



Crosscut

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

◀ Kress 360 BPS BiPower cordless rotary hammer drill with Li-Ion battery and built in 220V power connection as demo'd at the last meeting

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Next General Club Meeting on **Wednesday, the 13th March 2013** from 18h00 at WWA clubhouse at the Living Link Hall. Routing: Trend Ellipse Jig or Vermont Dovetail Jig.

Next Turner's monthly meeting is on **Monday, the 04th March 2013** at 18h00 at the WWA clubhouse at the Living Link Hall. Second part of a DVD showing how to sharpen Turning Tools by Mick Hanbury – Peter Middleton. Wood of the Month is Tulip.

News

February Turner's Meeting – Part 1 of sharpening DVD by Nick Hanbury was shown. Nick showed how to accurately set the angle of the table to the grinding wheel according to the angle of the grind on the turning gouge that is to be sharpened. He then repeated the process for each gouge that he sharpened. This generated some dissent amongst the audience as some felt this was unnecessary. Most turners use a single angle to sharpen their gouges, as they find that small variations in the angle make little practical difference.

Wood of the month. Dalbergia Nitidula – commonly called **Purplewood flatbean** or **Glossy flatbean**. It is native to the east coast of Africa from Kenya down to South Africa. Chris chose this one because there are some examples between the meeting hall and fence on the boundary of the Braamfontein Spruit, and he has been trying for some time to identify them. The tree looks like a **Tipuana**, but has characteristic flowers and long, flat seed pods.

Febuary Meeting – Kerry Kuhlmann and Matthew from Upat, who are the

local Fischer representatives, demonstrated some of the fixing products. They showed wall plugs that are a step above the normal

Rawl plugs and Rawl bolts. They can tolerate cavities in wall and various materials by deforming to suit. They also represent Stabila levels as well as other products. Some of the Fischer products are available from your local hardware store, but the more specialised items can be found at their trade counter in New Doornfontein – open Saturday mornings. They can be found at Lekrom House, Cor Miller and 3rd Streets, New Doornfontein, Johannesburg. Contact them on 011-624-6716 or kkuhlmann AT upat.co.za or www.upat.co.za. Information on the products that they carry locally can be found on their website at www.upat.co.za



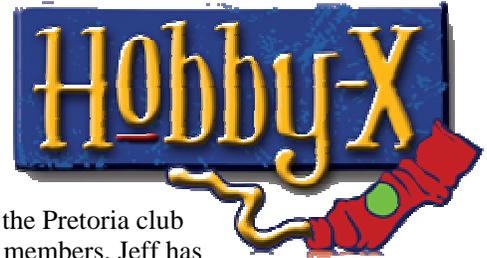
Club Notices:

Clubhouse. More work is required for the clubhouse, particularly the courtyard to make it usable. The Wednesday Workshop will install strip lighting. The sides of the courtyard need to be enclosed, perhaps with something that lets in light. The flower bed needs to be

demolished. Some blinds need to be installed in the rooms. We will be scheduling a work party to tackle these.

Summer Challenge. For turners and cabinet makers: Table lamp project - make one for a competition. A complete set of a plug, cord, switch and lamp socket will be available to purchase. The advantage of this is the electrical safety is guaranteed and not subject individual workmanship.

Hobby-X for 2013 is scheduled for the second weekend of March. Setup is on Wed, the 6th March until (08h00 to 20h00), followed by a trade day on the 7th March (10h00 to 18h00). Friday, the 8th (10h00 to 18h00); Sat. 9th (9h00 to 18h00) and Sun. 10th (9h00 to 17h00) are for the public. We will have the usual stand with lathes in conjunction with the Pretoria club and Hardware Centre, where we will demonstrate turning to attract new members. Jeff has compiled a new brochure which will be available for those interested. Lists to sign up for shifts on the stand over the period of the show were available at the February meetings. There are still a few slots available, so if you wish to help, please contact Eddie Marchio on 011 678 8062. Otherwise feel free to visit the stand during the show. Please note that for those demonstrating, the use of safety glasses will be mandatory.



Saturday Workshop. Ken Bullivant previously held the Saturday workshop at the clubhouse, but when we moved from Helpmekeer, 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. 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@mweb.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](http://gmackay.worldonline.co.za) for more information.

For Sale:

Wood working equipment, etc for sale:
Coronet bench Circular saw with planer, disc and belt sanding attachment
Metabo electric plan, 800W – hardly used
Kross router, B&D drill press, Electric grinder, Angle grinder
Wood clamps – 4x 1200mm and 2x 900mm
G clamps, pipe clamps, picture frame clamps
Jig saw attachment
Hand rip saw, fret saw,
2 electric drills, drill bits
Small blacksmith anvil, pop riveter,
Fencing pliers, Pipe wrench (bobbejaan), Metal chisel, ball hammer, rubber hammer
Wood shavers (sic), Record hand plane,
Extension light, extension cable, battery charger, water level, leather punch
Heavy-lift pulleys with rope
American Oak boards in various sizes
Miscellaneous boards of Kiaat (Umbilo), Yellow wood, Clear Oregon pine, Imbuia, Rhodesian teak sleepers
Contact Morton Barnes-Webb on 011-884-4108 or 083-399-7352 (Parkmore)

Complete Workshop and the Tools and Machines are in immaculate condition and include:

RECORD CL3 Lathe on a Professional Workbench
Henry Taylor and RECORD POWER Turning Tools
RECORD POWER RP3000 Chuck System
SUPERNOVA2 Chuck
Assorted Turning Accessories
Work Benches
Rockwell Delta Jointer Circular Saw Combination Set
Rockwell Delta Contractors Saw
De Walt Radial Arm Saw
Electra Beckum 300mm Band Saw
Triton Router Table with Triton Router
Router Bits Sets, Forstner Bit Set
Assorted Power Tools and assorted Hand Tools AND LOTS OF OTHER STUFF!!!
Contact Louise Wiid on 011 768 5460 or 073 184 2074 (22 Foxglove Street, Wilropark)

Complete Shopbot PRT96 CNC Router with computers and tooling 2.4x1.2m bed. R25,000 Contact Paul Armstrong on 083-308-2324 or [paul.a AT ppmprojects.co.za](mailto:paul.a@ppmprojects.co.za) for more info.

Fitting and turning...

Trevor Pope

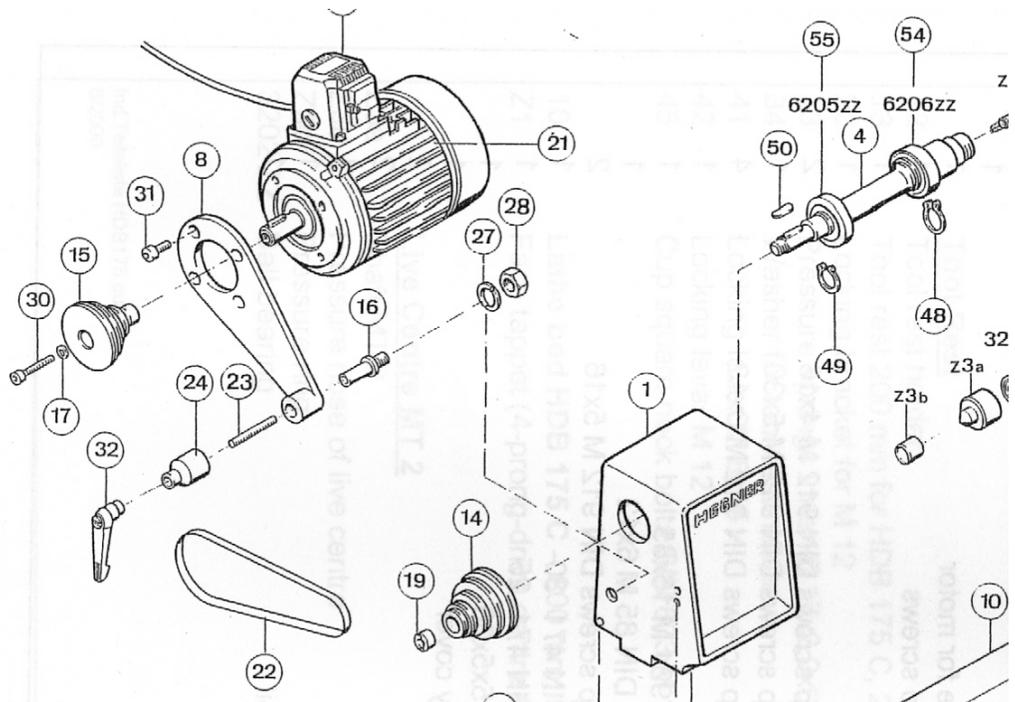
I own a Hegner HDB175 wood lathe that was made in 1992 – the picture shows a short bed version – mine has a 1m bed. I bought it second hand in 1999 through the late Scott Myles. These were imported by Hardware Centre, but apparently only five were sold locally, so you won't find many around. A similar model, the HDB200 is still made by Hegner. Roy Gibbs has an example.



Recently, my Hegner developed an annoying rattle from the headstock when it ran, particularly at higher speeds.

The exploded parts diagram shows the construction of the headstock. This particular model has a five step pair of Poly-Vee pulleys (14) and (15) to reduce or increase the speed of the 500W single phase motor (21).

I upgraded the original HDB175 with a new spindle (4) from the factory in 2004. The new spindle provided the capability of a 2 Morse Taper socket on the headstock and a through hole for boring through or for a knock-out bar. When I installed the upgrade, there was a small amount of radial play between the driven pulley (14) and the headstock shaft (4). I fitted a shim to take this up.



The shim was fitted on the side of the keyway (50) for the pulley.

Now, many years later, when the unit was running with a work piece of any significant mass spinning, it began to make a loud rattle. If the lathe was heavily loaded with a deep cut, the rattle diminished. A small amount of radial play could be felt between the Poly Vee pulley (14) and the spindle shaft (4) and this was determined to be the problem.

The lathe has the original 500W single-phase 4 pole (1440 rpm) motor, which may not have a smooth speed characteristic, compared with a three-phase motor. During each revolution, the motor is slightly speeding up and slowing down, and this is evident now that play has developed. This is inherent in single phase motors. Three phase motors are smoother than

single phase motors. The motor does not seem to be faulty, as it starts normally and develops the usual torque at speed. The motor has a capacitor excited run winding, and no start winding. If the capacitor is not closely matched to the run winding, then the torque generated by the two windings will not be exactly the same and there will be a cyclic torque variation over each revolution. This will attempt to speed up and slow down the motor slightly, enough to show up any play as a rattle.

I dismantled the Poly-Vee pulley (14) from the spindle shaft, which required a puller to do so, as there was a small amount of fretting on the shaft and material transfer from the pulley. There was also fretting evident on the key (50) at the interface to the steel spindle (4). There was no fretting on the key on the interface between the key and the pulley, but this is not surprising as the softer aluminium alloy of the pulley was wearing. There was a small gap evident between the key and the keyway on the pulley.

There were several possible remedies that I considered:

1. Make and fit an oversize key, to eliminate any play in the radial direction.
2. Simply replace the existing key and use Loctite to glue the pulley onto the shaft. This may cause problems with disassembly in future, as heat may be required to release the Loctite, which may spoil the lubrication in the bearings.
3. Replace the spindle pulley.
4. Fit a three phase motor.

I suspected that with options 1 and 3, the problem will then re-occur again in the future, unless I implement 4 as well. Option 2 may assist.

I decided to make a new, oversize key and then I used Loctite when I assembled the pulley onto the shaft. The key is about 5mm square, so I purchased some 6mm key steel and filed it down fit. Key steel is a medium carbon steel that is hardenable, if required. Using a micrometer to measure the existing key, I filed the 6mm square stock to just over the required size – about 5 x 5 mm. I then carefully filed the new key down until it was a close fit, both in the aluminium pulley and the steel shaft. The new key was about 0.05mm wider than the old one for the pulley slot and about 0.03mm wider for the slot in the shaft. This is not much, but it was enough cause the rattle.

The pulley was assembled onto the shaft with the new key and using Loctite. When the lathe was run, the rattle was gone. After a few hours of use, including turning a heavy lump of oak, the rattle has not returned. It may still yet, but I'm holding thumbs.

In the longer term, I would like to fit a more powerful three phase motor with a Variable Speed Drive, perhaps a 1.1 kW unit. However a new drive pulley may be required, because the larger motor has a larger shaft. I don't think there is enough much material on the driving pulley if I have to bore it out for the larger shaft. I may have to make another pulley and new mounting flange (8), but that is another project for the future.