

# **MICHIGAN** WOODWORKER



michiganwoodworkersguild.com

Michigan Woodworkers' Guild (est. 1981)

**November 2020** 

Vol. 41 No. 11

When / Where:

SATURDAY, NOV 7, 2020

(Virtual Meeting starts: 9:00 AM)

LIVE SEMINAR:

Tom McLaughlin "Techniques for Building a Chest of Drawers"

- COORDINATED BY RAGNAR BERGETHON **ZOOM MEETING START TIME: 9:00 AM** 

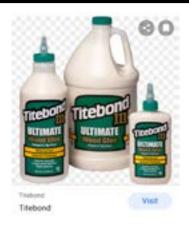
The Gild line on the test and on the later of y Island on November 25 at 1.16 pm (see map on page 10)



VIRTUAL MEETING **ZOOM CONNECTION DETAILS TO BE SENT** BY JERRY ROMITO







While our Guild has experienced yet another tragic loss of a long standing member, our November event will feature a half daylong seminar from Tom McLaughlin presenting his many insights into building a chest of drawers. Zoom meeting details to follow from our President, Jerry Romito.

# **CALENDAR OF EVENTS**

**NO MEETING OR LUNCHEON IS** SCHEDULED FOR **DECEMBER** 

Titebond's Bob Behnwill again address present auild and "WoodScience" atourSunday Jan. 10, 2021 Virtual meeting.

the Jackary 28th at 1:16 pm

Professional Wood Carver, Mary May, will demonstrate Jerry Romito, will feature an "Introduction to Carving" at our Valentine's Day, Feb. 14, 2021 Virtual meeting

Our very own president, Youtube Virtual Woodworking Tours at our Sunday Mar. 14, 2021 Virtual meeting.

rson luncheon the FCruary 25th at 1:16 pm | the March 25th at 1:16 pm





# President's Corner



By Jerry Romito

Although Covid-19 still prevents us from having real meetings, we are having relatively good success with our Zoom virtual meetings, with 38 members attending each of our last two meetings. This compares with typically 50-60 attendees at our live meetings. Hopefully we'll get larger Zoom attendance as more of you get accustomed to the virtual world.

On a very sad note, our Guild Vice President and friend, Tom Rowley, passed away this October. You can read about him in the "In Memoriam" article in this newsletter.

As we move on, there is great news! We are presenting another free remote live video seminar by the nationally renowned woodworker, Tom McLaughin of Epic Woodworking, on Saturday, November 7, from 9:00 am – 12:30 pm. His topic is "Techniques for Building a Chest of Drawers." Just like the June seminar, you will view the live video event from your home, using whatever device you choose to make an internet connection. This will be a private seminar, available to MWG members only. You will access it via a web link that I will send in an email few days before the seminar which will have access instructions. The seminar will be recorded, so you can view it as often as you wish anytime later as well.

Also, our January, February, and March 2021, meetings are already scheduled. They will be exciting Zoom meetings. These details will follow in future newsletters and emails.

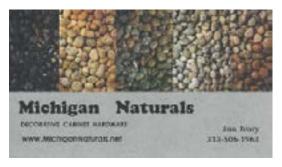
It is the time of the year for the MWG Board of Directors to present the slate of officers for the year 2021. Since Covid-19 prevents us from doing this at a normal in-person meeting, this will have to be done remotely. Please see the "BOD 2021 Slate" later in this newsletter. Since several of our long-time Board members are retiring from some of their positions

at the end of this year, you will notice that there are many "Open" positions on various Standing Committees. It is important that we fill these positions in order to be ready to start back up when the pandemic coast is clear. If any of you wish to volunteer for a position, please contact Jerry Romito at 248-475-5976. Also contact me if you wish to nominate yourself, or anyone else (if they are willing to accept), for an Officer-at-Large position. Further call if you have any questions about these positions. I want to encourage more members to get involved with the Board and to help run the Guild and support our woodworking passion. I can assure you that no experience is necessary to get started! I will follow-up in late November regarding the slate's voting results.

Jerry Romito











# MEETING REVIEW



By Dale Ausherman

Due to the continuing Coronavirus restrictions on large meetings, the Guild continues online virtual programs to educate members in the craft of woodworking. For our October meeting, Ragnar Bergethon arranged a presentation by Bob Behnke, Franklin International's Technical Services Manager for their Titebond line of adhesives. This program is a valuable updated repeat of a 2016 Guild program wherein Bob presents in-depth instruction in the gluing of wood in the context of Titebond's extensive line of wood adhesive products.



This presentation, lasting well over an hour and a half, was absolutely chock-a-block with details of the physics underlying successful gluing, detailed step-by-step procedures, notes on Titebond products for special applications, and discussion of glue shelf life and storage. There was a valuable fact or instruction point about every minute so only a small subset of the information can be included in a reasonable length review. As a service to members, Ragnar took steps to acquire Bob's PowerPoint presentation. Our special projects lead Bill Rigstad has placed this on the Guild website for all to peruse. They can be found as a photo album in the Photo Gallery. (<a href="https://michiganwoodworkersquild.com/photo-gallery/">https://michiganwoodworkersquild.com/photo-gallery/</a>)

Members should take time to read the details of these charts. There are a few charts which were presented that are missing from this batch, as Bob linked to a few backup charts which are not included in the supplied pdf version of the briefing. Also, my report on the 2016 presentation is also on our site under Newsletters within the October 2016 issue. That report has comments which are not repeated here.



Bob stated that the objective of the bonding process is to develop a glued joint as strong as the wood itself, i.e. a break test would break the wood surrounding the joint, not the

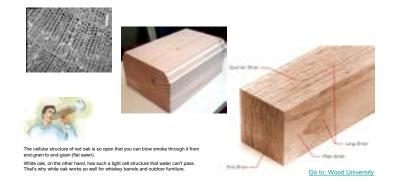
glue. And he reviewed how the various properties of wood affect its gluing characteristics. They are:

- Wood density
- Moisture content
- Dimensional changes associated with changes in moisture content
- Pitch content
- Oiliness
- Surface contaminants
- Presence of extractives

He presented detailed discussion of wood density, moisture content, and surface contaminants, which can be seen in his posted charts.

## **Wood Density**

- •Woods with lower density, hardness and strength tend to be easier to glue
- •Developing bond strength equal to the strength of wood is easier to achieve with weaker woods



Many of the summary points in my 2016 report are still relevant to this 2020 presentation, so I will not rewrite them:

- Woods with lower density, hardness and strength tend to be easier to glue.
- Wood may be glued with wood moisture content ranging from 6 to 17 percent (Use a moisture meter).
- Wood parts must be at similar moisture content to avoid stepped joints. Be sure to allow time for moisture to equilibrate before machining to avoid sunken glue joints.
- Species with "oily" wood will keep water based adhesives from penetrating, so wipe joints with acetone to remove the near surface oil.
- Burnished wood will not bond well, and there is a minimum sanding grit for to-be-glued surfaces, generally in the range of 220 to 320.
- For easy clean up, put masking tape on all joints during dry fit. Then cut the tape apart to disassemble before glue up with the tape pieces still in place.
- Coat or mask any iron clamping pipes to avoid black stains.
- Be sure the shop and substrate temperatures are above the chalk point of the adhesive.
   (Cold environment or cold work piece tem peratures can cause what amounts to freeze drying of the glue, which takes on a chalky characteristic.)
- Allow joints to dry for at least 2-3 hours before unclamping, and best to leave for 24 hours prior to stressing the joints.
- For clamping use "45 degree cone of pressure" rule to determine clamp spacing. Using this guideline, thinner wood pieces require more clamps or use of cauls.
- Applying glue to single or both sides of joint can work – single side speeds up large assembly times.
- Open time, with respect to glue specifications, is the maximum time interval from when an adhesive is applied to a joint surface to when that surface must be "closed" in the joint such that the glue performs as advertised.
- Assembly time is the maximum time interval be-

- tween applying the adhesive on the first substrate and the total assembly including clamping.
- One can add up to 5% of water to glue by weight or volume without effecting end strength, i.e. to increase assembly time. But this will reduce viscosity by 1/2 and so can be prone to running.
- Use a shop dehumidifier to quicken cure time, or add humidity to increase open and assembly times.
- Joints must be tight for glue to work well, as water-based glues cannot fill gaps. If a particular joint fits somewhat loosely, use epoxy as it does not shrink during curing.
- For large areas a good spreading tool is a 3/32 half-moon style adhesive spreader with FFA notching. (The FFA means U-shaped notches rather than triangular or square-shaped.)
- Hide glue (Titebond liquid form or hot glue pot) is best for future repair/disassembly, glues to itself for repairs, and accepts stain and dyes. It is very strong but not moisture tolerant.

In Bob's discussion of cold and hot press laminating, he mentioned a point I did not cover in the prior report. When gluing thin veneers, consider using the Titebond Cold Press Veneer product to prevent bleed-through on open-grained and unbacked wood veneers (Bleed-through causes speckles in final finish). The cold press glues have walnut particles in the glue which help to fill gaps in the veneers and thus reduce or stop glue bleed through.

Also, Titebond has done additional experimentation

### **Cold and Hot Press Laminating**

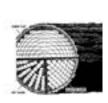
- Usually used for large number of like sized materials
- High Pressure laminates and <u>veneers</u> to plywood, particle board, MDF
   Environmental alternative to solvent based contact cements
- Need close tolerances for bond lines
- Use proper adhesive to minimize bleed through on veneers
- Uniform pressure critical
- Variable Press time
  - ambient conditions (temperature and humidity)
  - Glue spread
  - Core materials
  - Type of equipment with heat capabilities

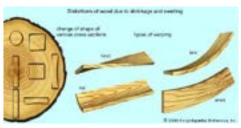




# Dimensional changes associated with changes in moisture content

- Wood must be at similar moisture content to avoid <u>stepped joints</u>
- · Wood grain direction can add to or minimize assembly movement
- Allow time for moisture to equilibrate before machining to avoid <u>sunken glue</u> joints
- Allow wood to attain use moisture content before machining wood
- · Dissimilar woods will have different moisture dimensional changes
- · Quarter/rift sawn wood is most stable





on the clean-up of glue squeeze-out and changed their recommendation since 2016. At that time their position was that it is best not to wipe with wet rag as this may force glue into the wood cells and impede absorption of stains and finish, and that it was best to wait 20 minutes and then scrape away, followed by sanding. But often LOTS of sanding. Now Bob actually favors using wet rags to thoroughly remove the glue residue, the wetter the better. Their tests show this is more successful than sanding and that the water does not penetrate the joint enough to impact adhesion quality. He does still recommend using a diagonally cut plastic straw to quickly remove as much glue as possible in corners before washing. He also recommends using masking tape applied and cut along joint lines during dry assembly to avoid the need to wash or scrape joints in hard to reach areas.

There was a somewhat controversial discussion of

### 5 Steps for Successful Gluing

### Prepare the Glue and Accessories

- <u>Determine the correct glue</u> for the project requirements
- Be sure glue is in good condition by mixing with a small stick
- If glue has settled <u>stir</u> in settled material before proceeding
- If unsure of glue, test on scrap piece of wood, clamp 24 hours then break with hammer
- Clean glue bottle applicator tip
- Clean glue brushes and remove any loose bristles
- Coat or mask any iron pipes to avoid black stains
- Arrange and orient clamps from the dry fit for easy access









the use of biscuits and dowels for joining of wood pieces. Bob stated that their research showed that these additions did not strengthen joints in face grain joinery such as face or edge joining, the latter generally used for making wide panels. He did say that biscuits and dowels are excellent aids to alignment in such joints. (His comments did not apply to any joints dealing with face-end grain, or with situations where a dowel may hold some joinery parts together, such as mortise and tenons, where most of the strength results from joint geometry and the glue simply holds the joint together.) He said there is actually a weaker joint in the area where the dowel or biscuit is inserted. I suspect there are members who may not agree with this position.

# 5 Steps for Successful Gluing Glue up - Be use the shop and substrate temperatures are above the shall point of the adventive - Consider gluing in stages, to reduce open and total ascending time - A threader of our branch treated (1/10" x 102" x 500" U-rectarly section well as a bool to surement to - A threader of our of a treat treated (1/10" x 102" x 500" U-rectarly section well as a bool to surement to - A threader of our of a treat treated (1/10" x 102" x 500" U-rectarly section well as a bool to surement to - A treated our of a treat treated (1/10" x 102" x 500" U-rectarly section well as a bool to surement to - A proper contained the first will be section before gluing expectably for any treated treated - Prevent of any remarking treated gains a support under treated with any glue squeeze out - Allow to Dry/Cure - Allow to Dry/Cure

There also was great discussion of glue shelf life, a topic of importance to those of us who use only limited amounts of glue. Most companies will put an "Official" shelf life on their products to limit liability in case product goes "bad" due to poor storage conditions. As to actual usable life, if kept in good storage conditions (typically cool "basement" conditions or even better in a refrigerator), most white and yellow glues can be expected to last up to 10 or more years. Don't let it freeze, as ice particles push the sticky microscopic balls of plastic together and they can stick and clump. If after thawing the glue does not stir back to normal consistency, it is no longer useful. Some adhesives which are water resistant or fast grabbing will have a bit less shelf life due to increased chemical reactions between glue particles or they may contain clay particulates which can settle out. The settling can be overcome by stirring the glues. The rule of thumb for testing if wood glue is still good: First: If it comes out of the bottle, that is a very good sign. Second: the glue must "wet" out the joint smoothly. It must not look pasty, stringy



or want to stick to itself better than the wood substrate. If any of these occur, it is time for a new bottle. Bob also recommended simply testing the glue, even if 20 years old, with sample wood pieces and then seeing if the wood breaks before the glue. Bob says Titebond does not want customers discarding useable glue.

To determine the age of your Titebond glue, use the product code on the bottle. How to interpret that number? (From their website) <u>Current format</u> for product made after Jan 1, 2019 takes the format:

# "Ayymmddbbb"

Where:

A = made in America

vy = Year of manufacture

mm = Month of manufacture

**dd** = Day of the month of manufacture

**bbb** = Daily batch number

For example: A190615023 – This material was manufactured on June 15, 2019 in the US.

For product made prior to 1/1/2019: Aymmddbbbb The first digit after the A is the last digit of the year of manufacture, the third and fourth digits represent the month, the fifth and sixth digits represent the day of the month and the last four digits represent the batch number.

### 5 Steps for Successful Gluing

# Drying

- Allow joints to dry for at least 2-3 hours before unclamping, best to leave for 24 hours
- Allow edge to edge joints to <u>dry for several days</u> before sanding or planing smooth to reduce the chances of <u>sunken glue joints</u>



If one has to clean up dried glue from surfaces, use a 50/50 mixture of acetone and water as a solvent, then scrape and brush (maybe repeatedly). If one

gets wet glue on clothes, keep them wet until they can be put in washing machine with detergent. If glue dries on clothes before they can be washed, forget it.

Bob recommends using the 800 phone number shown on all Titebond product containers for addressing any questions or issues. They have a policy of always providing a live person to address questions.

We thank the officers for arranging this valuable presentation on glue technology and methods. We also thank Bob Behnke for sharing his incredible expertise and his in-depth knowledge of Titebond woodworking adhesives products.

- Dale Ausherman



# **FREE TO GOOD HOME:**

Longstanding MWG Member, Bob York, has approximately 300 magazines from Shop Notes, Woodsmith, and Fine Woodworking which he would like to give away.

Contact Bob at: (313) 505-5094 E-mail: reyork1@aol.com



Just as a reminder, Michigan Woodworker's Guild yearly dues will become payable January 2021. Feel free to get ahead of the renewal process by paying your \$25 dues **Early** and **Often**. A membership renewal form can be found on the website dropdown menu under "Membership - Payment/Renewals"



# In Memoriam:



## Editor's Note:

We have lost a woodworking friend to cancer. A truly great friend. Please say a long prayer for Tom Rowley and keep Tina in your thoughts as she goes through this terrible time. Below are comments celebrating Tom's contributions as a woodworker and volunteer. Rest assured, Tom is now above us making mountains of sawdust.

# From Jerry Romito:

Tom Rowley, 75, our MWG Vice President, passed away on October 6, 2020, after more than a yearlong struggle with cancer. Tom was a Guild member for six years, and although I met him only two years ago, we instantly become good friends. He was a kind, generous, civic-minded man, who stayed optimistic throughout his illness. He graduated from the University of Wisconsin with a degree in Mechanical Engineering and worked for GM much of his career. He and his wife also owned a "Home Instead" franchise for 25 years. Over the years he worked happily in his workshop building useful furniture and items for his family.



I met Tom when he approached the Guild to ask for help to design and build 300 low-cost dressers per year for Humble Design, a Pontiac charity that provides donated furniture to people transitioning out of homelessness. He was a volunteer handyman there, and spent much

of his time repairing damaged furniture. He realized that Humble never had enough dressers for the children's rooms, so he offered to provide them. I answered his call. That's how we got started together. We built the first three dressers in my shop at a projected quantity-cost of \$57 each. Humble placed those first three dressers in homes the same week that Tom delivered them.

To build the dressers in quantity, Tom needed an equipped shop, volunteers, and money. When he heard a new Guild member, Bob Hough, announce at his first Guild meeting that he was a woodshop teacher at a Livonia middle school, Tom quickly charmed Bob into volunteering his shop and students to build the dressers. We built assembly fixtures and work processes, as well as mentored the students to build the next 10 dressers. Tom made a presentation to the Guild at our March, 2020 meeting, where

he showed progress photos, and introduced one of the key students. Tom was arranging to have Guild members volunteer with him at the school, and the project was just ready to get into high gear when the Corona-19 virus stopped everything. And now, sadly, Tom is also stopped. I hope we will find a way to continue the project in his memory.





Any member wishing to honor Tom's commitment to his community can make donations to Humble Design via this link: <a href="https://www.humbledesign.org/detroit">https://www.humbledesign.org/detroit</a>.

Jerry Romito



CHILDREN'S HOSPITAL MWG PROGRAM UPDATE



# From Ron, Ken, and Dan:

A big thank you to all the members who have been making toys, memory boxes, and plain boxes for the children to decorate and use. Since the guild cannot hold "in person" meetings this note is to advise of the pickup options we are offering. We will have someone at three different locations on either Saturday December 5 or Sunday December 6, per the following schedule. We will be waiting in the parking lot with our vehicle marked to make it easy to spot us.

# Saturday December 5, 1 to 2 PM:

Livonia Senior Center 15218 Farmington Rd

Livonia

Contact: **Ron Ross** 734-812-5531 Email: rross1508@gmail.com

# Sunday December 6, 1 to 2 PM:

Southgate Senior/Civic Center (located behind the Southgate public library) 14700 Reaume Parkway

Southgate

Contact: Dan Holowoicki 313-702-5836

Email: dan56laura@att.net

# Sunday December 6, 1 to 2 PM

Royal Oak Senior Center 3500 Marais Royal Oak

Contact: **Ron Ross** 734-812-5531 Email: rross1508@gmail.com

If you are unable to drop off at the above locations, you can call or email Dan in Southgate, Ron in Plymouth, or Ken in Canton to schedule a delivery at our homes. (Ken's contact information is 734-981-3423 Email: wolfkenneth@att.net).

There is still time to make a few more toys or boxes to help make a child and families holiday a little more cheerful. If you need supplies like wheels and axles please contact Dan, Ron, or Ken. In addition, here are a few key points to follow.

- 1) Little wooden figures need to be glued in place
- 2) Pull strings on toys need a strong attachment
- 3) As always, no metal parts, no sharp corners/ edges and finish must comply with guidelines published on our website in the Program/Projects tab then Toy Projects.









# Michigan Woodworkers' Guild Board of Directors Slate 2021

# **Executive Board (elected)**

**President** Jerry Romito

Vice President Will Wilson (nomination)

Treasurer Ed Stuckey Secretary Don Hess

# **Standing Committee Chairs (appointed/volunteer)**

Website chairman Ragnar Bergethon

Website calendar Fred Ball

Library assistant Jule Ann Clough

Picnics Bill Gayde
MITES Bill Gayde
Newsletter Dave McCagg
Membership Dave McCagg
Camera team Dave McCagg

Mentoring Bob Mills
Photos Bill Rigstad
Monthly luncheons Bill Rigstad
Program Director Larry Last
Raffle prizes Ed Stuckey
Name tags Ed Stuckey
Toys Ron Ross
Toys Assistant Dan Holowicki

Food Open Wood Shows Open Livonia coordinator Open

Royal Oak coordinator Open Meeting setup (Livonia) Open Meeting setup (Royal Oak) Open

Library Open By-laws Open Brochures Open

Camera team assistant Open Mentoring assistant Open

# Officers at Large (elected)

Ragnar Bergethon

Tony Gigliotti

Pete Goddard

Richard Herbert Ron Ross

Ken Wolf

Dan Holowicki – (nomination)



# **From Jerry Romito:**

My latest project features, a "tile-topped plant stand" shown below.

The plans were shown in the Dec. 2019, issue of "Woodworkers Journal."

The wood I used is soft maple.

I finished it with a gel stain and water-based satin polyurethane.





# **Project from the Editor:**

Dianne's Garden Flower Stand

Earlier this spring, my wife showed me her Flower Stand which she had bought several years ago. Its original wooden basket had long since rotted away.

She told me - "Fix It"



The project started with a steel bar structure that, after cleaning and painting, needed a new wooden basket.

For this project, I recycled cedar from an old board on board fence to maybe provide many years of weather resistance ensuring that I would not have to remake it next year.

This basket features dovetail joints with a solid cedar bottom. To embellish the box, the first initial of our surname was CNC rout-



ed into two sides. Assembly clamping was accomplished in two (2) steps:



**first** - glue together the sides

**second** - glue / screw the bottom to the sides.

The basket is finished with solvent based exterior grade Varathane polyurethane that was left over from a previous outdoor project. After breaking through the thick skin in the 30% filled can, a brush was used to apply the amber clearcoat. Two (2) coats were used. Even after cleaning the brush with mineral spirits for what seemed like an hour and three gallons of solvent, some polyurethane residue was still



left on the brush. There is a reason why I seldom use solvent based polyurethane.

The wife was happy and started to immediately talk about a bird-feeder.



# **MWG Favorite Resources:**

Long time member, Tom Duke, has suggested that the Michigan Woodworker's Guild construct a listing of local and national vendors / resources which we have found to be exceptional. He believes that there are enough members who if only half of them contributed a couple of sites each, the list would be quite substantially useful. The listing would be shared with all on the website and could be lumber/ wood sources, used machinery, tool restorers, finishers, hardware, instructors/ classes, etc.

Let's make Tom's suggestion a reality. Please send Dave McCagg (email: <u>D2MCCAGG@provide.net</u>) with your favorite vendor or resource including their name and contact information. Over the next few months, this information will be compiled into a file which can be uploaded onto the Guild's website.









# NEW!

\$19<sup>99</sup> (593

### Bench Cookie Connect

- Use quadrants separately, or snap together in any configuration
- Great for small or narrow parts inserts accept accessories
- 71/8" diameter x 1" thick assembled



GIFT MAKING SALE PRICING VALID 10/02-11/25/20

26160 Ingersol Drive • Novi, MI 48375 • (248) 543-5110 • Rockler.com Due to COVID-19, hours may vary. Please check Rockler.com for updated hours.

For membership information contact Jerry Romito.....President......248-475-5976

Dave McCagg at: d2mccagg@provide.net

For name tags, sign up with Ed Stuckey at a regular meeting.

6 MILE RD.		
George's Senate Coney Island Restaurant 39450 Dun Rovin Dr. Northville, Mi. 48168  5 MILE RD.	HAGGERTY	1-275
MAP TO GEORGE SENATE HAGGERTY BETWEEN		

# **Executive Board Members**

Jerry Rollinco residenci	.210 1/3 33/0
TBD Vice-President	TBD
Ed StuckeyTreasurer	
Don HessSecretary	734-207-8427
Tony GigliottiOfficer at Large	248-853-8349
Ron RossOfficer at Large	734-812-5531
Rich HerbertOfficer at Large	
Bill GaydeOfficer at Large	248-859-3949
Ragnar BergethonOfficer at Large	248-608-8436
Pete GoddardOfficer at Large	248-828-3038
Dave HinkleOfficer at Large	734-513-6836
STANDING COMMITTEE	CHAIRS
STANDING COMMITTEE  Jule Ann CloughLibrary  Dave McCaggNewsletter Editor	248-977-4131
Jule Ann CloughLibrary	248-977-4131 734-482-6764
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor  Dave McCaggMembership	248-977-4131 734-482-6764 734-482-6764
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor	248-977-4131 734-482-6764 734-482-6764 248-475-5976
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor  Dave McCaggMembership  Jerry RomitoPrograms	248-977-4131 734-482-6764 734-482-6764 248-475-5976 734-981-3423
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor  Dave McCaggMembership  Jerry RomitoPrograms  Ken WolfToy Project	248-977-4131 734-482-6764 734-482-6764 248-475-5976 734-981-3423 734-459-3374
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor  Dave McCaggMembership  Jerry RomitoPrograms  Ken WolfToy Project  Bill RigstadSpecial Projects	248-977-4131 734-482-6764 734-482-6764 248-475-5976 734-981-3423 734-459-3374 734-513-6836
Jule Ann CloughLibrary  Dave McCaggNewsletter Editor  Dave McCaggMembership  Jerry RomitoPrograms  Ken WolfToy Project  Bill RigstadSpecial Projects  Dave HinkleWeb Site	248-977-4131 734-482-6764 734-482-6764 248-475-5976 734-981-3423 734-459-3374 734-513-6836 248-535-6718