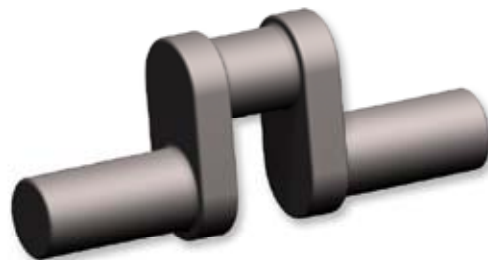


# **The Crank Calls**



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June 2009

## **MEMBERSHIP**

**\$25.00 US**

Contact

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### **NEXT MEETING**

June 20, 2009 at

Chabot College, building 1400

25555 Hesperian Blvd, Hayward 94545

Doors open at 9 AM

Meeting Starts at 10 AM

### **Upcoming Events**

June 28 Palo Alto Concours

July 18-19 WEME in Vallejo

**Election of officers**

**Swap meet before the meeting**

**Sign up for tables at WEME show**

### **MEETING NOTES**

**5-16-09**

**Carl Wilson**

Bay Area Engine Modelers welcomed two guests at the May meeting: Ann Caruso and Bryan Jones, a grand-nephew of Mike Rehmus and car nut.

Bob Kradjian took First Re-Pop Honors this month with a Challenger engine and Jaime Quevedo reported First Pops on his Mastiff.

Bob K. made the treasurer's report on Ken Hurst's behalf: the checking account holds \$8342 !

Discount cards and promotional flyers for the upcoming 2009 Western Engine and Model Exhibition are included with this newsletter. Please give them to friends and post them anywhere that gear heads and modelers might be found: auto parts stores, hobby shops, auto dealer's service areas, barbershops, car clubs, other related hobby groups, etc. This is a new advertising method for the show and its success depends upon you taking the time to post these cards and flyers. Pat O'Connor reminds

everyone to sign up for your tables at the show. It is getting close to show time and Pat needs your reservations so that he can allocate space and services.

On behalf of the members of BAEM and modelers everywhere, congrats to Louis (Lou) Chenot, member of BAEM, and recipient of a Lifetime Achievement Award from the Internet Craftsmanship Museum. Pictures of Lou, and his shop and models are at:

<http://www.craftsmanshipmuseum.com/Chenot.htm>

Strictly IC Magazine, published for many years by Bob Washburn, has been bequeathed to Paul Knapp. This trove of knowledge about designing, building, and operating our model and miniature engines will be preserved and made available to enthusiasts.

Mike Rehmus has started issue #19 of Model Engine Builder and gave members a "sneak preview" of the centerfold. Ron Bement of Denver, CO has finished his quarter scale model of a Ford flat-head V8 with Duntov

hemispherical heads. A video of the engine and more information may be found at: <http://au.truveo.com/Ardun-Flathead-Engine/id/144115235182770936> A cross-section drawing of the Duntov head is at: [http://www.ardun.com/ardun\\_history.htm](http://www.ardun.com/ardun_history.htm). This drawing shows how the pushrods and rocker arms are arranged to operate the valves on this unique head.

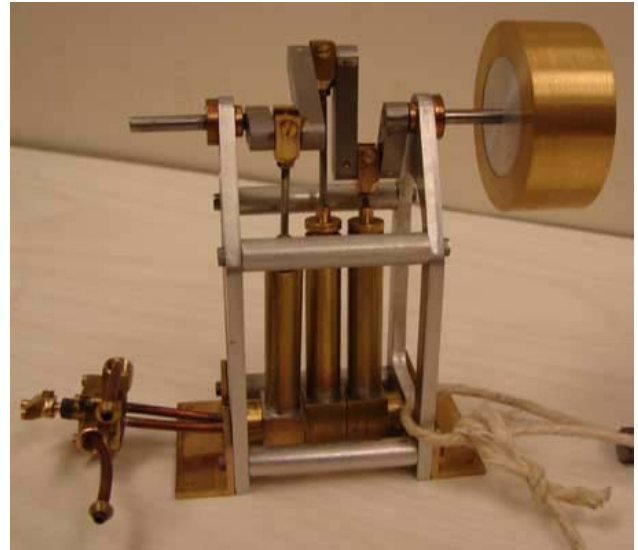


Bob Kradjian purchased this Challenger from its previous owner in Tennessee. The flywheel had a wobble which Dwight Giles traced to a problem with its bore for the crankshaft nose. Dwight bored the hole oversize and installed a press fit sleeve which was then machined to size and broached for a keyway. It is not easy to remove the Challenger flywheel so Dwight also made a puller. The remaining wobble is due to the flywheel not being round! This was caused by the excessive removal of metal during the polishing operation by the previous owner.



Peter Lawrence keeps on machining. This month he brought the heads from his Merlin engine. The valve seats, guides, and ports are

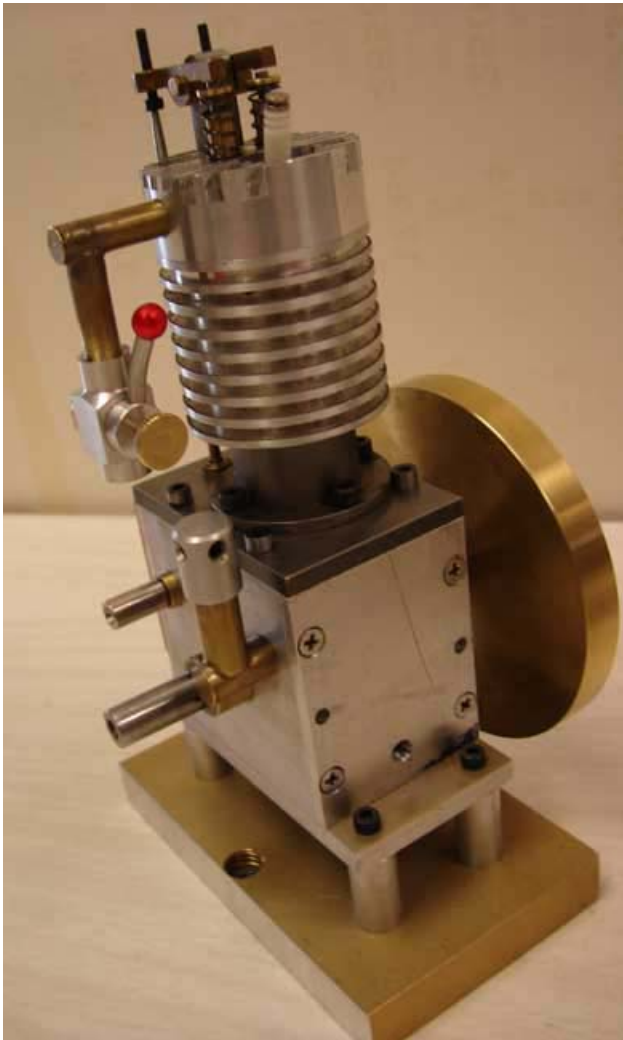
completed. Peter tried to wind his own springs but had sufficient difficulties to persuade him to buy them. The oil distribution gallery, a 1/8" dia hole 8" long was drilled in the vertical mill. The heads were gripped in the vise, indicated in both vertical planes, and peck drilled from each end. The holes meet in the middle, but there is a slight offset. Nice piece of work, Peter. Looking ahead, he said that the sparkplugs scale to #6 machine screw size which is a bit small, but he is determined to make his own, probably using Corian as the insulator.



Issue #18 of MEB contained a build article on this 3 cylinder oscillating steam engine designed and built by Malcolm Beak. This slow-speed engine, intended for a paddle wheel boat, has a unique valve mechanism and appears to be easy to build. The 9/32" bore is atop a 1" stroke – now that's an undersquare engine.



From left to right, Ken Hurst, Dwight Giles, and George Gravatt relax at a recent show.



Jim Piazza is back to work on his four builds of the Upshur vertical single. He has relocated the sparkplug from the side to the top of the head. Jim said that there is not much room and the sparkplug has to be located precisely.

### **TECH TIP**

Jaime Quevedo answered a question about the magnets used in a Hall effect ignition system: "I use a Turcite™ disc with 1/4" diameter supermagnets glued at a 3/8" radius."

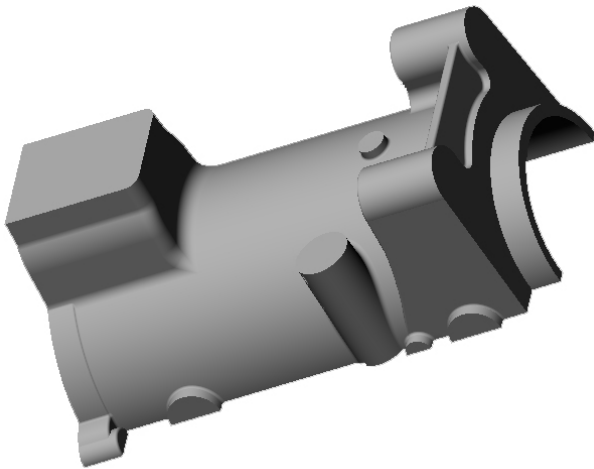
### **TECH TOPIC**



At approximately the turn of the 20<sup>th</sup> century gas engine technology was sufficiently reliable that it could be used on ocean-going fishing vessels. Benjamin Hicks on the west coast was one of the pioneers that developed suitable engines. An example of a 6 hp single cylinder Hicks is in the San Francisco Maritime Museum. Dwight Giles has a similar engine made in 1926 sitting in his driveway: Dwight, Mike Rehms, and Jason Chastain are working on a 1/4 scale model of this engine. The prototype has a 6.5" bore which scales to 1 5/8" and from the photo the prototype appears to be about 4 or 4 1/2 ft tall. This will be a nice size model at 12 – 13" tall. An interesting feature of this engine is that speed control from 100 to 500 rpm is achieved by varying the valve clearance. The disembodied hand in the photo is grasping the handle which moves the intake rocker arm to vary the amount that the intake valve opens. See: <http://gasengine.farmcollector.com/Gas-Engines/A-Marine-Engine-For-My->



[Collection.aspx](#) for a good description of a Hicks single cylinder engine and its operation.



Jason Chastain is drawing the engine in Alibre 3D solid modeling software. Mike said that the variety of features in (especially) the cylinder casting have taxed the abilities of this software. Jason has had trouble with getting the fillets between various protrusions and the cylinder itself. Mike believes in the belt and braces (that is belt and suspenders) for the patternmaking for this model. The team will make two patterns: Dwight will make a wood pattern using traditional methods, and Mike and Jason will export the CAD file in a .stl file for a stereo lithography machine. This will make a pattern in a polymer material.

Mike began using Alibre CAD software about the time of the third issue of his magazine, Model Engine Builder. He has promoted this software within the model engineering fraternity and has taught seminars on its use at the North American Model Engineering Show. He has also assisted Alibre in the development of this software by making suggestions based upon his extensive use. Alibre has acknowledged his contributions in an on-line article at: <https://www.alibre.com/success/cs/Rehmus.asp>. Congratulations, Mike.