

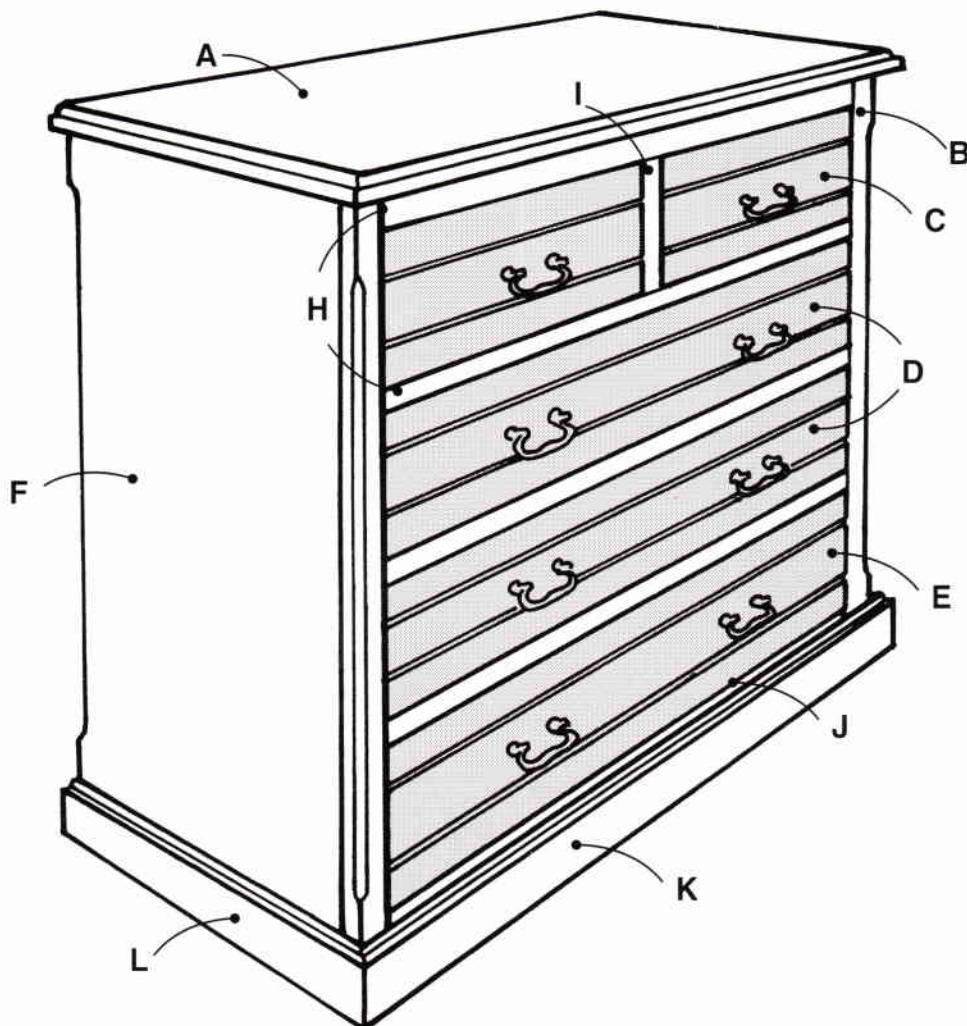


Chest of Drawers

This classic chest of drawers uses a mixture of modern and traditional techniques in its construction. The method is logical and straightforward, but it requires exact cutting to ensure that the cabinet is square and true, and the drawers fit well.

The project as written requires use of the Router & Jigsaw Table, but the chest of drawers can be made with just the Workcentre and your saw only. You won't be able to add the decorative touches, and you will need to do the necessary trenching with your saw rather than your router.

The Triton Extension Table is used for cutting the particle board and plywood sheets. If you don't have one, you will need to cut these panels using straight battens clamped to your material, and your saw hand-held.



Tool Requirements

1. ESSENTIAL Triton Workcentre and your power saw; electric drill and Triton Woodbits; two pairs of pipe or bar clamps to span 1.2m.; two or more G-clamps; small handsaw (tenon saw preferred); hammer; nail punch; screwdriver; measuring tape; square; pencil; orbital sander and various grades of sandpaper.

2. USEFUL Triton Extension Table; Triton Router and Jigsaw Table and your router; router bits as follows: Roman Ogee; 9mm straight cutter; 19mm straight cutter; small Classical; beading or rounding-over bit; Triton Roller Support Stand; Bevel Cutting and Routing platform (see Jig Guide); band clamp; additional clamps; hand plane; belt sander; drill press.

Construction Details

Component Specifications

All dimensions are in mm.

Part	Description	Qty.	Width	Thickness	Lgth.
A	Cabinet top	1	520	32	1085
B	Corner posts	4	42	42	1000
C	Top (small) drawer fronts	2	174	19	457
D	Middle drawer fronts	2	174	19	948
E	Bottom drawer front	1	226	19	948
F	Cabinet sides	2	452	18	1000
G	Cabinet back	1	990	9	1000
H	Horizontal cover strips	4	32	19	950
I	Vertical cover strip	1	32	19	175
J	Bottom cover strip	1	120	19	950
K	Front plinth strip	1	90	19	1072
L	Side plinth strips	2	90	19	519
M	Internal frame (front & back)	10	70	19	1010
N	Internal frame (sides)	10	70	19	472
O	Top drawers middle support	1	90	19	332
P	Top drawers middle guide	1	32	19	472
Q	Drawer guides	8	19	19	416
R	Corner blocks - top	2	19	19	416
S	Corner blocks - bottom cover strip	2	19	19	100
T	Drawer sides (C&D drawers)	8	174	19	479
U	Drawer sides - large (E)	2	226	19	479
V	Drawer backs - small (C)	2	159	9	431
W	Drawer backs - middle (D)	2	159	9	922
X	Drawer back - large (E)	1	211	9	922
Y	Drawer bottom small (C)	2	431	9	473
Z	Drawer bottoms - large (D&E)	3	473	9	922
AA	Drawer stops	10	40	3	100

NB. Use the component specifications as a guide only. Check measurements and cut to exact size as construction proceeds.

Material Shopping List

1. WOOD

Panel Timbers:

18mm Veneered Particle Board	1 @ 1830 x 915mm (6' x 3')
9mm Plywood	2 @ 1830 x 1220mm (6' x 4')

Select seasoned furniture timber: Any furniture grade timber will be suitable. Clear Radiata Pine was used in our example. Dressed sizes as follows:

42 x 42mm	—	2 @ 2.1m
290 x 32mm	—	1 @ 2.4m
240 x 19mm	—	1 @ 2.1m
190 x 19mm	—	2 @ 2.4m, 2 @ 1.5m
120 x 19mm	—	1 @ 1.2m
90 x 19mm	—	1 @ 2.7m
70 x 19mm	—	10 @ 1.5m
32 x 19mm	—	2 @ 2.1m, 1 @ 1.2m
19 x 19mm	—	3 @ 1.8m

Also: 6mm (1/4") dowels — either a 1.8m length of grooved dowel or a pack of prepared, fluted dowels; 3mm plywood — offcut or scrap at least 25mm wide, 900mm long, for spline material (joining the two planks for the top); 3mm plywood — offcuts 40mm wide, sufficient for 10 drawer stops 100mm long.

2. FASTENING

8g x 40mm Round Head Wood Screws	—	10
8g x 30mm Round Head Wood Screws	—	12
Small Washers to suit	—	10
25mm x 1.25mm Bullet Head Nails	—	1 pack
15mm x 1.0mm Bullet Head Nails	—	1 pack
PVA or equivalent wood glue (about 1 litre is needed)		

3. OTHER

High Rip Fence extension; Straight, long timber batten for router fence extension.

4. FASTENING

You will need 8 handles of your choice for drawer pulls. Our Chest of Drawers was finished with a gloss polyurethane (Cabot's "Cabothane"). The finish was applied in a dust-free atmosphere with a quality varnish brush, and with a light sanding (150 grit) between coats. A "tack-rag" was used to remove surface dust.

General Points

1. The cabinet sides are veneered particleboard. They are trenched on their inner faces to house the five internal frames which subsequently become the drawer supports.
2. 32mm wide lipping is applied to the front of the 19mm frames for visual appeal, and to hide any gaps in the frame-to-side joints.
3. Make the drawer fronts slightly oversize and trim to fit once the cabinet has been completed.

In the crosscut mode, cut the 290 x 32mm material to length (1085mm) for the top (A). Cut the material to length for the corner posts (B) (1000mm). (Figure 1)

2 Convert to the table saw mode. Select and mark the material for the top (A) for best face and edge. Use a high rip fence extension to provide support while you cut the stopped grooves in your material. Lower your blade to 13mm and cut the grooves centrally in the edges of your 32mm material, stopping the saw blade well short of each end.

This procedure is also described in Step 3 of the Dining Room Setting project (Advanced No.2), if you have the first edition of the *Triton Project Book*.

3 While in the table saw mode, rip 60mm off the back edge of the rear top piece, thus making the total width of (A) 520mm.

Rip a length of 3mm plywood scrap to 25mm wide for the spline; measure the length of the grooves (full depth portion) and cut the plywood to length. Coat the spline, grooves and joining edges with glue, clamp together and set the top (A) aside to dry.

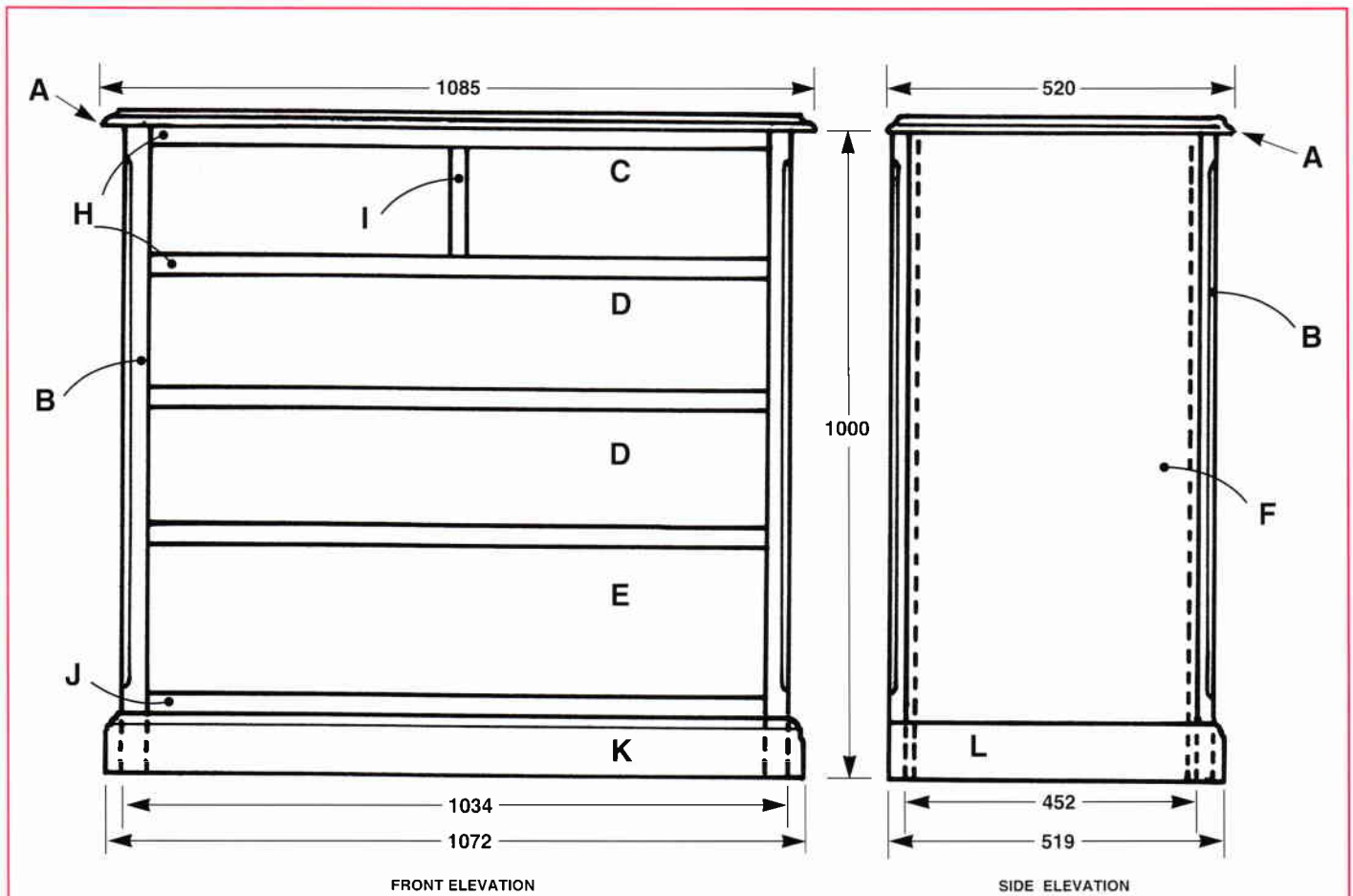


FIGURE 1

4 Cut the rebates in the corner posts (**B**) next. To avoid mistakes, mark on the end grain of the corner posts the positions of the rebates for the sides (**F**), and back (**G**). Shade the waste portions. Note that the rebates are mirror imaged. (**Figure 2**)

Rip 18mm x 18mm rebates for the veneered particle board side panels, and 20mm x 9mm rebates for the

plywood back. Follow safe operating procedures when cutting these rebates, ensuring that the narrow offcuts are not left uncontrolled between the fence and the spinning blade at the end of the cut.

5 Fit the Extension Table. Consult **Figure 3** and rip the 1830 x 915mm veneered particle board across the grain to provide a panel 1.0m long, 915mm wide.

Rip the 9mm plywood for the back (**G**) across its width to 1.0m long. Rip one edge of this piece to 995mm wide (along the grain). Final size will be cut after the cabinet carcass is completed. Save the offcut for the small drawer backs (**V**).

6 Rip the particle board panel along its grain to give you the two side panels (**F**) 452mm wide. Rough cut the material for the drawer bottoms (**Y,Z**) to 1220 x 485mm from the 9mm plywood. One piece comes from the large offcut and the other three form the second sheet of ply. Save the remaining material for the drawer backs. (**See Figure 3**).

It is helpful to have an assistant “tailing-in” or “tailing-out” when cutting these panels. A Triton Roller Support Stand is also useful at this point.

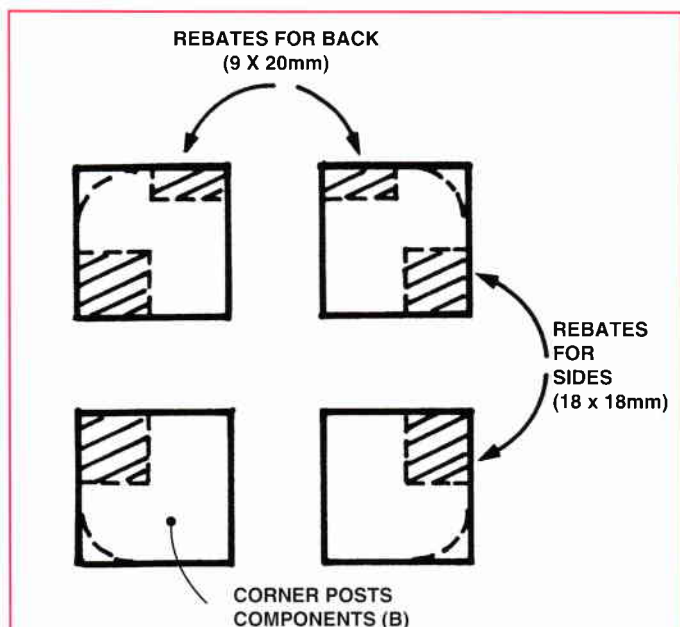


FIGURE 2

Construction Details

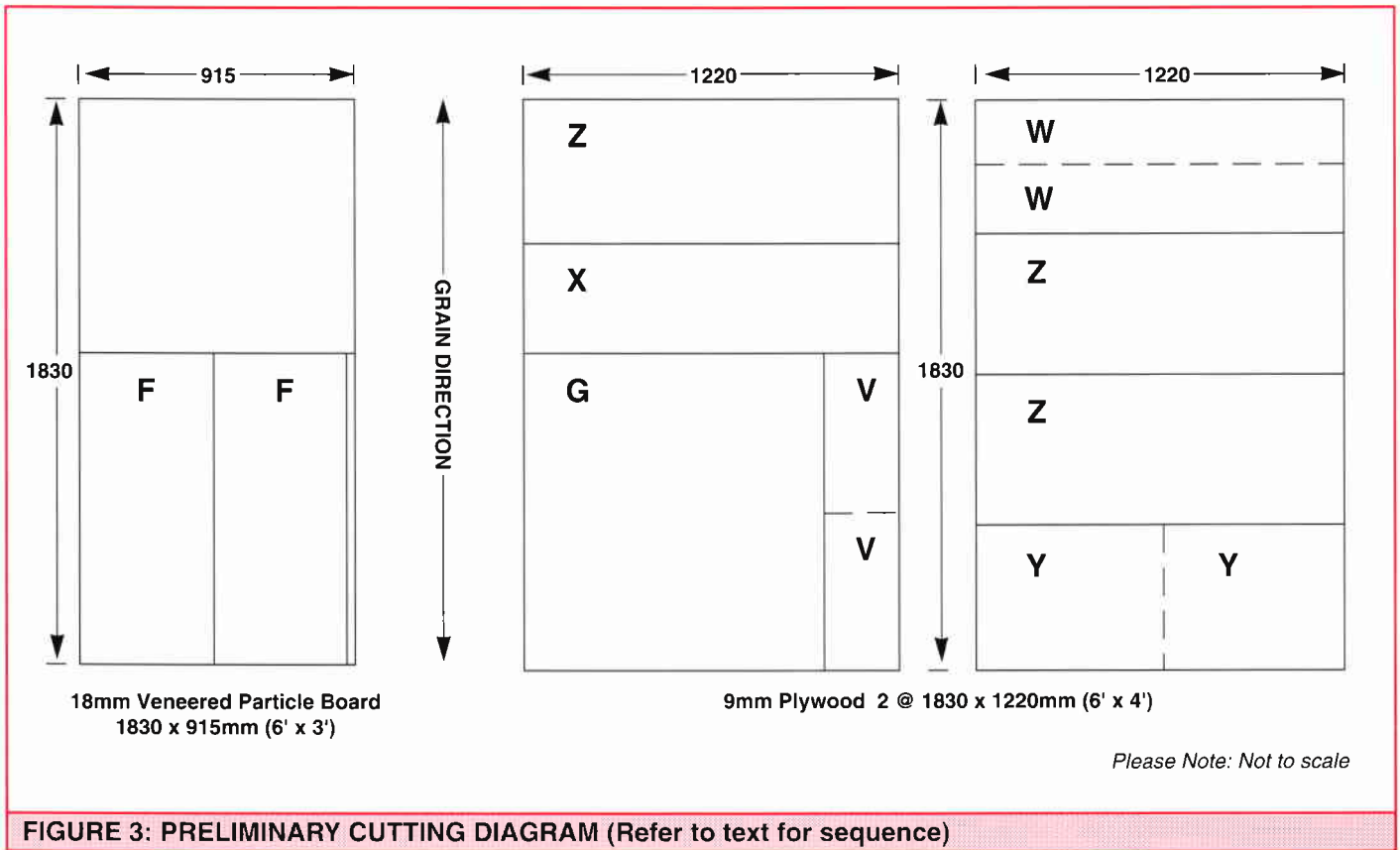


FIGURE 3: PRELIMINARY CUTTING DIAGRAM (Refer to text for sequence)

7 Set up the router in the shaper mode, fitted with a beading bit. You will need long fence extensions and stops. See **Figure 4**.

Rout the decorative bead on the right-hand corner posts (**B**), setting your stops so that the beading starts 50mm down from the top, and finishes 150mm up from the bottom. You will need to reverse the stop positions to rout the mirror-images left-hand corner posts.

Note also that the ends of the beading profile you have cut are not symmetrical, because of the way the router cutter operates. If you prefer to have the beading appear symmetrical ("tear-drop" shape) you can use a sharp chisel followed by sandpaper to carefully carve away the proud edge.

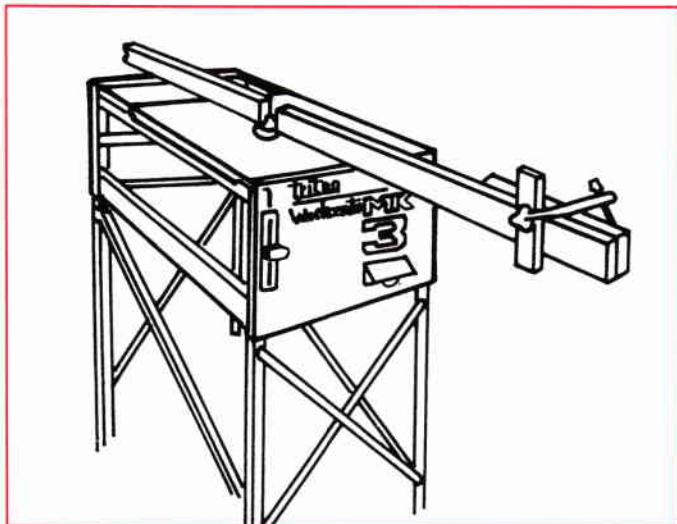


FIGURE 4

8 Convert to the overhead router mode, and fit the 19mm straight cutter. Use your bevel cutting & routing platform, and rout 19mm x 6mm deep trenches into the inside faces of the side panels (**F**).

The locations of the trenches are shown in **Figure 5**. After the trenches are cut, clamp and glue the corner posts (**B**) to the side panels (**F**).

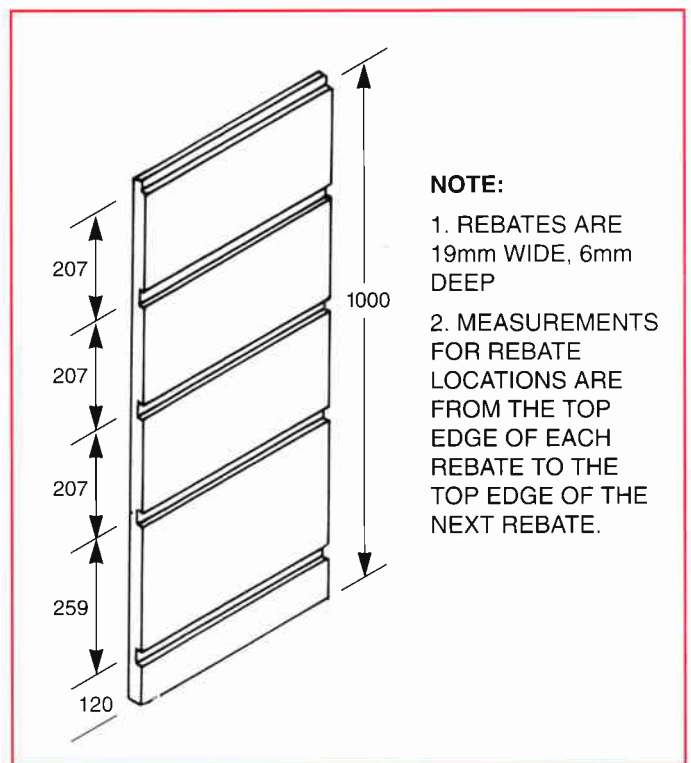


FIGURE 5

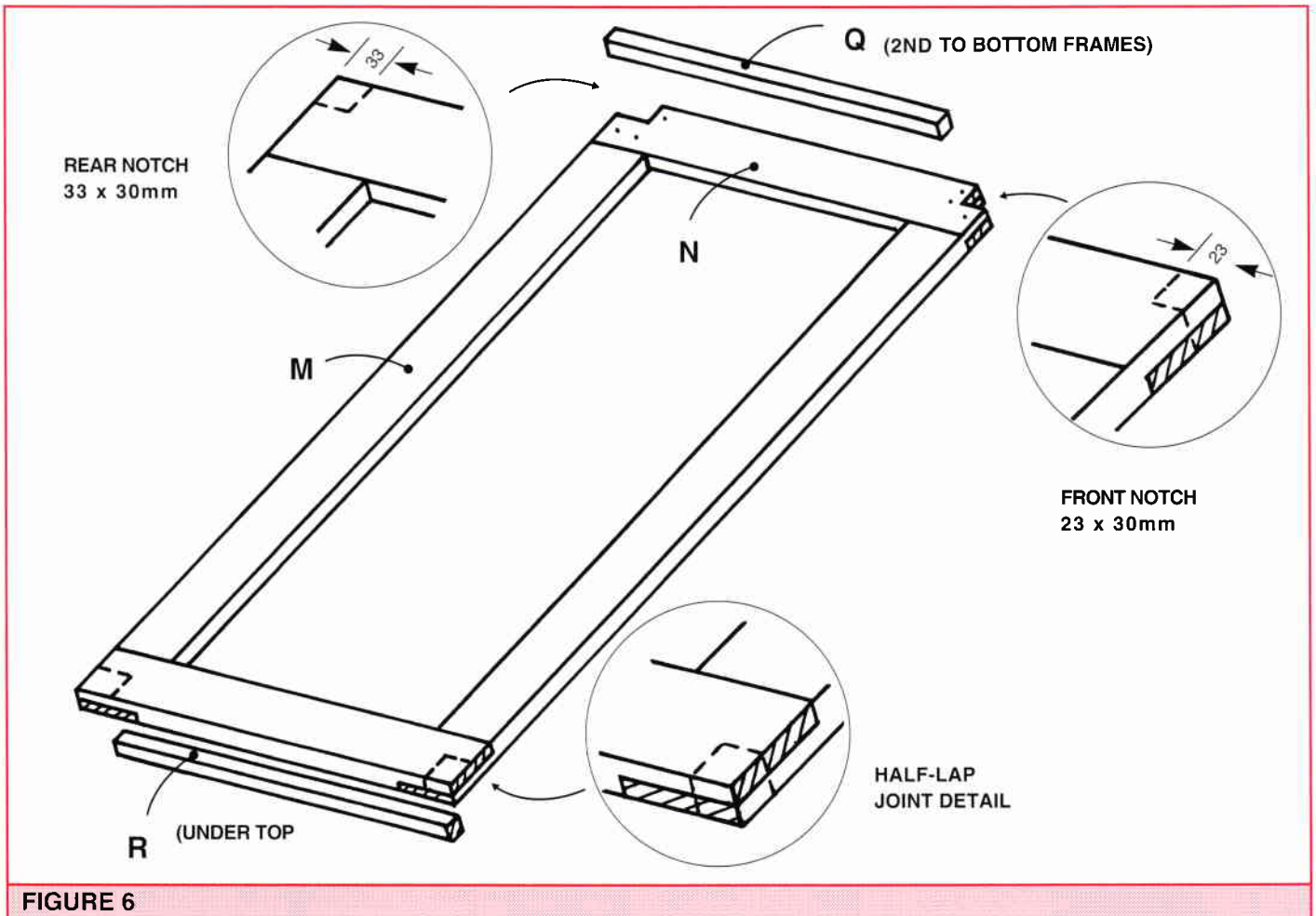


FIGURE 6

9 Make up the five internal frames (**M & N**) from the 70 x 19mm material with 1/2 lap corner joints, as shown in **Figure 6**. Use the Workcentre in the crosscut mode, and repetition rebate all 20 pieces in say, groups of 3. Remove the notched workstop and use the ripfence as a stop.

Glue and nail with the small brads, remembering that the finished frames will need to be notched to clear the corner posts. The finished frame sizes should be 1010 x 472mm.

10 When the frames are dry, notch out their corners to receive the corner posts, using a small hand saw. Note that the back notches need to be recessed deeper than the front, so that the frames are flush with the rebated back edge of the rear corner posts, but are 19mm in at the front, to allow for the front cover strips. (**Figures 6 & 7**)

11 The cabinet carcass can now be assembled. Apply glue to the short side edges of the frames, and to the trenches in the side panels (**F**). A small disposable paint brush is helpful to spread the glue quickly and evenly. Assemble the five frames inside the two side panels.

It is easiest to lay one side flat (on cardboard or similar to protect the outside face veneer), insert the frames and add the other side panel on top. With the

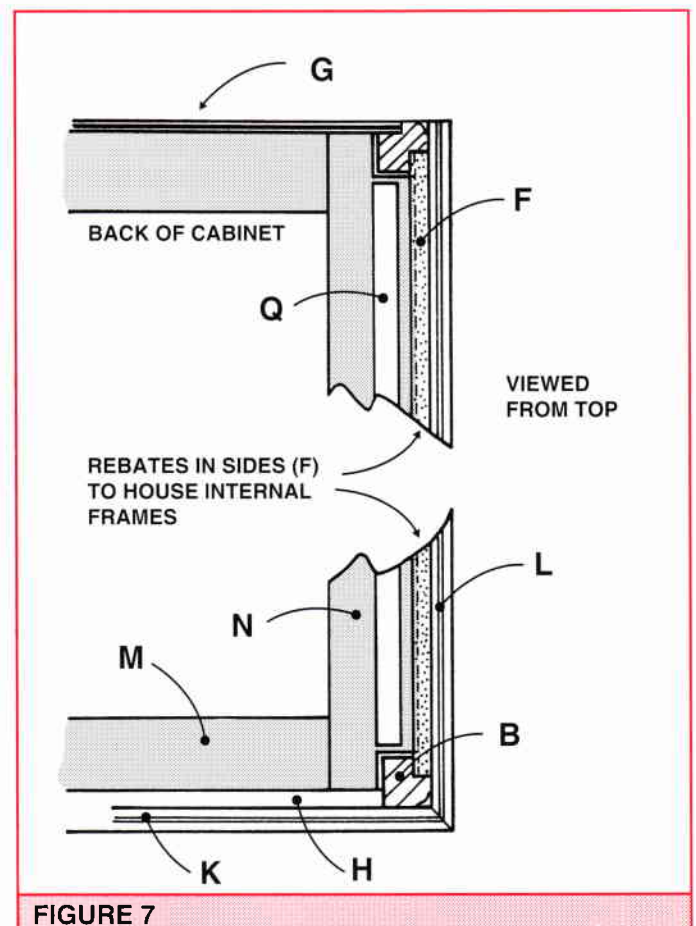


FIGURE 7

Construction Details

aid of an assistant, turn the assembly so that it is upright and apply the clamps. Ensure that the assembly is square (use a rafter square or compare corner-to-corner measurements) and leave to dry. (Figure 8)

12 Cut to size the top corner blocks (R) from your 19 x 19mm material and glue and nail under the top frame and against the sides to provide additional strength here. See Figure 6 again.

The top (A) is ultimately secured to the top frame. When the finished chest of drawers is moved, people will tend to lift it by the overhanging top edges.

13 Check the back opening with your measuring tape and trim the 9mm plywood for the back (G) to size, using the Extension Table. Glue and nail to the back edges of the frames and the rebates inside the rear corner posts (B). A small paint brush is again helpful for spreading the glue.

14 Check the top (A) for flatness, and if necessary use a belt sander to remove any unevenness. Fit the Roman Ogee router bit, and in the shaper mode rout the top edge moulding – sides first, then front and back.

The top (A) is “slot-screwed” to the top frame, to allow for expansion and contraction of the solid timber. Drill 10 holes in the top frame – three per side, two per front and back, evenly spaced. Make the holes about 50% oversized compared to the screw shank size.

Place the top into position on the carcass. It should have equal overhang on both sides, 5mm overhang on the back, 15mm on the front. Mark through the centres of the holes in the top frame. Remove the top and drill appropriate pilot holes for the 40mm round-head screws. Set the top aside until the rest of the carcass is completed.

15 Measure, cut and fit the 32 x 19 horizontal front cover strips (H), and the bottom cover strip (J) (120mm wide). Glue and clamp to the front edges of the frames.

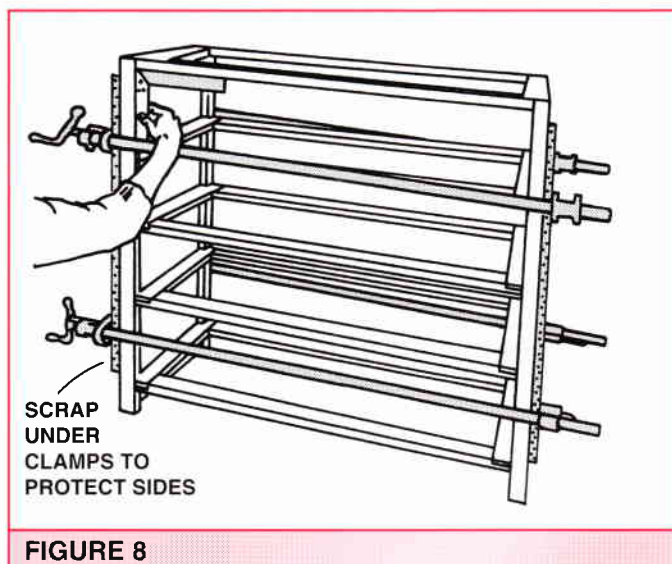
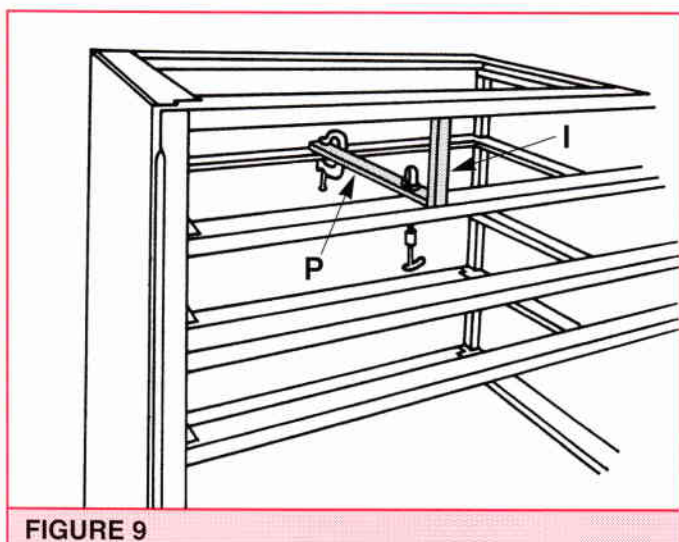


FIGURE 8

The top cover strip should fit hard up under the top (A) (place the top on the carcass and check when gluing); the other cover strips should have their top edges flush with the upper faces of the internal frames.

Fit the vertical cover strip (I) midway between the two top cover strips (H). Drill through the cover strips (H) from above and below into the ends of (I) and glue 6mm dowels into the joints to provide additional strength. (One dowel top and bottom is sufficient.)

16 Cut and fit the top drawer's middle guide (P), gluing and clamping it to the top of the second internal frame. It runs from the back of the cabinet up to and against the back of the vertical cover strip (I). (Figure 9)

Cut the top drawer's middle support (O) from 90mm wide material to fit neatly inside the front and the back of the second frame, and glue and screw (two 30mm screws) from below to the top drawer's middle guide (P). (Figure 10)

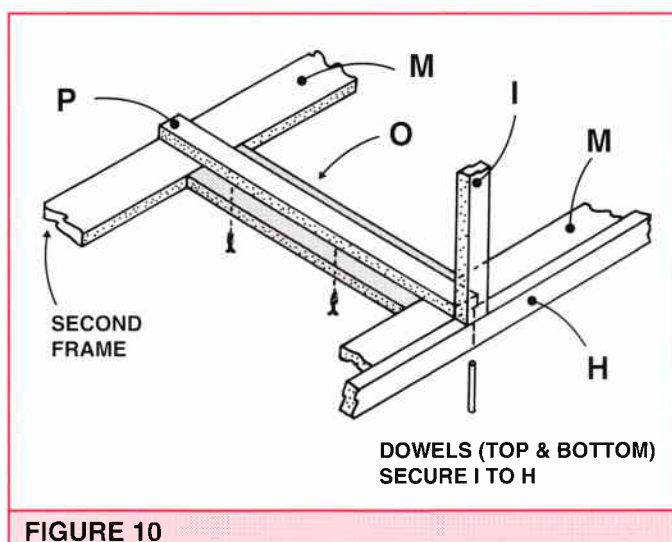


FIGURE 10

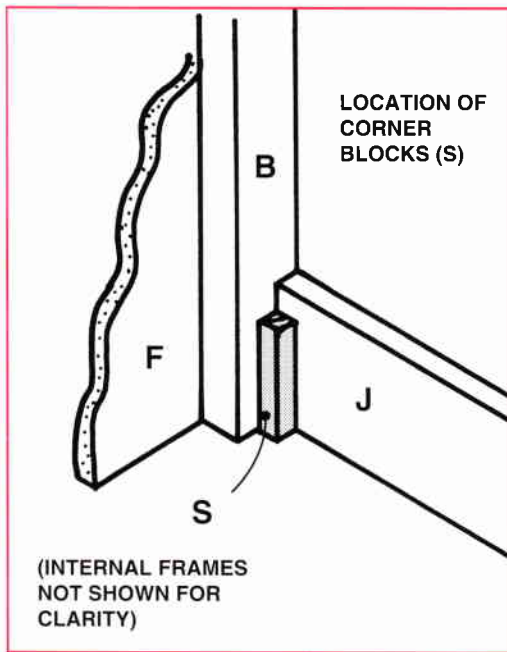


FIGURE 11

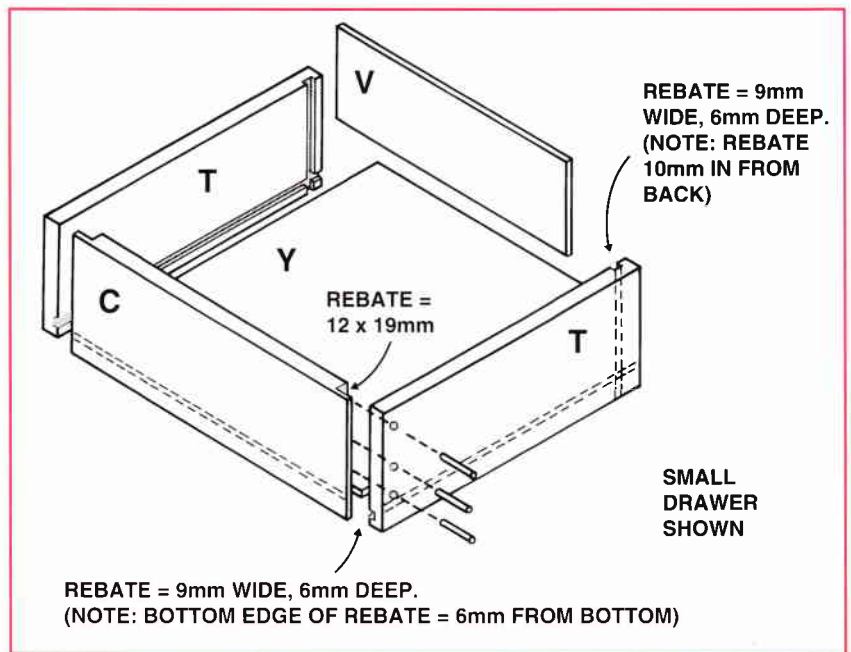


FIGURE 12

17 Cut to size the 19 x 19mm drawer guides (**Q**) and glue and nail onto the frames flush with the inside faces of the corner posts. Ensure that they are parallel by measuring front and rear spacing as you proceed.

Glue and nail the small corner blocks (**S**) to the front corner posts (**B**) and to the bottom cover strip (**J**), to strengthen it against being dislodged if the cabinet is dragged across the floor. (**Figure 11**)

18 Use your router in the shaper mode to mould a Roman Ogee profile onto the top edge of your 90mm plinth material.

Convert to the crosscut mode, and use your bevel cutting & routing platform to mitre cut the plinth (**K & L**). Screw (but don't glue ... these timber pieces will tend to "move" independently of the carcass) from inside the cabinet, using ten 30mm round-head screws evenly spaced, and along the centreline of the plinth.

Screw the top (**A**) into place, with small washers under the round-head screws. This completes the cabinet carcass.

19 Check the openings for the drawer front sizes, and using both the table saw and crosscut modes, cut the drawer fronts (**C, D & E**) to size.

Similarly, measure and cut the drawer sides (**T**) and (**U**) to size. If changing the sizes, note that the drawers stop 5mm in from the back of the cabinet, and the sides are rebated into the drawer fronts. (**Figure 12**)

20 With the router in the shaper mode, cut the decorative grooves in the front faces of the drawers, using a small classical bit or similar.

Our grooves were 50mm from the top and bottom edges.

Use a 9mm straight bit to trench the grooves for the drawer bottoms in the rear faces of the drawer fronts and inside faces of the drawer sides. The rebates should be 6mm deep, with the bottom edge of the rebate 6mm from the bottom.

Trench the grooves for the drawer backs into the drawer sides, 10mm in from the rear edge, 6mm deep.

Note that the drawer sides are mirror imaged. When making these, and other cross-grain trenching cuts, back up your material with a piece of scrap to minimize breakout. Alternatively, these cuts can be made with a lowered blade in the table saw mode.

21 Convert to the overhead router mode, and fit your bevel cutting & routing platform. With a 19mm straight cutter rebate the ends of the drawer fronts to take the sides.

Our rebates were 12mm deep, which ensured that we didn't cut through the decorative grooves in the front faces. Again, scrap material providing support at the end of the cut helps prevent breakout.

22 Convert to the table saw mode, and fit the Extension Table. Check measurements, and cut the bottoms (**Y & Z**) to size.

Temporarily assemble the drawers and after again checking dimensions cut the drawer backs (**V, W & X**) to size. You can crosscut the narrow pieces in the table saw mode if you use a combination of the protractor and the fence to guide your cuts. (**Figure 13**)

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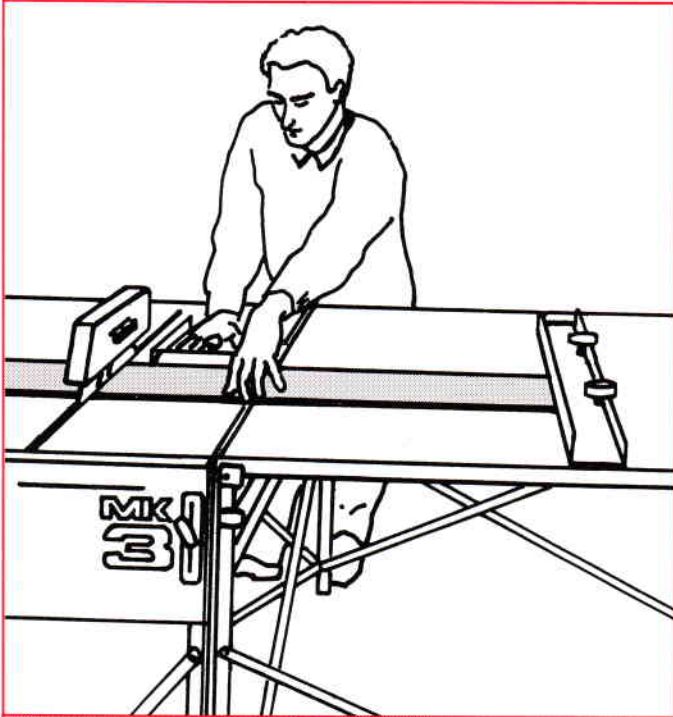


FIGURE 13

23 Next, assemble the drawers. Coat the vertical rebates in the drawer fronts and sides and their mating pieces with glue, but leave the grooves for the bottoms dry. Also, apply glue to the lower edge of the back (**V, W & X**) so that the bottoms are fixed firmly at the rear but are free to expand in the grooves.

Assemble and clamp up, using square to check for right angles. The backs of the drawers will need additional downward clamping to ensure their successful gluing to their respective bottom panels. (**Figure 14**) A spacer was inserted in the centre of the longer drawers to ensure the correct distance was maintained between the front and back of the drawer.

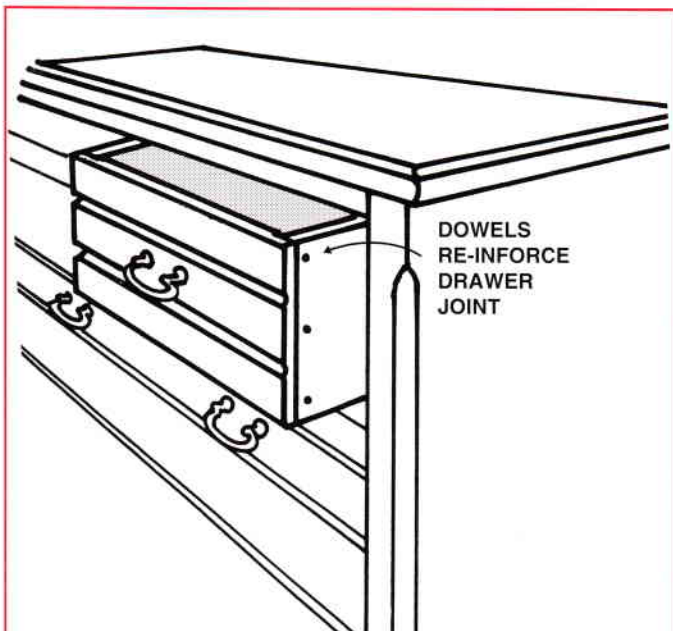


FIGURE 15

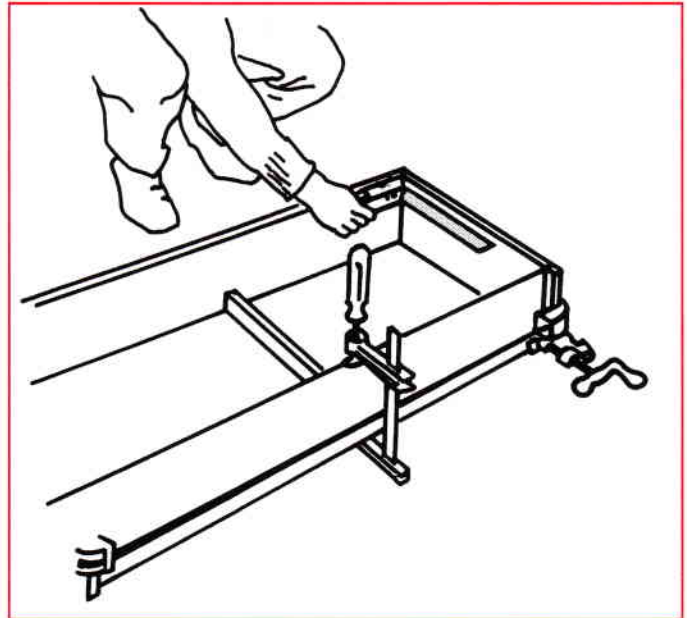


FIGURE 14

24 When the drawers are dry, drill and glue 6mm dowels, about 40 - 50mm long, through the sides into the end grain of the drawer fronts. We used three evenly spaced dowels per corner for the top and middle drawers, four for the larger bottom drawer. These dowels greatly strengthen the corner joints. (**Figure 15**)

A drill press will assist this operation. If drilling by hand, try to minimize grain tear-out, and ensure that you drill reasonably vertically. Triton Woodbits will give clean holes free from splintering and drill wander.

Strengthen the back/bottom joints by inserting the 25mm brads at 150mm spacing; nail through the bottoms into the respective backs as vertically as possible to prevent the nails from spearing out the sides of the backs.

25 Drill as required for your handles, and fit them. Check to see if the drawers slide smoothly. If they foul on the rear corner posts (**B**) just before fully closing, it may be because your drawer guides are not completely flush with the corner posts. To cure, chamfer the outside rear faces of the drawer sides with a sander to provide a smooth "lead-in".

Finally, glue and nail (15mm brads) the small drawer stops (**AA**) onto the internal frames just flush with the back edge of the cover strips. These drawer stops contact the inside face of the drawer fronts, under the bottom panels, to stop the drawers in their correct positions.

Round all the edges lightly, and sand all over. Apply the finish of your choice, remembering to coat the underside of the top (**A**) to prevent warping. For a smooth gliding action for your drawers, apply a coating of floor or furniture wax to their bottom edges, and to the parts of the internal frames and guides where the drawers contact.