



Crosscut

Newsletter of the Witwatersrand Woodworkers' Association
PO Box 411346, Craighall, 2024, South Africa

◀ Old joinery bench from Reinett House museum, Graaf-Reinett.

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Next General Club Meeting on Wednesday, the 14th August 2013 from 18h00 at WWA clubhouse at the Living Link Hall. The Ryobi Table saw as documented in Crosscut will be shown and discussed.

Designing and making a toy car using the scroll saw – Trevor Pope

Next Turner's monthly meeting is on Monday, the 5th August 2013 at 18h00 at the WWA clubhouse at the Living Link Hall. Turning a Caddy Spoon by John Speedy. Wood of the month will be **Coastal Ironwood**. Members are welcome to bring any samples and work done in ironwood to show.

News

July Turner's Meeting – Steven Barrett demonstrated making and fitting a finial to the lid of a turned box. He showed how to make a finial with three spirals. The process is time consuming, so he used a partially completed one to show the next stage of sanding the finials to the final shape, as shown in the picture on the right. ►

Wood of the month was Dais Continifolia also known as the Pompon tree from the mauve/pink globular flowers. It is indigenous to Eastern and Southern Africa and is a common street or garden tree.

July Meeting – Gavin and Stefania Atkins presented the Brazilian hardwoods they are importing for sale. These are managed plantation grown, FSC certified, and come direct from the saw mill in Brazil. Contact them on 011-467-4299 or 082-454-8101 or 083-293-0828.

Routing an Ellipse – Shaun Sampson showed how to use the Trend router jig to cut circles and ellipses in a flat board, to make an elliptical picture frame.



Club Notices:

Spring Challenge with a Braai. Now the **12th October 2013**. The theme is "A Toy for Westview Clinic" Barries to do the judging and we could also possibly invite Daphne to be another judge. There will also be a "Table Lamp Challenge" with both turned and non-turned entries welcome.

There will also be a Turners Challenge for you to demonstrate your skills on the day making a sphere for advanced turners with a skew or any chisel for intermediates or a mushroom for beginners – prizes for the best.

WWA Open Day – Postponed to July/August 2014 unless a Project Manager can be found to drive it.

Steven Barrett and John Speedy demonstrating at the Hardware Centre demo week ►

Pretoria Woodwork Exhibition / Houtwerk Uitstalling. The Woodworking Association of Pretoria will be again holding their annual exhibition at the New Hope School on the **05th Oct 2013** from 08h00 to 14h00. (The New Hope School is a specialist school for children with various disabilities.) The school is in



Cecilia, just West of the N1, close to the Atterbury Off-ramp. GPS co-ords S 25° 46' 43.70", E 28° 16' 02.21". See www.ptawoodworkers.com or contact 084 515 2773 for more information.

At Smit from Pretoria demonstrating at the Hardware Centre demo week ►



East Rand Woodworking Association (ERWA) Annual Fair – 21st September 2013 (See www.erwa.co.za for more.)

Hardware Centre demos – 17th August 2013,

8h30 to 12h30. See demos by Buddy Lawson on basic turning, John Speedy on pepper mills and Russell Jones on pen turning. Also, Pierre will explain sharpening using the Tormek. R.S.V.P to Marilyn Malueg to 011 791 0844



Saturday Workshop. Ken Bullivant previously held the Saturday workshop at the clubhouse, but when we moved from Helpmekaar, he decided to move it to his house in Boksburg. Currently 5 of our members attend these meetings and more are welcome. The location is 13 Franklin Avenue, Comet, Boksburg on the first Saturday of the month from 09:00 to 12:00. They decide on an annual project and work throughout the year making it. Individual projects are discussed and problems solved. Ken also offers private lessons too. Contact Ken on 082 809 0020 if you wish to take part.

Please Note:

Toymakers. The toymakers meet on the first and third Mondays of every month, at 09h00 till 12h00 at the new clubhouse. Contact Eddie Marchio on 011-678-8062 or [rm22 AT mweb.co.za](mailto:rm22@worldonline.co.za) for more information.

Wednesday Workshop. The Wednesday evening workshops are on the first and third Wednesdays of every month at the new clubhouse, from 18h00 till 20h00. Contact Grant Mackay on 082-391-9769 or [mackay.grant AT gmail.com](mailto:mackay.grant@gmail.com) or [gmackay AT worldonline.co.za](mailto:gmackay@worldonline.co.za) for more information.

For sale:

Disc sander 525mm (21") with tilting table, 1 hp motor, on castors, spare discs. (Self-built) Price negotiable. Contact Ken Bullivant on 082-809-0020



Small Table Saws (Continued from last month)

Trevor Pope

Update – the latest advertised price is now R1800- at Game, even more at Makro. I checked under the guard of a unit on display at Game, and it does have some lumps that may catch on the workpiece as it is fed through, so this would need to be addressed on those units.

No-Volt Release switches are available at low cost and can be fairly easily retrofitted.

The switches shown below are from the AC-DC catalog. (www.acdc.co.za) – the three on the left are listed at between R100- and R200-. Part number SDZ-6E is probably the most suitable, as it has a cover that falls down over the start (green) button, which can prevent inadvertent starting – the cover has to be deliberately lifted to press the start button. There is also a prominent red stop button that it is easy to find in an emergency. Electrically, it also allows additional switches to be wired in series with the holding coil circuit to cut the power, so additional emergency stop switches can be situated around the machine if required.

With motor starters, because the motor draws a large in-rush current at start-up, it is important to make sure that the contacts are appropriately rated. Those below are all rated for 2.2 kW motors. The motor in the HBT 250 saw is rated at 1.5kW, well within the rating of the contactor.

DIRECT MOTOR STARTERS FOR SINGLE PHASE & 3 PHASE MOTORS IP55

Single Phase				Single Phase or Three phase
				
Code	SDZ-6A	SDZ-6B	SDZ-6E	SDZ-08B
Rating: A	15A	15A	15A	15A
kW	2.2kW	2.2kW	2.2kW	2.2kW (1PH) or 12A 400VAC (3PH)
Cutout size	50 x 23mm	50 x 23mm	46 x 22mm	
		• Power Failure Protection	• Under Voltage Protection	

I fitted an SDZ-6E to my saw, in place of the toggle switch. Some cutting of the sheet metal chassis of the saw and rewiring were required. It required a hole about 10mm longer and slightly wider than the existing hole. It fitted in next to the overload button and under the internal dust cover. The wiring is slightly altered, and if you are unsure, contact me and I will explain the differences. I was pleased with the new NVR switch, as it is now possible to cut the power by pushing the top of the switch, without even looking. When both hands are occupied, it is possible to use one's knee, which is a significant safety improvement.



Correcting the play in the arbor bearings. The saw uses a so-called “Universal Motor” which is a high speed motor with brushes. The motor drives a reduction gear-box with a 44 to 9 reduction, to achieve the blade speed of 4000 rpm. If you do the maths, you will calculate that the motor is spinning at close to 20,000 rpm which explains why the saw is noisy. The driven gear runs in a grease-lubricated housing with a ball bearing on the blade side and a bush on the motor side. The sideways play in the blade could be seen to be due to movement in the arbour (the shaft on which the blade turns). To attempt to address this, first the ball-bearing was replaced. This is a common 6003Z bearing, and they are made with various amounts of clearance, and it was possible that a cheap, large clearance bearing had been used or that the bearing was now worn. A high specification brand-name bearing was sourced from Bearing Man and installed (R48-). The bearing that was previously fitted did not exhibit any signs of failure, but was damaged in the removal process, so it couldn't be checked once removed. The new ball bearing did not reduce the play, unfortunately. So a new bush was sourced from Ryobi in Midrand at R28-50, and fitted. The gearbox was cleaned to remove the old grease and swarf from the removal of the bush and repacked with new Castrol LM grease.

If you need to one day replace this bush, you may be interested in how I tackled this. I used a 7/16” -20 tpi UNF tap that I simply threaded into the bore of the bush. The bush is located in a blind hole, so as the tap cut a thread and then pressed against the bottom of the hole, it pulled the bush out. The new bush was carefully and aligned and tapped into place. I did not have the means to measure the bore of the bush in-situ and unfortunately, the bore of the old bush was damaged by the tap as it was removed, so it was not possible to measure the wear. The bore of the bush was filled with LM grease, and then it was found that it was impossible to push the shaft into the bore. This was possible with the worn bush, but the reduced clearance of the new bush trapped the grease, which is an indication of how much the old one was worn. I scooped out enough grease from the bore until it was possible to seat the shaft fully. In the old days, this bush would have been fitted with a grease nipple. Nowadays, few people would know what to do with a grease gun, so that is why Ryobi probably didn't bother.



Crosscutting

To address the inadequate mitre gauge for crosscutting, I made a simple sliding table from 18mm shutter ply. Two cleats that locate in the slots for the mitre gauge were glued and screwed to the underside. Two vertical fences, one front and one back were glued and screwed to the base. These hold the two sides of the base in alignment. The fences are somewhat higher than the maximum height of the blade, and if you wish you could add a sheet of clear plastic to cover the blade as it travels between the two fences. The front fence was carefully aligned to be square to the blade, so accurate 90° crosscuts can now be made. See pictures.



Ripping

The rip fence doesn't always lock down parallel to the blade, which is also a potential safety issue. I still need to work out how to resolve this.

Throat Plate

For fine work and for use with the crosscutting table, I replaced the steel throat plate with a plastic insert that covers the whole opening. The blade was set carefully into the vertical position before being cranked up while running to cut a slot in the plastic. The insert was made from clear UHI Perspex from Mr Plastic in Malvern. (R35- for a piece of 320 x 75 x 6mm thick, cut to size.)

Ordinary Perspex is rather brittle, so I asked for poly carbonate, but I was assured that the UHI Perspex is tougher than poly carbonate. (UHI stands for Ultra High Impact apparently.) Fitting the insert into the recess was rather fiddly, but this was made easier because it was transparent, so the locations of the holes and rebates could be clearly seen and marked out.



The downside of the throat plate is that it is not possible to fit the splitter and guard, as the throat plate would be too weak at the rear. Depending the type of cut I am making, I will either use the standard guard or fit the zero clearance throat plate.

Would I recommend you buy a Ryobi HBT255L table saw?

For on-site carpentry, **maybe** - if you are on a tight budget.

For fine woodworking, probably not. I don't think it is accurate or safe enough. It will probably frustrate you and in some circumstances may be dangerous, when the fence is not parallel to the blade.



What are the alternatives? Hardware Centre sell the Makita MLT100 for about R6000-, and specials may be available elsewhere. The Makita is larger, heavier, has a nice sliding table and a proper rip fence that consistently locks up square – it seems worth a look. There are a number of others on the market in this price range, including one from Bosch which is about R10,000- on the last show special at Hardware Centre.

Then, the sky is the limit as far as pricing for all sorts of very desirable table saws from Jet, Felder, Hammer, etc, but you do tend to get what you pay for.



(You may gather that I not particularly pleased with the Ryobi table saw, but I have to say that credit is due to Ryobi on their spares support. Over many years, they have always had the spare parts I needed.)