METRO DETROIT METALWORKING CLUB May 2012 Newsletter

Treasury report:		Contacts:	
Balance:	\$810.00	President:	Rick Chownyk
		Vice Pres:	Emil Cafarelli
		Treasurer:	Ken Hunt
<u>Next meeting</u> : June 13, 2012 MCCC - 7:00pm		Secretary:	Bob Farr
		Publisher:	John Lee
		Webmaster:	Steve/Doug Huck

President's message:

Greetings all! I hope everyone is fine and enjoying the warm weather and late day sunlight! Wouldn't it be great if it didn't get dark until 9:30 all year long!!!

Although there is no formal program for the June meeting I thought it might be neat to talk about someone who made a difference in your life. Maybe your parents, a relative, or in my case a neighbor down the street. Just a short story might be nice...

Also, just a reminder that the future club cannon project needs scrap brass! The bucket is growing with donations from both club members and friends. I'll bet Bob Farr doesn't even remember the brass he gave me years ago. Yep, it's going to be cast into our cannon! Tuesday the 19th will be the annual Portland Machinist Guild engine run. I will be going there to help support their club and will be running the club radial engine. If anybody else would like to attend (and yes, it's a bit of a ride) please let me know. If some of you want to go, I would be happy to drive and pickup/drop you off at some place we could meet. Maybe MCCC? It will be the first time that Ed Symanzik is doing the engine run, so a good turnout would be great!

The MDMC parking lot swap meet meeting is in August, so start collecting for that too.

Well, that's all I have for now, so see you Wednesday!

Rick Chownyk - President

Announcements and Events:

Karl Gross shared a hearty "thank you" from the NAMES board to all of the volunteers who assisted with the 2012 show.

Maker's Faire – July 28-29, 2012, 9:30am-6pm, The Henry Ford, Dearborn - More info at the Maker's Faire site: <u>http://www.makerfairedetroit.com/</u>

Portland Machinists Guild 2012 Engine Run June 19, 2012 – 6:30pm to 8:30 p.m. Harbor Freight / Alro Metals Plus 4830 W. Saginaw Hwy, Lansing, MI 48917

The Tech Shop in Allen Park, Michigan is now open for business. It is located at 800 Republic Drive, telephone ((313) 583-3831. It is a membership-based workshop which provides training and access to fabrication equipment. Membership fees are t currently \$99/month. The shop website link is: http://www.techshop.ws/ts_detroit.html

Group project proposal:

The club's radial engine project was most recently displayed at the North American Model Engineering Society (NAMES) show in Wyandotte. It is an attractive addition to the club's booth, but two years have passed since we have worked on anything as a group.

At the May meeting, President Rick Chownyk proposed that we build a cannon from brass as the next club project. This would challenge our club members' casting, machining, and woodworking skills. These plans were published in the February 1969 issue of Popular Mechanics and may work as a guide:



This cannon is modeled after a 24-pounder, scaled to about 2-feet in length in the drawings. Our club's ability to achieve that size depends on how much brass is donated over the next three meetings.

Here is a completed cannon from the PM article. Please contact Rick if you would like to participate so that our efforts can be coordinated:



Show and tell:

Joe Comunale brought his CNC 5C collet indexer project to the meeting. The retrofit combines a manual indexer with a NEMA 34 stepper motor to make a home-brew CNC 4th-axis for his mill:



Here is a view of Joe's indexer from the opposite side:



Joe is documenting this project (and others) on his web site. It is full of interesting info. Take a look at <u>www.cnc-joe.com</u>

Kevin Thomas brought along several treats and a few tips to the May meeting. This first one is a whistle removed from the Dodge main plant in Hamtramck:



This whistle sits atop a Lunkenheimer valve which is still available from McMaster-Carr – just in case you <u>must</u> have one of your own!

This next one is an antique indicator:



Kevin also shared a tip for using indicatorsactually, the Indicol holder it may most frequently be found on:



Although typically used on the quill of a mill, Kevin suggested mounting the Indicol to the tailstock ram in the lathe, where it can be used to indicate work in a chuck or on a face plate. Thanks for the tip!

Some of Kevin's other work include a piston and rod from his Panther Pup project (both are anodized):



Important details on the big-end of the rod which may not be noticeable in this small picture are the numbered stamps which pair the rod with its mating end-cap. These stamps also identify the correct assembly position. Very nice work Kevin! Kevin also shared some nice examples of freehand (i.e., not CNC) millwork. These "turbo" labels were first made on the mill, then welded to a manifold and cleaned up with a grinder for the finished product:



Karl Gross shared his source for bifocal safety classes which have the magnifiers both above and below the center. They are available for \$10/ea. from Madison Electric, which has six locations around Michigan –

- 31855 Van Dyke, Warren telephone (586) 825-0200
- 20189 Northline Road, Taylor telephone (734) 287-6800
- 44525 Grand River, Novi telephone (248) 349-9090
- 30545 Stephenson Hwy, Madison Heights telephone (248) 544-4210
- 44421 Groesbeck Hwy, Clinton Twp. telephone (586) 485-2181

Ted Zillich reported some developmental "difficulties" with his quad copter. Since his last report (and successful flight videos!) the machine has consumed about 20 propellers and several bent propeller adapters during crashes:



Ted is experimenting with lower control stick ratios, noting that 1:1 with the short thumb controls make the copter <u>very</u> responsive to inputs. Despite these setbacks the machine looks no worse for the wear. The important components are very well protected at the center of the airframe:



The motors have finally revealed their poor quality bearings, and Ted has found a source of higher quality motors which should resolve some of the reliability issues. If anyone is interested in learning more about radio controlled devices in general, Ted recommended a very active web site located at <u>www.rcgroups.com</u> Keep up the great work on your copter Ted, and keep us posted!

Ron Grimes continues to achieve success in growing his hobby into a business. He reports that access to Selfridge ANG base has proved profitable, and brought along some of his latest wares to the meeting:



The item in the lower right corner of the picture above is a spinning top. The horizontal plane is made from a compact disk (data storage, music disks, whatever – just not Rap music – they wiggle strangely).

Ron has also broadened his product line beyond just pens and keychain tools/storage devices. This next item is a ladies purse hanger, used (for instance) when at a restaurant so that her favorite purse is not put on the floor, stepped on, or forgotten and left behind. When stored in the velvet bag everything is very compact:



The stone-like material in the center disk is Corian countertop remnant that Ron got from James Hagel, but it can be inlaid with any material. When unfolded the disk sits on the table surface near the edge, with the c-shaped portions swiveling downward and hanging over, forming a hook to hold her purse:



Another product which Ron is working on is a telescoping pen. Its purpose is to be compact when stored, but to slide out to a full-sized writing instrument when needed – nobody likes to write with a stub!

Bob Butler noted that such pens are very convenient and that telescoping pens for everyday use can be found at Office Max at just two for \$5 (in fact, Bob had one with him at the meeting). However, this next project from Ron Grimes isn't for carrying around. It's a nicely finished pen, pencil, notepad, and business card desk set:



Please wish Ron continued success and enjoyment from his business. Here is his card if you want to ask about his products:



Ron Schmidt shared a nice "tool gloat" story with the group. While at the local tool-andscrap metal candy store, Ron spotted an abandoned vise with nearly enough rust to disguise the silhouette of a Kurt model D688 underneath. Here is what one looks like when new (I only looked it up for myself, everyone else already knew):



Ron purchased the vise for \$20! He reports that the vise still indicates perfectly despite the neglect and corrosion, so he has begun a cosmetic restoration including new stickers direct from Kurt. Congratulations on a very nice find Ron – we look forward to seeing some before and after pictures of your vise project at a future meeting.

Shop tours:

Karl Gross organized a few shop tours following the May 2012 meeting. He, John Mieras, Gottried Schiller and I enjoyed a day visiting with Adam Hermann and Steve Huck. I thought that our Club members might enjoy reading about these tours.

We descended on Adam Hermann first. He was a gracious host, providing doughnuts, excellent coffee and patience with hundreds of questions. This first picture is of Adam holding an impressively crafted flywheel:



The spokes are tapered and the wheel has a nice radius or smooth fillet on every edge.

The next picture below is a detail shot of the hub. What the picture can't show from this angle is that the bolt axis is inside of the wheel rim width.

Now, look at the first picture again - the hub bolt length is <u>almost</u> the same as half the distance between the hub O.D. and the rim I.D. A drill bit long enough to drill the hub bolt hole would leave almost no room for a chuck, the parallel spoke isn't helping with clearance matters, and the overlapping rim width prohibits using a long drill to achieve straight bolt holes in the hub – four of them!

We'll leave you to figure it out:



Adam has built several very nice Sterling heat engines. The first one below was sensitive enough to work on just the heat of your hand:



The following one is another style, running smoothly over an alcohol-burning fuel tank which Adam also made – from the base of an oil can:



Here is another view of the same engine, other side, still chugging away. In fact, this engine ran flawlessly for several hours during out visit, a strong indication that Adam's close attention to detail had paid off:



We will have to confirm this with Adam, but I seem to recall that he referred to this next engine (below) as a "flame licker" model:



This picture angle is not useful because the distinguishing feature is on the cylinder side and (unfortunately, hidden) behind the flywheel. For those interested, go to <u>www.YouTube.com</u> and search for "flame licker engine" to see the concept in action.

Adam's interests are not limited to Sterling engines. Here is his current project, a hitand-miss internal combustion engine:



Adam also ran this steam engine for us, which looked as if it might be ready – maybe even able - to power a rather large scale model of the *African Queen*:



This next picture set is of a cutter grinding jig which made quite an impression on me during our visit. Its design, fit and finish were very nicely done:



The main body of the jig is made from a heavy angle plate, with the bottom ground to a predetermined relief angle (shown here tipped back by Adam):



The cutter holder end uses inserts to accommodate several different size blanks. The secure fit of the adapters was impressive. The head swivels to any angle needed and is clamped securely by a large countersunk cap screw (not visible in this picture):



The swiveling head feature included vernier markings for accurately positioning the head angle to fractions of a degree (perhaps I should say "degrees, minutes and seconds" in this context):



It might be hard to tell from this small picture, but in person (and especially when enlarged on my computer screen while writing this) these markings are very crisp, the numbers are of a consistent depth and perfectly aligned, and the device as a whole is if a high quality. Very nice, Adam!

Adam has a very nice Bridgeport in his garage, but his lathe and this Johansson mill are in his basement:



The Johansson has a two-axis DRO, swiveling ram which can be repositioned in the y-axis, plus variable spindle speed. It is quite a versatile machine in a very compact unit. The variable speed controller is on the wall to the right the mill, outside the picture above, but it can be seen being operated by Adam in the next picture.

Also in Adam's basement was his shop-built grinder/linisher used to shape HSS tooling. It ran very smoothly and the tables were easily adjusted for creating the necessary relief angles. This was just one example of a tool made by Adam, to make a cutting tool, to make a part, to ... you get the idea:



Adam, thank you for your hospitality and for sharing the treasures of your shop with us!

Steve Huck was our next victim. We searched the premises for elves chained to machinery which might help explain Steve's prodigious output, but it appears that most of the "magic" happens either on this very nice Bridgeport ..



.. or on his home brew CNC mill which I failed to get a picture of (and yes, I am disappointed about that too)!

Instead, I was distracted by Steve's latest project. It is a scale model of this mini-bike, which he will also build the running scale Briggs and Stratton motors for:



The loop of tubing held in front of the original mini-bike is a prototype of the model frame and provides a perspective on the scale that Steve is working in.

Of course, Steve also made the combination tube bender and frame fixture for this project:



Here is a close up of the fixture/bender:



And another of with the prototype frame loop:



His project will probably be finished by the time you receive this newsletter, so I'll leave the rest of the story to Steve!

Bob Farr – Secretary