May 2003

President:	Gary Martin	(503) 452-9544	martinmodel@hotmail.com
Vice President	Bart Pond	(503) 640 5545	aldenb@teleport.com
Treasurer	Bud Statton	(503) 324 9514	BudStatton@worldnet.att.net
Membership	Dave Francisco	(503) 761 4446	frisco@hevanet.com
Photographer	Gary Hart	(360) 695 3740	hartmetal@msn.com
Editor	Bob Diffely	(503) 246 9206	blinda@saw.net
Webmaster	Greg Dermer	(503) 281 9238	depmco@easystreet.co
Member at large	Bill Miller	(503) 246 2175	bilau@gte.net

Last Meeting was at Newberg High School courtesy of **Terry Coss -** thanks **Terry**. In spite of the awkward directions near the fire station, the turnout was very good.

The **Next Meeting** is scheduled for 1pm on Saturday May 10th . See enclosed map for directions to **Cascade General Shipyards**. The **June** meeting is planned for the Silverton foundry.

Here's **Wes Ramsey**'s next installment:

FOR THE BEGINNER
3

Taps are used to cut threads in holes. There are coarse threads (big) and fine threads (small). Most of the time auto makers use coarse threads in castings and fine threads will have a nut on them. This isn't always the case, but it seems to work best for them. One of the mistakes my students would make when cutting threads was getting the right size hole for the tap. "I want a 1/4" hole, I will drill a 1/4" hole." Wrong, the tap will not have any material to cut the threads in. There are tap drill charts in the back of most machine books and you can get them at most places that sell threading materials. These will tell the correct size drill to get about a 75% thread."But wait, I don't have anything but fractional drills". Pick the closest size you have, smaller than the hole size and you should be all right. Now if you have broken or lost most of your drills this may not work. It might be worth your while to buy a tap drill for each size and keep it with the taps.

"What you say here is fine but I just broke the tap in the hole, now what do I do.? Tune in next month and find out if you have to throw the part away or can it be saved.

Wes Ramsey

Here's a few **URL**s for those of us who have internet access but are electrically challenged. An easy way to use them is to copy and paste them into your web browser.

(1) This one helps explain capacitors:
http://www.repairfaq.org/sam/captest.htm#ctcoe

(2) This one helps you size power supplies for your next (or last) CNC project:
http://www.geckodrive.com/ycom/documents/C163R16_power_supplies.pdf

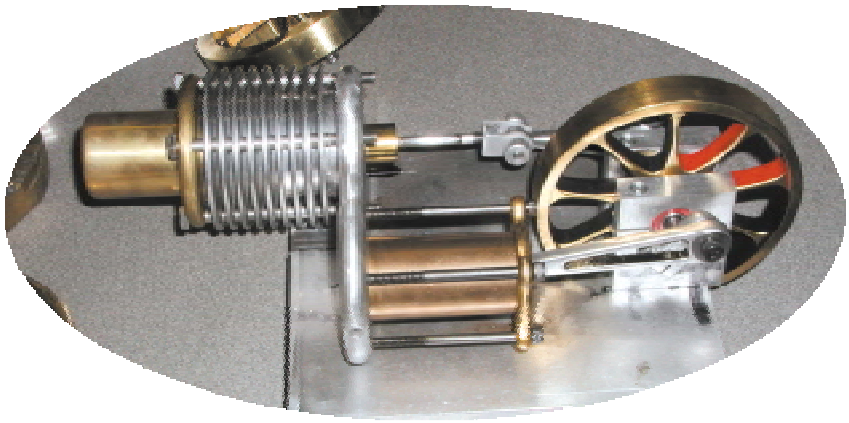
(3) And here are references to stepper motors:
http://www.superiorelectric.com/
http://www.orientalmotor.com/index.html
http://www.compumotor.com/catalog_eng_ref.htm

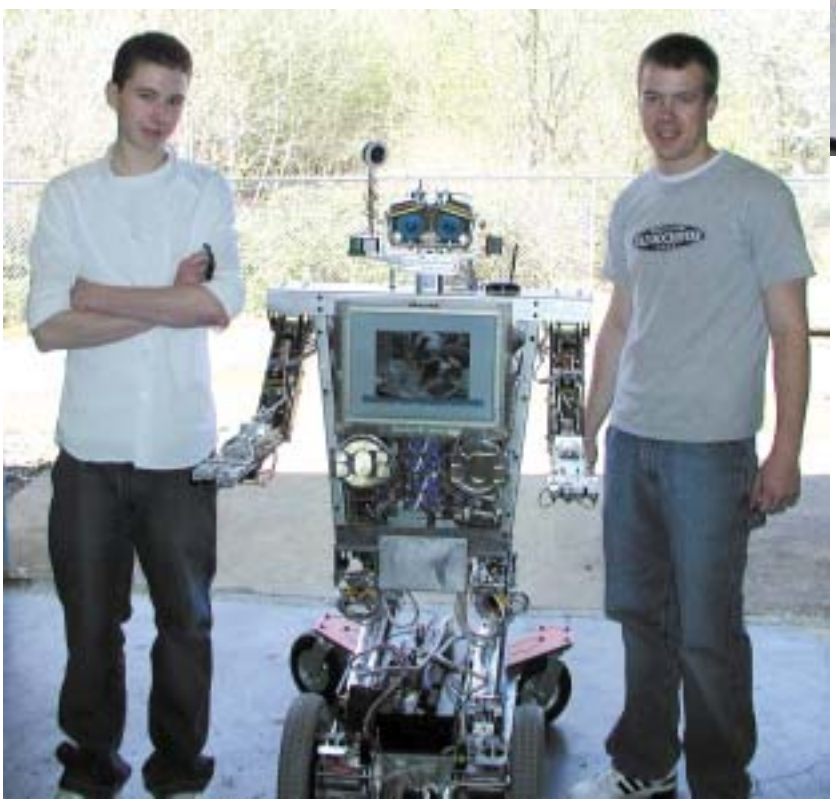
(4)♦ Thanks to Greg Dermer, the Portland Model Engineers website has been updated:
http://users.easystreet.com/depmco/pme/
♦This newsletter in pdf format is available at:
http://users.easystreet.com/depmco/pme/notices.htm
♦Information about Gary martin's models is available at:
http://users.easystreet.com/depmco/martinmodels/

For Sale
10" **Radial arm saw** (Craftsman) $ 70.00
2 ton **punch press** $ 75.00
Lincoln gas drive **welder** and power plant $150.00
Contact **Wes** 503-723-5642

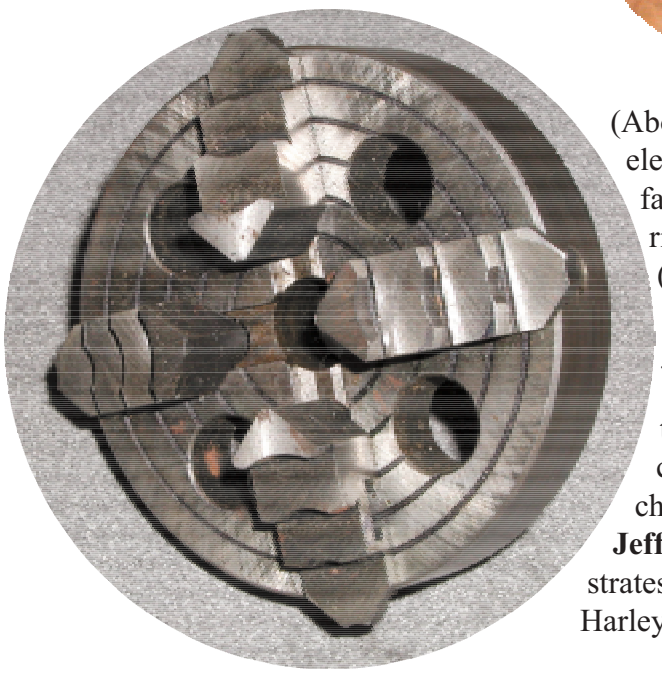
For Sale - $900 each:
(1) Barbur Colman **Gear Hobbing Machine**, or
(2) Traub **Automatic Lathe**. 1" capacity, with extras.
Contact **Al Pohlpeter** 503 628 2161

Terry Coss (above and right) demonstrates the operation of one of the stirling engines developed in his school. A close up of the engine and associated parts is shown below and lower right.

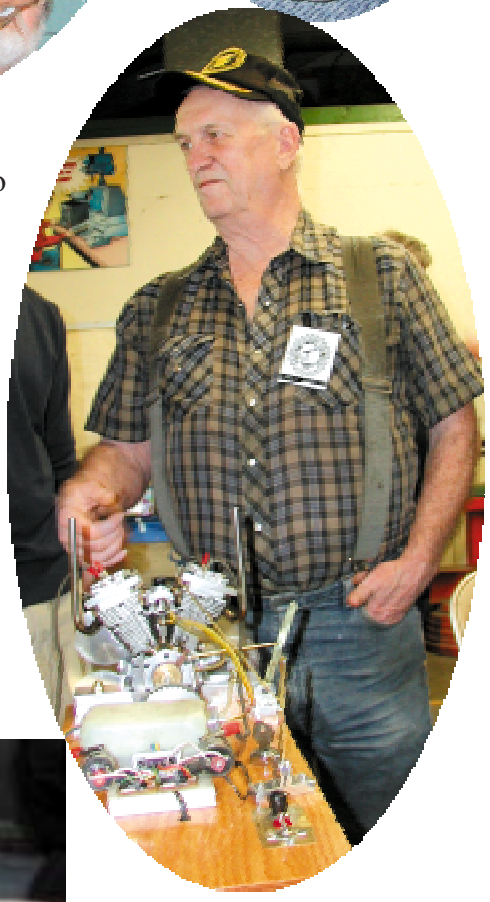




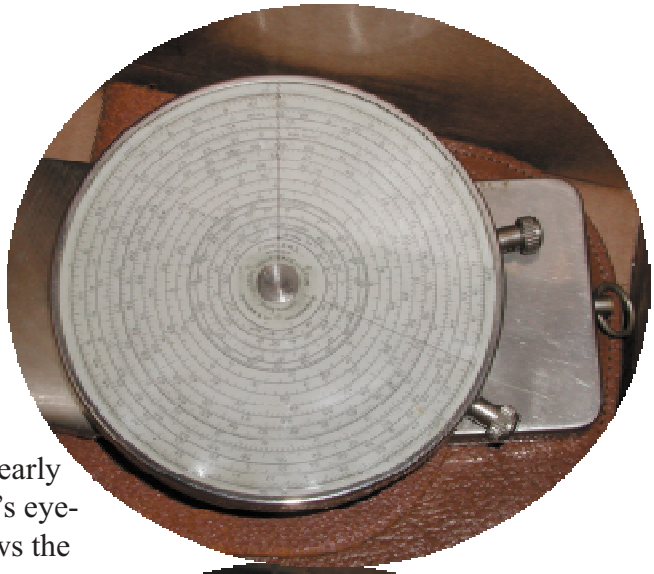
Two of Terry's students are shown with an impressive robot designed and built at Newberg High School. Newberg has a habit in recent years of garnering top honors in national robotic competitions.



(Above) **Mark** described the electroplating process he used to fabricate the emblem (above right) from the negative mold (upper left). **Al Pohlpeter** brought the precision four jaw chuck (left) he built for a WW lathe. Al says there's not much commercial market for these chucks. Meanwhile, **Virgil Jeffries** (right) again demonstrates his all encompassing Harley motorcycle engine.

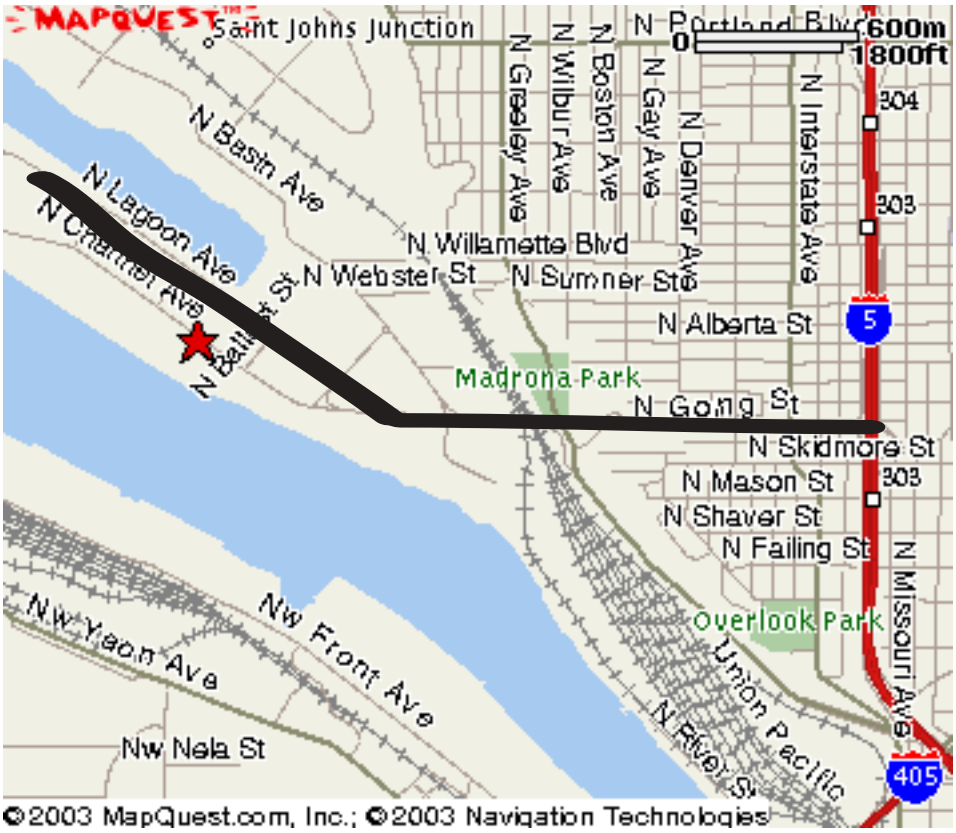


Bill Miller finished adding the electronics to his mini CNC mill and demonstrates it's operation (left). Here he's holding a gear he milled on it using a 1/16" end mill. Most gears are made using a gear cutter so milling a gear opens new possibilities for the home machinist. Bill plans to create a CNC lathe by mounting the quill on the table of the mill so it can be used as the headstock for a lathe. The cutting tool would be mounted on the vertical Z axis.



Henry Casson brought the tiny watchmaker's lathe (above) and the early model circular slide rule shown at right. I couldn't find anyone who's eyesight was still good enough to read it, however. Below **Al Rose** shows the precision drill press he constructed. Everyone was alert to his discussion of planned failure - something I know I need to address more often.

Three members of the pattern making class show their progress. **Tom Hammond** (above) describes the vertical riser to be attached to the bed of his lathe and on which he will mount a milling head. The piece in his hand is the wood blank for the casting. Below left **Carl Peterson** holds a steel casting to be milled into a lathe cross slide. Both Tom and Carl are students of **Gary Martin** - the class instructor shown below.



Directions to **Cascade General Shipyards**. This company is located on Swan Island in Portland at the previous site of the Portland Shipyards. From I-5 Northbound or Southbound take the KILLINGSWORTH ST. exit- exit number 303- toward SWAN ISLAND. You should be westbound on Going Street. Continue on Going street for a mile. Turn slightly right onto North Lagoon Avenue - see maps. Continue on Lagoon to the end. Turn left and go one block to Channel Avenue. Turn right, go one block to the **Cascade General** gate. The guard there will check you in, give you a pass and tell you how to get to building 50 - your target destination. **Nick Peters** is our host for this meeting and will guide us on a tour of the shipyards.
[In the maps to the left, ignore the red stars. I didn't know how to get rid of them.]

GPS: 45.562693 122.717774