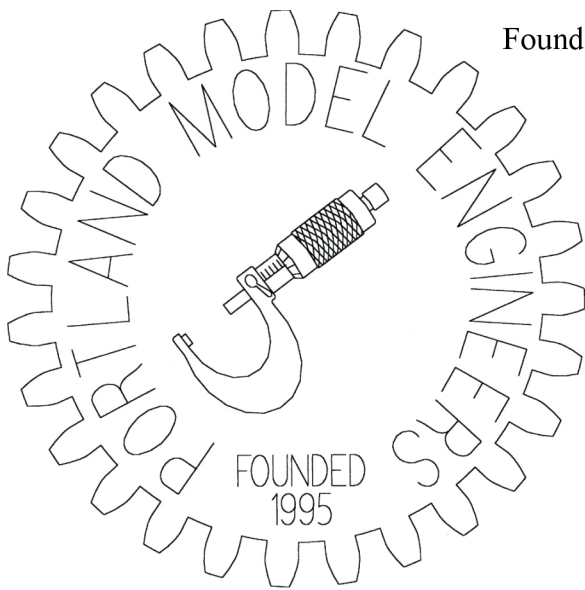


Founded by Dave and Beth Carr in 1995

September 2007



<http://www.portlandmodelengineers.org>

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For The Beginner #43 by Wes Ramsey

The August meeting saw Portland Model Engineers back in full swing. Several interesting engines and various contraptions were displayed and eagerly examined. Pictures of the event appear on the following pages.

Next month is our annual picnic at Bud Statton's Shop and Casting Emporium in Banks. We will meet on Saturday, September 8th. The event starts early in the morning with sand moulding instruction and lighting the furnaces. This year we have increased the amount of sand available to extend the pouring session. If you have a pattern that you would like cast in aluminum or brass, bring it along. Lunch will be provided at noon. Directions to his house are on the next page.

44750 NW Star St.
Banks, OR 97106

GEARS 2007

Last reminder for GEARS. The event will be held at the Kliever Armory September 22 and 23. This is the only show of its type on the West Coast and a lot of fun. For additional info:

<http://www.oregongears.org>

CLIMB AND CONVENTIONAL MILLING

In milling, the direction that the work piece is being fed can be either the same as the direction of the cutter rotation or opposed to the direction of the cutter rotation. When the direction of feed is opposed to the direction of rotation, this is said to be conventional or up milling. When the direction of feed is the same as the direction of cutter rotation, this is known as climb or down milling, because the cutter is attempting to climb onto the work piece as it is fed into the cutter. If there is a large amount of backlash in the table or the saddle nuts, the work piece can be pulled into the cutter during climb milling. This can result in a broken cutter, damaged work piece, and possibly injury from flying metal. Climb milling should be avoided in most every case.

However, in certain situations it may be desirable to climb mill. For example, if the milling machine has ball nuts and screws where backlash is virtually eliminated, climb milling is an acceptable technique. Even on conventional machines, climb milling with a very light cut can result in a better surface finish since chips are not swept back into the cut. During any milling operation, all table movements should be locked except the one that is moving. This will insure the most rigid setup possible. Spiral fluted end mills may work their way out of a collet when deep heavy cuts are made or when the end mill gets dull. As a precaution, to warn you that this is happening, you can make a mark with a felt tip pen on the revolving end mill shank where it meets the collet face. Observing this mark during the cut will give you an early indication if the end mill is changing position in the collet.

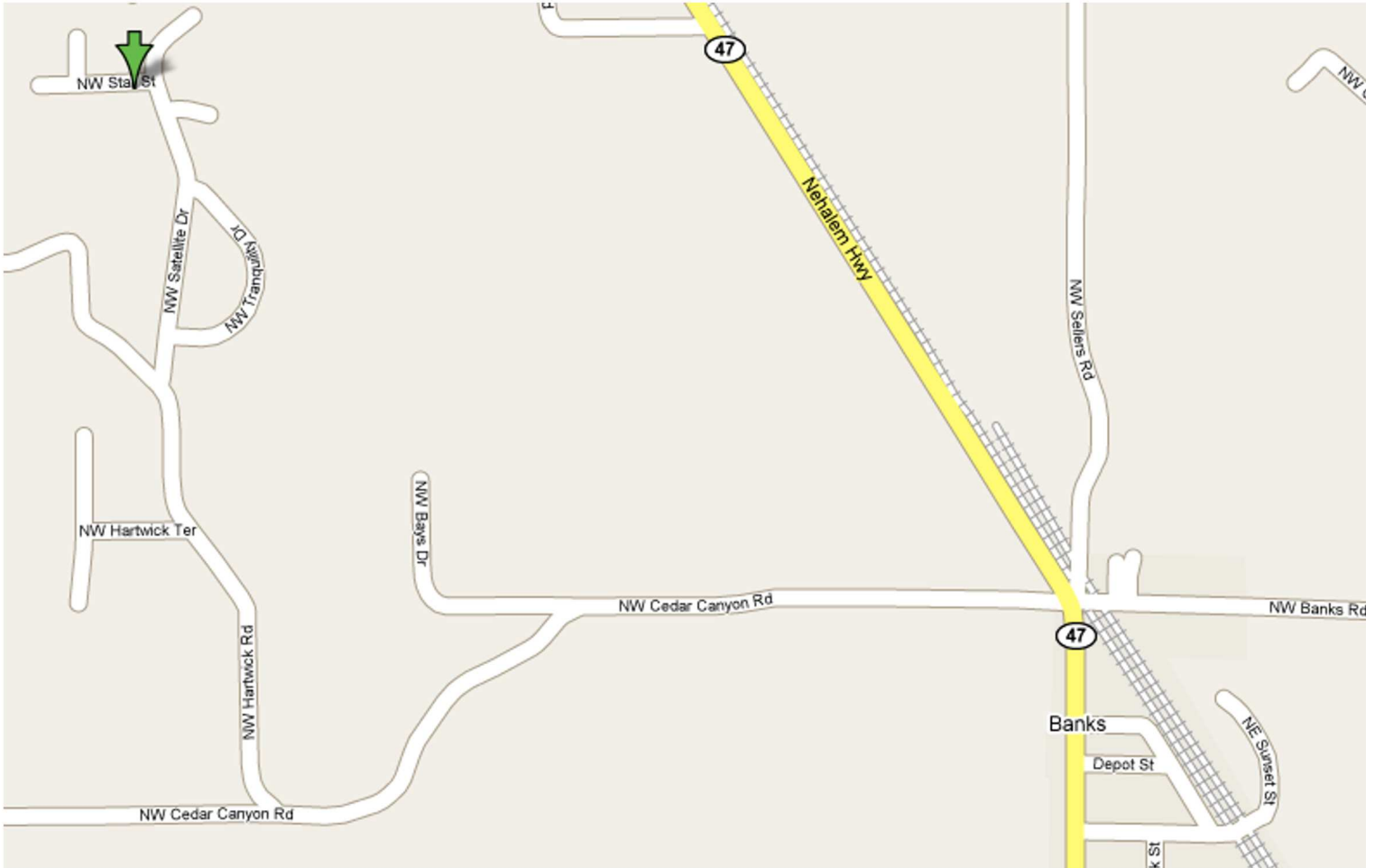
If your membership expired (as shown by 2006 on your address label) renew by sending a check for \$12 to:
PME Membership Renewal, c/o Carl Petterson, 3706 SW Troy St., Portland, OR 97219

September 8th PME Picnic and Casting Party

Bud Statton's Shop
44750 NW Star St.
Banks, OR 97106

(503) 324-9415

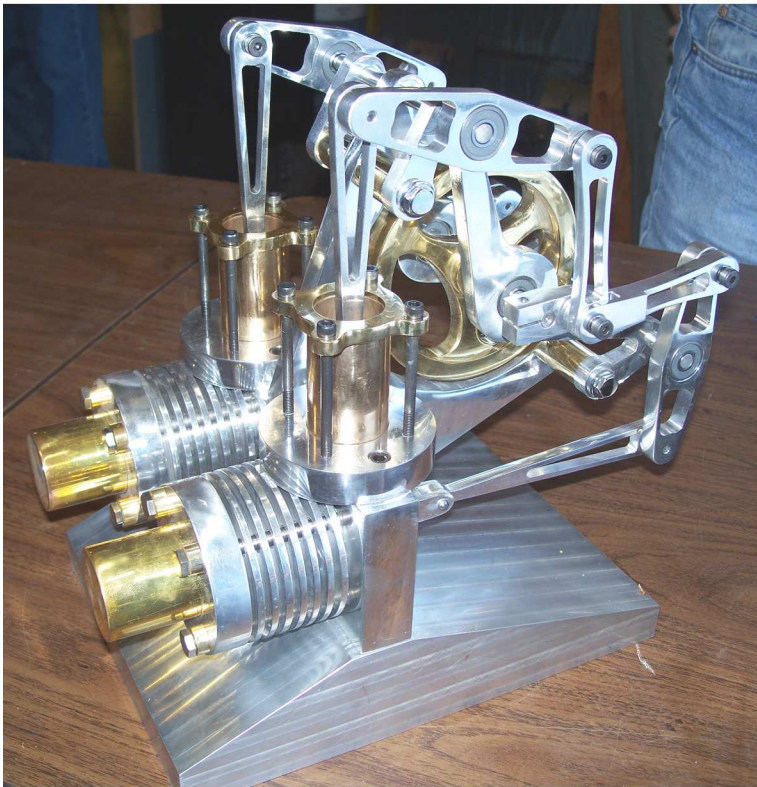
Lunch provided around noon.
Member's show and tell after lunch.



Direction from Portland:

Go west on Highway 26 towards Banks.
Continue past the Highway 6 exit on Hw26.
Turn left onto NW Banks Road.
After rail road tracks, it turns into NW Cedar Canyon Rd.
Turn right onto NW Hartwick Rd.
Bear right onto NW Satellite Dr.
Turn left onto NW Star St.

Bud's place is on the SW corner.



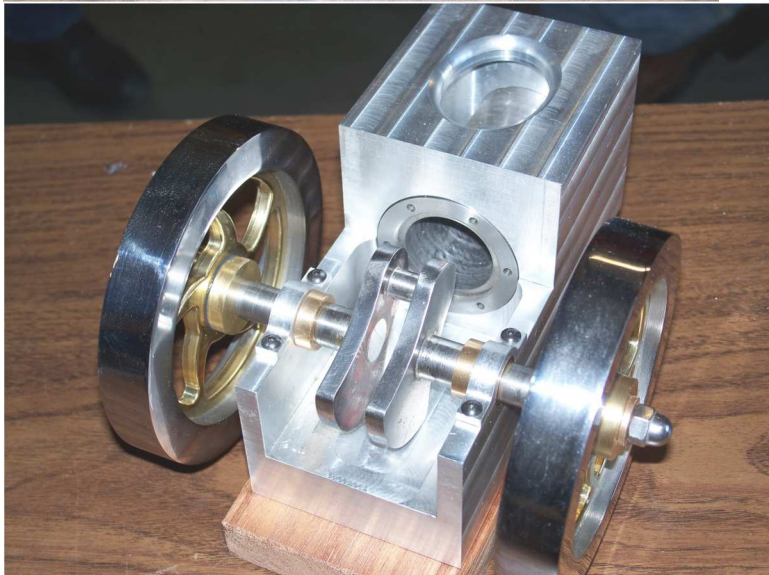
Above, this nicely polished 2-cylinder sterling engine was created by Terry Coss in conjunction with his high school shop class. Each year he leads a group of students to design and build an engine.



To the left, Al Pohlpetter demonstrated how it is possible to turn a large piece of metal into a much smaller piece and a large pile of shavings. This an eccentric and strap for his Bernay engine reproduction. He's been making steady progress on this project over the last few months.

Ernie Haskell showed a gas engine of his own design. There is a lot of fine engineering in that piece.

This set of gears for a lead screw lathe were cut by Tom Hammond. He used ductile iron and steel for them and was able to complete an average of 1 gear per day.





Bud Statton explained how to do no-bake molding. The green section is the handle to his Vietnam era flamethrower. The grey portion is the material necessary to raise the parting line to match the part. No-bake is quite a bit more expensive than greensand casting but does have the advantage that the mold doesn't suffer from dropout.



Bud also explained another project he was working on involving replacing Babbitt bearings on a motor armature.

Greg Dermer welcomes new members and keeps the meeting moving smoothly.

