

**Meeting Notice:**

**Feb: Tuesday the 18h at 5:00 PM**

**Location: 131 Ash Conf Rm**

**Subject: Election of Officers**

**Project: Giveaways/New Tools**

# Knot News

COLLINS WOODWORKERS GUILD NEWSLETTER

## This month's [newsletter] subject:

## Laser Engraving

I have endeavored to venture into a new tool for my woodworking skills—laser engraving. I was inspired by my daughter's upcoming wedding, she wishes for me to make a sign, and initially wanted the text painted. I thought about it a long time, and considered the lack of steadiness in my hand. I'm a computer scientist, I should be able to send this piece of wood through a printer somehow, right? I began the research as all good research goes—Google!

While there were many results, it came down to three options:

- 1) a 3D CNC carving/router system, e.g. X-Carve (costs from \$1800—\$45000)
- 2) A contained laser marking system—CO<sub>2</sub>, or crystal. (costs from \$3200—\$120000)
- 3) An LED system (costs from \$129—??; note could even do it from 'scratch' with computer parts...)

From top to bottom, there are advantages and disadvantages. Different materials capable of being used, and different programs capable of developing the images. My criteria included: simple etching (no requirement to

### Laser Engraving Machine Marking Printer DIY



carve), utilizing various fonts, printing an image/picture, cutting paper/thin plastic film, work on a footprint of 24"x18", and be able to develop the image using a program like

CorelDRAW, Adobe Illustrator, or even GIMP. Since I didn't want to extend myself on cost, I chose to invest in option 3—I went to EBAY and bought my first DIY kit for \$159.

It arrived, and I didn't realize it wouldn't come with any instructions—NONE! Back to Google, but to little avail as the specific DIY kit I bought didn't have any instructions. I used similar kits, and was able to assemble my kit. It included an Arduino controller card, and a 500mW diode (which did not include a control switch to allow me to focus the beam). It was simple enough to get set up (with the aid of 3 different YouTube videos). I plugged it in and got power. When I plugged it into my computer, however, I didn't get any results. Back to Google—I had to download the GRBL (This is the most universal open-source code used for all open-source CNC machines). The most useful site is the Wiki GitHub GRBL (pronounced gerbil, or garbble, or gurble—or however you want to!). When Simen Svale Skogs-

rud first sat down and wrote Grbl in 2009, he named it after a bigger version of a computer mouse. It's small, useful, and doesn't do much other than what its designed to do.

- 1) assembling the kit (without instructions, relying on YouTube videos, and what "looked correct" according to the picture!)
- 2) Loading the Arduino controller board with the GRBL command data
- 3) Learning / generating G-Code to send to the laser engraving machine (freeware programs)
- 4) Converting the desired images to the G-Code

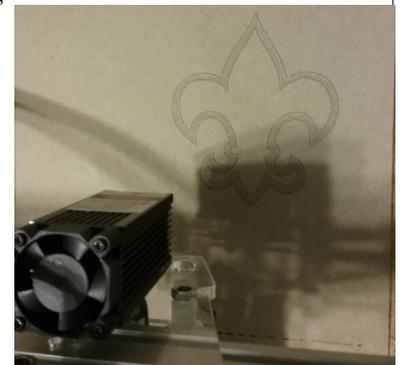
I discovered many obstacles along the way—cheap = cheap! I kept getting a high-pitched "on" sound from the Y-axis motor when I plugged the USB cable into my computer (which activated the controller card). As I have no "test equipment" to check circuitry or pin-activity. I ordered a new Arduino controller board (\$7), and Y-motor (\$14) since I determined it was one of these two items—I swapped out the Nano ATmega328P chip/board on the circuit controller, which fixed my initial problems.

I'm still trying to figure out how to secure position 0,0, and the movement codes.

I was able to now cut a square from a piece of paper. I then moved up to engraving a fleur-de-lis on chipboard. I realized I needed a grid, and a "formal surface". I built a baseboard from Baltic Birch to attach the feet of the laser frame, and a smaller baseboard to place inside the frame to get the laser's beam to be within the 3" ideal field of view for the diode lens.

When I moved up to trying to engrave on wood, slowing the mechanism down, and doing a complete fill (<.5mm linear movement), the program indicated it would take 17 days to engrave my 17 x 23 image!!!

I have since ordered a 3W replacement kit. Let's see where this takes me...



**Last month:**

**New Mellaray Abby**

Last month's visitation to the New Mellaray Abbey was a lot of fun, and very educational. Almost made us want to join the Monastery! We prayed with the monks, and had instruction in



the mission of the New Mellaray Monastery. Then our guide took us on a tour of the history of the Monastery, and the display of the caskets and urns that are made on sight. It was fascinating how only 4 of the monks actually participate in the



building. Every day there are prayers—there's actually 7 prayer sessions in the chapel every day—over all the

caskets, not each one individually, that would take a full-time monk to do. The shop was very clean and had some very impressive power tools—that molding machine was quite large. Our guide was Tim Macgraw—his sister was the Captain Janeway on Star Trek—Voyager! He did look familiar, eh?



**This month:**

**Officer Elections**

It's that time of year again. Time for registering for another year with the Guild. We certainly appreciate the leadership that keeps us going, and provides monthly programming and demonstrations. It would be good for the club to get some new leadership. Please consider joining the staff, even as a member of one of the staff's group to help us out.



CWG meeting.

You are all welcome to come to a planning meeting, normally held the following Tuesday after the

**Next Month Meeting**

**Your Active Project**

Project / Subject = What project are you working on? share with the group.  
- bring your project, or a piece of it, or pictures and

**Upcoming projects:**

**October:** What project are you working on?

**November:** **Jigs:** latest invention, most reliable, *don't use this ever*, unique

**December:** *toy build distribution*

**January:** **Box Joints/Fixtures**

**February:** **Handles/Knobs**

**March:** **Inlays**

**April:** **Patio Project**

We would really LOVE to come see your shop. Would you be willing to open your [garage] door some time?

**FY19 SUPPLEMENTAL ACTIVITY REGISTRATION FORM**  
For participants in the Collins Woodworkers Guild

Name: \_\_\_\_\_

Work Phone: \_\_\_\_\_ Mail Drop: \_\_\_\_\_

Preferred Email Address: \_\_\_\_\_

Preferred Phone: \_\_\_\_\_

Home Address: \_\_\_\_\_

Activity: Collins Woodworkers Guild

Activity Coordinator: Jerry Roland

Participation fee: \$15.00

Cash/Check, Check # \_\_\_\_\_ made payable to **Collins Woodworkers Guild**

(circle one)

Status: \_\_\_\_\_

E= employee, S = spouse, R = retiree, C = contract, O = Other\*\* (non-subsidized)

Division: \_\_\_\_\_

EIT, CS, GS, IMS, ISS

**Release:**

I understand that the above named activity is sponsored for recreational purposes only. I also understand the nature of the activity including its possible risks and voluntarily register for participation.

I hereby release Rockwell Collins, Inc. from any claims, demands or damages because of injury or death, other than customary and reasonable medical expenses under the existing company medical plan, resulting in any way from participation in this activity.

\_\_\_\_\_  
Signature Date

\*\*Subsidized participants are defined as current employees, retired employees, Contract Employees, and spouses of the above. Inclusion of non-subsidized participants will be subject to each individual program's concurrence.

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**FOR OFFICE USE ONLY**

Office Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Subsidized Participant: @ \$ \_\_\_\_\_ Non-subsidized Participant @ \$ \_\_\_\_\_

### Planning Meeting Notes

Election of Officers: President: TBD - Joel will send out an e-mail calling for nominees, Paul G to add to Newsletter (and get one published for Sept); Vice President: Ron K; Treasurer/Secretary: Jerry R  
 Other offices to fill by volunteers, or appointment:  
 Librarian (Ron Kositzky - would like guidance)  
 Membership (Jerry will continue, nice to have a co-chair?)  
 Web Master (Jerry will continue)  
 Newsletter Editor (note: Ray expressed interest)  
 Planning Committee (Perry Coffman, Wayne Hanson, Paul Heyd)  
 Food for celebrating another new fiscal year  
 Suggested that we have Mexican - Casa Los Glorias  
 Budget spent last year was \$170, this year will be \$265 (10.63/plate, min 25); This will be a Taco bar - all supplies will be catered. Joel will coordinate this effort.

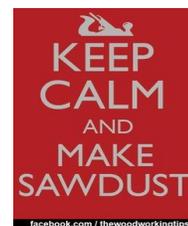
#### Door Prizes:

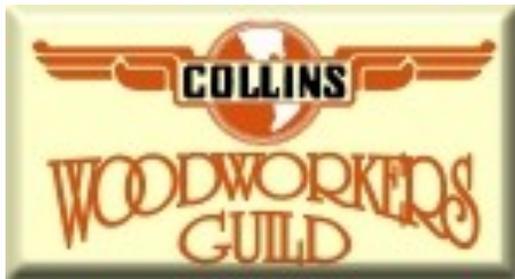
Budget last year was approx 230 at Amana for wood, and 150 for tools; Recommended to spend \$500, split between the tools and wood. Joel, Ray will contact Amana (maybe Langhoffs) about wood, pick out, and pick up. Wayne, Paul H and Ron will go to Harbor Freight & Acme to pick out tools - suggestion on sandpaper, that will be the call of Wayne, Paul H and Ron when picking out tools.  
 The Registration form for 2019 is on the CWG web site. Jerry indicated one person had already turned in the form/payment  
 Payment would remain \$15  
 Paul G will add this page to the Newsletter  
 Paul G indicated he can create a Form-based PDF.  
 Paul H asked if there was a better method to send out communications to the membership about the meetings. Jerry & Paul G responded it was

### Upcoming projects:

**June:** Box Joints/Fixtures  
**July:** Handles/Knobs  
**August:** Inlays  
**September:** Scrap Wood Project  
**October:** Patio Project  
**November:**

We would really LOVE to come see your shop. Would you be willing to open your [garage] door some time?





The Collins Woodworkers Guild is a club dedicated to preserving the age old practice of creation using the medium of wood. CWG members gather monthly to share tips, ideas and experience to further the knowledge of all members. From creating heirlooms for their families to Toys-For-Tots, members help each other get the most out of their woodworking experience.

Membership in the Collins Woodworkers Guild is open to ALL Rockwell Collins, Inc. Employees, Spouses, Retirees, and Contract Employees, AT ALL ROCKWELL COLLINS LOCATIONS!! Everyone is welcome at our meetings and yearly dues, renewed each September, are \$15.00

#### GUILD BENEFITS

- Access to our EXTENSIVE library of books, magazines and Tool Collection
- Open exchange of ideas, from project help to house building; and a hand when needed
- Social Activities
- Workshops
- Toy Build and other Programs to help our Community
- Educational and Informative Presentations
- Open Houses
- Tours

KNOT NEWS  
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Woodworkers Guild

## Officers and Executive Committee

#### President:

Joel Gillett RC.CWG.President@gmail.com

#### Vice-President:

Ron Kositzky cwg-vp@rockwellcollinsclubs.com

#### Secretary / Treasurer:

Jerry Roland RC.CWG.treasurer@gmail.com

Paul Heyd

#### Membership:

Jerry Roland RC.CWG.Membership@gmail.com

#### Guild Photographer:

John Cox jlc73z@imonmail.com

#### Library:

Ron Kositzky RC.CWG.Librarian@gmail.com

#### Website:

Jerry Roland RC.CWG.Webmaster@gmail.com

#### Newsletter:

Paul Gibbs RC.CWG.Newsletter@gmail.com

#### Planning Committee (in addition to the above):

Wayne Hanson wayne.hanson@rockwellcollins.com

Perry Coffman woodyptx@yahoo.com

Paul Heyd paul.heyd@rockwellcollins.com

#### Toys Build Committee:

Joel Gillett Joel.Gillett@rockwellcollins.com

Wayne Hanson wayne.hanson@rockwellcollins.com

Ray Collins ray-mary225@msn.com