Biscuit Jointers – a local market survey

©Trevor Pope (tpope AT iafrica.com) – 22 May 2013

Even if you have been woodworking for sometime, I think you will be surprised how long biscuits have been around. Although some stationary machines were in use in the late fifties, the first portable machine was introduced by Lamello in 1968. Biscuit or plate jointers came into common use in the nineties, and in 1995 Fine Woodworking reviewed 16 models. Looking at that review, some of the models reviewed are still available today such as the DeWalt and the Ryobi. Others have evolved, but are very similar. This is proven technology.

Biscuits were designed for joining man-made boards, such as chipboard. They are made from compressed beech, with the grain running at a diagonal to the long axis. They provide a good surface area to make strong glued joints, so they work well in weaker materials. Chipboard is weak compared to natural wood, even compared to softwoods such as SA Pine, so the larger glue area compared to round dowels works well. There are three common sizes of biscuit, as shown above right. There are other sizes, but they are not widely available.

I wanted to try biscuits for some plywood cabinets, so I looked around the local market to see what machines are available. A biscuit jointer is fairly specialized, so not every tool shop keeps them. I managed to find some locally available, which I have listed below. It seems that the market is segmented into three groups – the Lamello; the Professional machines and the DIY machines.

- Top of the range are the Lamello machines with price tags around R8000-. For an occasional user, it is difficult to justify this outlay.
- At the next level down are other professional machines – DeWalt, Bosch, and Makita at around R4000-.
- Then there are the cheapies – Made-In-China machines ranging from R1000- down to less that R500- The risk with these is you don't know what you are getting, and there may no service and spare part support.

Prices are approximate – check with the suppliers for the latest.

Starting at the top:

Lamello C3 - Available from Austro. It is listed at R8500- at Executool
705W motor, 10000 rpm, 100 diam cutter, 4mm thick, 6 tooth.
6 preset depths, 20mm max, • Swiveling front stop 0-90°, detents at 22.5°, 45°, 67.5°, spindle lock.
(See www.executool.co.za and www.austro.co.za)

Middle priced, professional machines

Makita 3901 - budget for R3600- at Hardware Centre.

- 590W motor, 11,000r/min.
- Easy to access blade & carbon brushes.
- Complete with set plate for joining thin material.
- Can be used for trimming wall & ceiling panels with accessory blade (A-02744), max depth of cut 25mm.
- Cast aluminium pivot fence with positive stops at 0°, 45° & 90°.

See www.makita.co.za for service details at Rutherford – Germiston

Bosch GFF22A
Listed at R4100- at Executool
- 670 W, 9000 rpm, 22mm depth of cut, 105mm cutter
- Tool-free routing depth adjustment for fast progress
- Spindle lock
- Dust Extraction

See www.bosch-pt.co.za for info.

Dewalt DW682K
Listed at R4250- at Executool R3700- at Builders Warehouse

Features
- 600W motor, 10000 rpm, 100mm cutter, 20mm depth of cut
- Pre-set cutting depths for 0, 10 and 20 biscuit sizes with additional fine adjustment for ultimate accuracy
- Grooving setting with up to 20mm depth of cut gives increased versatility
- Spindle lock
- Dust collection – 35mm port

Imported and supported by Trevco - Midrand.

Budget Machines

Ryobi CJM 100 - R900- at Builders Warehouse and Makro
750W, 3 biscuit sizes (0, 10 & 20) Height adjustment 5 to 30 mm, fine depth adjustment, dust bag, angle adjustment 0 to 135°
Support from www.ryobi.co.za Stevens & Co, Midrand

Tork Craft BJ02 R900- at Builders Warehouse including a free box of 1000 #20 biscuits.
900W TCT blade, 11000 rpm
See www.vermontsales.co.za for service and support. (Midrand)

Homelite – R700- at Builders Warehouse
600W 100mm blade, adjustable height, tool-less blade change

Adendorf Machinery Mart R445-X131 900W with 100mm blade.
See www.tooltime.co.za

For the limited uses I planned, I decided to look closely at the top end of the budget machines. The Ryobi CJM100 is also listed in the FWW review, and is very similar in appearance to the machine reviewed in 1995. In the review, there was one reservation about the adjustment mechanism, but otherwise, the design seems to have survived unchanged in 15 years. Ryobi service and support have been South Africa for a long time, and I have had good experiences with them in the past.
The design of the Ryobi also seems to be more logical than the others. The D-handle is attached to the fence, so that one hand can be used to hold the fence against the work-piece. The other hand holds the body

and pushes the body towards the fence when cutting a slot. This seems more logical to me, particularly when making angled cuts, when there may be the risk of the fence tilting. On all the others this is different – both hands hold the body, so perhaps this is not an issue in practise. There is one way to find out – try it. So I bought the Ryobi.

Over a hundred biscuit joints later, the Ryobi is still working as expected. It is very noisy, but I expect they all are. The dust collection bag is useful to avoid a faceful of shavings, but it needs to be emptied out after 20 to 30 slots. There are no location pins on the front face, so it can slip sideways slightly from the force of the cut, but a couple of millimetres sideways is tolerable for biscuit slots.

So far I have cut biscuits only in shutter ply, which is excellent for making low-cost utility shelving. Alignment of the faces is spot-on if you take care.
I bought a box of 1000 Tork Craft #20 biscuits, and am finding that the thicknesses are not very consistent. I have resorted to slightly crushing the biscuits in a metal-work vice so that they are finger tight in the slots. I suspect that the genuine Lamello biscuits will be much more consistent – I guess you get what you pay for.

(Update: 300+ biscuits later, the Ryobi is still performing OK. The cutter even survived contact with a mild-steel square edge, when I misjudged the location of the edge. I saw sparks coming out of the gap and then realised what had happened. I now use a much thicker straight edge to locate the jointer.)