

<http://www.portlandmodelengineers.org>

President: Greg Dermer	(503) 281 9238	depcco@easystreet.com
Vice President: Pat Wicker	(503) 612 8499	pwicker@aracnet.com
Treasurer: Bud Statton	(503) 324 9514	budstatton@worldnet.att.net
Membership: Carl Petterson	(503) 245 8335	tomten@easystreet.com
Editor: Jarod Eells	(503) 830 0157	jarod@eells.us
Webmaster: Greg Dermer	(503) 281 9238	depcco@easystreet.com
Member-at-large: Bill Miller	(503) 246 2175	bilau@gte.net

For The Beginner #35 by Wes Ramsey

FITS, Part III

A little more on fit.

SHRINK AND EXPANSION FITS

Parts can be fitted by making use of the natural tendency of metals to expand or contract when heated and cooled. By heating a part, it will expand and can then be slipped on a mating part. Upon cooling, the heated part will contract and grip the mating part often with tremendous force. Parts may also be mated by cooling one or the other so that it contracts, thus making it smaller. Upon warming to ambient temperature, it will expand to meet the mating part. Shrink and expansion fits can have superior holding power over press fits, although special heating and cooling equipment may be necessary. Like press fits, however, allowances are extremely important. Consult a machinist's handbook for proper allowance specifications.

Last month, Greg opened the meeting with a call for nominations. It's that time again and several stepped forward to fill the open positions. Here are the officer nominations as of last month.

President: Greg Dermer
 Vice President: Roger Rudert
 Treasurer: Bud Statton
 Membership: Carl Petterson

And remember, any member can be nominated. We will conduct a final vote at the next meeting. Likewise, several photographers responded:

Henry Casson, Jim Pfaltzgraff,
 Bill Miller, Roger Rudert

Next month we will meet at Grant Carson's shop on Saturday, December 9th, 1:00pm. The address is:

A & G Products
 7360 SW Bonita Road, Unit C
 Tigard, OR 97224

Remember to bring a metal-related project -- complete or not.

Finally, a note about 2007 membership dues. Send a \$12 check to:

PME Membership Renewal
 c/o Carl Petterson
 1631 SW Pendleton St.
 Portland, OR 97239

17 members have not renewed since 2005. If your address label had 2005 (and red marker), don't wait, call Carl and get that straightened out.

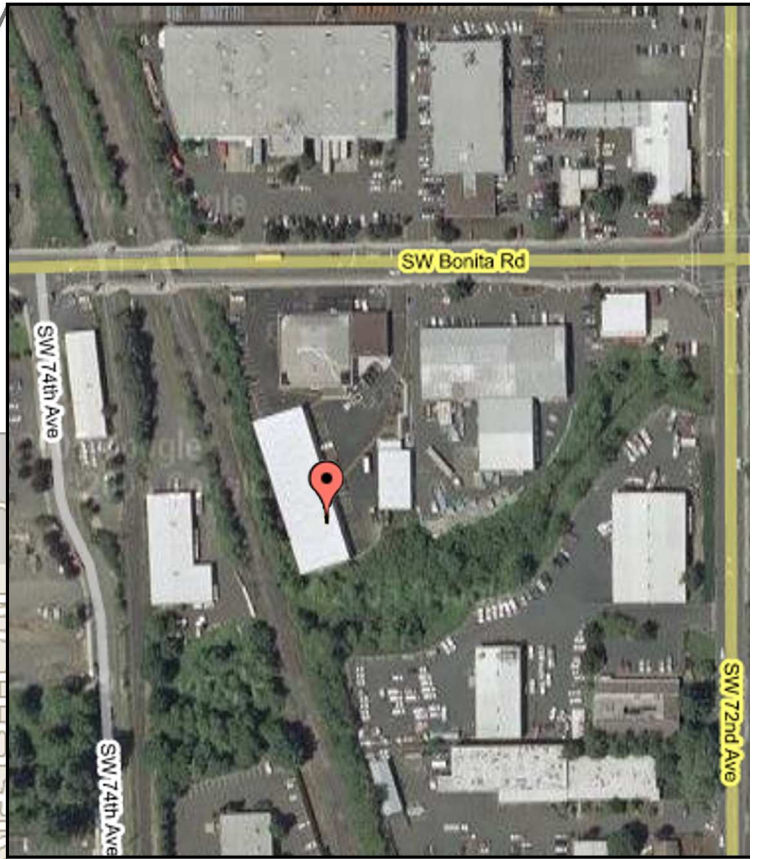
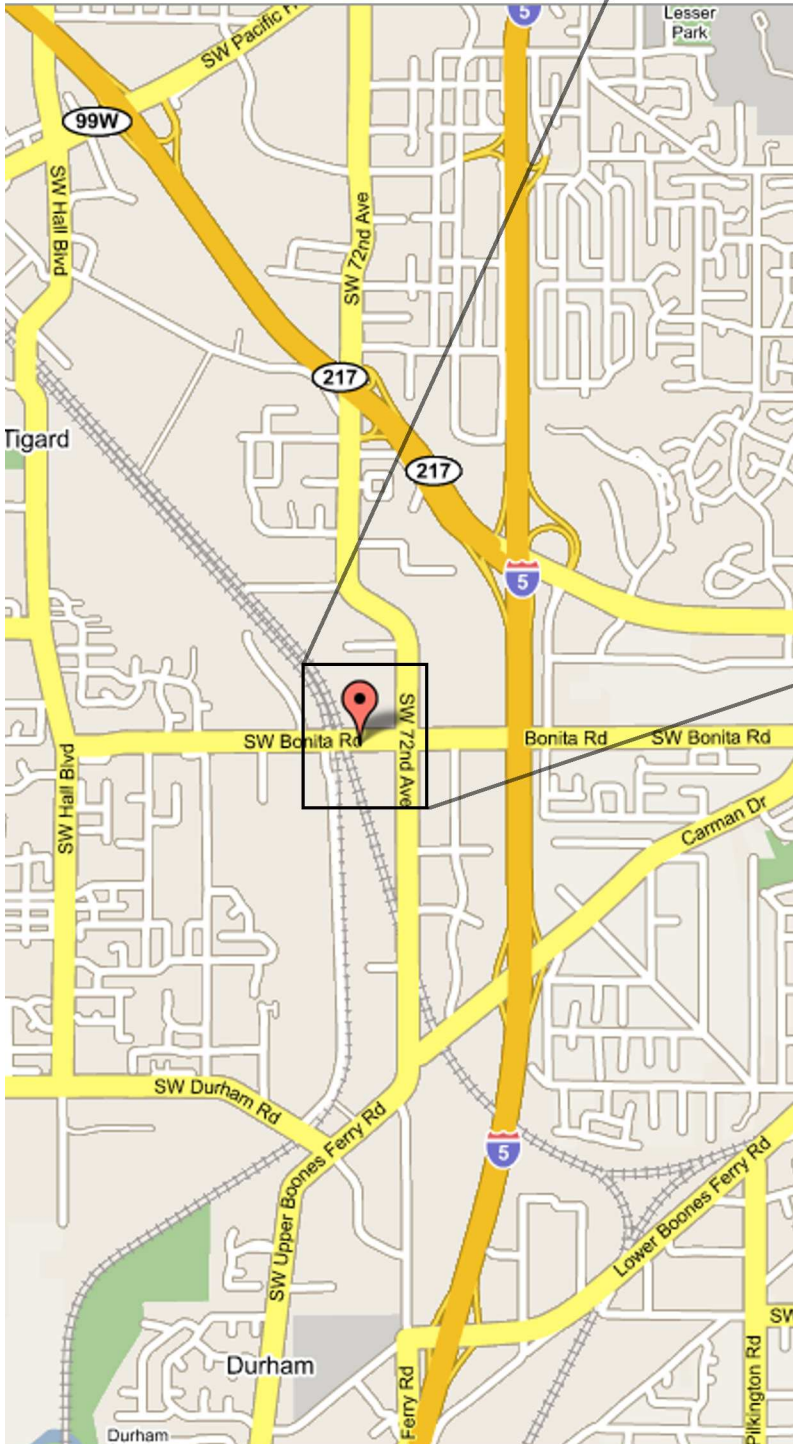


Above Paul Pierce instructs a fellow member on the finer points of dumpster-diving. But somehow no one took home the 3 phase motor...

A & G PRODUCTS

Saturday, December 9th, 2006
Meeting, 1:00pm

A & G Products
7360 SW Bonita Road, Unit C
Tigard, OR 97224



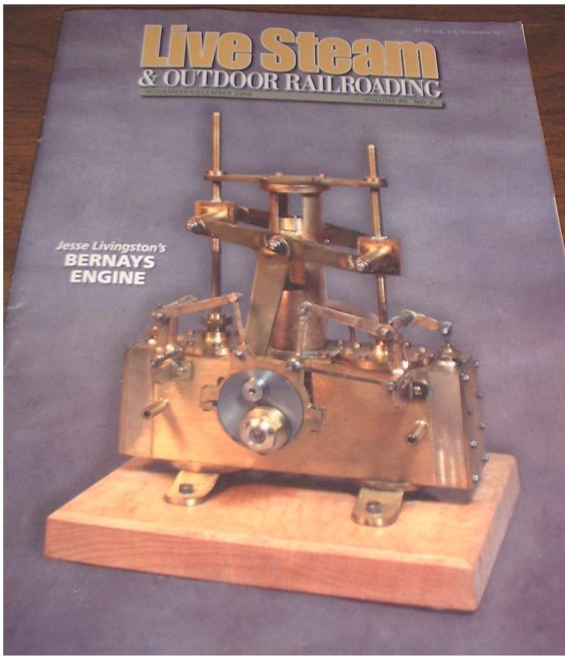
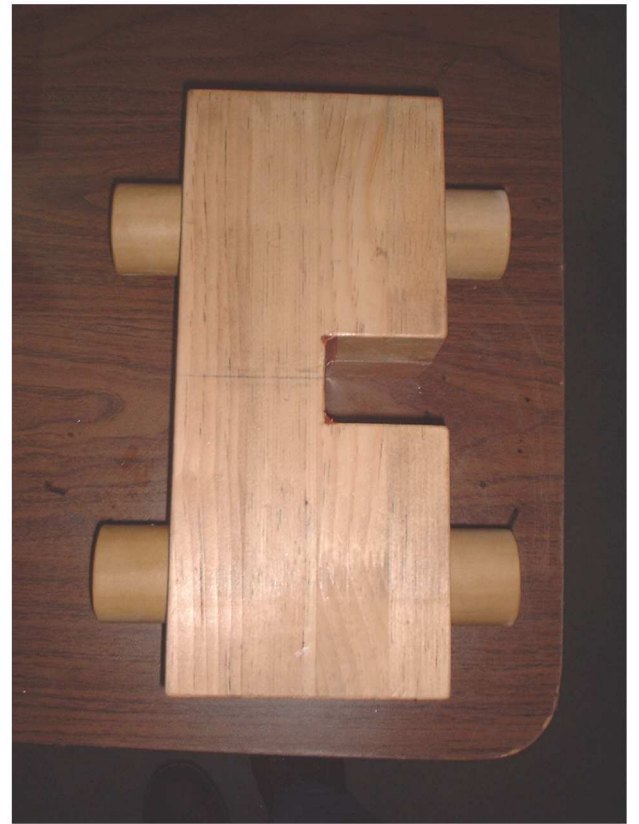
Directions to Grant's

From I-5:

Use exit 292 to Hwy 217, go north about 1/4 mile toward Beaverton to SW 72nd exit. Turn left onto SW 72nd Ave, go about 3/4 mile to Bonita Road, turn right. A & G will be on your left.

From Hwy 99 (Pacific Ave):

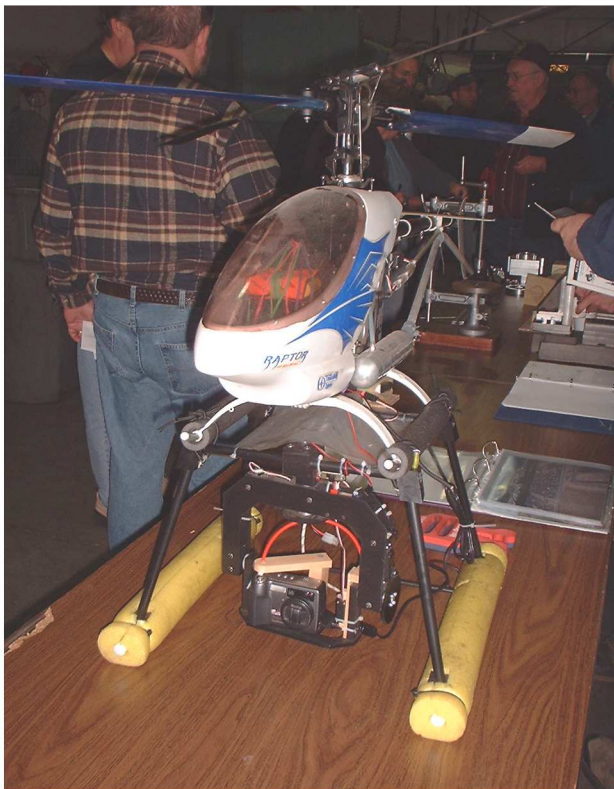
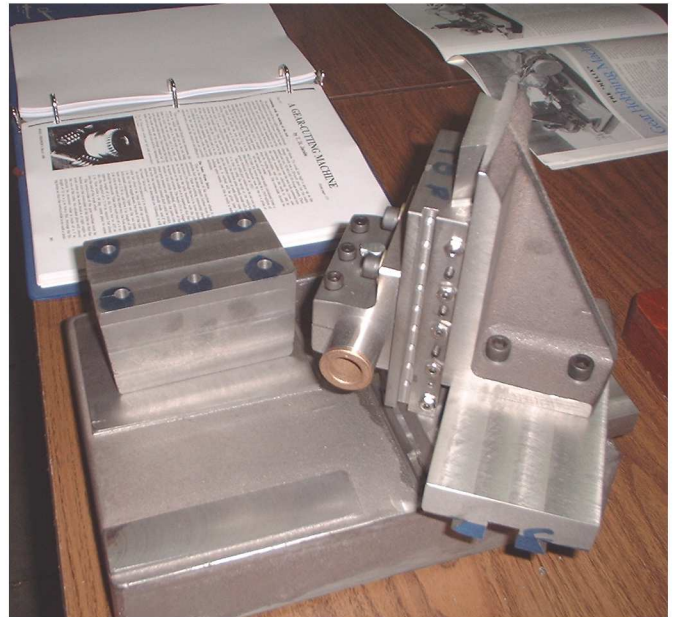
Turn south onto SW 72nd Ave, proceed about 1-1/2 miles to Bonita Road, turn right. A & G will be on your left.



Al Pohlpetter (above) brought in a couple patterns a Bernays engine featured in Live Steam magazine.

Below are the Gear Hobbing Machine and its base pattern. Tom Hammond explained its function and abilities.



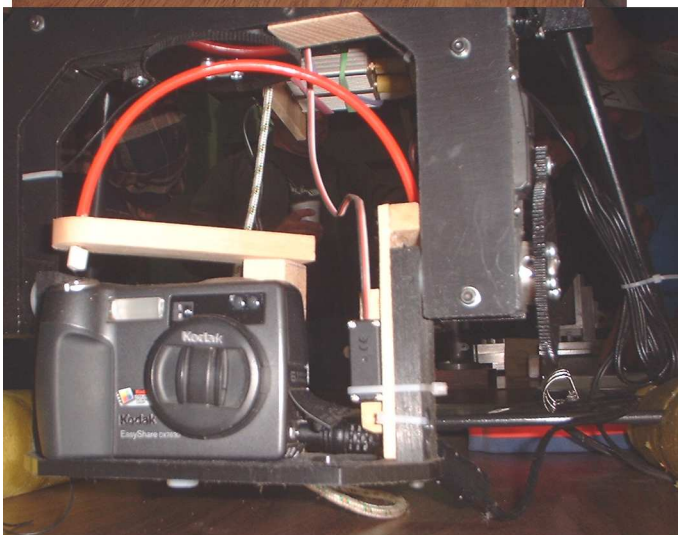


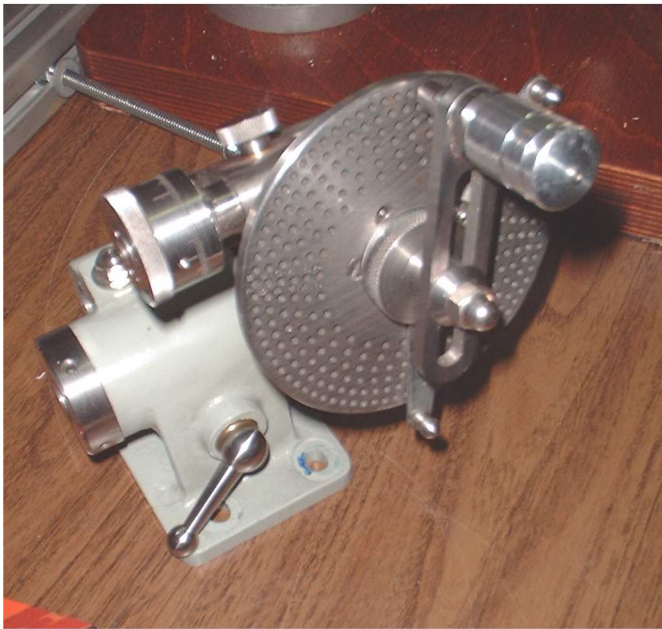
CCW from the top, Tom Hammond assembled a hobbing gear machine. The plans are taken from Projects in Metal.

This behemoth is a giant surface grinder now installed in Grant's shop. The table is able to travel over 10 feet by 3 feet.

Justin Johnson brought in his RC helicopter. He has equipped it for aerial photography both still and video feeds. A second operator manages the camera. The helicopter was assembled from a kit and he has been flying this machine for over 3 years. The control stick can be interfaced to a PC and used with a flight simulator for training.

Keith Vic is sponsoring a contest with the theme of building a better "Rodent Apprehension Device" following his capturing around 70 of these creatures. Extra credit will be give for use of unnecessary force. Judging will be conducted at the 2007 Feb meeting with prizes of \$75, \$20 and \$5 for 1st through 3rd place, respectively.





Again CCW, Virgil Jeffries showed off his 1/2 scale Harley-Davidson engine parts.

Tom Hammond displayed a dividing head w/ 3/4" spindle. The idea is to scale up to accommodate 5C collets.

Henry Casson, Pat Wicker, Bill Miller and others met at Bob Diffley's house to pursue their goal of designing a rapid prototyping machine. Several promising avenues are being followed: a \$3.95 hot-glue gun was disassembled to see how the innards work and laser-cutting of paper sheets. Below Bill and Henry examine the inner workings of a wax fed laser print head.

This scale model of a turn-of-last-century hit-and-miss engine was found sitting in a corner of Bob Diffley's shop.

