The Bay Area Engine Modelers Club, Branch 57 of EDGE&TA

**MEMBERSHIP**
**$25.00 US**
Contact
Ken Hurst at
(707) 257-2481

# The Crank Calls

October 2008

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| President | Don Jones | (510) 812-7006 | dj712@sbcglobal.net |
| Secretary | Carl Wilson | (650) 967-7715 | talleyho123@yahoo.com |
| Treasurer | Ken Hurst | (707) 257-2481 | icengine@comcast.net |
| Events | Ken Hurst | (707) 257-2481 | icengine@comcast.net |
| Tech Topics | Paul Bennett | (510) 247-3106 | paulbennett01@comcast.net |
| Editor | Steve Jasik | (650) 322-1386 | steve@jasik.com |
| Printer | Larry Zurbrick | (408) 448-5752 | Lz_m57@pacbell.net |

NEXT MEETING
Oct 18, 2008 at
Chabot College, building 1400
25555 Hesperian Blvd, Hayward 94545
Doors open at 9 AM
Meeting Starts at 10 AM

**Upcoming Events**

## MEETING NOTES

9-20-08 Carl Wilson

We had a bumper crop of guests at the September meeting: Clifford Short, Kim Wettig, and Miguel Garibay saw our demonstration at the Good Guys and Gordon McHenry saw us at the Palo Alto High School. Ken McNees is an ex-member who has returned to the fold. Simon Shabtai Evan came from Saratoga and Dave Masters from Palo Alto. Welcome to all of you and thanks for attending.

President Don Jones asked if anyone had First Pop honors and I heard some mumbling about George Gravatt having a "first knock" on an Upshur engine. Somehow it didn't sound like it actually ran. Keep trying, George.

Ken Hurst, Treasurer, reported that we are solvent with a bit more than $5000 in the kitty.

John Palmer said that the season for EDGETA events is over and went on to talk about the Cars in the Park show in San Jose. One of the highlights was the timed assembly of a Model T. The front and rear end and engine were pre-assembled just as they would be coming onto an assembly line. The rest was a pile of parts and buckets of fasteners. This group assembled, fueled, and started the car in 12 minutes but this is way off of the record which is around 6 minutes. The total time for each car on the Ford assembly line was 6-8 minutes.

Mike Rehmus said that the Oregon GEARS show was a bit smaller this year but still a very good show with lots of hit-n-miss engines. Jim Moyers won Best of Show with his one third scale model of a Corvette 327 ci V-8.

Bob Kradjian reported on our presence at Good Guys: three long days and a very appreciative crowd. Note that three of our guests learned of us from that show.

Pat O'Connor presented the final accounting for this year's WEME Show. Our beginning balance was $1,083.64 and the closing balance is $399.50. The two day show lost approximately $600. All of the bills have been paid and the seed money loaned to the show fund by the members has been repaid. The show funding has, so far, been separated from the general fund of the club.

The managers of the show met before the club meeting to craft a recommendation to the club for a proposed show in 2009. We considered a range of possibilities: different venue, combining with another show such as Good Guys, one or two days, and ways of cutting costs and raising revenues. We agreed on this proposal: A one day show held on the regular meeting day of the 3rd Saturday of July, 2009, at the Vallejo Veteran's Center. We reserved the right to change the venue should the show managers decide that it is in the best interests of

the show to do so. The minutes of the meeting are available from the club secretary.

I made the recommendation to the club members and explained that one of the major concerns of the show managers is that the participation of the club members both as exhibitors and volunteers was less for the second show than for the first. I also explained to the members that the show managers referred the decision to hold a show in 2009 to the membership because it was the membership that passed the initial motion to hold a show and that responsibility remained with the membership until it might be passed to the show managers. At this point I returned the meeting to the president for discussion and a motion.

Paul Bennet noted that some of the club members think little of spending a large sum of money to travel to other shows and looked at in this way, the money spent on our show is much less. Steve Jasik asked about other venues. Mike Rehmus responded and I am going to summarize his presentation as: at this time there is no known other venue that we can afford and that will allow us to run engines indoor. The decision of the show managers is to stay within our means and grow slowly as necessary and we believe that the best way is to remain in Vallejo. Paul Bennet and Bob Kradjian opined that the show could lose small amount of money: the important thing is to have the show: to present our hobby to the public, to have a gathering place for friends and fellow modelers.

A motion was made and seconded that the club accept the recommendation of the show committee. It was passed by a show of hands with no objections. Before December the show managers will decide the venue and insert our show schedule onto the calendars of other organizations and of the national magazines for the hobby. Mike is also working on short videos of some of our engines to be placed on YouTube and also used for advertising.

Paul Bennet moved that Mike Rehmus be named as Chairman of the Western Engine and Model Show: seconded and approved. There wasn't much discussion and I am going to take the liberty of doing a bit of discussion here:

Mike has a full-time job writing and drawing for his magazine Model Engine Builder. He is willing to investigate the possibility of a new venue in Vallejo; to create videos of our engines for advertising; and to write advertising material for newspapers and television. He is unable to undertake any further management responsibilities and has asked the club to reconsider this decision. We need a general manager and an advertising manager for the show. Mike has appended these comments:

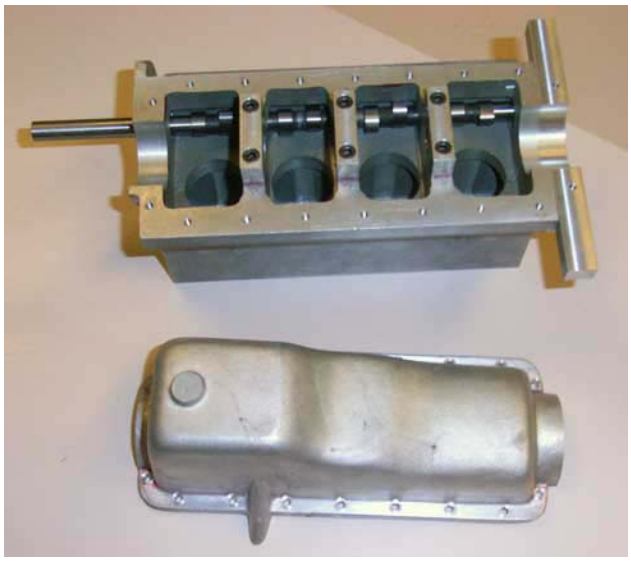
"We also need a Promotions Manager (or several) for the show who will maintain and improve contacts with local and peninsula newspapers and television stations to obtain pre-show coverage, and with the other groups and locations with some interest in the show. These contact areas are:

Television contact in SF & Sacramento
Newspaper contact in SF, Vallejo, Fairfield, Benicia, Vacaville, Sacramento & Dixon
Message for the mass communicators is the human interest and educational side of the hobby. Carmin Adams, Dwight Giles, John Palmer are all good for this side of the hobby.
Counter cards or posters for area museums. May want to put a model under glass at their location for a while.
Video clips for handouts - I can provide this
PR release for handouts - I can provide this
Club PR manager that will commit to addressing those groups that have shown interest in the model engines. Those are:
- Car clubs
- Auto Racers of every type
- Mechanics
- Backyard mechanics
- EDGE&TA
- Classic car groups & Infineon race track through Buck Kamphousen

Ways to address them:
- PR release to clubs along with video
- PR release and visits to race tracks. Maybe take a V-8 to the 10 race tracks in the area and run it during an intermission
- Posters for auto dealership break rooms, counter cards for car parts stores - discuss possibilities with their regional offices.
- Posters for barbershops
- Posters/counter cards for Sports shops
- Videos for You Tube – I can do this
- Freshened Web site immediately with videos
- Links from other event web sites
- PR to other model engineering clubs
- Ad in MEB & HSM. Maybe Gas Engine Magazine too
- Business cards for every club member as we have done in past years

These must be ready to go in January of 2009

I would suggest that the club consider building 3-6 demo engines that can be contained in a enclosed case. The engines would be self-contained in the case and with removal of the top, ready to run. Probably propane fired hit & miss or throttled one-cylinder engines would be best. Maybe the engine would drive a DC generator to light a few LEDs. Having these would really catch people's attention. Maybe we'd announce that one of them would be a door prize with a ticket given as part of the admission fee.



Dwight Giles has started work on a four cylinder inline OHV engine with 1 1/16" bore on a 1" stroke. Note the very nice cast aluminum oil pan. The castings are one half of the Black Widow engine: patterns by John Vlavianos and castings from Del Vecchio Foundry. The valve gear will be exposed so that the engine will feature some monkey motion – always a crowd pleaser.


These cams (for a Wall 4) and the one in the engine were ground on Ken Hurst's grinder from 4130 chrome moly steel. They were hardened after rough turning by gripping the shaft in the chuck of a drill press running at slow speed; heating adjacent lobes to bright red and quenching in water (while still running.) This procedure minimizes warping during heat treatment. The lobes were not tempered. Cams made from 4340 should be tempered after hardening.

Dwight located the vertical center line of the camshaft tunnel from the best layout on the casting, but he had to move the horizontal center line up from the center line of the crankshaft by an amount that would yield the correct running distance for the gears. This distance can be calculated from their number of teeth and diametral pitch, but Dwight checked that with a setup on the milling machine. He mounted the gear on a gage pin held vertically in the mill vise and the DRO was zeroed on the center of the pin. The pinion was mounted on a pin in the drill chuck and brought into smooth engagement with the gear. The best running center distance was established by rotating the gears and reducing the center distance to the minimum that gave smooth running. The DRO readout now showed the result. A bit of the Pythagorean theorem using that number as the hypotenuse and the distance established by the layout on the casting as one leg and Dwight had the vertical distance to the center of the camshaft.

Dennis Mead and I are working on a vacuum engine based on the design by Jan Ridders and recently published in Model Engineer. Jan's design was from bar stock, but we decided to implement his innovative valve design in a set of castings. This is the pattern board for the brass flywheel. We are having problems with casting this pattern: in three pours we have had six failures. I brought it in to consult with

members of the club on possible reasons for our problems.

Peter Lawrence continues work on his model of the Rolls Royce Merlin V-12 aero engine. This month he displayed the supercharger cases and the drive gearbox. The cases started out as square pieces of aluminum plate clamped together, drilled and reamed in the center and at the corners for fixturing and clamping holes. The rest was mostly rotary table work. The volute of a centrifugal compressor has a constantly changing circular cross-section. The half on the left shows how Peter approximated the volute by milling sections of increasing depth with corresponding diameter ball end mills. On the right is the result after lots of hand work and more milling to produce the guide vanes.

The gearcase presented some design problems for using stock gears and bearings. Peter settled on a single speed drive (the Merlin used a two speed drive) because it would have been very difficult to incorporated the clutches used in the two speed design.

More information on the Merlin engine is available on Wikepedia at: http://en.wikipedia.org/wiki/Rolls-Royce_Merlin

## Tech Topic

Steve Jasik gave a talk on how to prepare the club newsletter and discussed sliding headstock lathes or Swiss Screw machines which are used to make small precision parts which may be fairly long relative to their diameter. The headstock firmly grips the material (round stock) which is fed through a guide bushing. The cutting tools are right next to the bushing. For most operations, the parts are machined in one forward pass.

In the below diagram, the headstock moves in the Z1 axis, the cutting tools in the X1, Y1 and the material and the guide bushing are right below the cutting tools.

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

## Stuff for Sale