Founded by Dave and Beth Carr in 1995

October 2007

http://www.portlandmodelengineers.org

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This year's club picnic was held at Bud Statton's shop in Banks. A number of our members were able to make the trek out there and a bright sunny day rewarded their efforts. The food was great and folks got a chance to talk over their latest projects. The focus was on patternmaking and casting activities with a live casting demo. Pictures appear on the following pages.

Later in the month, many folks attended or exhibited at GEARS 2007. The two day event was well-attended by kids of all ages eager to see the latest engines and models.

Next month, Jim Oliver has graciously arranged for us to meet at Dependable Pattern Works, Saturday, October 13 at 1:00pm.

Dependable Pattern Works
737 SE Market St.
Portland OR, 97214

http://www.dpwcorp.com/

Directions (courtesy of Google):

1. Take I-5 North to Exit 300 for I-84 East.
2. Keep right at the fork, follow signs for Central Eastside Industrial District/OMSI and merge onto SE Yamhill St.
3. Turn right at SE Martin Luther King Jr Blvd.
4. Turn left at SE Clay St.
5. Turn right at SE 6th Ave.
6. Turn left at SE Market St.

Remember to bring your latest project and a friend or two. Refreshments are provided.

For The Beginner #44 by Wes Ramsey

I got a note from Steven Dieringer wanting something on "Layout". Ok, here is what I found. Layout is the process of placing reference marks on the work piece. These marks may indicate the shape and size of the part or its features. Layout marks often indicate where machining will take place. Machinists may use layout marks as a guide for machining while checking their work by actual measurement. They may also cut to a layout mark. One of your first jobs after you have obtained material from stock will be to measure and layout where the material will be cut. This kind of layout may be a simple pencil or chalk mark and is one of the basic tasks of semi precision layout.

Precision layout can be a complex and involved operation making use of sophisticated tools. In the aircraft and shipbuilding industries, reference points, lines, and planes may be laid out using optical and laser instruments. In the machine shop, you will be primarily concerned with layout for stock cut off, filing, and offhand grinding, drilling, milling, and occasionally in connection with lathe work. The process of layout can be generally classified as semi-precision and precision. Semi-precision layout is usually done by scale measurement to tolerance of +- 1/64 in. Precision layout is done with tools that discriminate to .001 in. or finer, to a tolerance of +- .001 in if possible. The surface plate is an essential tool for many layout applications. A surface plate provides an accurate reference plane from which measurements for both layout and inspection may be made. In many machine shops, where a large amount of layout work is accomplished, a large surface plate, perhaps 4 by 8 ft. may be used. These are often known as layout tables. Any surface plate or layout table is a precision tool and should be treated as such. It should be covered when not in use and kept clean when being used. No surface plate should be hammered on, since this will impair the accuracy of the reference surface. The surface plate will play an important part in many of your tasks.

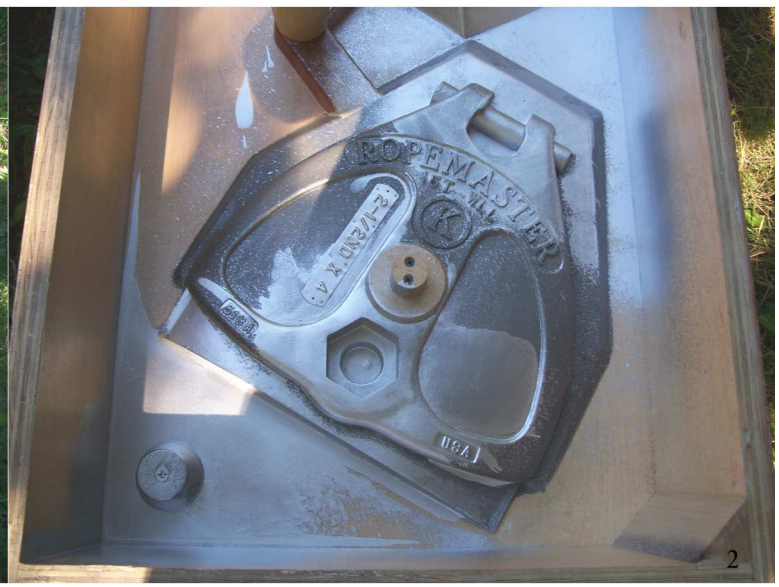

Bud Statton prepares to light the furnace to get the festivities underway. There were high expectations after last year's fireworks. Alas, this year went rather smoothly.


Bill Baker worked on ramming several molds. Pounding sand is hard work!


On the left, Bud Statton explains the finer points of casting. To the right, Jarod Eells pours a full crucible of brass into the mold.

Bill Baker and Gary Martin worked on ramming a pattern for a machinists level. On the right, are two of Bill's castings for spoke shaves in brass that had just come out of the sand.

Gary Martin brought a pattern for railroad wheels destined for DisneyLand. The walls on the sides of the pattern indicate that they will be done in "no-bake" sand which has a resin included in the sand. Below are patterns for a large hoist. You can see the lettering "RopeMaster" on the right side.



This casting was done by creating the mold directly using a rapid prototyping machine. The mold was then buried in sand and poured. You can see the lines on the casting where the RP machine's steppers created a curve out of many layers of material.

It was such a nice day that some folks decided to take advantage of the relative calm and take a nap.