

CONEJO VALLEY WOODWORKER'S ASSOCIATION

The Bladerunner

February 2000 Number 48

FEBRUARY MEETING

February 3 – Box Joints

Stephen Case-Pall and Howard Johnson

Box joints are very attractive and extremely strong because they provide a large glue surface. At the meeting Stephen and Howard will demonstrate making box joints using a table saw and a router. Stephen will also talk about making a table saw jig for the box joints. A handout on making box-joint jigs and box joints will be available at the meeting.

President's Impromptu Club Challenge

Many members attended the January meeting where John Tarpley described how to make bandsaw boxes. Others attended the Saturday session at John's shop to see how bandsaw boxes are made and to start their own. John's challenge is to bring your bandsaw box to the February meeting. John will award a kaleidoscope to the "best" one.

New Officer Installation

New CVWA board members will be installed at the end of the February meeting. A list of the new officers is in the adjacent column.

SATURDAY SHOP SESSION

February 5 – Bandsaw Box Jig

If you are interested in making a bandsaw box jig, attend the Saturday session at Howard Johnson's shop. Stephen Case-Pall and Howard Johnson will demonstrate how to make a jig and help you make your own. If you wish to make a jig be sure to bring the materials listed in the handout. Howard's address and phone number are: 225 Mariposa Dr., Newbury Park; 805-498-9316.

MARCH MEETING

March 2 - Camarillo Adult Day Care Center and CVWA – Sharon Tatelman

Our Club has been providing jig-saw cut outs for the Camarillo Adult Day Care Center. Ms. Tatelman will describe how they have benefited the clients.

WELCOME NEW MEMBERS

We were happy to welcome new members David Smith, Michael Pearson, Burt Cyr, Robert Holmquist, Jeff Browne, and guests Martin Remmen, Phil Lewis, Brauce Peretz, and Terri Carvalho. We look forward to seeing you at future meetings and club activities.

PRIZES

January Meeting:

- Martin Remmen - Taper Jig
- Stan Wolpert - Gift Certif. Mayan Hardwoods
- Donald Green - 10" saw blade
- Marlene Peters - Torpedo level

We hope that you enjoy the prizes.

NEW BOARD MEMBERS FOR 2000-2001

- | | | |
|----------------|---|-------------------|
| President | - | Stephen Case-Pall |
| V.P. | - | Gene West |
| V.P. | - | Mike DeCaprio |
| Treasurer | - | Marlene Peters |
| Secretary | - | Joe O'Rendy |
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| Director | - | Gene Strojek |
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| Director | - | Greg Charles |
| Web Master | - | Glenn Packard |
| Past President | - | John Tarpley |
| Honorary | - | Bill Brandt |

DUES ARE DUE

Remember that our dues year begins in March. Please help us by remitting your dues so we don't have to send reminder notices.

GET WELL WISHES

Bill Brandt, our Redwood shop leader and club advisor was admitted for emergency surgery the day before Christmas. The CVWA wishes him a speedy recovery. We are looking forward to seeing Bill in excellent health at our future meetings.



President's Corner

John Tarpley

This is my last column as President of the CVWA. I want to thank all the members of the Board and everyone else who has helped make this an enjoyable and successful year. I certainly plan to stay active in the club and I'm sure the new Board will find things for me to do.

Last month I conducted the program on bandsaw boxes which was followed by a bandsaw box "Saturday Shop Session" at my shop. I want to thank John Witt for bringing his bandsaw to the class so we could have two saws. Also, I want to thank Joe Shivokevich for helping instruct the class and sharing boxes he made. Since the class went so well and there seems to be interest in the club in bandsaw boxes, I'm asking everyone who made a box in class or as a result of last month's program to bring it for display and a mini-challenge at the February meeting. I'll be offering a small prize for the winning box.

Our February program will be about methods of constructing box joints. Our new President, Stephen Case-Pall and a Past President, Howard Johnson, will present the program. They plan to discuss router and table saw methods of construction so plan to attend this informative program.

In a slight change to our normal procedures we will install the new Board at the close of the February meeting. I want to be present for the installation and I will not be able to attend the March meeting. I know that Stephen and the new Board will continue the traditions of CVWA as well as add their own ideas and programs to our agenda. I look forward to their leadership. I hope that you will volunteer your help and support for the club.

DO IT CENTER-THOUSAND OAKS STORE

Don Green spoke to Don Freeland, the manager of the Thousand Oaks Do-It Center. The Store will give members of the CVWA a 10% discount on merchandise. The purchases should be brought to the service center checkout desk, and the member needs to present his membership card.

LIBRARY KIOSK IN MAY

We were invited to once again display some of our woodworking items in the Thousand Oaks

Library during May. The kiosk has three shelves, each with a height of about 22", so only small projects or photographs of larger projects can be included. Examples are pens, small boxes, small turnings, such as cups and tops, toys, and specialty items.

If you have a project that you would like to put on display, or have already signed up to display a project, contact Stephen Case-Pall at 805-491-3660.

ELECTRIC MOTORS: WHAT'S IN A LABEL PART I

Unless we are Y1.8k compatible woodworkers we work with electric motors. When time and space permit I will try to present some relevant topic on electric motors for woodworking. The purpose of this series is to provide some background so that you can decide what kind of motor to buy or use, and you can find replacements even when the manufacturer no longer stocks the same one.

For this article I tried to find when electric motors were first used for practical applications. Motors are so taken for granted, it was difficult to get a reasonable date, but I found an interesting benchmark. The lobby of the electrical engineering building at L'Universit  Polytechnique in Grenoble displays a commercial electric motor built in 1864. They claim that this is the oldest in Grenoble. So, you might need to go back to the early 1800's to completely escape electrical power in the workshop.

There are many types of electric motors and new types are still being developed, but woodworkers generally use two basic kinds. Large bench top tools have AC "asynchronous" induction motors. These motors can only operate on alternating current. Hand tools and small bench tools (and sewing machines) use universal motors. These can operate on either alternating- or direct-current. In a later note I'll describe their characteristics. This article describes the information on the labels of the AC induction motors and some of their characteristics. Hopefully it will eliminate some misconceptions about motors that some members may have.

Figure 1 shows a typical label from a motor. This label is analogous to the nutrition label on a food package. It is difficult to tell what the food product is from the label alone, just as it is difficult to determine the performance of a motor from its label. But just as the nutrition label tells you whether the food product is compatible with your diet, the motor

label will tell you whether the motor is compatible with the intended application.

A motor simply converts electrical power to mechanical power. Key to the motor are the electrical input and the mechanical output. I'll describe some of these key values that are listed and relate them to how the motor is used.



Figure 1: Typical label on an electric motor.

Electrical Input:

Voltage: This is the optimal voltage for the motor to operate. Most of the motors we use are rated at 120 volts (V). Often several voltages are designated. For example “120/240.” This means there are internal electrical connections that permit the motor to be used either of two different voltages. The electrical windings inside the motor are connected differently for either voltage. To change voltages these connections need to be changed. The motor should not be connected to a source that is significantly higher voltage. The electrical coils inside the motor can spark and damage the insulation, causing short circuits or burned out wiring. If you connect a motor to a lower voltage it might run, but it will develop less power and run less efficiently. If the voltage is too low, it will not run.

Frequency: Typically American motors run at 60 Hz (Hertz). Most European motors operate at 50 Hz. If you run a motor rated for 60 Hz at 50 Hz it will run more slowly and develop less power.

Current: The current, in units of amperes (A), listed on the motor is the current that the motor uses at its rated power output. Smaller loads require less current. This will be discussed with the horsepower rating.

Phase: this represents the number of AC power lines to the motor. Single and three-phase are most common. A single-phase line has two leads: high and neutral or common. A three-phase line typically has four lines, three are “high” and one is neutral. Usually there is an additional “ground” line for safety. This line is designated by green paint or insulation.

Power: The electrical power of a motor is rated in watts (W). The electrical power of a single-phase motor is simply the current times the voltage. For example a 120 V motor that operates at 6 A is 720 Watts. When a three-phase motor is rated, the rating is for each phase. Because of the way the motor is connected the total electrical power is 1.732 times the average current times the average voltage. For a 120 V, 6 A 3-phase motor, the average total power is 1247 W. In woodworking the load on the motor varies but is rarely at its maximum. Therefore the motor will draw less than the rated current except at start-up. Start-up is important and will also be discussed in a later article.

Power Factor of PF: The power factor, in percent, is the ratio of the power used by the motor to the apparent power supplied by the power line. This number is the value at the maximum power, and varies with the load on the motor. Because the motor has an “inductance” the electrical current lags behind the input voltage, the actual power used by the motor is smaller than the measured current times voltage. The voltage source needs to supply more current than the motor’s rating if the motor is to be used near its maximum power. This can be calculated by multiplying the motor current by 100/PF.

Mechanical Output:

Horsepower: This is the maximum mechanical power generated by the motor at its rated speed. We will discuss “torque” and “horsepower” in a later article. In woodworking we usually don’t know what horsepower we need. If the tool stalls or runs too slowly we buy a larger motor. If a motor stops working, we buy a replacement.

Speed or Full-Load Speed: This is the listed operating speed at full load. Because the motor is based on magnetic induction the armature must rotate at more slowly than the magnetic field in the motor changes. This difference is called slip. For example, the magnetic field in a 60Hz two-pole

motor changes 60 seconds x 60 changes per second or 3600 times per minute. Typically such a motor rotates at 3450 rpm. The difference is the “slip” of the motor. Four pole motors operate at about 1725 rather than 1800 rpm.

Efficiency: The efficiency is required only for high efficiency motors. However, this is important because you can estimate how much current you need for a motor. The electrical power in watts can be converted to horsepower by dividing by 746. For example, my Sears 1½ hp table saw motor is rated at 120 V and 13 A. This is 1560 W or 2.09 HP of electrical power. The efficiency is therefore $1.5/2.09 \times 100\%$ or 72%. Smaller motors are less efficient, and larger motors are generally more efficient. To replace it with a 2hp motor would require about 17 A.

Future articles will cover different types of motors, differences between performance of AC and universal motors, and how to use and maintain them, how to select a motor, and motor safety, reliability, and construction.

THE PSYCHOLOGY OF WOODWORKING

(Show this article to your spouse who wonders why you disappear into your shop for hours at a time!)

Deena Case-Pall, Ph.D.

I’m a psychologist with a woodworking husband. He disappears for hours, sometimes days at a time, into his shop, and creates sawdust and wonderful things. I got to thinking about why I enjoy his woodworking so much. I also thought that you might enjoy my musings, and also pass them along to your family members.

Woodworking is an immensely satisfying pursuit. The satisfactions come on many levels; the joy of working with one’s hands, the thrill of creativity, the fun of choosing new tools, the smugness of repairing an otherwise useless article that would have been discarded, the pride of seeing one’s own work turn out well and watching others enjoy it, too. But woodworking can be even more than all this – I believe that it can help to keep you physically and mentally healthy.

Stress is a concept with which we are all too familiar. Stress is worst when it is unpredictable, uncontrollable, and repeated. From daily hassles to medium-level disturbances to major crises, there is far too much of it in our daily lives. We have all

learned that we need to find good ways of coping with stress in order to survive.

One of the primary ways of coping with stress is to find a way to interrupt both the mental and physical pressures of daily life by going into a completely different mode. Woodworking is one way to do this.

For most of us, our work lives involve dealing with paper, computers, rules and policies and not-always-pleasant people. The rushed pace and pressures add to the stress. Woodworking, then, provides a complete change, with its here-and-now, tangible practicalities and pleasures. Woodworking sets its own pace: for example, you cannot rush the drying of a good finish. This kind of change, in itself, can be stress-relieving.

The psychologist Mihaly Csikszentmihalyi (not to be confused with Sandor Nagyszalanczy) has defined the concept of “flow”, a focused state of mind where one becomes so totally absorbed in an activity that one loses the sense of time and has feelings of great satisfaction. Woodworking is a great way to achieve flow, “Good heavens! It’s dinnertime already?”

Woodworking is a sensual activity: the smooth feel of the wood under the woodworker’s approving hand, the glow of the finish, the burl or quarter-sawn oak figure that leaps out of the wood, the heady perfume of some woods, the sound of a smooth-running power tool, the feel of a plane taking thousandths of an inch off a piece of wood. These sensory experiences can help interrupt any worries, and add to the pleasure of the activity.

Not only is the activity pleasurable, it also provides mental challenge: How can I best use that beautifully-figured piece of veneer? How can I restore or repair that promising but presently useless item? How can I enlarge the dimensions on that drawing so that box will hold my wife’s jewelry? How can I make room in my crowded shop (and budget!) for that new tool? There are always new techniques to learn and old ones to improve. Woodworking can stretch your mind. This is always a good thing, especially for the retired woodworker, who most needs the mental challenge and structure that woodworking provides.

Woodworking provides a certain degree of physical exercise, too; after all, one is handling bulky objects and moving them and oneself around the

shop and storage area. It certainly burns more calories than sitting in front of the television or computer screen!

So, the next time you emerge from your workshop, covered with wood chips and glue stains, smile: you've just improved the quality of your life! Enjoy!

LETTER

GLUE STICK OR SPRAY ADHESIVE

Blade runner:

About two months ago I agreed to make some signs for the Thousand Oaks Botanical Gardens. I ordered a sign lettering guide from Trendlines. The guide has about 90 letters and numbers in two different sizes. A few of the letters had duplicates, but unfortunately neither the duplicates nor the quantity that I needed. The old story says, "copy on a piece of paper and use 3M spray adhesive to stick the paper to a piece of hardboard. Then cut it out on a scroll saw. I've seen that described many times. What they don't tell you is what a mess that 3M glue makes and that you can spray it on paper but somehow it gets on your hands, clothes, and anything else including the bench top that you are trying to keep free of glue.

A while ago I was discussing this problem with Bill Watkins. He told me that he noticed that people in his office used "glue stick" when they wanted to stick paper together than pull it apart. Glue stick is made by a number of manufacturers and is available at office supply stores and stationery counters in drug and discount stores. The glue stick that I purchased is made by Avery Label Company. It is a solid like a stick deodorant and comes in a plastic tube. It is purple in color.

I traced the letter that I wanted to duplicate on a piece of paper. I rubbed the glue stick all over the back of the paper. After a few seconds the purple color disappeared. I struck the paper on a piece of tempered hardboard. I used a J roller to press the

paper down on the hardboard, but I think anything would do. I took this little assembly to the drill press to drill a hole so I could cut out the letter with my scroll saw. I said to myself "Self, as soon as that spinning drill bit hits that piece of paper, you are going to be left with confetti." To my amazement that did not happen. The paper stayed in place on the hardboard. On the scroll saw, the same thing, the paper stayed in place. When I finished on the scrollsaw, I pulled the paper off the hardboard as easily as you can pull a Post-It note off a page in a book. It also turns out that the glue can be easily washed off with a little warm water.

I am not implying that the glue stick will replace double-sided carpet tape, but I do think it can be a substitute for 3M Spray Adhesive in this case. I have not tried it in any other application.

Bill Waters.

SEND US YOUR NEWSLETTER INPUTS!

Vendors that offer discounts to club members

Special topics, questions, or local events

Items of interest to club members

Items for sale, items wanted, letters and "Tips"

Inputs for the newsletter are needed by the 15th of the month before the meeting.

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