

# The Crank Calls



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## MEMBERSHIP \$25.00 US

Contact John Gilmore at  
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**2015 Dues are now due!**

### **NEXT MEETING**

February 21, 2015 at  
Chabot College, building 1500  
25555 Hesperian Blvd, Hayward 94545  
Doors open at 9:00 AM  
Meeting starts at 10:00 AM

### Upcoming Events

BAEM meetings: 3rd Saturday of the month

### MEETING NOTES

January 17, 2015  
Bob Kradjian

The January meeting of the Bay Area Engine Modelers was called to order by president, Don Jones at 10 am. He wished all members a Happy New Year.

**VISITORS:** No visitors were in attendance.

**FIRST POPS:** There were none reported.

**EVENTS:** Our group has no shows planned for the near future. Cabin Fever is scheduled for April 10-12 in York, PA. For details see: cabinfeverexpo.com. The annual Pacific Coast Dream Machines Show is returning to its single-day format. It will be at the Half Moon Bay Airport, April 26, 10am to 4pm. Get there early to avoid a huge traffic mess.

**TREASURER'S REPORT:** John Gilmore says that we are solvent, but that dues are due. Please make your check out to "BAEM" and mail to:

John Gilmore  
1414 Linton Place  
Martinez, CA 94553.

Web site issues were discussed. Mike Byrne is making progress on the transfer of duties from Jim Piazza's long-term care

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

### TORQUE AND FASTENERS



Carl Wilson favored us with another of his detailed and thoughtful presentations. This one was on the important subject of proper torque application to bolts and nuts. Terms included in the discussion were Inch pounds and inch ounces. Various types

of torque bars and wrenches were described. These devices typically use clutches, forks and torsion bars.

The practice of stretching bolts to length was described in some detail. It seems that the infamous bolts on our Bay Bridge were tested by Roy Anderson's son. He used EDM to precisely extract cores for detailed analysis. Proper sequencing of tightening multiple fasteners was described. The issue of extracting frozen spark plugs or other threaded devices was discussed along with the use of anti-seize or thread lubricant compounds. Spark plugs in aluminum heads are a particular concern. Don Jones found that a food-safe compound was the best for this application, but is not commercially available. Torque readings should be made dry. The application of these compounds will create wide variations in applied forces usually resulting in over application of torque force. Even the removal of cylinder heads should be done by stages in the exact reverse order of the application of the head. Consult the bolt pattern diagrams and sequences. Both application and removal should be done on a cold engine.

Torque wrenches are delicate devices; they cannot tolerate the abuse suffered by standard tools. They also may require factory re-calibration. When storing, set instruments to zero, to relieve tension on springs.

Dick Pretel will try to bring a sheet with torque values next month intended for our smaller model engine fasteners. A shortcoming of most published listings is that they start at quarter inch and go higher.

Internet tables for torque values are readily available, but most are for specific car models. This is a complex subject and includes topics such as re-torqueing, torqueing to the exact setting, and gasket types. It should be mentioned here that some of the mechanics featured on You Tube videos are screaming to the heavens about broken off bolts when using an inexpensive torque wrench made in China---even when set to the proper value. Be warned about bargain tools for important applications.

Dwight Giles told of a leaky motorcycle carburetor that defied all attempts at sealing until "fuel-lube" was employed. It required some sleuthing on the

Internet to learn that the commercially available fuel-lube is sold as "EZ Turn Lubricant" at \$11.85 for five ounces by Aircraft Spruce and Specialty Company. It is described as: "...extremely effective as a gasket paste & anti-seize agent. EZ Turn will not gum, crack or dry out". Other members have their favorites such as axle grease.

### **BITS AND PIECES:**

Paul Denham gave us a comprehensive and detailed analysis of his three approaches to spark ignition systems for model engines.

One system is for low-rpm hit-and-miss engines. It is compact, throws a hot spark, is good up to about one thousand rpm, and costs about eleven dollars.

The other is an improved TIM-like module. It uses a Kettering set up, minus the condenser, and a Hall sensor. It draws very little current. I am currently testing one for Paul.

The third includes a spark advance program curves. Flyweights, rpm, manifold pressure sensor

Any desired curve can be programmed. To do so, he needs only the number of cylinders and the desired amount of advance degrees versus revolutions per minute. They also can be used with the standard Kettering coil and condenser arrangement.

He searched the magazines and finally purchased the source code from an Australian designer via an English vendor.

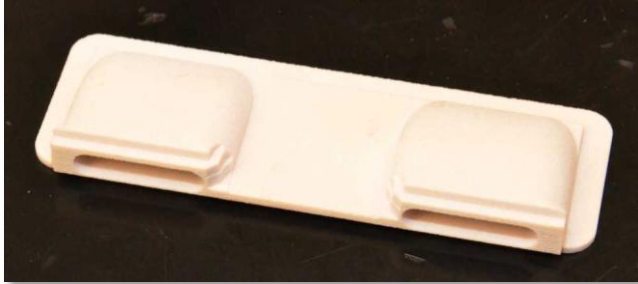
He plans to build a series of printed circuit boards and can make the entire system for less than \$20.00. He will sell them for cost. The programming curve is selected from a large group of choices.

He also is experimenting with single sparker coils that are sold for \$9.00 postpaid. These units do not have a delay and delivers a continuous spark, not the single spark used for stoves in Japan where they have a different system than used in the U.S. This is an interesting source of coils to replace the venerable and feeble Aero-Spark coils.

Also discussed were the coils used in Ford V-8 engines. These are of the COP (coil over plug) variety. Paul is using these coils for some of his

ignition sets. They can be bought for six to eight dollars.

[pauledenham@comcast.net](mailto:pauledenham@comcast.net) for more information on this interesting subject.



Jim Piazza showed us an Offenhauser engine part that he made from tooling foam. This material comes in different densities (from four to fifty pounds density) and is especially fine for making molds. It sands easily. The material also machines nicely using a standard end mill at around 2,000 rpm. Use suction, it can be messy. He'll bring samples next time.

A member is making an Upshur twin and wants advice. Mike Rehmus warned him that the twin was a fabulous oil leaker. Use seals on all shafts.



Dick Pretel prefers to use Pittman electric motors to drive his oil and water pumps. He prefers 3,000 plus rpm motors that consume about an amp and a half. He sets the pressure for about 40 pounds. This arrangement allows the pump to be concealed in the case.