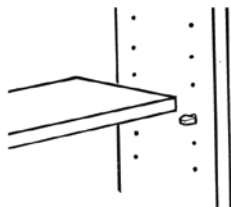
**Fig 1** Cut off waste side



**Fig 2** Plane ends with a bench plane

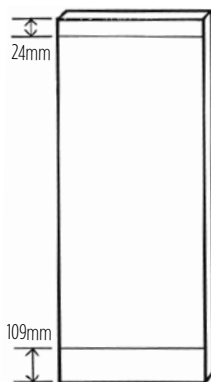
## Centre shelf supports

No matter which construction method you intend using, the centre shelf will need to have a series of holes drilled in the bookcase sides to house the movable shelf supports (see Fig 3). Here are some simple instructions on how to measure up the sides and locate the holes.



**Fig 3** Drilled holes for movable shelf supports

- Firstly, mark the position of the bottom shelf by measuring up 109mm from the bottom of each side and ruling a line squarely across each piece (see Fig 4). Then, measure 24mm down from the top of each side and mark the position of the top shelf with a line.
- Be sure to check that the lines you have made are identical on each side piece by laying the two pieces alongside each other. Now it's time to decide where you want the central adjustable shelf to be located. It's quite possible that this decision will be dictated by the size of your largest books, so make sure you have the largest one handy, to help you decide.

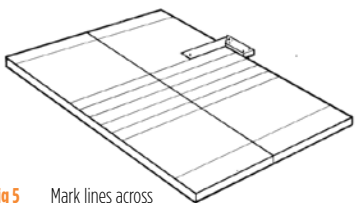


**Fig 4** Mark the bottom and top position

## Marking and drilling the holes

You can drill as many shelf support holes in each side as you wish but they must always be aligned to ensure that the shelf will sit level on all four pins when the bookcase is assembled. If you are having trouble aligning the holes, try this easy method:

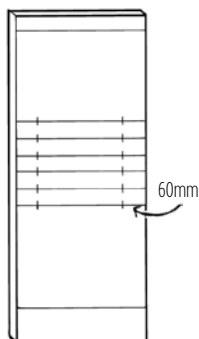
- With the two side pieces laying butted next to each other on a flat surface, rule a number of lines squarely across both pieces (see Fig 5) about 50mm apart. These lines represent where the holes for the shelf supports will be drilled.



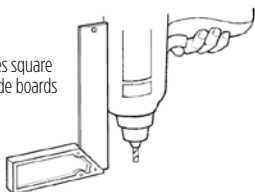
**Fig 5** Mark lines across both side pieces

- On each line carefully measure 60mm in from both the front and back of each side piece, and mark a point for the shelf support holes (see Fig 6).
- Drill 10mm deep holes at each point taking care to drill the holes square to the surface. Use a carpenter's square placed next to the drill as a reference. (see Fig 7a). To ensure the holes are always drilled to the correct depth, a good trick is to wrap a piece of masking tape around the drill bit at the required depth (see Fig 7b).

**Fig 6** Mark points for shelf support holes



**Fig 7a** Drill holes square to the side boards



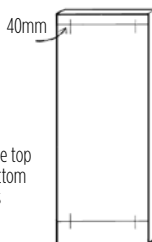
**Fig 7b** Mark drill bit with a strip of masking tape



## Screw construction method

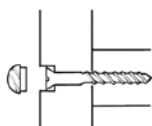
If you are assembling your bookcase using 50mm x 8 gauge timber screws, follow these easy steps:

- Take the side pieces and measure in 40mm from the front and back edges where the top and bottom shelf joins the side piece (see Fig 8). Mark and drill suitable holes for the 8 gauge screws.
- Next, take a 9.5mm drill bit and drill to a depth of 5mm to accept a timber plug which will conceal the screw (see Fig 9).



**Fig 8** Mark the top and bottom of sides pieces

- Two sets of hands are better than one, so with the help of an assistant, place one shelf at a time against the side piece and drill a hole into the shelf to a depth of at least 30mm, then drive the screws home to secure the shelf.
- Repeat for the remaining side and shelf, covering the screws with timber button caps.



**Fig 9** Securing the shelves and covering with timber button caps

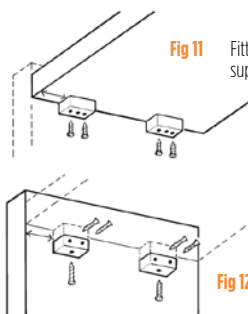
Well done! Now, move to the section on fitting the kickboard.

### Block fitting construction method

Follow these easy steps if you are making your bookcase using plastic block fittings, which are great if you need to deconstruct the bookcase for storage or moving house. The two block parts are screw fixed to the timber components and then screwed together forming a strong fixing.



**Fig 10** Mark 30mm in front and back edges



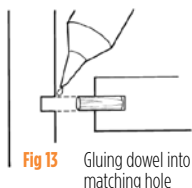
**Fig 11** Fitting the block supports to the shelves

**Fig 12** Fitting the shelves to the side boards

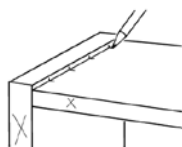
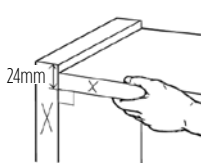
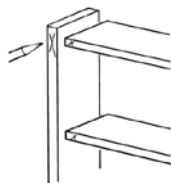
- On the side pieces, use the lines you marked earlier that denote where the top and bottom shelves will fit and mark 30mm in from the front and back edges (see Fig 10).
- Place the edge of one half of a block fitting against your mark and screw into position (see Fig 11) repeat for both shelves on each side piece.
- Measure 30mm in from the front and back edge of each shelf and mark as above. Take the other half of the fitting and screw to the shelf ensuring that the fitting is flush with the end of the shelf (see Fig 12).
- Once this is complete, screw the fittings together with the supplied screws and your bookcase should be a perfect fit.

## Dowel construction method

Dowelling is a fast construction method, which is ideal for carcasses, such as this bookcase. Dowelling is a simple method in which the timber is joined by drilling matching holes in two components. A short timber dowel is then inserted and glued into the holes (see Fig 13).

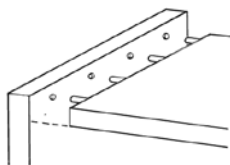


This permanent and concealing fixing method requires square edges, and correctly aligned holes to work satisfactorily and the best results are achieved using a specialised dowelling jig (available from Colli) to ensure your dowel holes are correctly aligned. If you would like to use this method, please follow the instructions below.



- Mark the front edges of the side pieces and both shelves (see Fig 14), this helps when you mark for dowelling and when you assemble the bookcase.
- Use the lines that you drew on the side pieces to denote the position of the top and bottom shelf, and have an assistant hold a shelf against the line at right angles to the side piece (see Fig 15). Ensure that both pieces are facing the right way (look for your reference marks from the first step).
- Mark four or five points along the joint between the two pieces of timber, ensuring that you mark both pieces (see Fig 16). Repeat this marking process for both ends of the shelves.
- Follow the manufacturer's instructions when using the dowelling jig and drill 10mm diameter holes to accept the dowels. Make sure the dowel holes in the side pieces are drilled to less than 15mm deep.
- When all dowel holes are ready, squeeze a little PVA glue into each hole in the side pieces and shelves, insert your dowel into the holes in the ends of each shelf, bring the components together and clamp (see Fig 17). You may need assistance with this step.

Fig 17 Fix shelf to side piece.



- Use a scrap piece of timber between the clamp heads and the bookcase to minimise marking the piece.
- Clean up any glue squeeze-out with a damp cloth and remember to measure the diagonals of the carcass to ensure it is square (see Fig 18).

## Attach the kickboard

- To attach the kickboard, turn the completed carcass upside down and fit the kickboard between the two sides 25mm in from the front (see Fig 19). Fix to the underside of the bottom shelf using an angle bracket and insert screws at each end.
- Drill through each side into the kickboard to accept a 50mm x 8 gauge screw (see Fig 20). To hide your screws, use a 9.5mm drill bit to counterbore the hole 5mm to accept a timber plug cap.

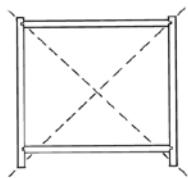


Fig 18 Check square

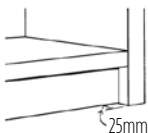


Fig 19 Fixing the kickboard

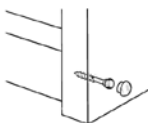


Fig 20 Screw and cap with timber plug

## Fix the back

- Nearly there... Now, lay the bookcase face down and measure the plywood backing sheet to fit the rear of the bookcase from the top shelf to the bottom shelf.
- Using 20mm bullet head nails, carefully fix the backing sheet into place by nailing into the shelves and sides (see Fig 21). You must ensure that your nails are aligned correctly to avoid missing the sides.

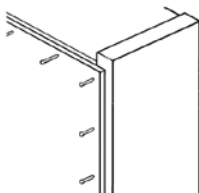


Fig 21 Securing the backing sheet to the bookcase

## Finishing the bookcase

- Well done! Now it's time for the finishing touches. To complete your bookcase, the choice of finish is up to you, a pine bookcase looks great if it is sanded and finished with a clear polyurethane or a light baltic stain which you'll find at your local Colli Paint Department.
- When sanding timber, be sure to always sand with the grain and remember it is very important to remove any dust with a slightly damp cloth before applying your finish.
- Once your finish is dry, fit the shelf supports and the centre shelf, fill it up with your favourite books, stand back and admire a job well done.

## Project Cost Estimator

Materials Description	Quantity	Cost
780x290 x19mm DAR pine		
1 Kickboard 780x9x19mm		
1 Backing Sheet 810x69 x4mm plywood		
Screw Fixing – 50mm x 8 gauge wood screws		
9.5mm timber button caps		
Block Fittings x8		
10mm Dowels		
4 x 5mm Shelf Supports		
22mm Angle Brackets & screws		
20mm Bullet Head Nails		
Clear Finish or Stain Finish		
<b>Equipment</b>		
Power Drill & Bits		
Power or Hand Saw		
Power Sander or Sanding Block & sandpaper		
Measuring Tape		
Carpenter's Square		
Pipe Clamps		
Screwdriver		
Dowelling Jig (optional)		
Pencil		
<b>Total</b>		

**All the materials you need for this job are available at Colli, your DIY specialist.**

**Disclaimer:** Please note that this brochure is designed as a guide only - if you have any queries, please consult one of our Colli Team Members for further assistance. The information provided in this brochure is done so on the understanding that Colli Timber and Hardware is not liable for any loss or damage which is suffered or incurred, for any personal injury or property damage as a result of using the information contained in the Colli DIY Projects brochure. Colli Timber and Hardware advises you to call in a qualified tradesperson, such as an electrician or plumber, where expert advice and services are required.

**Note:** Please ensure you comply with local council laws or regulations before undertaking any DIY project.

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