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ASSOCIATION OF REVOLUTIONARY TURNERS

MARCH 15, 2005

WWW.REVOLUTIONARY-TURNERS.COM

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SAFETY TIPS

- Always wear a face shield!!!
- Make sure your tailstock is LOCKED before turning on the lathe!!!
- When you have to chase your lathe around the room, you're turning speed is too high.

PRESIDENT'S COLUMN - GARY BASHIAN

Well, the new year is off to a great start! The Board is working to lay out plans for the year. We'll continue with events that have been popular in past years, and hopefully add some new ones. Dietrich Kulze is organizing a series of interesting demos. We'd like to do an offsite professional demo again this year. Maybe a Critique Night. Maybe some extended handson demos or shop visits, if there's interest.

At the February meeting, and again later by email, I passed out surveys that the Board will use to help plan the year's events and perhaps make changes to the monthly meetings. I've said it before - this is your club and you should take an active part in it. If you don't respond, decisions will be made without your input. If you haven't already done so, send your completed survey along to me. Any and all input is welcome - demo topics (things you'd like to see or things you can present on yourself), field trips, other programs and events, etc. In the coming weeks, the Board will be tabulating the responses and possibly making some changes to the meetings and club programs. I'll be discussing this more at the next meeting.

Since one of our goals this year is to better serve our newer members, we have appointed Dietrich Kulze, Derrick TePaske, and Ken Lindgren to serve as New Member

"Ambassadors". They will explain the club's programs to new members and provide mentoring or training. I find that individual mentoring is invaluable when a turner is first getting started, but many people feel awkward asking for help. So we created this program to reach out to new members. Another thing we're doing, mostly with new members in mind, is updating the Names and Faces web-page. Dave Eaton created this page, which contains names and pictures of members, and it's a great way for the newer members and the "old-timers" to get acquainted. We're working now on updating the page and adding it to the ART website, www.revolutionary-turners.com. Of course, this is in addition to the excellent "Back to Basics" demo that Dietrich gave for the February event. Depending on response, we may be doing more "Basics" demos later in the year.

Hopefully, it goes without saying -- Always wear a face mask while turning.

Gary

MEMBERSHIP HAS ITS PRIVILAGES...

CA Glue & Accelerator Available

Thin CA Glue	2oz	\$4.00
Medium CA Glue	2oz	\$4.00
Thick CA Glue	2oz	\$4.00
Accelerator w/pump	2oz	\$3.00
Anchorseal	1gal	\$7.00

2" & 3" Velcro backed sandpaper discs

- 80 to 400 grit 10/pack \$2.00

Woodturning Finishes: Part 1 And Part 2:Wax Finish Roundup

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This is the first article in comprehensive series, which will explore various finishing products available for woodturnings. This series will cover traditional wood finishing products and those designed for use in other industries like antique restoration, conservation and marine boat building to name a few.

My goal is to expand your options when deciding which finish to use and to discover *new* products that perform well in a wood-turning environment. Sixty-five different types of wax products from twenty-six manufacturers in six countries, were tested for this report.

What is Wax?

Wax is one of the oldest and most versatile natural substances ever used by man. The earliest recorded use of wax was by the ancient Egyptians, who used wax (ca. 3000 BC) in the mummification process and for protective coverings.

Wax is a very complex mixture of many different types of compounds. It can be simply defined as a substance that is solid at ambient temperature and when subjected to moderate temperatures, becomes a low viscosity liquid.

Most paste/liquid waxes sold today are a blend of various kinds of waxes with some type of solvent. Essential oils, drying oils, pigments, dyes and other ingredients may also be included in commercial wax formulas. Many manufacturers are reluctant to disclose the specific ingredients in their products, which makes it difficult to make informed buying decisions.

Choosing Wax as a Finish:

Wax has been used as a wood finish for centuries. However, it has been largely replaced in modern times by finishes that are more durable. However, as a woodturning finish wax remains quite popular and is frequently used as a topcoat over other finishes.

The damaging effects from ultraviolet rays, air pollution, moisture, acids, dirt and ordinary wear and tear combine to degrade *any* surface finish. While it is true that waxes are not as durable as some types of finishes, they do provide protection from dust, dirt, mold, scratches, and occasional moisture.

Microcrystalline and Macrocrystalline - Paraffin waxes in particular, are *highly* resistant to moisture. Microcrystalline waxes are also *highly* resistant to acids, alcohol and fingerprints.

Certain waxes also provide excellent protection against the damaging effects of ultraviolet radiation, through the use of ultraviolet inhibitors. These inhibitors help prevent fading and associated colour loss in timber by effectively blocking ultraviolet radiation.

When deciding which type of finish to use on your turnings, several factors should be considered. Is the piece functional or artistic? Will the surface be subjected to significant handling or wear, like mixing bowls or writing pens? Will the surface be exposed to frequent liquids, food acids or alcohol? What gloss level is desired, flat, satin, semigloss or brilliant gloss?

Obviously, artistic items that are handled infrequently offer more finishing options than functional or daily use items. However, no single finish is right for every type of turning or every species of timber.

Types of Wax:

There are many different types of waxes. However, for simplicity they can de subdivided into these relevant groups: Insect: (Beeswax and Shellac Wax), Vegetable: (Carnauba, Candelilla, Ouricury and Japan), Mineral Waxes: (Montan, Ozokerite, Ceresine), Petroleum: (Macrocrystalline - Paraffins and Microcrystalline) and Synthetic Waxes: (Polyethylene).

Waxes used in furniture polishes may include, but are not limited to Beeswax, Carnauba, Candelilla, Montan, Macrocrystalline - Paraffins, Microcrystalline and Polyethylene. Frequently, these waxes are blended to provide a finish with certain performance and durability characteristics.

Beeswax is a glandular secretion from young worker honeybees and is used to build their honeycomb structures. The wax is harvested by removing the honey through centrifuging and melting the remaining comb. The melted wax is then filtered and cast into moulds. Contaminants such as pollen, gums and resins add various colours to the wax, which can range from yellow to brown.

Beeswax is a medium hard wax with a penetration of 20 dmm at 25 degrees Centigrade and 76 dmm at 43.3 degrees Centigrade (ASTM D1321)*. It is slightly tacky and has a melting point of approximately 64 degrees Centigrade. Used by itself, it produces a pleasant satin finish. It is frequently used as a base ingredient in many traditional wax polishes.

* The standard test used in industry to measure the hardness of a wax is called a "Penetration

" (ASTM D1321). This test measures the depth (in tenths of a millimetre) that a specially configured and weighted needle will penetrate the surface of the wax, at specific temperatures. Low penetration numbers indicate very hard waxes.

Carnauba Wax is obtained from the outer waxy coating of palm fronds from the "Copernicia cerifera", the Brazilian Carnauba Palm. The fronds are collected twice a year in September and December. The wax is extracted by separating the wax from the frond with mechanical beaters.

A maximum of twenty leaves can be collected during each of the two yearly cutting seasons. On average, these twenty leaves will produce about 1kg of Carnauba wax. The colour of the wax is determined by the age of the leaves when harvested and ranges from pale yellow (new, unopened leaves) to greenish brown (older leaves exposed to sun and weather). The pale yellow wax is the highest grade of Carnauba available.

Carnauba wax is the hardest natural vegetable wax, with a penetration of only 2 dmm at 25 degrees Centigrade and only 3 dmm at 43.3 degrees Centigrade. It is brittle and non-tacky with a melting point of approximately 84 degrees Centigrade. This wax produces a very high gloss and is frequently used to increase the melting point, gloss level, durability and lubricity of other waxes.

Candelilla Wax is a natural vegetable wax found on the outer coating of the Candelilla shrubs "Euphorbia Cerifera", "Euphorbia Antisyphilitica" and "Pedilanthus Pavonis." These shrubs grow primarily in the Coahuila and Chihuahuan deserts along the United States - Mexico border. The wax is extracted in the field by heating the plants in water and adding sulphuric acid. The floating wax is then skimmed and filtered.

The colour of the wax ranges from yellow to tan and is slightly tacky. It is softer than Carnauba wax, with a penetration of 3 dmm at 25 degrees Centigrade and a melting point of 70 degrees Centigrade. It is sometimes used as a substitute for Carnauba wax, due to its high gloss and similar hardness characteristics.

Ouricury Wax is obtained from the fronds of the "Syagros coronata", the Brazilian Feather Palm. It is very similar to Carnauba wax in gloss and hardness, but darker in colour. However, the wax is significantly more difficult to extract than Carnauba and requires mechanical scraping of the fronds to release the wax. Ouricury wax has a melting point of 82.5 degrees Centigrade and is sometimes used as a replacement for Carnauba, when a darker coloured wax is desired.

Crude Montan Wax is a naturally occurring vegetable wax extracted by solvents from lignite coal deposits and peat. Refined Montan Wax has undergone additional processing to remove any resins and asphalt. This hard vegetable wax has a melting point of 79 to 90 degrees Centigrade. The colour ranges from dark brown to light yellow. Montan wax imparts a high

gloss and increases water repellence and scuff resistance.

Macrocrystalline Wax (Paraffin Wax) is a petroleum wax made from deoiled slack wax, which is derived by dewaxing base distillate lube oil streams of predominantly straight chain alkanes. Paraffin wax is brittle and has a low melting point between 46 and 71 degrees Centigrade. Paraffin waxes impart high resistance to moisture. Due to their low cost, paraffins are frequently added to other wax blends.

Microcrystalline Wax is a petroleum wax containing branched and cyclic saturated hydrocarbons, as well as normal alkanes from deoiled residual bright stock lube oil streams. Microcrystalline waxes have a crystalline structure much smaller than totally natural waxes and have a very high resistance to moisture, alcohol, acids and fingerprints.

Microcrystalline waxes are obtained from the residual fraction of crude oil distillation (Petrolatum) or from crude oil tank bottoms. Hard grade Microcrystalline wax (from crude oil tank bottoms) has a penetration of less than 11 dmm at 25 degrees Centigrade and a melting point of approximately 60 to 93 degrees Centigrade. Plastic grades of Microcrystalline wax (from Petrolatums) have penetrations greater than 11 dmm at 25 degrees Centigrade.

Polyethylene Wax is a synthetic wax made from selective high or low-pressure catalytic polymerisation of ethylene feed-stocks, which produces waxes with various melt points, hardness and densities. (Ethylene is produced from natural gas or by cracking petroleum naphtha). High-density polyethylene waxes melt between 85 and 141 degrees Centigrade. Low-density polyethylene waxes melt between 30 and 141 degrees Centigrade.

Polyethylene wax penetration test results vary depending on the type of wax, between 7 and 12 dmm at 25 degrees Centigrade. Polyethylene waxes increase abrasion resistance and help to provide a non-sticky wax surface.

Application Methods - Traditional and High Speed:

Traditionally, paste and liquid waxes are applied to turnings with a soft cloth, natural bristle brush or rubber while the piece is stationary. After the solvent in the wax has sufficiently evaporated, it is buffed with a soft cloth, brush or a buffing wheel/pad to develop the lustre. Most waxes typically require two applications for best results.

High-speed wax application methods include spraying liquid waxes onto larger turnings and the application of solid wax onto high-speed buffing wheels, which transfers the wax to the item by friction. Handheld friction stick waxes are applied to the surface, whilst the piece is rotating at a relatively high speed. A small amount of wax is melted onto the surface by friction and is immediately buffed with moderate pressure to produce the lustre.

Special Purpose Waxes - Conservation, Liming and Patinating:

Conservation or archival quality waxes are the preferred choice of many museums and those who restore artifacts and fine art pieces. Microcrystalline waxes are frequently used because they are pH neutral, will not attract atmospheric acids and will not discolour even white materials.

Other important characteristics include high resistance to fingerprints, water, acids and alcohol as well as being fully reversible without damage to the original surface. Conservation or archival quality waxes are also available with specially prepared pH neutral blends of Beeswax, Microcrystalline and Carnauba wax.

Special purpose waxes include those that contain various dyes, pigments, mica powders, metal powders or other ingredients to enhance the grain. Coloured waxes can highlight the grain when darker/contrasting colours are used over lighter timbers. Liming and Patinating waxes can produce dramatic special effects on certain coarse grain timbers like Ash and Oak.

Liming waxes create a white "pickled" finish because part of the wax remains in the pores of the timber after the excess is removed. This limed effect is particularly effective when used over dyed timbers, resulting in a very provocative finish. Patinating waxes create jet-black highlights in the pores and are typically used on coarse-grained, light coloured timbers. However, patinating waxes can also be used with excellent results on timbers like Walnut.

Testing Overview:

Testing was conducted in two stages. In stage one, the products were applied to 35mm dowels approximately 250mm long. The surface of the dowels was sanded to metric 600 grit. A final sanding with the grain was performed to eliminate any residual cross grain scratches. Sanding dust was cleaned from the pores with a high-pressure air blast. A tack rag was then wiped across the dowel to insure a clean application surface.

One-half of the dowel length was sealed with a cellulose sanding sealer. This was friction dried and cut back with #0000 wire wool and buffed with a clean safety cloth before application of the wax. The balance of the dowel was left totally bare after being burnished with #0000 wire wool. This was done to compare the gloss levels achieved between sealed and non-sealed portions of the dowel. In almost every instance, the portion of the dowel sealed with cellulose sanding sealer produced a *significantly* greater lustre than the non-sealed portion.

Timbers used in the dowel test included **White Ash** (Fraxinus americana), **Honey Mesquite** (Prosopis glandulosa) and **Black Walnut** (Juglans nigra). Products were applied according to manufacturer's instructions. A minimum of two coats was applied to each side of the dowel. The wax was allowed to air dry and was buffed between coats where applicable.

In the second stage of testing, various turning projects were finished including small bowls, weed pots, bookmarks, bottle stoppers and other small gift items.

Results of Testing:

Test results are listed alphabetically, by manufacturer/stockist name. Rankings are based on author's opinion of overall performance in a production environment, as well as the visual and tactile quality of finish.

- 5*Exceptional
- 4*Superior
- 3*Excellent
- 2*Very Good
- 1*Good

(Please refer to manufacturers data or MSDS sheets for a complete ingredient listing, if available. Drying times shown will vary by amount of application, ambient temperature, airflow and relative humidity).

Liquids and Semi-Liquids:

***** Arbortech PTY Ltd. - Arboroil: This is a superb new fast drying oil and wax finish that contains ultraviolet inhibitors, modified polymerised resins, urethane resin and a special blend of highly refined semi-synthetic waxes. The oil penetrates deep into the timber and produces a finish similar to Danish oil. The wax quickly migrates to the surface of the timber after application. Buffing the wax produces a high gloss finish.

A built up finish can be achieved by using a wet-on-wet application method. This fast drying finish polymerises in approximately twelve hours. Drying time to buff: 5-10 minutes. Contains: White Spirit. No Silicone, Linseed oil or Gum Turpentine. Tested colours: Jacobean, Red Mahogany, Light Brown, and Straw. (Please note: The clear finish is available for purchase. The coloured finishes and those with ultraviolet inhibitors will be available for purchase very soon. Contact Arbortech for details and availability).

*** Eco Design Co. - Bioshield Floor Wax Impregnation #30: This is a blend of Linseed oil, Tung oil, Carnauba wax, Orange peel oil and other essential oils and resins. This wax imparts a light honey colour to the timber and produces a subtle satin finish. Drying time to buff: 2-4 hours. Contains: Isoaliphatics*. Tested colour: Amber-Honey * (Isoaliphates are isomeric aliphatic hydrocarbon solvents minimally processed from natural gas).

** General Finishes - Antique Wax: This is a water based one step wax and stain finish that produces a soft satin finish.

Drying time between coats: 15-30 minutes. A minimum of three coats is recommended. Five coats were applied during dowel testing. Tested colour: Scrub Pine. Because of the water base of this product, the grain may be raised upon application.

**** General Finishes - Satin Wax: This is a special blend of waxes that produces an exceptional satin finish. This product works very well with high-speed application methods. Drying time to buff: 10 minutes. Contains: Petroleum Distillate.

Tested colour: Clear

- **** H. F. Staples & Co. Liquid "Bowling Alley" Wood Wax: This is a blend of Carnauba wax and other fine waxes. It produces a brilliant high gloss finish. This wax can be sprayed with excellent results. Drying time to buff: 10-15 minutes. Contains Petroleum Distillate. No silicone. Tested colour: Crystal Clear
- **** HUT Products for Wood Crystal Coat: This is a blend of natural waxes and shellac that is applied as a liquid friction polish. It produces a durable high gloss finish very quickly and easily. Drying time to buff: Immediately after application. Contains: Alcohol, Petroleum Distillates. Tested colour: Natural
- *** ilovewood.com Moses T's St. John's Wax: This is a light Beeswax and oil finish that produces a soft satin finish. The oils enhance the wood grain and the wax provides an additional layer of protection. Drying time to buff: 10 minutes. Contains: Turpentine. Tested Colour: Natural
- **** Livos Phytochemistry Bivos Oil Wax #375: This is a pesticide free cold pressed PFCP Linseed oil, Linseed stand oil, Orange peel oil, Beeswax, Microwax, and Carnauba wax blend with other oils and resins. It produces a soft satin finish. Drying time to buff: Depends on application method, up to one hour. Contains: Isoaliphate. Tested colour: Natural
- *** Livos Phytochemistry Bodios Hydrowax Stain #340:
 This is a water-based Beeswax and PFCP Linseed oil, Linseed stand oil, Orange peel oil and shellac blend with natural resins that produces a soft satin finish. Drying time to buff: Varies, up to 60 minutes. Because of the water base of this product, the grain may be raised upon application. Contains Isoaliphate.

 Tested colour: Colourless
- ***** Livos Phytochemistry Glevio Liquid Beeswax #315:
 This is a superb Beeswax, Microwax and Carnauba wax blend with PFCP Linseed oil, Orange peel oil, and other oils that produces an exceptional satin finish. Drying time to buff: 2-4 hours. This wax can be sprayed with excellent results. Contains Isoaliphate. Tested colour: Natural
- ***** u Beaut Polishes Shellawax (Liquid): This is a superb fusion mixture of white Shellac and various waxes, including Carnauba wax and Beeswax. It is one of the best friction finishes I have ever used on the lathe. It can be applied in seconds and produces a brilliant and durable high gloss finish. For application to larger turnings, a small airbrush (with larger glass reservoir) may be used with great success. Drying time to buff: Immediately after application. Contains: Ethyl alcohol and Hydrocarbon solutions. Tested colour: Clear

**** Williamsville Products - Williamsville Wax: This is a blend of Beeswax and lemon oil, with other natural oils that produces a wonderful satin finish. Drying time to buff: 10-15 minutes. No silicone, detergents, solvents, turpentine or other flammable ingredients. Tested colour: Natural

Paste and Semi-Solids

***** Arbortech PTY Ltd.- *Arborwax Polish:* This is a superb *new* conservation quality blend of highly refined semisynthetic waxes. This high melting temperature wax blend is highly resistant to moisture, fingerprints, alcohol and acids. It is also fully reversible with White Spirit.

It produces a hard, yet flexible clear gloss finish (no white residue), that is pH neutral. Drying time to buff: Immediately after application. No silicone, oil or fragrances. Contains White Spirit. Tested colours: Clear, Jacobean, Walnut, Burnishing. (Please note: The Clear polish is available for purchase. The coloured waxes and waxes with ultraviolet inhibitors will be available for purchase very soon. Contact Arbortech for details and availability).

- ***** Clapham's Beeswax Products Ltd. Clapham's Beeswax Polish: This is a superb blend of Beeswax, Microcrystal-line wax, Carnauba wax and oil of Lavender that produces a splendid satin finish. It is exceptionally easy to buff and dries very quickly. Drying time to buff: 3-5 minutes. Tested colour: Clear
- ***** Clapham's Beeswax Products Ltd. Clapham's Salad Bowl Finish: This is a superb edible Beeswax and mineral oil finish for salad bowls, fruit bowls, cutting boards etc. It can be applied and used immediately, or left to dry overnight and buffed to a satin finish. Drying time to buff will vary with application method. This wax provides a food-safe finish that is easily renewed and offers greater lustre than traditional mineral oil finishes. Tested colour: Clear
- ***** Cutlery Specialties Renaissance Wax: This is a superb conservation grade of Microcrystalline wax which produces a semi-gloss finish that is very resistant to moisture, alcohol, acids, and fingerprints. It is fully reversible with White Spirit, producing a hard, yet flexible crystal clear gloss finish with a neutral pH. Drying time to buff: Immediately after application. Contains: White Spirit. Tested colour: Clear. (This wax is also excellent to use on polished brass or gold components such as letter openers, compacts, bookmarks and pen components).
- *** C. W. Wastnage Ltd. *Natural Creamy Beeswax:* This is a Beeswax and Linseed oil blend that produces a soft semi-gloss finish. Drying time to buff: Immediately after application. Contains: Turpentine. Tested colours: Clear, Dark

- **** C. W. Wastnage Ltd. *Flag Classic Wax:* This paste wax dries quickly and produces a very high gloss finish. Drying time to buff: 3-5 minutes. Tested colours: Clear, Antique Pine
- **** C. W. Wastnage Ltd. Colour Wax Liming: This is paste wax with a white pigment added that produces a white grained effect on wood. The wax is applied to the wood and the excess is removed with a clear wax. The result leaves white residue in the pores of the timber, which can be very dramatic on open pored or dyed timbers. Drying time to buff: Immediately after application. Tested colour: White Liming
- **** Eco Design Co. Bioshield Floor and Furniture
 Hardwax #32: This is a blend of Beeswax, Linseed oil, Orange
 peel oil, Carnauba wax, resins and other essential oils that produces a subtle satin finish. Drying time to buff: 2-4 hours. Contains: Isoaliphatics. Tested colour: Clear
- **** El Rios Co Regency Wax: This is a Microcrystalline wax that produces a superb satin finish that is moisture, alcohol and fingerprint resistant. Dries clear, with no white residue. This wax can be easily tinted with available pigments for special effects. Drying time to buff: Immediately after application. Contains: Odourless Mineral Spirit. Tested Colour: Clear
- **** Fiddes and Sons Ltd. Fiddes Supreme Wax Polish:
 This excellent paste wax dries at nearly the same rate as
 Toluene based wax polishes, but uses a more environmentally friendly solvent. It produces a gloss finish and is
 virtually odour free. Drying time to buff: 3-5 minutes. Tested
 colours: Stripped Pine, Cherry, Jacobean and Light Wax
- **** H. F. Staples & Co. Staples Crystal Clear Paste Wax: This is a high content Carnauba paste wax that produces a brilliant gloss finish. This wax works very well with high-speed application methods. Drying time to buff: 15-20 minutes. No silicone or Beeswax. Tested Colour: Clear
- **** Howard Products Citrus Shield: This is a blend of Carnauba wax and other natural waxes with Orange oil that produces a brilliant high gloss finish. Drying time to buff: 5 minutes. No Linseed oil or silicone. Tested colour: Clear
- *** Howard Products Feed-N-Wax: This is a blend of Orange oil, Beeswax and Carnauba wax that produces a soft satin finish. Drying time to buff: 20 minutes. No silicone. Contains Petroleum Distillate. Tested colour: Natural
- ***** Hummer Capital Kiwi Bois Renovating Polish: This is an ultra-smooth blend of natural waxes that produces a brilliant high gloss finish. It works exceptionally well with high-speed application methods. Drying time to

- buff: 10 minutes. Tested colour: Dark Oak. (This colour has a very dramatic effect on Walnut adding dark, provocative high-lights).
- **** John Myland Ltd. Mylands Wax: This is a blend of Beeswax, Carnauba wax and Shellac wax that produces a superb gloss finish. Drying time to buff: 10 minutes. Tested Colour: Clear
- ***** J.W. Bollom & Co. Ltd. *Briwax:* This is a blend of natural Beeswax and Carnauba wax that dries very quickly and produces a brilliant high gloss. This quick drying solvent formula works exceptionally well in a fast paced production environment. Drying time to buff: 1-2 minutes. Contains: Toluene. Tested colour: Clear (*Briwax-2000, a toluene free formula is also available*)
- **** Liberon/StarWoodfinish Supply Black Bison: This is a blend of eleven waxes that produces a high gloss finish. Drying time to buff: 20 minutes. No silicone. Tested colour: Clear
- ***** Livos Phytochemistry Bekos Furniture Wax:
 This is a superb blend of Carnauba wax and Beeswax with
 organic Orange peel oil and resins that produces a brilliant
 gloss finish. This wax provides a gloss level very close to that
 achieved with pure, solid Carnauba. Drying time to buff: 24
 hours. Contains: Ethanol. Tested colour: Natural/Clear
- *** Minwax Finishing Wax: This wax produces a hard, dry high gloss finish. Drying time to buff: 10-15 minutes. Contains: Mineral Spirits. Tested colours: Clear, Dark
- ***** Perma Inc. Permakote Bowling Alley Wax: This is a blend of Carnauba wax and other synthetic waxes that produces a brilliant gloss finish. Drying time to buff: 15-20 minutes. Contains: Stoddard solvent and Gum Turpentine.

 Tested colour: Clear
- *** ShadowWood Too Kerf's Wood Cream: This is a food grade wax for wooden bowls, fruit bowls and other wood items. It produces a soft satin finish. Drying time to buff: 3-5 minutes. Tested colour: Clear
- ** Williamsville Products Creamy Beeswax: This is a new Beeswax polish that produces a soft satin finish. Drying time to buff: Immediately after application. Tested colour: Clear

*** W. S. Jenkins and Co. Ltd. - Harrell's Traditional Wax Polish: This is a traditional blend of Beeswax and other waxes that produces a semi-gloss finish. Drying time to buff: 5 minutes. No silicone. Tested colours: Colourless, Clear Jecowax, Georgian Mahogany Jecowax and Paste Floor Wax.

***** u Beaut Polishes - Shellawax (Cream): This is a superb fusion mixture of White Shellac and other waxes, including Carnauba wax and Beeswax. It can be applied in seconds and produces a durable brilliant, high gloss finish. The magnificent finish produced by this product allows the full character of the timber to show through without masking any of the timbers visual or tactile qualities. This creamed version is particularly effective on smaller items, but can also be used on larger pieces. Drying time to buff: Immediately after application. Contains: Ethyl alcohol. Tested colour: Clear.

Burnishing Waxes, Rubbing Compounds and Sanding/ Cutting Fluids:

These products are some of the best kept finishing secrets in woodturning! Depending on the product, they can be used to achieve "glass smooth" surfaces on cured built-up finishes, or prepare raw sanded timber for finish application. Every turner should have a tin or two of these magnificent products in the workshop!

***** Arbortech PTY Ltd. - Arborwax Burnishing Wax Polish: This is an outstanding new light taupe coloured burnishing compound, suspended in a special blend of highly refined semi-synthetic waxes. It is the same wax used in Arborwax, with the addition of an ultra-fine abrasive compound. It is pH neutral, silicone free and dries clear with no white residue. The abrasive compound used is very finely graded to insure uniform particle size. This unique abrasive has round cutting edges that roll as they cut. This leaves a very smooth, scratch free surface that is superior to that produced from Pumice Tripoli or silicates. This burnishing wax can be used to smooth, polish and perfect cured finishes including Danish oils, Polyurethane, Nitro-cellulose Lacquers, French polishes and Spirit varnishes as well as many other finishes.

It can also be used to create a "mirror" finish on synthetic products like Decora and Crushed Velvet, as well as polishing many types of metals and Mineral Talc stone. Additionally, it may be used as a final finish on raw timber, with the added benefit of the pores being filled from the combination of wax, abrasive and sanding dust. (Please note: This product will be available for purchase very soon. Contact Arbortech for details and availability).

**** Clapham's Beeswax Products Ltd. - Pumice B:

This is light coloured Pumice rubbing compound with natural Beeswax and other ingredients. It can be used to smooth and perfect cured built-up finishes before application of a Rottenstone rubbing compound. Step one is to use the Pumice rubbing compound (which is more abrasive than Rottenstone) to level and smooth the finish. Step two is to use the Rottenstone rubbing compound to perfect and enhance the finish further.

**** Clapham's Beeswax Products Ltd. - Rottenstone B: This is dark grey coloured ultra-fine Rottenstone rubbing compound with natural Beeswax and other ingredients. It can be used after application of Clapham's Pumice rubbing compound, or by itself to smooth and perfect cured built-up finishes.

***** Clapham's Beeswax Products Ltd. - Cutting and Sanding Fluid: This is a new very thin liquid blend of Beeswax and other products that is used whilst cutting or sanding on the lathe. It can be sprayed onto the surface of the timber to aid in obtaining cleaner cuts, or to retard drying of the timber surface during prolonged cutting.

When turning hollow forms, it can be used to help prevent surface checking and drying, whilst hollowing the interior of the form. It may also be used as a general cutting lubricant when roughing or finish turning. If wet sanding, it can be used to lubricate the sandpaper and create a dust slurry to fill the pores of the timber.

**** u Beaut Polishes - EEE - Ultra Shine: This is a light brown coloured cut and polish wax containing Tripoli powder, a very fine abrasive. It is commonly used to remove fine sanding scratches before applying a finish such as Shellawax, or other finishes. It can also be used to smooth, polish and perfect cured finishes such as Danish oils, Polyurethane, Nitro-cellulose Lacquers, French polishes, Spirit varnishes and many other finishes. It will also produce a brilliant mirror finish on synthetic materials such as Decora and Crushed Velvet, as well as natural materials like Mineral Talc stone.

Solids, Flakes, Pellets and Powders:

***** Beall Tool Company - The Beall Wood Buffing System: This is a complete wood finish buffing system that utilises special buffing wheels to buff penetrating oil finishes to a brilliant high gloss. After the turning is sanded to at least 250 grit, the all linen wheel is charged with Tripoli to buff the surface. Then, the combination linen and flannel wheel is charged with White Diamond compound and the surface is buffed again.

Final buffing is done with the all flannel wheel, charged with pure Carnauba wax. The resulting finish looks like a multi-coat Lacquer finish, but softer and richer. This system is a very simple and easy way to apply pure Carnauba wax to your turnings. It will also create a brilliant gloss on exotic timbers like Rosewood and other timbers (without an applied oil finish) that contain natural resins and oils.

**** Clapham's Beeswax Products Ltd. - Woodturners Friction Stick: This is a light brown Beeswax based wax friction stick blended with other waxes that produces a semi-gloss finish. Final buffing is done with a soft safety cloth.

*** HUT Products for Wood - HUT Lite/HUT Dark- One Step: This is a combination of waxes and an ultra-fine abrasive that removes fine sanding scratches and gives a satin finish in one step. This Lite coloured version is formulated for lighter timbers like Maple and Beech. The Dark version is formulated for darker timbers like Mahogany, Walnut and Cocobolo. The addition of the fine abrasive helps to perfect the surface of the timber and increases the ultimate gloss level.

**** HUT Products for Wood - HUT Perfect Pen Polish (Satin Gloss): This is a light brown coloured wax-based friction stick that contains polishing compounds. It produces a water-resistant satin finish. This bar can be used without the high gloss bar if a satin finish is desired.

**** HUT Products for Wood - HUT Perfect Pen Polish (High Gloss): This is a crème coloured wax-based friction stick that contains polishing compounds. It produces a high gloss water-resistant finish. (For the highest possible gloss level, apply the satin wax first and follow with the high gloss wax).

**** Kahl & Co. Wachsraffinerie - Kahl Beeswax #8105 (Pellet): This is a pure yellow Beeswax obtained from the honeycombs of the "Apis mellifera." This wax is bleached by physical methods and is free from peroxide and impurities. To test this wax, the pellets were melted, poured into a mould and allowed to harden. The resulting bar was then cut into wedges to use as a friction wax. This wax produced a wonderful satin finish. (Available in pellet form only).

**** Kahl & Co. Wachsraffinerie - Kahl Carnauba Wax #2442 (Flake): This is a pure Carnauba wax flake produced from young palm fronds, which yield a very light coloured wax. To test this wax, the flakes were melted, poured into a mould and allowed to harden. The resulting bar was then cut into small wedges for application as a friction wax.

This wax produced a *magnificent* ultra-high gloss, the highest

I have ever been able to achieve in my studio when working with pure Carnauba wax. (Available in flake or powder forms only).

***** Kahl & Co. Wachsraffinerie - Kahl Polishing Wax #7625 (Powder): This is a finely powdered blend of pure Beeswax and Carnauba wax. To test this wax, the powder was melted, poured into a mould and allowed to harden. The resulting bar was then cut into small wedges for application as a friction wax. This wax produced a brilliant high gloss finish. (Available in powder form only).

**** Liberon/Star Woodfinish Supply - Woodturners Wax: This is a light brown Carnauba wax based friction stick that produces a high gloss finish. It is soft enough to not scratch the timber, yet it produces a hard glossy finish.

Safety Concerns:

Modern paste and liquid wax finishes are available with a variety of solvents. Some waxes may contain toxic solvents like Toluene, Xylene, or other harmful solvents. Since waxes are generally applied by hand, it is important to protect yourself when applying any wax that contains harmful solvents.

If you are in doubt about any required protection measures, contact the manufacturer, or obtain a MSDS (manufacturer's safety data sheet) sheet from your local stockist. If you are in doubt, always consider any solvent to be potentially harmful and take appropriate protection measures. In my studio, I use a two step protection protocol for applying any finish. Step one, is the use of chemical resistant gloves to apply any type of finish that is not 100% food-safe, straight from the container. Step two, is the use of a certified respirator outfitted with an appropriate vapour cartridge to handle any fumes generated during solvent evaporation.

This two-stage protection protocol offers significant protection from epidermal absorption of harmful solvents or toxic driers, as well as preventing respiratory compromises from the inhalation of toxic or harmful fumes

Summary:

Modern waxes are available in single wax or blended wax formulations in a variety of colours and lustre levels. The broad range of waxes available allow turners to customise the finish to suit any particular need. In addition to traditional wax finishes, special purpose waxes are available that offer enhanced resistance to moisture, acids, alcohol and fingerprints.

Long-term colour loss in timber is a concern with many turners, as well as woodworkers in general. The use of ultraviolet inhibitors in Arbortech's new line of conservation quality waxes, offers significant protection against colour loss in exotics and other timbers. Because this protection is available in a wax form, it is easily renewed.

The continuing advances in wood finish research represent an ongoing commitment by manufacturers to respond to the needs of woodturners and other woodworkers, with state-of-the-art finishing solutions.

The next article in this finishing series will take a comprehensive look at penetrating oil finishes, including drying, semi-drying and non-drying oils. Future articles in this series will cover lacquers, shellac, food-safe finishes, soaking finishes, homemade finishes, acrylics, water-based finishes and others.

Manufacturer/Stockist Contact Information:

Arbortech PTY Ltd. (Arboroil, Arborwax Polish, and Arborwax - Burnishing): 67 Westchester Road, Malaga, Perth Western Australia 6090. *Phone:* (08) 9249-1944 *Internet:* www: arbortech.com.au *Email:* arbortech@arbortech.com.au

C. W. Wastnage Ltd. (Natural Creamy Beeswax, Flag Classic Wax, Colour Liming Wax): 3 Burnham Business Park, Springfield Road, Burnham-On-Crouch, Essex, CMO 8TE United Kingdom *Phone:* (01621) 785173 *Email:* dwastnage@wastnage.demon.co.uk Internet:

www.wastnage.demon.co.uk

Clapham's Beeswax Products Ltd. (Beeswax Polish, Salad Bowl Finish, Pumice B, Rottenstone B, Turners Friction Stick): 324 LeFeuvre Road, Abbotsford, British Columbia Canada V4X 1A2 *Phone:* 800-667-2939 *Email:* roger@claphams.com *Internet:* www.claphams.com

Cutlery Specialties (Renaissance Wax): 22 Morris Lane, Great Neck NY, 11024 USA *Phone:*516-829-5899 *Email:* Dennis13@aol.com *Internet:* www.silversmithing.com/cutleryspecailties or www.renwax.com

El Rios Co. (Regency Wax): 515 West 29th Street, Fifth Floor, New York, New York 10011 USA *Phone:*212-643-0388 *Internet:* www.ecrios.com

Fiddes and Sons Ltd. (Fiddes Supreme Wax Polish): Florence Works, Brindley Road, Cardiff, South Glamorgan, United Kingdom, CF1 7TX *Phone:*00 44 1222 340323 *Email:* finishes@fiddes.co.uk

General Finishes (Antique Wax, Satin Finishing Wax):
P.O. Box: 51567, New Berlin, WI 53151 USA Phone: 800-783-6050 Email: rob@generalfinishes.com nternet:

www.generalfinishes.com

H. F. Staples & Co. (Staples Liquid Bowling Alley Wax, Crystal Clear Paste Wax) P.O. Box: 956, Merrimack, NH 03054 USA *Phone:*800-682-0034 *Email:* staples@hfstaples.com *Internet:* www.hfstaples.com

Howard Products (Citrus Shield, Feed-N-Wax): 560 Linne

Road, Paso Robles, CA 93446 USA *Phone:*800-266-9545 *Email:* <u>custserv@howardproducts.com</u> *Internet:* <u>www.howardproducts.com</u>

Hummer Capital (Kiwi Bois Renovating Polish): 1018 Stuyvesant Ave. Union, NJ 07083 USA (Wax manufactured in France) *Phone:* 800-552-0052 *Email:*

HUT Products for Wood (HUT Lite, HUT Dark and Perfect Pen Polish): 15361 Hooper Road, Sturgeon, MO 65284 USA *Phone:* 800-684-9371 *Email:* <u>HUTpfw@aol.com</u> *Internet:* <u>www.hutproducts.com</u>

ilovewood.com (Moses T's, St. Johns Wax): 109 Crestview Drive, Park City, Utah 84098 USA *Phone:*435-647-0004 *Email:* order@ilovewood.com *Internet:* ilovewood.com

J.W. Bollom & Co. Ltd. (Briwax): P.O. Box 78 Croydon Road, Beckenham, Kent BR3 4BL United Kingdom *Phone:* 44 (0) 208-6582299 *Email:* sales@briwax.co.uk *Internet:* www.briwax.co.uk

John Myland Ltd. (Myland's Wax): 80 Norwood High Street, London SE27 9NW United Kingdom *Phone:* 0181-670-9161 *Email*: info@mylands.co.uk *Internet:* www.mylands.co.uk

Kahl & Co. Wachsraffinerie (Carnauba 2442, Beeswax 8105, Polishing Wax 7625): Vertriebsgesellschaft mbH, Otto-Hann-StraBe 2, D-22946 Trittau Germany *Phone:* 49-4154-84 31-0 *Email:* info@kahlwax.de *Internet:* www.kahlwax.de (This is a German wax refinery that supplies raw wax products)

Liberon/Star Woodfinish Supply (Black Bison and Woodturners Wax): 18701 N. Hwy. #1, Fort Bragg, CA 95437 USA *Phone* 800-245-5611 E*mail:* liberon@liberon.com *Internet:* www.woodfinishsupply.com

Livos Phytochemistry (Bekos, Bivos, Bodios, Gleivo Waxes): 800 Falmouth Road, P.O. Box: 1740, Mashpee, MA 02649-1740 USA *Phone:* 508-477-7955 *Email:* info@livos.com *Internet:* www.livos.com

Minwax (Minwax Finishing Wax): Montvale, NJ 07645 USA *Phone:* 800-523-9299 *Email:* <u>AskMinwax@sherwin.com</u> *Internet:* <u>www.minwax.com</u>

Perma Inc (Permakote Bowling Alley Wax): 605 Springs Road, Bedford MA 01730 USA *Phone:* 978-667-5161 *Email:* perma@perma.com Internet: www.perma.com

ShadowWood Too (Kerf's Wood Cream): Made in Washington State, USA *Phone:* 360-738-3369 *Email:* shadowud@televar.com

The Beall Tool Company (The Beall Buffing System): 541 Swans Road NE, Newark Ohio 43055 USA Phone: 800-331-4718 Internet: www.bealltool.com Email: jrbeall@bealltool.com

u Beaut Polishes_(Shellawax Cream, Shellawax Liquid, EEE-Ultra Shine): P.O. Box: 46 Newstead, Victoria 3462 Australia *Phone*: 61 3 5476 2356 *Email:* ubeaut@ubeaut.com.au *Internet:* www.ubeaut.com.au

W. S. Jenkins and Co. Ltd. (Harrell's Traditional Wax Polish): Jeco Works, Tariff Road, Tottenham, London, N17 OEN United Kingdom *Phone* 0181-808-2336 *Email:* sales@wsjenkins.co.uk *Internet:* www.wsjenkins.co.uk

Williamsville Products (Williamsville Wax, Creamy Beeswax): 72 Nickerson Road, Ashland, MA 01721 USA *Phone: 800-635-1840 Email*: info@willwax.com *Internet*: www.willwax.com

In addition to the above sources, the following turning supply stockists carry several of the wax brands listed in this report.

Craft Supplies USA: 1287 E. 1120 S., Provo, UT 84606 USA *Phone:* 800-551-8876 *Email:* (available on website) *Internet:* www.woodturnerscatalog.com

Craft Supplies Ltd. UK: The Mill, Millers Dale, Nr Buxton, Derbyshire SK 17 8SN United Kingdom. *Phone:*01298 871636 or 0800-146417 Email:sales@craft-supplies.co.uk Internet: www.craft-supplies.co.uk

Steven D. Russell is a professional woodturner, demonstrator and turning teacher. His studio Eurowood Werks, is located in The Woodlands, Texas USA. He specialises in bowls, platters and hollowforms with unique surface treatments. He can be reached via Email at: benzer@flash.net



MEDIA LIBRARY

Current Video Inventory:

- * Turning Wood with Richard Raffan
- * Turning Boxes with Richard Raffan
- * Turning Projects with Richard Raffan
- * Bowl Turning with Del Stubbs
- * Skill Building Projects with Mark St. Leger
- * Sharpening Fundamentals
- * Turning Projects from Scrap with Bob Rosand
- * Natural Lipped Bowls Ken Bullock
- * Wooden Bowls on a Budget Ken Bullock
- * Rude Osolnik Dean of American Woodturners
- * David Ellsworth Tape #1
- * David Ellsworth Tape #3
- * David Ellsworth Tape T
- * Skew Chisel with Alan Lacer
- * Turning a Salt & Pepper Mill by Holtham
- * 1996 AAW Symposium Techniques
- * 1997 AAW Symposium Techniques
- * 1998 AAW Symposium Techniques Vol #2
- * 1998 AAW Symposium Techniques Vol #1

- * 1999 AAW Symposium Techniques Vol #1
- * Vessels of Illusion by Trent Bosch
- * From Tree to Table by Mike Mahoney
- * Woodturning Wizardry by David Springett
- * Woodturning A Foundation Course
- * Mike Darlow DVD set
 - -> Available on VHS tapes
- * Woodturning Projects with Nick Cook Volume #1
- * Woodturning Projects with Nick Cook Volume #2
- * Son of Skew by Alan Lacer
- * Range Rider Hat by Johannes Michaelson
- * Luke Mann Demo August 2004

Current Book Inventory:

- * Woodturning TIME/LIFE Book
- * The Fine Art of Small-Scale Woodturning
- * Fundamentals of Woodturning by Mike Darlow
- * Woodturning Methods by Mike Darlow

".lf anyone
would like to
donate any
ORIGINAL videos
(no copies),
please contact
any of the club's
officers."

CLUB EVENTS

No Club Events Scheduled

LINKS OF INTEREST

FEBRUARY MEETING AGENDA

Remember to bring in some wood for the wood swap to help support the club!

6:30pm-7:00pm

Arrive early for some social time and please remember to park across the street at the Fleet ATM parking lot.

7:00pm-7:45pm

- * Club business
- * Announcements
- * Show & tell. Bring your pieces in for discussion

7:45pm to 8:00pm

Break

8:00pm-9:00pm

Demo - Back to Basics - Tools. Part I in a series by Deitrich Kulze III

9:00pm-9:15pm

Break

9:15pm - 10:00pm

Wood Swap

MONTHLY SHOP TIPS

Do you ever cut tiny slivers off with the bandsaw, only to find that they get stuck between the blade and the throat?

When I am cutting small pieces I use a couple of sheets of fridge magnet material on the table, set so there is zero clearance between them and the blade.

I used to stick cardboard to the table, but the magnetic sheets are much more convenient. When they are not in use I slap them on the top door of the saw.

OTHER EVENTS

Woodcrafters of WOBURN

Staining & Finishing Techniques with John Holland

Mondays, April 4, 11, 18 & 25, 6pm - 9pm

Size: 10Card Scraper & Burnisher

John will teach you how to prepare a variety of woods for coloring and finishing. He will show you how to control and apply several coloring agents, and teach you the use of shellac and French polish. Finishing the finish and waxes will also be discussed.

Contact the store for details.

" Send your tips to Al Primm for publication in our Monthly Shop Tips section! "

VENDOR NEWS

Swiss Made Carving Tools Woodcraft Store

All Pfeil Swill Made carving tools are 20% off now thru Feb 23. This is the time to get that carving tool you've always wanted for carving your turnings.

A.R.T. MENTORING PROGRAM

Our Mentoring program is designed to help the novice as well as the intermediate turners in the club. Take advantage of the Mentors listed below. They've all agreed to spend a few hours with anyone to help the beginner get started or the intermediate to advance their skills. All it takes is a phone call to make an appointment.

Mike Green - Lowell, MA 978-459-8308 mgreenburl@juno.com

Frank Movitz - Marblehead, MA 781-631-4411 gwpb@attbi.com

Derrick TePaske - Belmont, MA 617-489-0169 go.den@verizon.net

Steve Reznek - Concord, MA 978-287-4821 reznek@aol.com

Jack Grube - Londonderry, NH 603-432-4060 jackgrube@aol.com

Dietrich Kulze - Billerica, MA 978-663-5241 dk3@reuse.com "All it takes is a phone call to make an appointment."



CLASSIFIEDS

Look! No Batteries Required...Ever Again! Batteryless, 110 VAC Powered Laser Pointer for those deep hollowing jobs. Plugs into any standard 110 VAC outlet. Use with deep hollowing systems such as the Jamieson, Kelton, Oneway, Pro-Forme, Dave Reeks, homemade, etc. varieties.

Price: \$25.00 each.

Get perfectly side ground edges on all your bowl gouges. Improved, easy to use gouge sharpening jigs. No matter what the sizes of your gouges, there is a sharpening jig to give you that perfectly ground edge. For use with the Wolverine or similar grinding aid. Three sizes to properly fit all gouges:

Size: Prices

 Small (up to 3/8" dia.)
 \$12.00 each

 Medium (3/8" - 5/8" dia.)
 \$12.00 each

 Large (5/8"-7/8" dia.)
 \$12.00 each

 Set of all three:
 \$30.00 (Save \$6.00)

Ultra-Thin Kerf Parting Tool. Blade is only 0.050" thin to give those wood saving and grain matching cuts. Overall length approximately 9-1/2" with comfortable handle for good control. Made from hardened High Speed Steel for a lasting edge and stiffness.

Price: \$20.00 each.







110 VAC Laser Pointer

Bowl Gouge Sharpening Jigs

Ultra-Thin Parting Tool

Please add \$5.00 Shipping and Handling to your order (no matter the number of items ordered being shipped to the same address at the same time).

To order, please make checks payable to Peter Toch and mail to:

Peter Toch 6565 Fairway View Trail Roanoke, VA 24018

For questions or further information, please contact Peter Toch at (540) 774-4152 or ptoch@adelphia.net

* NOTE: These items are also available thru <u>Mike Green</u> at our monthly meetings.

" Classified ads are free for members . Just send your ad to Al Primm."

Grizzly G1067Z Lathe For Sale

This lathe is in excellent condition and works perfectly. Headstock swivels

AND slides the entire length of the bed. Makes bowl turning easier because you don't have to lean over the bed. Spindle thread is 1"x12tpi (its an odd size but chuck inserts are still available from all the major chuck manufacturers). Includes faceplate, spur drive, live center, threaded insert for Oneway Stronghold chuck. 14" Swing, 40" between centers, 1/2hp variable speed motor, MT2 in both headstock and tailstock. No stand (the original one was too flimsy anyway). Great starter lathe. \$100 for everything! Contact Peter Teubel at (508) 662-4932 or pteubel@comcast.net.



Association of Revolutionary Turners

"GET INVOLVED"

Nova DVR Lathe Package For Sale

Nova DVR 3000 Lathe - Excellent condition and less than one year old! Digital variable speed direct drive motor (250-3500rpm) which produces 1 3/4hp. No belts, high torque at low speed. 1 1/4" x 8tpi spindle thread. This is a complete system ready to go. Load of extras!

- Face plates (4" and two 6")
- Nova 4" tool rest
- Nova 12" tool rest
- Nova Curved bowl rest
- Handwheel
- Shopmade Vacuum chuck rotary adapter
- Several shopmade vacuum drum chucks
- 3-wheel center steady
- 4-prong spur center
- 2-prong spur center
- Fixed point live tail center
- Removable point live tail center
- Oneway Stronghold chuck adapter (1 ½" x 8)

BONUS!

The following items are included to get you started:

- Heavy rock maple bench/stand (27" wide x 57" long)
- Sorby 1 ¼" roughing gouge
- Sorby 1 ¼" heavy duty radius scraper (3/8" thick!)
- Crown ½" heavy duty scraper (1/2" thick!)
- Oneway Termite tool with custom oversized cocobolo handle (includes 3 extra cutting tips)
- Woodcut Pro-Form endgrain hollowing tool (similar to the Exocet tool)

Total package: \$1700 for everything

Or

\$1400 w/o the tools & bench

Jet 1236 Lathe For Sale

Good condition. 12" swing, 36" between centers, swivel headstock, 3/4hp motor, 1" x 8 tpi spindle thread. Includes 5 tool rests of various lengths, spur drive, removable point live tail center, 4" faceplate. No stand. As a special bonus, I'll include a Oneway banjo and Oneway stainless steel tool rest (those items alone cost me \$200). \$250 for everything. Contact Peter Teubel at (508) 662-4932 or pteubel@comcast.net.

2005 MEMBERSHIP DUES

Dues for 2005 are now due. Please have cash or check ready at the meeting.

~ LEGAL STUFF ~

The Association of Revolutionary Turners (A.R.T.) was founded in 2001 to support the needs of woodturners in eastern Massachusetts. Its purpose is to provide education, information, and organization to those interested in woodturning. We meet on the 4th Thursday of every month at the Woodcraft Store in Woburn. MA. Memberships are on a calendar basis from January 1st through December 31st. Annual dues is \$20 per person.

President: Gary Bashian (978) 266-1068 garybashian@hotmail.com

Vice President: Dietrich Kulze III (508) 897-2100 dietrich@kulze.com

Treasurer: Derrick TePaske (508) 626-4999 go.den@verizon.net

Secretary: Donna Banfield (603) 537-0182 donnaturns@aol.com

Librarian: Richard Vose (978) 667-7589 rvose@netway.com

Newsletter Editor: Al Primm (978) 649-9097 firesho@comcast.net

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