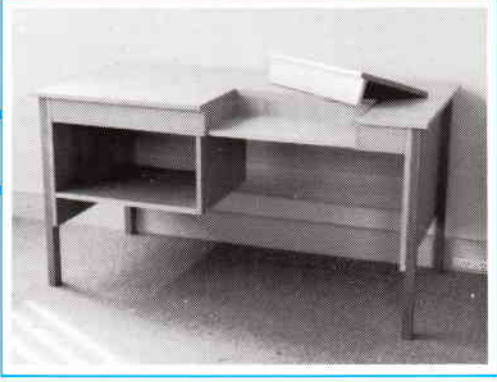
You can make it with triton®

INTERMEDIATE
PROJECT NO. 9



Computer Desk

Designed and Constructed by Doug Berwick

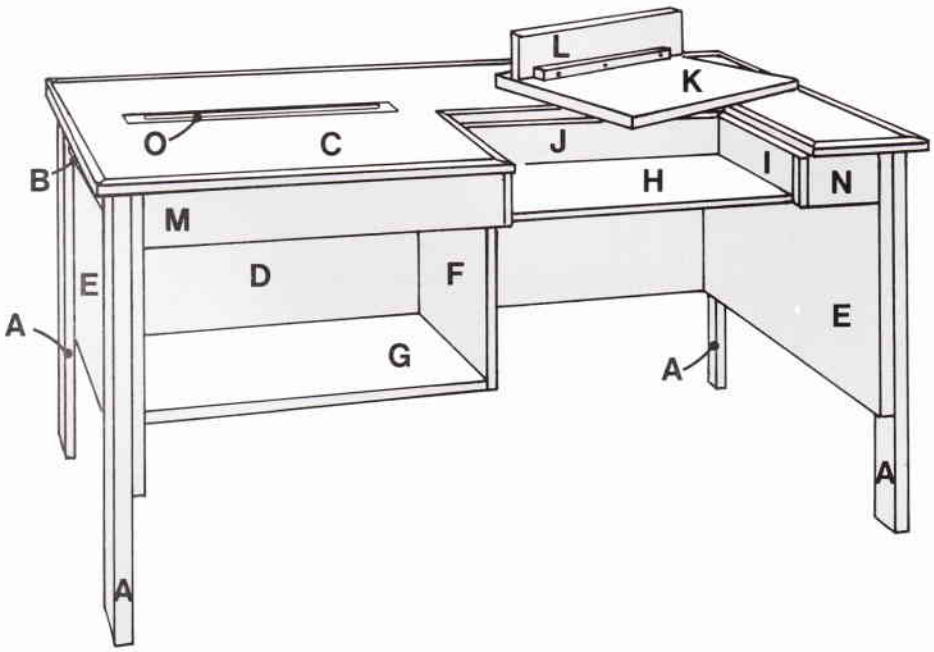
This handsome and functional desk can be made from two sheets of veneered particle board, a few lengths of framing and lipping material, and a roll of iron-on veneer. It has been specifically designed to accommodate a personal computer, with a lower recess to bring the keyboard down to a comfortable operating height. An insert fills this recess so that it can also be used as a writing desk.
Cutting of the components is relatively simple using a Triton Extension Table. If you do not have an Extension Table, use your saw hand held when first cutting the particle boards. Clamp battens to the sheets to guide your saw cuts.

Component Specifications

All dimensions are in mm.

Part No.	Description	Quantity	Width	Thickness	Length
A	Legs	4	45	32	722
B	Cross Frames	2	40	28	588
C	Desk Top	1	724	18	1405*
D	Back	1	480	18	1300
E	Side Panels	2	480	18	660
F	Shelf Side	1	350	18	460*
G	Shelf Bottom	1	460	18	550*
H	Recess Base	1	280	18	518*
I	Recess Sides	2	90	18	280*
J	Recess Back	1	90	18	554*
K	Insert Top	1	325	18	528*
L	Insert Front	1	90	18	517*
M	Front Skirt (large)	1	90	18	586*
N	Front Skirt (small)	1	90	18	160*
O	Slot Surround	1	42	19	438

***Note:** These are finished sizes, and include lipping. For initial panel cutting see **Figure 1**. Cut **M,N** and **G** slightly overlength and trim to size during construction.



Tool Requirements

1. ESSENTIAL Triton Workcentre and your power saw, jigsaw, router and straight cut bit, pencil, measuring tape, drill and drill bits, countersink bit, screwdriver, electric clothes iron (for iron-on veneers), hammer, chisel, gluing clamps, fine sandpaper.
2. USEFUL Extension Table, smoothing plane, hand scraper, mitre square, nail punch, veneer edge trimmer, Triton accessory Router & Jigsaw Table.

Issue No. 2, July 1989

Material Shopping List

1. WOOD Veneered particle board was used in our example. However, coloured laminex could be used for equal effect.
Shop for:

18mm Veneered Particle Board* - 1 @ 1830 x 1220mm, 1 @ 1830 x 915mm.
45 x 32mm hardwood - 3 @ 1.5m, for the legs and cross frames.
19 x 19mm hardwood - 3 @ 1.8m, for the corner blocks.
19 x 12mm wood to match veneer - 3 @ 1.8m, 3 @ 2.4m, for the lipping.
42 x 19mm wood to match veneer - 1 @ 0.9m, for the slot surround.
Iron-on veneer edging to match veneer - 8 metres.
*Note: Veneered particle board may only be available 19mm thick from your supplier, in which case you will need to adjust slightly the dimensions of components as required.

2. FASTENING

* PVA or equivalent wood glue.
* Particle board screws ("Directors Screws") - 12
* Countersunk wood screws - 1½" 8G - (12), 1¼" 6G - (60); one packet 20mm panel pins or similar; one packet 30mm bullet head nails or similar.

3. OTHER A portable router jig is useful in trimming up the recess and the slot surround. The text has details relating to the construction and use of this jig. You will need a scrap piece of particle board, about 600 x 450mm, a straight batten say 600mm long, and a couple of woodscrews, to make the jig.

4. FINISHING Two coats of satin polyurethane were applied to the desk to provide a protective finish.

General Points

1. The panels that make up the desk are secured by a combination of particle board screws, hidden corner blocks, and the structure created by the legs and cross frames at each end.

2. The offcut which results from cutting the recess in the desk top becomes the insert top.

3. The recess sides and back (components **I** and **J**) protrude by 6mm into the recess itself. This provides a ledge for the insert to rest on.

With reference to **the cutting diagram, Figure 1**, rip your components to size from the particle board. Note that the dimensions given are prior to lipping. Where possible cut slightly oversize, and trim down to finished size - smaller panels are easier to handle and cut accurately. As there is little allowance for waste, use a measuring tape to double check your fence settings on the Extension Table before cutting. A 60 tooth tungsten tipped blade, and slow feed while cutting usually ensures a clean edge.

If you are getting some tear-out, particularly when cutting across the grain, adopt the following method. Lower your saw until the blade height is only about 2mm. Make your first pass to score

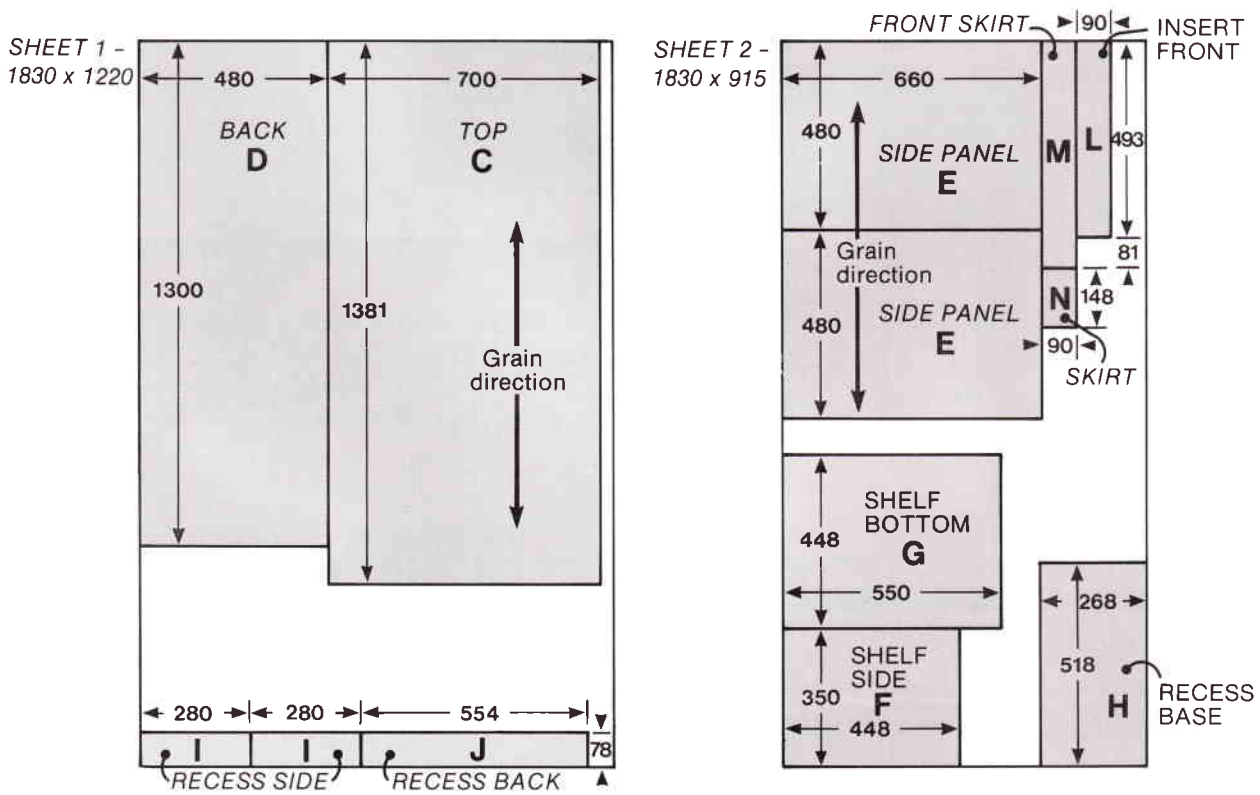
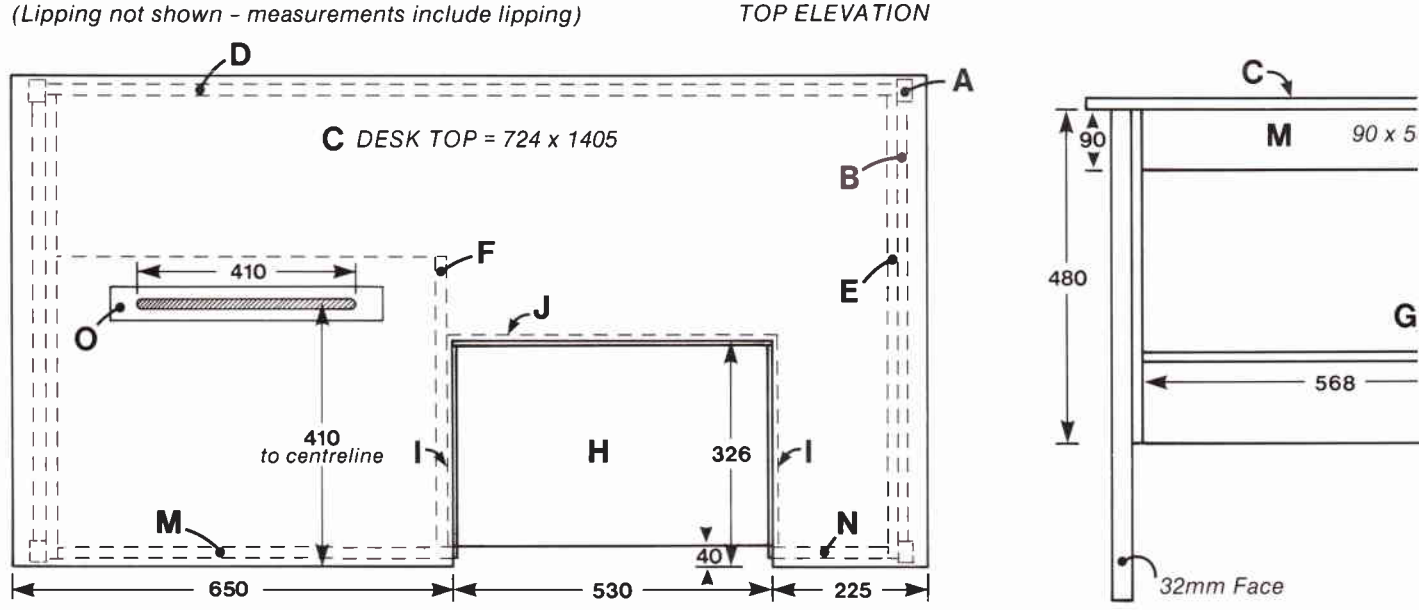


FIGURE 1



through the lower face veneer, then raise your blade to **just** cut through the material, and complete your cut.

You can rip the width dimensions of the desk top and back to size, but the length of both should be cut using either a jigsaw or your power saw hand-held with a batten clamped to your material to guide your cut.

2 A study of the component specification list versus **Figure 1** dimensions will indicate where the lipping is added. Note that lipping is used wherever wear on an edge of the veneered board can occur. Some of the lipping can be cut and attached at this stage. In the crosscut mode, cut the lipping for:

- Shelf Side **F**, front edge (350mm)
- Shelf Bottom **G**, front edge (550mm)
- Recess Sides **I**, top edge (280mm)
- Recess Back **J**, top edge (554mm)
- Insert Front **L**, side edges (90mm)
- Recess Base **H**, front edge (518mm)
- Front Skirt - Large **M**, side edge (90mm)
- Front Skirt - Small **N**, side edge (90mm)

When cutting the lipping, a piece of scrap timber held behind the material will minimise break-out.

If using 18mm particle board as specified the lipping is one mm thicker than the veneered board; glue and nail the lipping on 0.5mm proud of either face of the board, for cleaning up later.

When the glue has dried in each case, use a hand plane to carefully shave back the proud lipping. Finish with a hand scraper or fine sandpaper. Don't sand against the grain of the veneer!

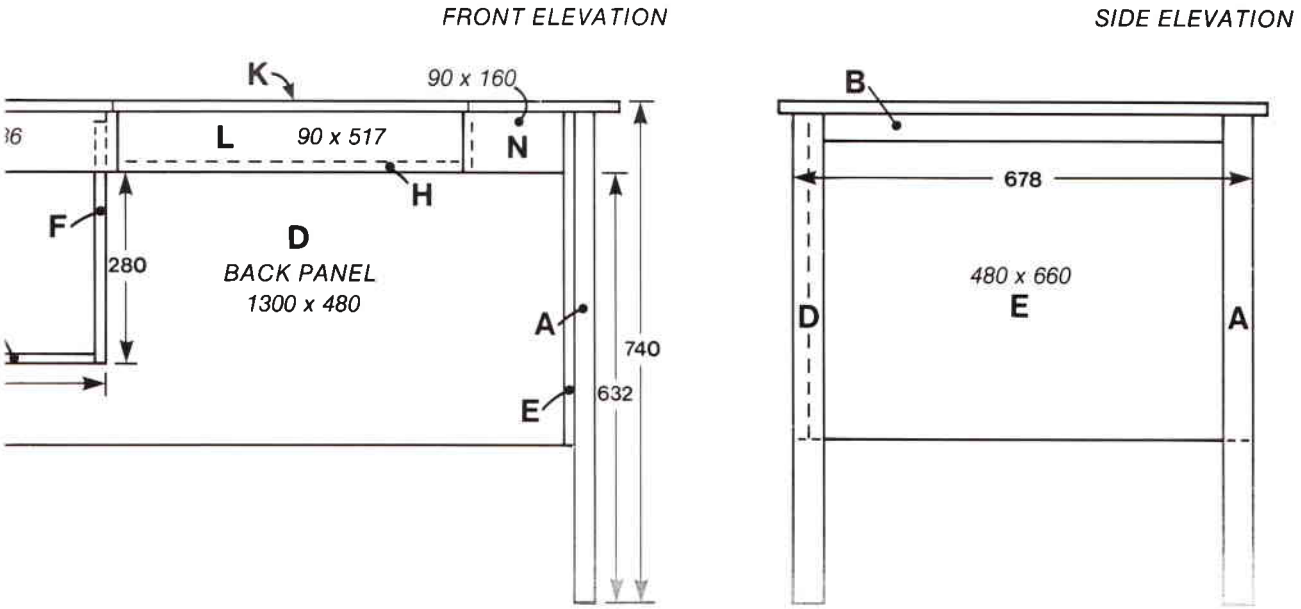
3 Lipping is also applied around the desk top, but the recessed section is prepared first. The offcut that results is used for the insert top, so take care when cutting and handling.

Mark out the recess location on your desk top. Note that both the recess and the insert are lipped, and therefore allow for this when marking out. **Figure 2** and the **Top Elevation** are used for setting out.

The cutting of the recess cannot be easily done on your Workcentre. A hand held jigsaw is used instead. Clamp a guide batten to your desk top, and make your cut 1-2mm away from your marked out lines, in the waste area. To cut the long dimension of the recess (parallel to the long sides of the top), you will need to drill a hole in the corner, larger than your jigsaw blade, so that your jigsaw blade can begin its cut.

Clean up to your marked line by using your router hand held. You can clamp a batten to your worksurface as a guide, or use the referencing jig as shown in **Figure 3.**

The corners of the recess are cleaned up by using a sharp chisel, paring carefully to the marked lines.



4 With your saw in the crosscut mode, cut the mitred lipping for the desk top. When cutting the mitres make sure you remember which face of the double sided protractor you used to cut the previous mitre. This allows you to cut the adjoining piece on the opposite face of the protractor to correct any minor discrepancies.

Lip the inside of the recess as well as the outside edges of the desk top.

Remember to leave the lipping slightly proud for later clean-up. Clamping assists when nailing and gluing.

5 While the glue is drying, prepare the legs and sides of the desk. Cut the legs **A** to size, ensuring identical lengths either by using a length-gauge, or by taping the four workpieces together when cutting.

The cross frames **B** in our example were ripped down to 40 × 28mm (from the 45 × 32mm material) for aesthetic reasons, but this is not a structural requirement. Cut your two cross frames to length (588mm).

Using a clothes iron, attach the iron-on veneer edging to the front edges of the side panels **E.** The side panels are attached to the legs by

DESK TOP AND LIPPING DETAILS
(all lipping 12mm thick)

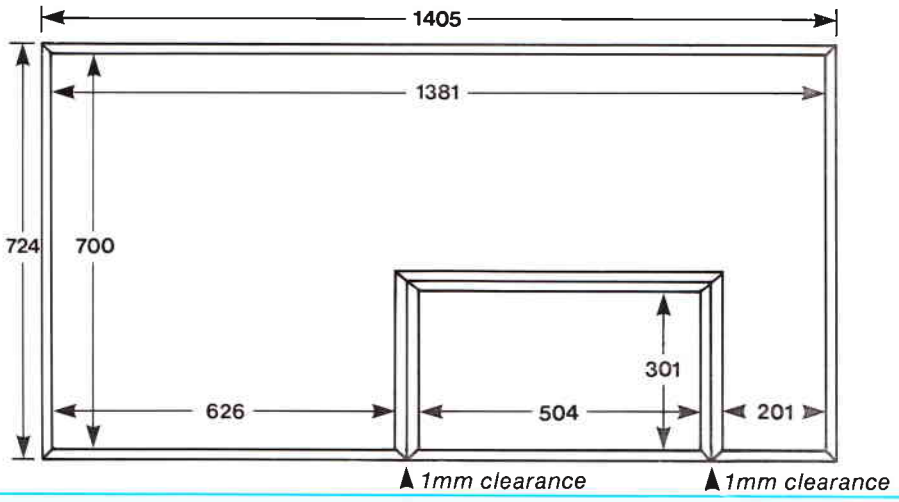
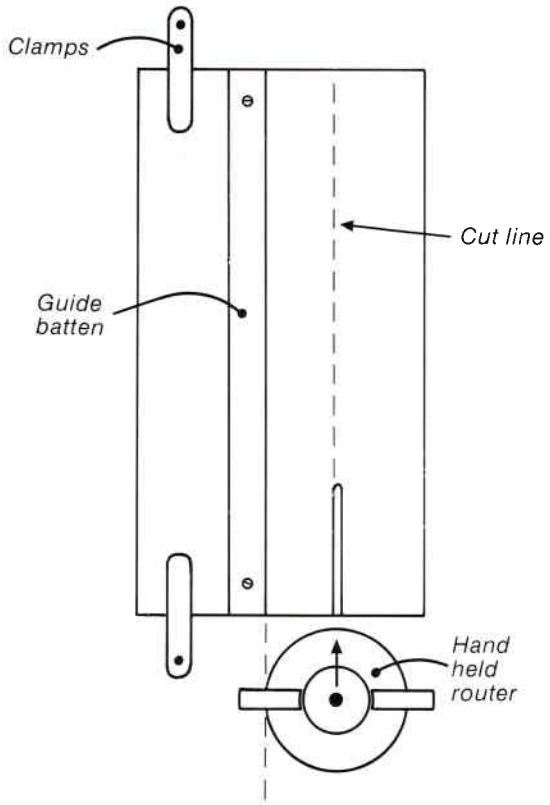


FIGURE 2

Construction Details



HAND HELD ROUTER JIG

Screw a batten to a piece of 14mm particle board. Run the router along the batten to cut off the excess board (a number of passes at different heights may be needed).

To use, mark a line on the material to be trimmed, place the cut line of the jig in place and trim to the line.

FIGURE 3

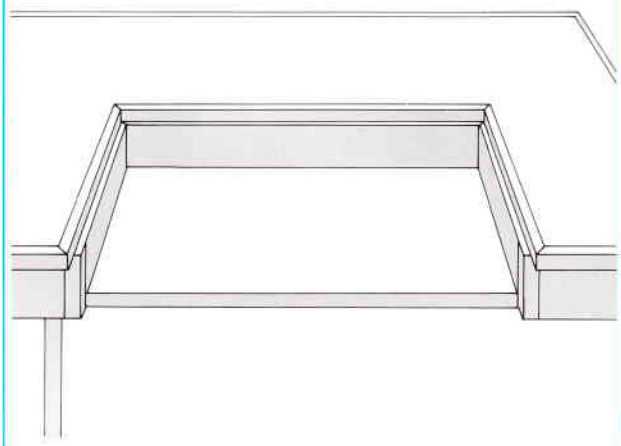


FIGURE 4

The back panel is attached to the side panels by means of particle board screws. It is further strengthened by the addition of a long corner block that runs along the inside join of the top and back panels. Cut this from your 19 ×19mm material, and screw into place, taking care not to drill or screw through either the top or the back panel.

The sides are also secured to the top by means of corner blocks. It is optional to screw through the underside of the cross frames **B** into the desk top to further increase the strength of the assembly.

screwing (and later gluing when all components have been test fitted). Two countersunk woodscrews go through the side panels into the inside of each leg. The back legs overlap the side panels by 18mm to allow for the back panel to butt up to the inside of the legs.

Test fit the cross frames, adjust the length if necessary to accommodate any variance in your construction, and then screw to the sides (screw through the sides into the cross frame).

6 We recommend that during the assembly steps that follow that you do not apply glue until all components have been satisfactorily fitted together.

Place the desk top face down on a clean surface or a pair of saw horses (protect your veneer by using an old blanket or similar), and position and clamp the sides with the back panel in place so that the overhang is equal on both sides, and equal front and back.

7 Make up the three sided box of the recess next. Attach the recess sides **I** to the recess back **J** by gluing and nailing.These joints do not need to be especially strong at this time - they will be reinforced when you attach the recess box onto the desk top by use of corner blocks.

Attach the recess base **H** inside the sides by screwing through the recess sides and back. Fit the corner blocks onto **I** and **J,** always taking care not to drill or screw through the front faces of either.

8 The box you have made is positioned by lining up the inside edge of **J** with the join of the desk top and its lipping. This way **J** projects into the recess by 6mm (18 - 12 = 6mm). **Figure 4.** However ensure that you do not have the recess too far forward, which would result in the front skirt pieces not being flush with the sides of the desk when butted against the recess sides

Construction Details

Position the sides **I** so that they are central to your cut-out. If our dimensions have been followed accurately these should also project into the recess by 6mm.

9 The two front skirt pieces **M** and **N** can be fitted in turn. The components should have been initially cut slightly overlength. Measure the skirt length in each case and trim accurately to size.

These front skirt components should be flush with the side panels, and the recess sides **I** should butt neatly against them. When screwing on the front skirts it may be necessary to pack out their glue blocks to make sure the pieces are square to the desk top.

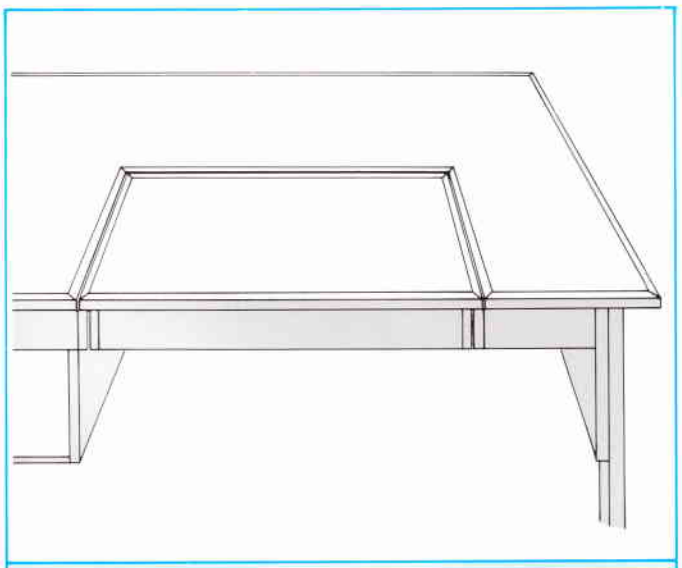


FIGURE 5

10 The shelf side **F** screws up against the recess side **I**, (on top of the corner block securing the left-hand recess side to the desk top), and the shelf bottom **G** is secured by a corner block against the side panel. Particle board screws through the shelf side into the edge of the shelf bottom complete this sub-assembly.

With all components a satisfactory fit, the corner blocks can be removed in turn, glue applied and the parts screwed into place permanently.

11 Turn the desk the right way up. With your saw used both in the crosscut mode and the table-saw wide rip mode, measure and cut the top insert to size, taking into account the thickness of the lipping to be placed on all edges.

Lip the edges (mitred corners), and when the glue is dry, check the fit. There should be approximately one mm clearance on each side. Use a hand plane to plane down to size, and clean up the lipping.

The insert front component **L** is attached to the insert top by another corner block, and should be set back so that it is flush with the front skirt components when the insert is in place. **Figure 5**.

12 If you have a Triton Router & Jigsaw Table it is convenient to cut the slot in the centre of the slot surround piece **O** before cutting this component to length. Use your shaper table mode, fences in line, and make a number of passes increasing the cutter height at each pass. You may also find it helpful to work to a stop clamped to an extension on your fences. If you do not have a Router & Jigsaw Table, you will need to cut the slot in situ, as described in Step 14.

13 Cut **O** to size. On your desk top, measure to the centreline of the slot from the front edge of the desk. Mark the centreline parallel to the front and slightly longer than **O**. Mark out the centreline on **O** as well, place in position on the desk top, and use a sharp pencil to scribe around **O**. The slot should also be central to the shelf unit.

Drill holes for the jigsaw in each corner and cut out the waste, staying 2-3mm in from the pencil line. Use the router and the jig (**Figure 3**) to clean up the edges. Go up to the pencil line, but do not remove it. Square up the corners with a chisel. Test fit **O**, plane where necessary to achieve a tight fit. It may be helpful to slightly chamfer the sides to facilitate fitting.

14 Glue in place the slot surround **O**. If you haven't cut the slot in **O** yet mark out its position. Use the router jig and your router to cut out the slot. A number of cuts at different depths will be needed.

Use your smoothing plane, hand scraper and/or fine sandpaper to clean up all the edges of your desk. You may want to use a rounding over bit to round the top edges of the desk. (Do not round over the recess edges!)

15 Add iron-on veneer to any particle board edges which have not been lipped, and are visible. (Including the bottom edge of the insert front **L**).

Punch down any nails in the lipping, and fill the nail holes with appropriately coloured wood putty. Sand all over, taking especial care where the lipping runs opposite the grain of the veneer. Apply a finish of your choice.