

# The Crank Calls



April 2015

President	Don Jones	(510) 566-3153	dj712@sbcglobal.net
Secretary	Bob Kradjian		bkradjian@aol.com
Treasurer	John Gilmore	(925) 228-8483	kgilmoreco@aol.com
Events	Ken Hurst	(707) 257-2481	icengine@comcast.net
Tech Topics	Carl Wilson		toolcarl@comcast.net
Editor/Printer	Larry Zurbrick	(408) 448-5752	baem_editor@pacbell.net

**MEMBERSHIP \$25.00 US**

Contact John Gilmore at  
jgilmoreco@aol.com

**2015 Dues are now due!**

**NEXT MEETING**

April 18, 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**

March 21, 2015  
Bob Kradjian

President Don Jones called the meeting to order at 10:00 a.m.

**VISITORS:** Bobby May found us on the Internet but lives just across the street. He formerly was a student at Chabot and now does design work on surgical tools for a company in Fremont.

**FIRST POPS:** Well make that a "First Hiss". Ron Levesque's new Queen Victoria steam is just about completed, it should be ready for showing soon.

**MEETINGS:** There are no club meetings scheduled. The terrific Pacific Coast Dream Machine Show will held at the Half Moon Bay Airport on Sunday April 26. This is a fabulous show with vintage aircraft, the fastest electric drag motorcycle, and a few thousand cars and bikes. Admission is fifteen dollars if you're over 69 years. Get there early to avoid the traffic or you might be a year older. If you haven't been to this amazing show, just GO. You might even see John Palmer there with his Oil Pull tractor.

**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

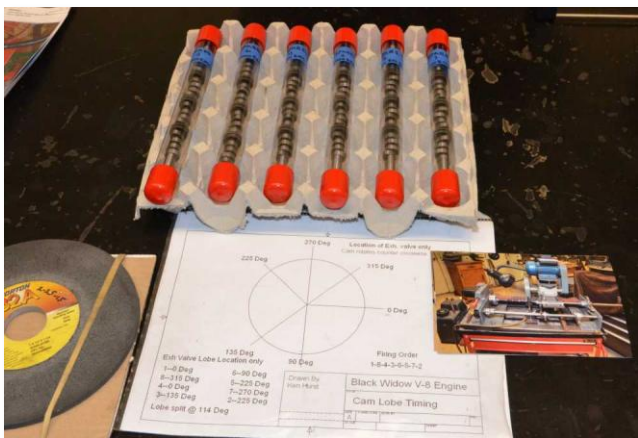
**VIDEO:** Pat O'Connor furnished a fine video of Don Bement's new Riley Four-Port. We could see, and hear and almost smell it, on our overhead video projector. All major components of this engine are CNC'ed in halves and then epoxied together with an adhesive developed to affix drive shaft caps for NASCAR by LockTite. The cylinder heads are also in halves to allow space for coolant flow. The engine is fitted with a rotary valve throttle plate and fuel injection. He drives the injector with a twelve-pound pressure injector pump driven from the camshaft. Ron uses an acupuncture needle to clean the 0.004" tiny orifices. Ron scaled this engine from a full-scale one. This engine is another milestone achievement for Ron to accompany his Ardun and Offenhauser. If you haven't seen his other engines, just "Google" Ron Bement for a treat..

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

**BITS AND PIECES:**

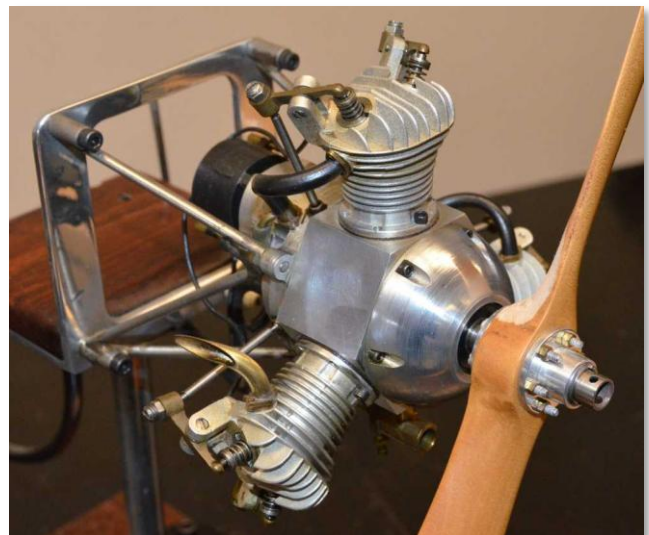


Tom Armstrong bought a casting set from GEARS and finished up a nice little engine. The GEARS folks maintain the PRIME tradition of pouring hot metal during their shows and offering simple kits.

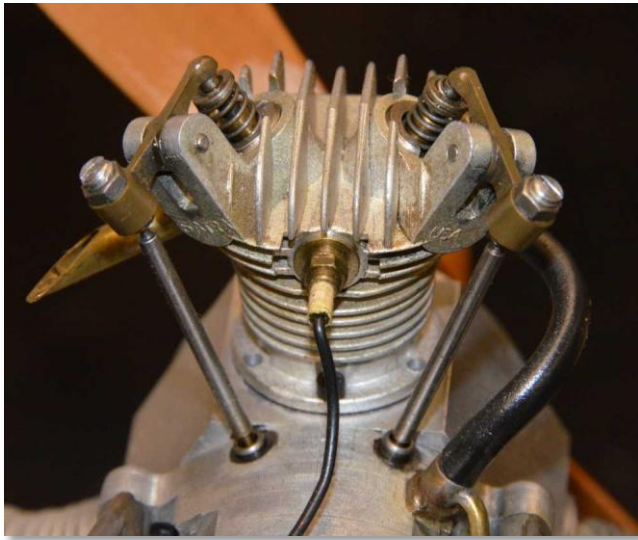


Dwight Giles showed us a few of the Black Widow V-8 camshafts that he is grinding for member Jim Kipp in Southern California. They are beautifully done, in Dwight's usual fashion. They are not yet threaded but are otherwise complete. He uses blue and red layout dye to distinguish between the sixteen intake or exhaust lobes. He gave us a primer on how it is possible to get confused and spoil a good cam blank. Anyone who's ground a cam knows the drill. He selected 4130 chrome-moly heat-treated to around 45 Rockwell. Dwight dresses the wheel after every fourth or fifth lobe with a light diamond cut. Dwight says that you can hear when the wheel is getting dull and see a difference in the spark. There is nothing like experience! The wheel is relatively soft and turns at 3600 rpm. The spray coolant is KoolMist 78 and is run a very low rate. Any visible fog will result in mist that will settle on your entire shop and create a mess.

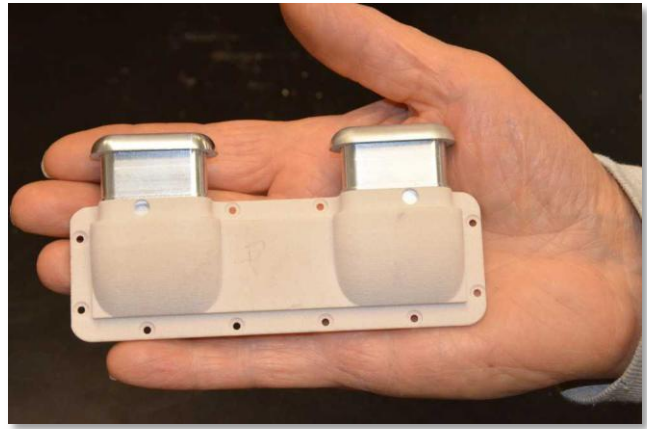
Jim Freel's showed us his cam that was done with Dwight's machine, and the result is a thing of beauty. He has accomplished a removable gear arrangement using a 0-80 screw. Jim thinks he's close to running his V-8.



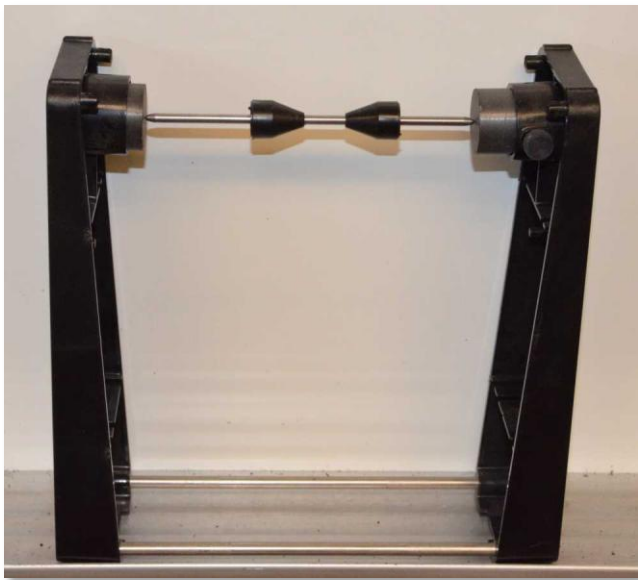
Bob Kradjian brought a three-cylinder air machine designed and made by the late Paul Jansson. Paul made brass and pewter castings for HO railroad modelers. He used Bruce Satra's Morton Cylinder and head castings in an attempt to make a three-cylinder spark-ignition engine. He abandoned that due to illness and instead made a charming little engine that runs on compressed air swinging a small wooden propeller.



As a side note, the propeller was so out of balance that the entire engine mount jumped. A few chips and some applied sandpaper and the prop was nearly perfectly balanced.



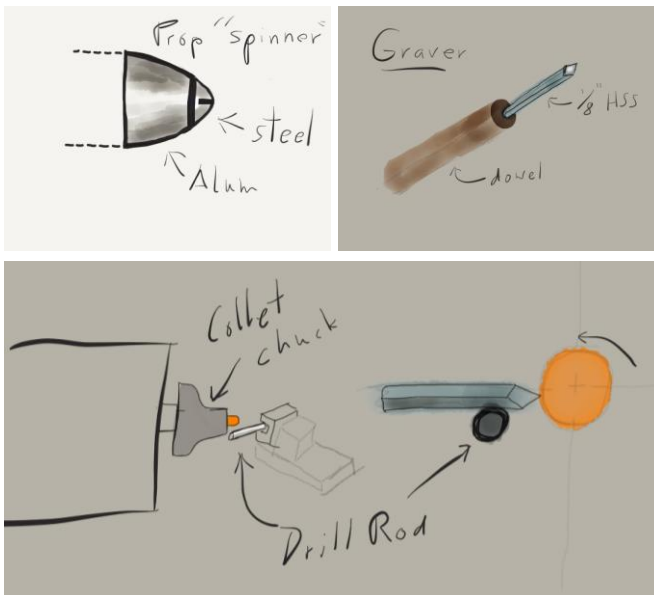
Jim Piazza continues fashioning parts for a display model Offenhauser 270. This time it's a crankcase breather. Jim fashioned an ingenious holder to grasp the small device using a vice in the "open" direction.



This was accomplished on a "Top Flite Power Point" device that suspends a nickel-plated steel rod with plastic cones and the object to be balanced between strong magnets. Since the metal does not contact the magnets, the friction is nearly nil. Their instructions remind you to balance the shaft and cones, and to avoid drafts while balancing. It has a twelve-inch swing. This device would be useful for small internal combustion engine parts. See [top-flite.com](http://top-flite.com) for details. Street price is \$19.99.



Wes Waggon is making a Schroeder "Simple Single" model airplane engine. When he was faced with the need to shape the small spinner, he used a graver. This is a shop-built tool with a diamond shaped point that is used in the same fashion as a wood lathe cutter on a tool rest. The Simple Single uses a Cox .049 cylinder, head, piston and rod assembly on a shop-built crankcase. Schroeder supplied the drawings and the hobbyist makes all the remaining pieces. We will have a finished one for your inspection at the April meeting.



Wes provided a few drawings illustrating the principles of his graver design and use.

Using an induction heater as a heat source for hardening was discussed. The hope is to heat up individual lobes on a camshaft and then drop the shaft into brine. This would leave the shaft untreated between the lobes. A discussion of an improved camshaft grinder design resulted in a variety of excellent ideas. Indexing and rigidity are problems to be sorted out. Anthony Rhodes says "issues", not "problems".

A member asked about DRO PROS in Vacaville (dropros.com). Several members promptly gave glowing reports of their products, service, and prices.

OPOC (opposed piston, opposed cylinder) engines were mentioned as a most promising engine format out of the many dozens proposed. For an animation, go to the Internet and search "opposed piston opposed cylinder animation".

The issue of a Facebook page for our club was raised by Mike Rehmus and seconded by Steve Hazelton.