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

The Crank Calls

May 2014

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MEMBERSHIP $25.00 US
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NEXT MEETING
May 17, 2014 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 except December

MEETING NOTES

April 19, 2014
Bob Kradjian

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

VISITORS: None. Well, not a visitor, but now a new member. See Mark West in the Bits and Pieces section. We met him as a visitor last month. Welcome, Mark!

MEETINGS: EDGE & TA, no activity from that group says John Palmer.

The Blackhawk Museum Father's Day show will include our group. That, of course, is June 15. We will have details at our May meeting.

GOODGUYS:
The boat pond issue for the August West Coast Nationals was thoroughly discussed. We have contacted a boat club who offer a completed show for a considerable fee. The Good Guys will consider the cost and let us know. It will involve a 35 by 48 foot pond that is 12 inches deep. They have radio-controlled battleships that put on quite a show if you saw them at the Maker Faire in San Mateo. John Gilmore is managing the details of this complex negotiation.

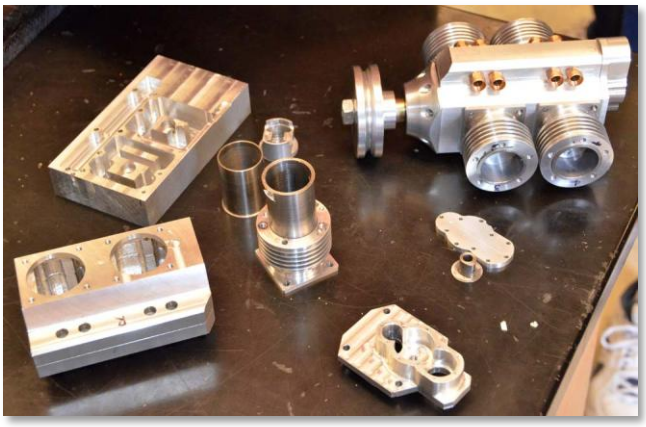
The April Half Moon Bay Dream Machine show is now history, and many of us who have attended in past years have enjoyed the aerobatic skill of Eddie Andreini with his P-51, Russian Yak 9U, and his Stearman biplane. Sadly, Eddie perished in an air show crash at Travis Air Base on May 4.

TREASURER'S REPORT: John Gilmore says we are solvent, but we have to meet our sharply increased insurance obligation. Mike Rehmus will check on alternate insurance possibilities. John threatened us with no paper newsletter for non-payment. He hadn't heard that the ailing club printer just "upped and died".

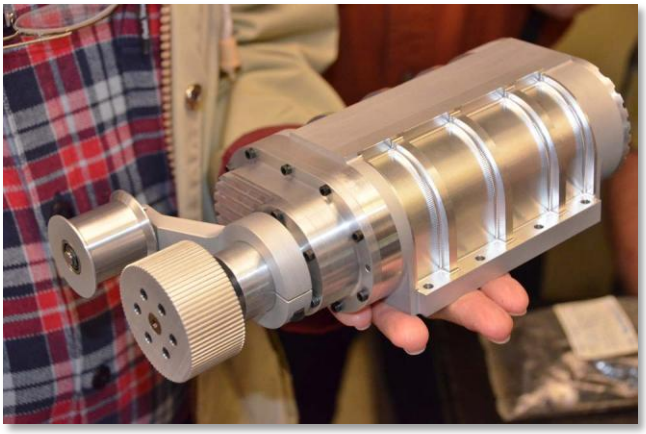
Club dues are payable. Please remit dues to treasurer John Gilmore at 1414 Linton Place, Martinez, 94553.

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

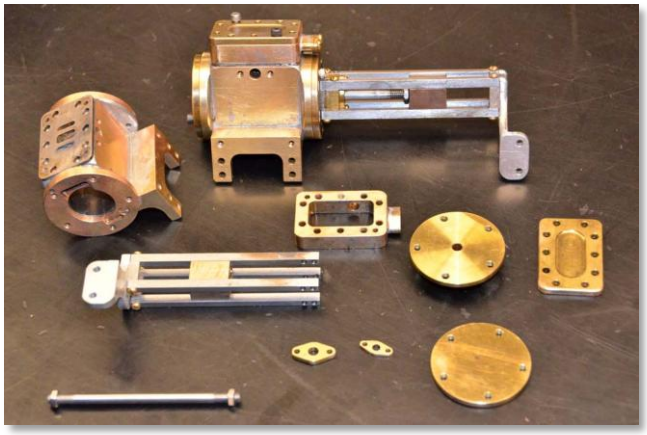
BITS AND PIECES:



Jaime Quevedo is at it again! This time it's an all-original boxer design configured as a flat four. "Like a Volkswagen," he says. It's all done in the Metric that he prefers, but finds that reamers and other metric tools are more expensive. The bore is 27 mm. and the stroke is 25 mm. The crankshaft is built-up with a two semi-lunar crank discs coupling the two ends at the middle bearing position. This will be a glow-plug engine to eliminate the distributor issue. His camshaft will have only four lobes for the eight valves. The rings are the usual cast iron. This is planned as an aircraft engine and he is building it as light as possible. The crankcase clearances are also quite tight.



Jim Freel has nearly completed the supercharger for his Black Widow V-8 build. The workmanship is consistent with his usual high standard. A great deal of discussion concerning rotor gap tolerances, shaft endplay, shims for thrust take-up, and choice of material (6061 aluminum). One interesting suggestion was the use of hard anodizing to toughen up the aluminum end plate. Members Hurst, Piazza, and Giles have a great deal of first-hand experience to share with Jim. Piazza reminded us that these superchargers are most efficient when turning 2500 rpm. Planning for the belt sprockets will consider this.



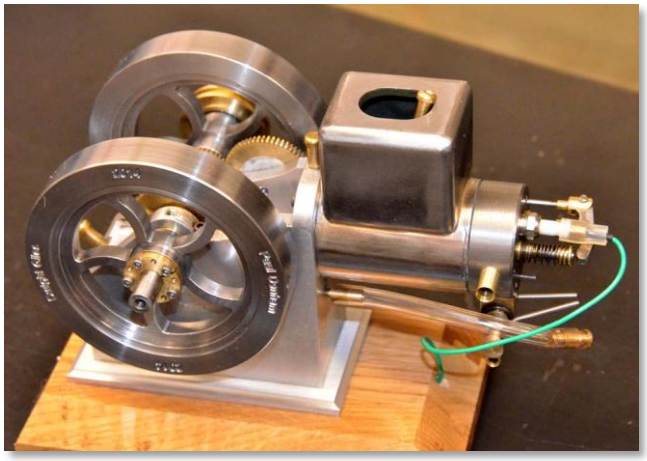
Our newest member is Mark West mentioned above. He showed us his one and 9/16th scale 1861 steam engine made at the Vulcan Iron Works on Natoma Street in San Francisco. It was sold to the Duncan Brothers Lumber Company in the Russian River region in 1869. It was one of three 0-4-0G "Oregon Ponies" made by Vulcan. Who knew that locomotives—even small ones—were made in San Francisco? For rich details on these intriguing engines, just Google "Oregon Ponies". Mark's build quality is excellent. We look forward to see this project move toward completion.

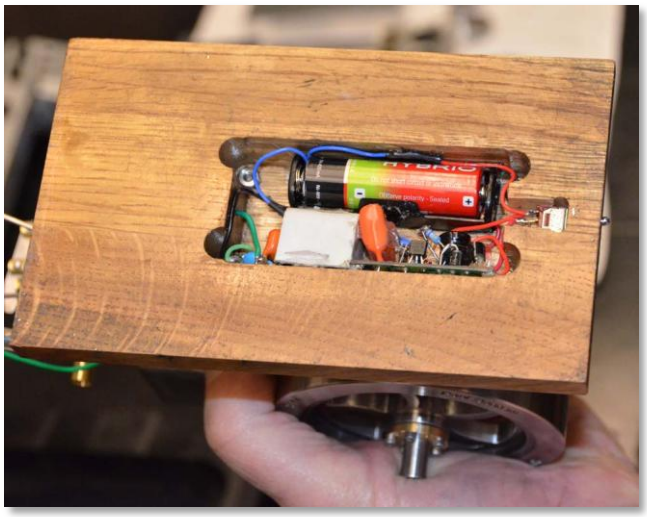
Dwight Giles has completed his original small engine pictured last month. He has not attempted to run the engine yet. His engine now has a name; it

is the GEM 1. That stands for "Giles Engine Model 1". It 's a beauty, and with a build article in Model Engine Builder, there may be a lot of these built in the years to come.

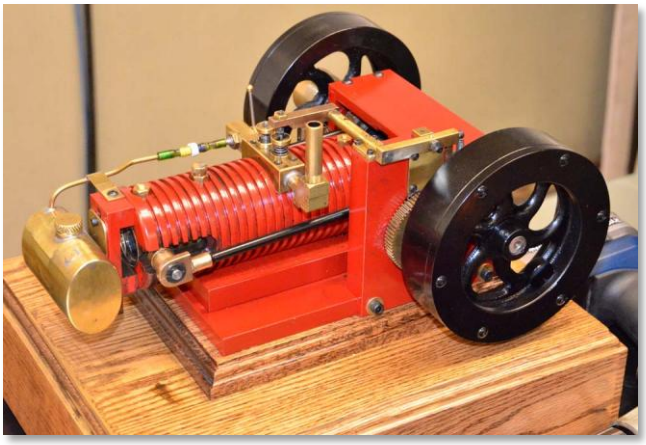
Dwight also showed us beautiful brass exhaust caps in three sizes. He presses the dome on the brass sheet with a custom made die and couples them to the base with six brass rivets on the smaller ones and eight on the largest. The ¼ by 20 threaded coupler is silver soldered to the base. All is done with meticulous attention to detail. These caps qualify as mechanical jewelry.

Joel Cohen had made a 15cc Seal Minor from castings some time ago. He was not satisfied with many features of the build, and it ran only poorly. He decided to draw up plans and build a new Seal out of solid. He has He used a two-inch billet of aluminum for the block. This did not allow material for a slanted dipstick insert. He machined one on the lathe and epoxyed it in place. He hasn't settled on a method to change the oil, and it was suggested that he use suction through the dipstick hole. He uses progeCAD 2009 SMART. This is a free dwg program.





Paul Denham showed us his barbecue lighter ignition system. It was based on a design seen on YouTube by a Dutch builder named Jan Ridders. It is a cheap and reliable ignition system for low rpm, low compression engines. If you haven't seen the many ingenious and even a bit weird designs by Ridders, they are well worth a look. He has accumulated a remarkable body of work. What would we do without YouTube to illustrate these marvels? Paul had problems with spark arcing over to the exhaust valve. He'll leave more space next time. Paul also described vapor tanks and his problems with carburetion. On this subject Ridders has a nifty video on YouTube titled "Petrol Vapor Carburetor" that deals with the niceties of bubbling, negative pressure, and needle valves. To top off the build---or should we say---bottom off the build, Paul used left over toilet seat wood for the base.



George Gravatt showed us an engine that he built six months ago. At present, the rings are now working in nicely. He demonstrated this by promptly starting the engine that idled nicely. A discussion of fuel followed with most members criticizing current auto fuel as being problematic. It causes staining of metal, deposition of deposits, and corrosion. George is sticking with Coleman's fuel. He also told us of the fate of his opposed piston engine shown to the club recently. In an attempt to reduce friction, he replaced the bushed bearings with ball bearings. This apparently released an abundant store of energy that practically destroyed the entire engine. George informs us that he has now fired the Chief Engineer on the project.

Don Jones told us of a small and inexpensive 3D printer called Micro 3D. The price will probably settle at around 500 to 600 dollars, but no delivery is scheduled until fall. A video extolled the virtues of this four by four by five inch micro-printer was shown. The resolution is fair, just under 2,000 per layer of ABS.

Jim Piazza has ventured into the world of tube bending. This time it was to make a water inlet pipe for his Offenhauser model project. He first annealed K and S brass tubing, then accomplished the feat of bending quarter inch tubing into a quarter-inch bend! To make the bender, he went just past 90 degrees with a ball end mill on his CNC machine. Then made two halves and pinned them together with screw holes. Attempts at making the bend without metal filler were not successful. He used Cerrobend to fill the tubing. He found his Cerrobend at Rotometals in San Leandro (rotometals.com). The price is 14 dollars for a one pound cup cake. A discussion of low temperature melting metals followed. These useful metals melt at 158 to 256 degrees and can be worked in hot water.

Roy Anderson tells us of Cerrotrue that first shrinks after pouring then expands back to the exact initial dimensions.

Roy Anderson also has the capability of doing vacuum forming with 0.60 ABS black or 0.030 white high impact polystyrene or polycarbonate. He can work up to an 8 by 10 inch window. Any takers?

Don Jones tells us of a new auto feeder "hole popper" for the college CNC lab here. It makes the pilot hole for the EDM wire to start from the center of a stack of metal or a solid billet. The device did not come cheaply. It costs the good citizens around seventy thousand smackers.