



# Crosscut

With sponsorship from **builders warehouse**

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 Editor: Trevor Pope ([tpope@iafrica.com](mailto:tpope@iafrica.com)). All written content and opinions are those of the editor, unless stated. © Copyright reserved.  
 Go to <http://mysite.mweb.co.za/residents/tpope/homepage.html> for back issues of *Crosscut*.

**Next Main Club Meeting on Wednesday, the 11<sup>th</sup> June 2008** from 18h00 at the WWA clubhouse at REEA. Norman Cheerin will talk on making Crown Mouldings.

**Next Turner's monthly meeting is on Monday, the 2<sup>nd</sup> June 2008** at 18h00 at the WWA clubhouse at REEA. Roy Gibbs will be demonstrating the making of a hollow form.

## News

**May Main Club Meeting.** In the Main Club AGM, Clive Stacey agreed to serve as the new Chairman, to replace Jenny Tomlinson who has stood down after two years. Costa Carastavakis has stood down as well, after leading much of the renovation work on the club house, including the floor, closing the gaps between the roof and the walls, repairing various machines, organizing the new fridge, collecting pies, etc. The other committee members have agreed to stay on for another year in the same positions. We do need another committee member to replace Costa, so we will co-opt somebody to assist through the year. We welcome fresh ideas and if you would like to volunteer, please discuss it with any committee member. You definitely don't have to be an expert woodworker, and it can be a lot of fun.

Jenny gave a report of the activities from the previous year, and Glenn explained the financial position of the club.

Marco Tarantino and Jan Ferreira from Bosch gave a presentation and demonstration of the Dremel range of rotary tools and the accessories. Marco explained how Bosch has taken over the distribution from Bantam Trading, and through increased volumes and a reduction in margins has been able to significantly reduce prices and increase outlets, with the result that many more accessories are available more widely. The cutting accessories are colour coded by application and material type, to make it easier to select the right ones.

The 2008/2009 main club committee members and their contact details are listed here:

Chairman	Clive Stacey	083 407 8008	<a href="mailto:stacey@netactive.co.za">stacey@netactive.co.za</a>
Secretary	Kenneth Jackson	083 256 1823	<a href="mailto:kennethj@mweb.co.za">kennethj@mweb.co.za</a>
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Member	Karen Fairfield	083 879 6729	<a href="mailto:kfairfield@telkomsa.net">kfairfield@telkomsa.net</a>
Turner's Rep.	Rick Florence	011 788 9922 (h)	<a href="mailto:flocat@mweb.co.za">flocat@mweb.co.za</a>

**May Turner's Meeting.** After the Turner's section AGM, Steven Barrett will remain on as chairman, and Ken Much has joined the committee. Rick Florence will represent the turners on the main club committee.

Chris van Heeswijk talked about the wood of the month – London Plane – Platanus X Acerfolia, which is a hybrid of two sycamore trees, Platanus occidentalis the American Sycamore and P.orientalis from SE Europe part of the sycamore family, and has been hybridised with a maple. The X in the name indicates a hybrid. This hybrid in existence for hundreds of years, as can be seen from trees

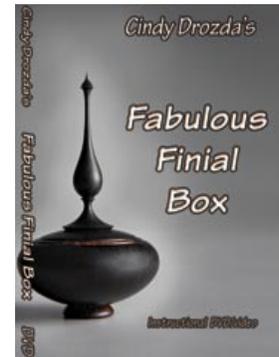
in France that are several hundred years old. An important attribute is its resistance to air pollution, which is why it is found extensively in the centre of London, as it was one of the few trees that could withstand the heavy pollution in London until the 1950s. London was only cleaned up after numerous deaths from photochemical smogs caused by pollution from coal fires. The turner's committee decided to award the most improved turner for 2008 trophy to Trevor Pope.

In 2007 Chris van Heeswijk received the award.

Wally Rossini showed some tools he used for hollowing out his deep vessels. He found that a stiff rotary wire brush in the shape of a disc was useful in removing patches of difficult grain, helped in other cases by a rotary file or rasp. He bought a termite ring tool which he found also worked well. (See <http://www.oneway.ca/tools/termite.htm> ). Another tool that he found was made of HSS 8mm square-section bar, ground with a hook that looks like a claw on the end.

We then watched a Cindy Drozda video on making a box with a fine finial in her particular style. She has put much thought into the process and uses a lot of custom tools, which prompted many ideas on new approaches to the different techniques she uses. The process is quite complex, and I expect most people would have to watch the video several times before being able to duplicate one from scratch. ([www.cindydrozda.com](http://www.cindydrozda.com))

The project for June is to turn a 75mm sphere from wood, as accurately as you can. Bring your spherical objects to show off at the June meeting.



The members of the 2008/2009 turner's section committee are:

Chairman	Steve Barrett	083 556 2690	<a href="mailto:Steven.barrett@liberty.co.za">Steven.barrett@liberty.co.za</a>
Secretary	John Somersvine	082 552 9331	<a href="mailto:svine@global.co.za">svine@global.co.za</a>
Treasurer	George Simpson	072 783 3702	<a href="mailto:gfsimpson@sentechsa.com">gfsimpson@sentechsa.com</a>
Members	Chris van Heeswijk	082 469 2964	<a href="mailto:Cvanhees@goldfields.co.za">Cvanhees@goldfields.co.za</a>
	Ken Mutch	082 806 7693	<a href="mailto:Ken.woodman@gmail.com">Ken.woodman@gmail.com</a>

**From the committee:**

**AWSA Congress.** Remember to register for the congress in Pietermaritzburg from the 4<sup>th</sup> to 6<sup>th</sup> July. More details are can be found on the AWSA web site at <http://www.awsa.org.za/Symposium.htm>. (... which isn't working at the time of writing.) The visiting turner is Nick Arnall – see his web site at <http://www.nickarnallwoodturner.co.uk>. There is also a picture of him on the front of the May 2008 Woodturner magazine.

**Small Stool Design Competition.**

As part of our relationship with Builders Warehouse, Dave Fincham identified an opportunity to assist with their social responsibility program. They supply lap desks to schools without formal desks. The children that use these sit on the ground, and we would like to supply small stools or benches. Two possible design routes were suggested: one made from flat wood and a turned one. The committee would like members to make up prototype designs that will be suitable for short production runs of up to 50 units in the clubhouse. Please can you bring your prototypes to the next meeting so we can decide on the most suitable design? We will give a prize to the most suitable design. The benefits of this project include an awareness of design issues, skill building for members and obviously, the children who will use them.

The designs will need to be practical, economical and easy to manufacture, robust, safe and stable. Due to cost reasons, the material will probably be SA Pine. Height of the seat from the floor for a 7-to-10-year-old should be 200 to 250mm. An adult could well use a stool as a step, so they should be safe for loads of up100kg.

**Please Note:**

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

**Wednesday Workshop.** The Wednesday evening workshops are on the first and third Wednesdays of every month, from 18h00 till 20h00. Contact Winston Klein on (011) 674-1513 for more information.

## Solvents for the Wood Workshop

Trevor Pope

[Continued from last month]

### Isopropyl alcohol

Also called rubbing alcohol, it is commonly used for cleaning, as a solvent and disinfectant. ( $C_3H_7OH$ ) Applications are in sterilizing pads, windscreen de-icing mixtures and cleaners such for vinyl records and printed circuit boards, which is why you may find it in your workshop. It freezes at  $-89^{\circ}C$  and boils at  $82^{\circ}C$ . It is highly flammable, but only moderately toxic – about twice the toxicity of ethyl alcohol, so it is relatively safe. It is not an aggressive solvent so it is widely used for cleaning.

### Turpentine

Genuine turpentine is obtained from the distillation of resin from trees, mainly pine. It was originally used as a solvent for thinning oil based paints, but now is replaced by mineral turpentine. It is expensive and only used in specialist applications, such as for oil paints for fine art. It freezes at about  $-50^{\circ}C$  and boils around  $150^{\circ}C$  to  $170^{\circ}C$ . Flash point is  $35^{\circ}C$ , so it is highly flammable. It is poisonous, so should be treated with care. It was once used as a treatment for lice, but it can burn the skin, as well as damage the lungs and central nervous system, so fortunately there are better remedies available these days.

### Mineral turpentine

Mineral turpentine is used as an inexpensive petroleum-based replacement for the vegetable-based turpentine described above. It is commonly used as a paint thinner for thinning oil-based paint and cleaning brushes. It consists of a mixture of highly refined hydrocarbon distillates mainly in the  $C_9$ - $C_{16}$  range, the composition of which will vary according to the manufacturer. To closely control the properties, the composition is more closely controlled, to remove objectionable smells for example. The volatility varies with the composition, but in my experience, it evaporates only slowly. It is a mild solvent and will safely remove some sticky labels without damaging most plastics. Due to the variability in composition, it is wise to treat the fumes as potentially dangerous. The vapours are flammable. You can see an example of the better quality bottle used by Plascon for their products on the right.



**White spirit**, also known as Stoddard solvent or mineral spirits, is a paraffin-derived clear, transparent liquid which is a common organic solvent used in painting and decorating. In 1924, an Atlanta dry cleaner named W. J. Stoddard worked with Lloyd E. Jackson of the Mellon Research Institute to develop specifications for a less volatile dry cleaning solvent as an alternative to more volatile petroleum solvents. Dry cleaners began using it in 1928 and it was the predominant dry cleaning solvent in the United States from the late 1920s until the late 1950s.

It is a mixture of saturated aliphatic and alicyclic  $C_7$  to  $C_{12}$  hydrocarbons with a maximum content of 25% of  $C_7$  to  $C_{12}$  alkyl aromatic hydrocarbons.

White spirit is used as an extraction solvent, as a cleaning solvent, as a degreasing solvent and as a solvent in aerosols, paints, wood preservatives, lacquers, varnishes, and asphalt products. White spirit is the most widely used solvent in the paint industry. In households, white spirit is commonly used to clean paint brushes used for oil paints and varnishes. Its paint thinning properties enable

brushes to be properly cleaned (by preventing the paint from hardening and ruining the bristles) and therefore enabling them to be re-used. It is available from Hardware Centre.

In industry, three different types and three different grades of white spirit exist. The type refers to whether the solvent has been subjected to hydro-desulphurization (removal of sulphur) alone (type 1), solvent extraction (type 2) or hydrogenation (type 3). Each type comprises three different grades: low flash grade, regular grade, and high flash grade. The grade is determined by the crude oil used as the starting material and the conditions of distillation. More expensive varieties are sulphur-free to eliminate chemical interactions that can cause colour changes in pigments, which are not desirable.

### **Benzene**

Benzene, or Benzol is an organic chemical compound with the formula  $C_6H_6$ . Benzene is a colourless and highly flammable liquid with a sweet smell. It is an important industrial solvent and used in the production of drugs, plastics, synthetic rubber, and dyes. Benzene is found naturally in crude oil, and can be synthesized from other compounds present in crude. It freezes at  $5^\circ C$  and boils at  $80^\circ C$ . It is a known carcinogen, is toxic for short term exposure, and can cause long term chronic health problems at lower exposure levels. Exposure is best avoided. Because of this, its use as an additive in petrol is now limited.

**Benzine** is a mixture of hydrocarbons in the range of  $C_7$  to  $C_{11}$  and comes in a variety of grades depending on the intended uses. It contains significant amounts of paraffin, so it behaves similarly. It freezes around  $-73^\circ C$  and boils from  $20^\circ C$  to  $75^\circ C$  depending on the composition. It is a non-polar solvent and is highly flammable. Depending on the exact composition, the toxicity will vary. It is not normally used in a workshop. It is sometimes sold as a proprietary fuel for camping stoves.

### **Lacquer Thinners**

These are used to thin spraying lacquers, such as cellulose nitrate used in sanding sealer and some older automotive lacquers. The composition varies by manufacturer depending on the desired properties. For example: Toluene: 40 to 70%, Methanol: 15 to 40%, Methyl Ethyl Ketone: 7 to 13%, Butyl Acetate Normal: 3 to 7%.

Sasol make one called Thinsol, with the following composition:

n-Propanol: 26%, Toluene: 19 to 26%, Acetone: 17%, Xylenes: 7 to 12 %, Glycol Ether: 6%, Ethyl Methyl benzene: 1 to 4% and Butan-2-ol: 3%.



Other ingredients may include Acetone, Naphtha, Cyclohexane, Heptane, Xylene, Propanol, and Methyl Cyclohexane. The ingredients will vary according to the exact application, depending on the lacquer composition, and the type of application – the aim is to control the speed of drying, flow characteristics, initial flash-off, etc. of the lacquer.

All of these constituents are poisonous, through skin contact, ingestion and inhalation – Material Safety Data Sheets rate toxicity as low to medium depending on the composition. Lacquer Thinners can be carcinogenic, depending on the composition. They are highly flammable and fast evaporating by design for spray applications. Typically they freeze around  $0^\circ C$  and boil at about  $65$  to  $82^\circ C$ . Due to the methanol, it is a mixed polar and non-polar solvent, so it is partly soluble in water. It is a fairly aggressive solvent – it will dissolve some rubbers and plastics. You should use it only in a well ventilated area, such as outdoors, or with an appropriately rated respirator cartridge if spraying indoors. When used for spraying, do not assume that different brands will have the same properties, as they may be formulated differently to suit the particular paint application. Cheaper brands may even vary between batches due to quality problems or availability of feed stocks.

(To be continued next month...)