

# Bay Area Engine Modelers Club

## The Crank Calls



December 2015

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### MEMBERSHIP \$25.00 US

Contact Paul Denham at  
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DUES ARE NOW DUE

### NEXT MEETING

December 12, 2015 at  
Chabot College, building 1500  
25555 Hesperian Blvd, Hayward 94545

**Doors open at 10:00 AM**  
**Meeting starts at 11:00 AM**

### Upcoming Events

BAEM meetings: 3rd Saturday of the month

**Annual Potluck Luncheon at our December 12th meeting. This is the 2nd Saturday of the month! Bring food and other goodies as well as engines to show and run.**

### MEETING NOTES

November 21, 2015

Bob Kradjian

President Don Jones called the meeting to attention promptly at 10:00 am.

**VISITORS:** None.

**FIRST POPS:** None reported.

**MEETINGS:** There are no engine shows scheduled, only our usual monthly meetings.

Please note that our December meeting is moved up to the 12<sup>th</sup> for our annual Potluck luncheon. This is a delightful meeting with only a very brief initial "business" time and the rest devoted to eating, talking with each other, and running engines. Bring an engine and fire it up for the rest of us to enjoy your artistry. Or, bring your project or engine in progress, we all enjoy seeing these take shape.

**TREASURER'S REPORT:** Paul Denham reports that we solvent. **He is accepting dues for those who need to re-enlist for 2016. Dues are \$25.00 per year.**

**CLUB BADGES:** If you need a badge, contact Mike Rehmus (mrehmus@byvideo.com) who has offered to produce them.

**EVENTS:** **There are no events scheduled with the exception of our annual December luncheon for next meeting on December 12<sup>th</sup>, not on the 19<sup>th</sup>.**

### **WEME SHOW:**

Money has been authorized for our WEME fire extinguishers. Our units were deemed out of date by a fire marshal at the August show. All have been tested and are stored in the show trailer. The trailer was a magnificent gift from John and Diane Gilmore.

Lon Keeth has agreed to team up with Steve Hazelton to run the August WEME show in Pleasanton. This will be a terrific aid to Steve, who did a terrific job shouldering the load last time. Thanks to both Lon and Steve! The latest Good Guys Gazette lists our mini engine display as a feature of the upcoming 2016 West Coast Nationals.

The repair and maintenance of our cooler for the compressor system remains a project to be completed before next August.

Seth Abrams, the “Tank Guy”, will give us an update on the Maker Faire and his involvement there. Our club did appear there only once. The fairground restrictions made it difficult to exhibit and we have not returned.

Dave Palmer told Steve that the Craft Show has become so popular that they are moving it to the Sonoma County Fairgrounds. Al Aldrich and others have enjoyed exhibiting at this show in the past.

If a member has an idea for a Field Trip, please discuss it with Steve. We have had some interesting trips in the distant past.

#### FACE BOOK:

Anthony Rhodes spoke for many of us when he said he “...would never go on Face book”. Despite this, Steve and Don reviewed many of the pages from our Face book club site on the overhead projector. There certainly is a lot of activity on the site and some of us may have to re-examine our resistance. I have some additional motivation since noting photos of my engines and my name on some of the posts. At least, a correction can be made if needed.

Don Jones gave us a detailed report on Chabot College’s latest 3D printer. It offers a good bit more detail and a finer finish on work pieces than previous printers do. It also can work in a variety of materials and is quite fast. The cost is far beyond the average homebuilder’s resources, however. For details, see Google for the Stratasys Poly Jet 3D Printer. Not only is the price intimidating, the powder is very costly.

### **BITS AND PIECES**

[Ed. note - No photos this month since no Bits and Pieces were brought to the November meeting.]

Jamie Iriki is involved with RC Monster trucks and cars. He showed us a differential housing produced by a commercial supplier. Is he thinking about producing some of these himself? In this regard, it was pointed out that high quality hypoid gears are easily available from salvaged angle grinders.

Jamie also wanted information on boring heads especially the Bore Rite or the Chandler Duplex for boring and facing. There was a lively discussion concerning the merits of the various available heads. Most members suggested staying away from very

cheap imports. A discussion on the subject of the Volstro milling attachment followed. Pat O’Connor has done some very nice work with his. This device bridged a gap that has now been filled by CNC technology. Dwight Giles reports that his three horsepower replacement head for his Bridgeport mill is so quiet that he has difficulty determining if it’s running.

The subject of coating end mills was also brought up by Jamie. The consensus of the group was to avoid the extra expense of coated mills and purchase fine grain tools and use good lubrication. Unless pushing high speeds or very hard materials, non-coated tools are fine. It was also noted that very sharp old-fashioned high-speed steel cuts are usually better than those made with carbide.

Jim Moyer sent a cute key-chain item. It is a camshaft made for his famous 1/6<sup>th</sup> scale Corvette engine. Despite all the claims made on You Tube of “the smallest running V-8”, Jim’s IS the smallest if you insist on spark ignition and four-stroke cycle operation.

The topic of leveling our machine tools made its appearance for the third consecutive meeting.

Bobby May found his lathe bed after longitudinal leveling was twisted by a “full bubble” or about 0.040”.

Dwight mentioned another problem associated with leveling machines in garage shops. Garage floors are required to meet a drainage slope code requirement. This is usually a quarter-inch per foot. If getting a permit for a new shop, avoid calling it a garage, to avoid this trap.

Don Jones described the experience his students have with a “step” machining exercise. If they use a caliper instead of a micrometer, their “scrap” rate is very high.

Bobby May has finally solved the wiring problems for his CNC machine. This has been the subject of running conversations for the last three meetings. However, his single-phase supply came in at 247 volts and the voltage out of the rotary phase converter was 258 volts! He was understandably reluctant to connect this lot to his nice CNC

machine. He acquired a device to tame this output to nominal levels, and is now in full operation with no smoke visible anywhere.

**Remember, the December meeting is the second Saturday---the 12<sup>th</sup> at 11:00 am. Bring food and other goodies as well as engines to show and run.**

## **TECH TOPIC**

Mike Rehmus provided a Tech Topic on dial and digital calipers: how and when to use them. *When* is the easiest: they are the easiest to read instrument and give quick medium accuracy measurements. They are not suitable for higher accuracy – for that, switch to micrometers. A good general rule is calipers for +/- 0.005” to 0.002” accuracy and micrometers for better.

The reason for their lesser accuracy is that calipers contact the work-piece along an axis that parallel but offset from the measuring device – that is, the rack or digital spar is not co-axial with the contact line. This may (or will) cause some error.

Another source of error is lack of parallelism between the contacting surfaces of the caliper jaws. This source of error may be checked by first cleaning the jaws by closing them onto a piece of clean paper and pulling it out. Then close the jaws with your usual gauging pressure and inspect the gauging surface against a bright light. A very small gap may be easily seen.

And it is understood, that the jaws should be cleaned before and during use.

Inexpensive gauge-block sets that are a useful shop tool and may be used to calibrate many measurement instruments.

Calipers with thumb wheels are easier to use than those having push-type thumb pads.

High-end digital calipers now have a wireless connection to their readout box – if you have vision problems this may be helpful.

Leave calipers closed when not in use – this simple precaution may reduce damage if they are accidentally dropped. Micrometers should be left open slightly.

Last, but not least: if your milling machine has a DRO they make wonderful measuring tools for long, complex and difficult measurements.

**Hope to see you at the December meeting. Bring and engine or project, some food, and an appetite. It's always fun.**

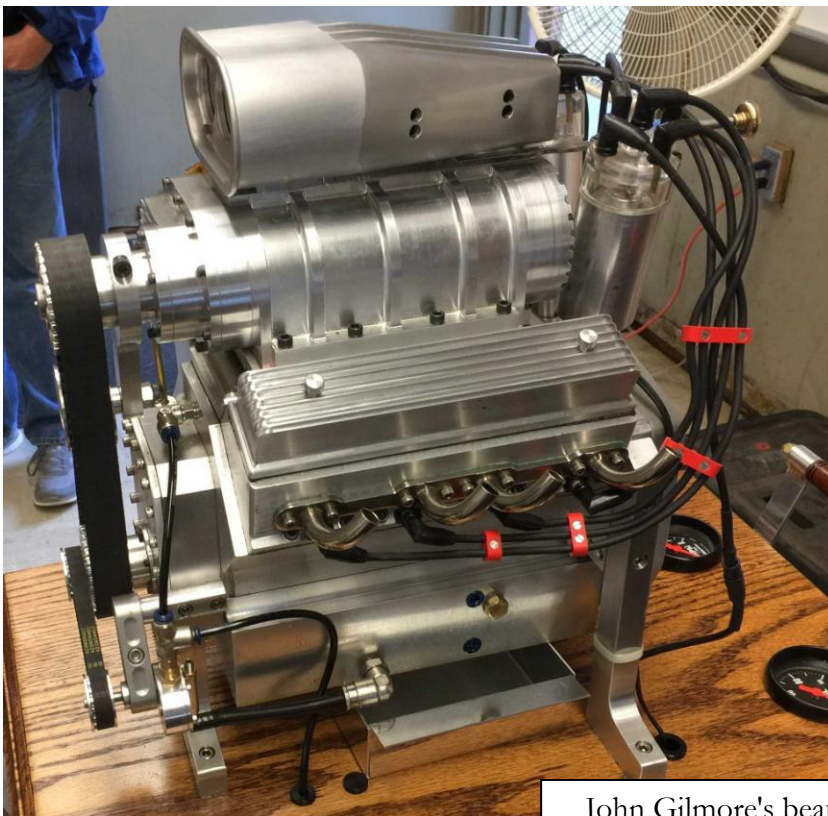


## THE PICTURE PAGE

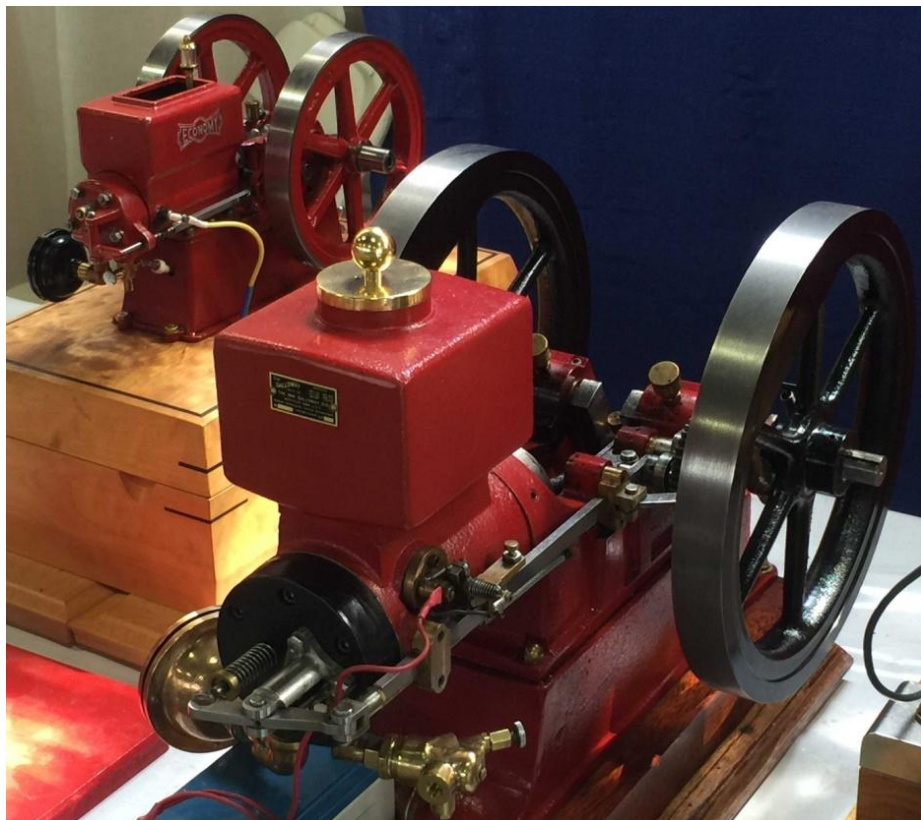
A few pictures from past meetings and events



A key-chain  
camshaft from  
Jim Moyer's  
1/6th scale  
Corvette



John Gilmore's beautiful  
version of the Black Widow  
at a recent BAEM meeting



George Gravatt's Galloway  
in front of a Joel Tochtrop  
Economy restored by  
Carmen Adams at WEME,  
2015