

MODIFIED

TOOLS



Measuring tape
or rule
Pencil
Power drill & bits
Power saw or
hand saw
Claw hammer
Carpenter's square
Wood chisels
Screwdriver
Adjustable wrench
File

CHECKLIST

Timber

Radiata pine is suitable for most carpentry and home repairs. Choose kiln dried hardwood if you do a lot of mechanical repairs or metalwork.

1 plank – 240 x 35 x 1800mm coded 'A'	
4 legs – 70 x 70 x 810mm each coded 'B'	
4 crossmembers – 90 x 35 x 700mm, two coded 'C', two coded 'D'	
1 crossmember – 90 x 35 x 470mm coded 'E'	
4 crossrails – 90 x 35 x 1500mm each coded 'F'	
Sheet Material	
1 sheet 12mm particle board	
Fastening Material	
16 – 125 x 10mm coach bolts	
Pkt. 25mm flat head nails	
Pkt. 50 x 2.8mm flat head nails	
Pkt. 75mm steel wood screws	
Other materials	

HINTS TO MAKE THE JOB EASIER

- When you're about to saw a piece of timber, stop and check your measurements again. There's an old saying – measure twice and cut once.
- When cutting several pieces of timber to exactly the same length you'll get more accurate results by clamping them together and measuring them as one. That way, even if you're a fraction out, the pieces will still all be identical.
- To make sure the holes you drill in the legs, rails and crossmembers are straight, stand your carpenter's square upright close to the drill while doing it.
- Driving nails into the end of a piece of timber often causes it to split. To avoid this when nailing the centre crossmember to the rails, blunt the point of the nail by hitting it with your hammer. This leaves a slight burr which cuts the wood fibres rather than pushing them apart.
- Whether in a shed or garage, try to locate your new bench under a window to make most of the available light. The window should be about 500mm above the bench to avoid any risk of breaking the glass while working.
- If hanging tools on the pegboard ends of your bench, outline them on the board with a heavy felt pen. This will help you keep track of all your tools.
- When using power tools, always protect your eyes by wearing suitable goggles.

Build your own workbench



Make your own workbench in easy steps

The first step for most DIY projects and repair jobs is to organise a workshop or, at least, a clear working area. It doesn't have to be big or expensive. It can be just a corner of the garage, carport or shed. The basic things you need are good light, room to store your tools...and a sturdy workbench.

The bench design we've chosen for you is both solid and functional and it's made from timber. It's 1800 x 720mm, but you can vary these specifications to fit the space available in your garage or shed. The bench top features a centre channel (called a carpenter's well) to make cutting jobs easier and stop tools from falling off. And it has a full length bottom shelf for storing larger tools and materials while smaller tools can be hung on the pegboard covered ends.

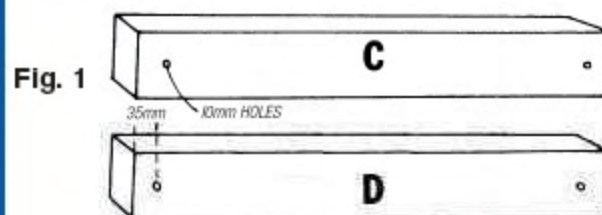
If you can swing a hammer and saw a board, you'll get a real kick out of building this workbench made yourself by following this simple step-by-step plan – from Mitre 10.

Step 1: Prepare materials

Making your bench will be easier if you prepare all components first and code mark them in pencil as listed and illustrated.

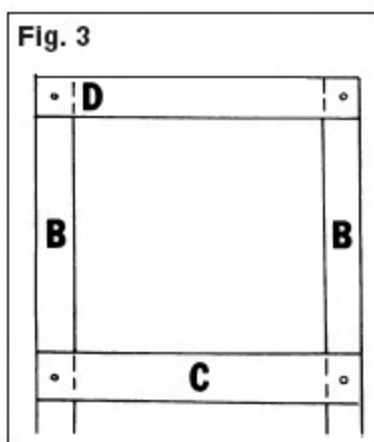
Step 2: Drill pieces 'C' & 'D'

These are the top and bottom crossmembers of the bench ends. Drill 10mm centred holes 35mm from each end of the crossmembers you've code marked 'C' and 'D' (Fig. 1).



Step 3: Assemble end frames

Do this on the floor by laying the legs, coded 'B', down first and the crossmembers over them (Fig. 3). The recessed 'D' member should be flush with the top and outside edges of the legs. Make sure the recess is facing up. On the legs, mark the holes you drilled earlier in the member. Measure up 100mm from the bottom of the legs. Then repeat the process for crossmember 'C', making sure it's flush with the outside edge of the legs. Next, drill 10mm holes through the legs where marked and loosely bolt all pieces together.



Step 4: Nail on board

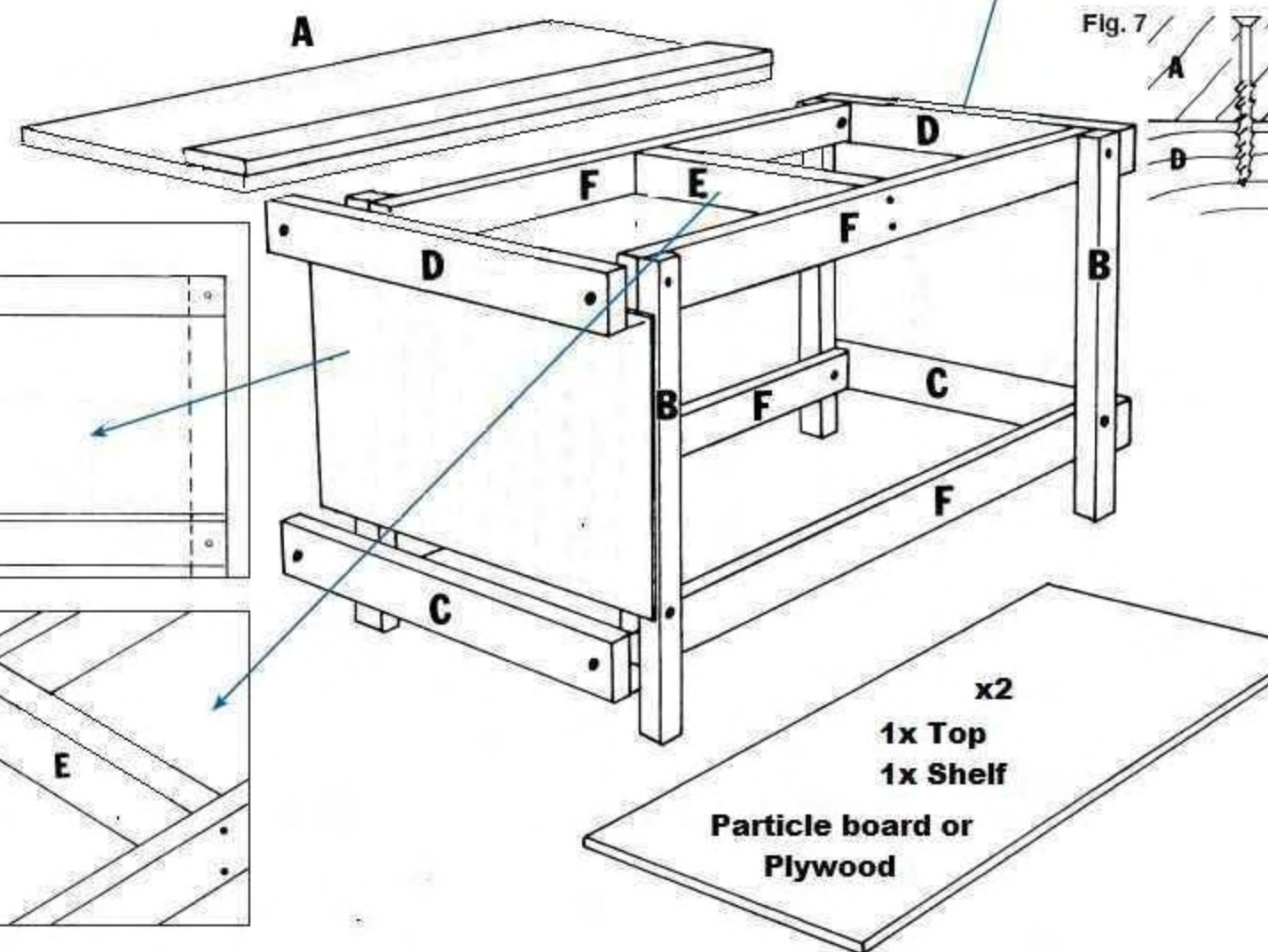
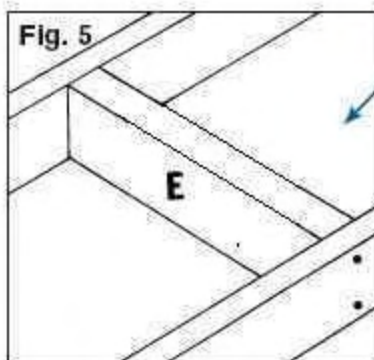
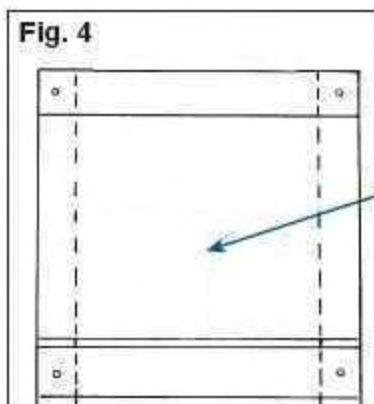
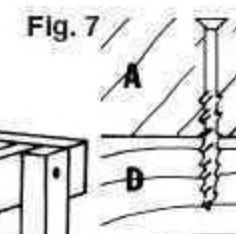
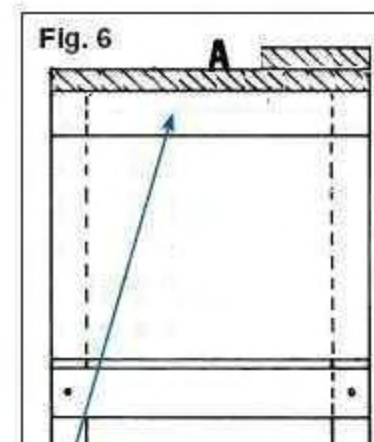
Nail the board to the legs of each frame using flat head nails (Fig. 4). Now you've got a handy place to store small hand tools.

Step 5: Connect crossrails 'F'

Place the crossrails, code marked 'F' onto the inside of the legs, lining them up carefully with crossmembers 'D' and 'C'. Drill a 10mm diameter hole through the crossrail and leg and bolt to the end frame.

Step 6: Position floorsheet

Slide the floorsheet into position on the bottom rails. Make sure the frame is square and nail the floor to the rails using flathead nails. Then tighten rail bolts.



Step 7: Fit crosspiece 'E'

The centre bench support, coded 'E', fits between the top crossrails (Fig. 5). Make it a good fit by centring the piece carefully on top of the rails. Fix the support to each cross rail, using 2 wood screws per join.

Step 8: Fitting the bench top

Secure the bench top the same as Step 6.

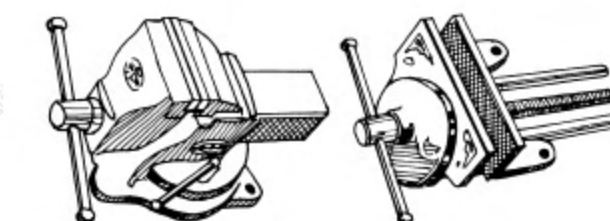
Then drill the correct size hole for screws through the plank and into the supports. Next, use a 9mm drill bit to countersink into these holes so the screw heads will be level with the surface of the bench top. (Fig. 6 & 7).

Step 9: Finishing off

Sand off level and check that all coach bolts are tight. You should now think about whether you want to stain, oil or paint it to protect the timber. And there you have it. A solid, stable workbench that you build yourself.

Add to your bench's usefulness

Now that you've finished building your bench, add a good quality vice to make every building and repair job easier. A vice holds longer pieces of timber or metal, either horizontally or vertically, and provides you with unlimited holding power. The type of vice you fit depends on what you will mainly use it for. If it's woodworking, fit a quick-action carpenter's vice to the front edge of the bench. But if you plan to do mostly metal work or mechanical repairs, an engineer's vice mounted on top should probably be your choice. Of course, there's nothing stopping you from adding both for even greater usefulness.



Engineer's Vice

Carpenter's Vice

Costs for Work Bench (July 2019)

Item	Count	Size	Total Length	Description	Plan	Cost
01	1	1.8/240 X 35	1.8m	Plank	A	\$17.90
02	4	0.8/70 x 70	3.2m	Legs	B	see below
03	5	0.7/90 x 35	3.5m	Cross Members	F	see below
04	4	1.5/90 x 35	6.0m	Cross Rails	C,D,E	see below
05	1	2400 x 1200 x 12		Particle Board	A, Shelf, Ends	see below
06	16	Bolts 120mm x 10# Coach HD (box 25)				\$24.75
07		Nails 75mm x 3.75# Bullet HD (pk 95)				\$6.30
08		Nails 50mm x 2.8# Flat HD (pk 170)				\$8.20
09		Screws 75mm x 10# CSK (pk 50)				\$6.40

Cost Choices and Stock Sizes

02	2	1.8/70 x 70 @ \$28.09 ea		B	\$56.18
03, 04	5	2.4/90 x 35 @ \$5.31 ea	Non-structural	C,D,E,F	\$26.55
		2.4/90 x 35 @ \$9.34 ea	Structural	C,D,E,F	\$46.70
05	1	2400 x 1200 x 12	Particle Board	A, Shelf, Ends	\$26.25
			MDF	A, Shelf, Ends	\$29.40
			Plywood	A, Shelf, Ends	\$55.00

Total Costs

Particle Board, Non-structural	\$172.53
Particle Board, Structural	\$192.68
MDF, Non-structural	\$175.68
MDF, Structural	\$195.83
Plywood, Non-structural	\$201.28
Plywood, Structural	\$221.43

Notes:

1. If the 70 x 70 legs are replaced with 90 x 35 glued and screwed together, the 2/70 x 70 (\$56.15) is replaced with 3/90 x 35 Non-structural at a cost of \$15.93 plus \$6.28 for PVA glue (250ml) giving a saving of \$34.00. You can cut the new legs to 70 x 70 if you want to. If this is your plan, position the screws to avoid the blade.
2. Wood Vices - 175mm Craftright Acme thread \$44.00, Record 175mm Acme thread \$92.00, Irwin Record 175mm plain screw \$186.00. The Acme thread is a square top and bottom thread giving superior holding power over the normal threads (nut & bolt).
3. Structural pine is better quality than Non-structural as this timber is usually rougher in appearance, sometimes with the edge missing, not square, bark, splits, twisted etc. If you have the time you can select some reasonable pieces, saving you money.