

The Crank Calls



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MEMBERSHIP \$25.00 US

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NEXT MEETING

**June 16, 2018 at
Golden Gate Live Steamers
Tilden Park
Berkeley, CA**

Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

BAEM meetings 3rd Saturday of the month

- June 16, 2018 @ GGLS, Tilden Park
- July 21, 2018 @ MoAH, Palo Alto
- August 18, 2018 @ GGLS, Tilden Park

MEETING PLACE FOR June 16th

We will meet this month (June) at the Golden Gate Live Steamers meeting room in Tilden Regional Park, Berkeley, CA.

MEETING NOTES

May 19, 2018

Bob Kradjian, Secretary

President Paul Denham called the meeting to order at 10:00 AM in the meeting room at the Museum of American History in Palo Alto.

VISITORS: Ken Brunskill, a long time GGLS member. Welcome, Ken!

FIRST POPS: There were none.

EVENTS: The Golden Gate Live Steamers are hosting Open Houses on June 2 and June 3. Our members plan to attend both days. We have had a warm reception at previous such excellent events.

Steve Hazelton reported on the Mini Maker Faire June 30 and July 1. This will be at the Solano County Fairgrounds in Vallejo. Aaron Newcomb, of the Maker's Space, has invited us to display and run engines. See Steve for details. Set-up would be either Friday or Saturday morning. They will waive entrance and parking fees. For material left

overnight, security will be provided. Show hours are 10 am until 6 pm.

TREASURER'S REPORT: We are solvent. We have also paid \$335 to sustain our continuing Internet Service. Dues are payable to our Treasurer.

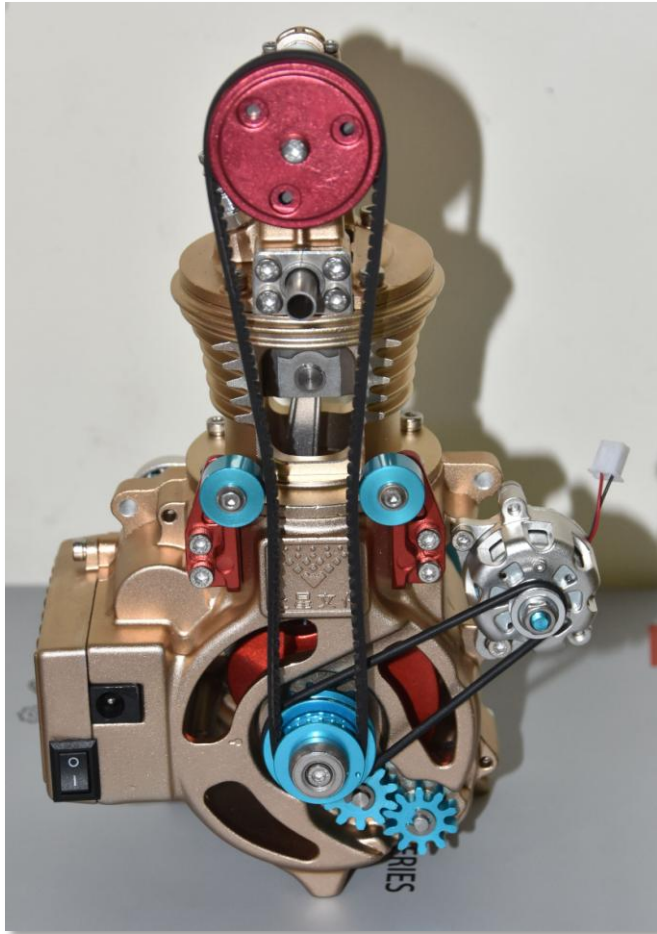
CLUB BADGES: If you are a member in need a badge, contact Mike Rehmus (mrehmus@byvideo.com) who has offered to produce them.

BITS AND PIECES



Mike Byrne showed us a set of transposing gears for a Logan 11 inch lathe. The purpose of the gears is

to allow cutting of metric threads. Mike has been working with the Solidworks application. He has been able to access parametric modeling and parametric equations. This is to generate tooth profiles for complex gears. This is not simple and Mike recommends Gearotic as much simpler and faster if you do not wish to delve into the intricacies of Solidworks. After an e-mail of data, Mike Rehms did the 3D printing of the gears with the proper pressure angles and number of teeth. Mike Byrne has not yet tried the gears on the lathe.



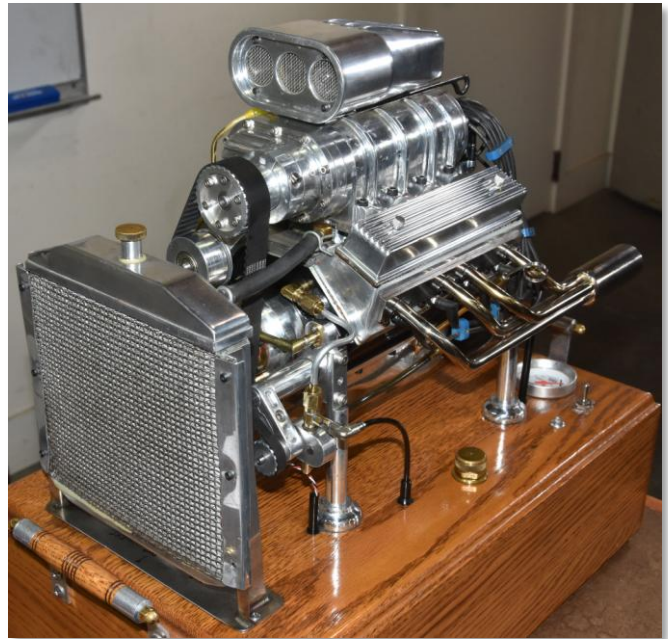
Steve Hazelton showed us a single cylinder cut-away engine from Teching, a model sold by Banggood. He put it together with the help of little nine-year old Angelo. View this product at banggood.com. It is listed at \$399.99 plus \$5.77 for U.S. with shipping in 7 to 20 days.

Wes and Steve were working on the club group build. All was going well until a tap was broken. Steve researched the technique of dissolving the tap in a warm solution of alum. The surrounding aluminum (or copper) should be unaffected by the

alum solution. Steve will try this and give us a report. Alum powder is easily available on E-bay or Amazon. Numerous videos showing the details of application are seen on You Tube.

Paul Denham once solved a similar problem by dissolving the broken-off tap in Ampco 18 (an aluminum bronze alloy) with nitric acid.

Steve Jasik told us of his adventures restoring a used CNC lathe that burst out with an electrical fire. There was short in the directional control valve coil that controlled oil flow. A \$350 part solved the problem.



The major topic of our Bits and Pieces program was devoted to the Dwight Giles and Paul Denham collaboration on re-ringing a smoking Black Widow V-8.

On disassembly, there were small divots where the valves just barely nicked the piston tops. This was solved by judicious and delicate carving with a moto-tool bit.



Dwight furnished a device for compressing the rings and reinserting the pistons. He also had a fixture using wet and dry sandpaper for ring gapping.

The crankshaft and camshaft were in perfect condition. However, the pistons, rings, and cylinders had considerable scoring. The source of the scoring was traced to wear of the aluminum rotors in the blower. The wear resulted in a toxic spray of aluminum oxide into the combustion chambers.

After cylinder honing and re-assembly, the engine was run. The right bank was pumping a good bit of oil from the exhaust. This was from oil flooding in through the overhead valve guides. The left bank was running clean.

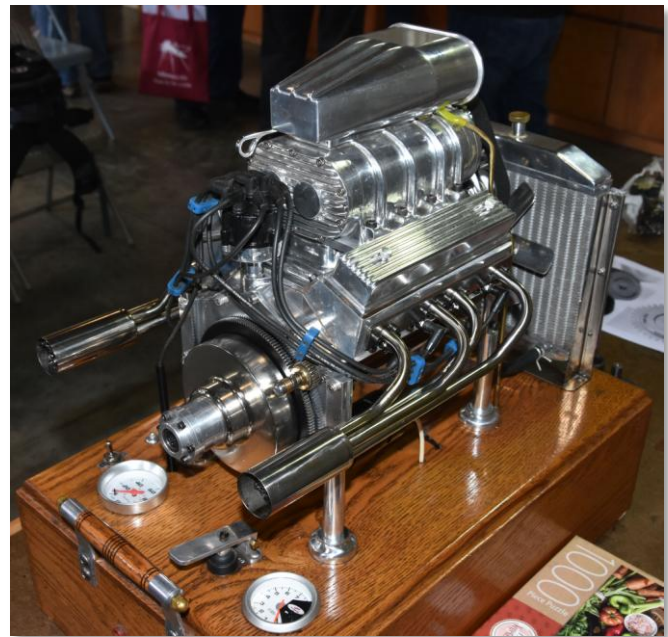
It seemed that an oil passage plug was the culprit. There was also a problem with the “Form-

A-Gasket” material getting into water jacket holes and even in an oil passage. The use of a spray on copper coat avoided this problem.

For the badly fouled spark plugs, ultrasound with a TSP, detergent, and alcohol mix nicely cleaned them up

Infrared thermometers were useful in identifying fouled spark plugs. The fouled plugs were markedly cooler.

This engine was set up with stiff valve springs to support the occasional reach to ten thousand rpm. The compression ratio is 10:1.



Considerable time was spent discussing starter gears and Bendix drives. It seems every builder has his favorite method.

This engine uses two Zama carburetors with a 12-volt fuel pump in the base.

Beautiful molded distributor caps came from a gentleman in Florida. The spark plug leads are 5,000 volt instrument wire.

Dwight described the building of the headers. He used a commercial bender, but made different radius mandrels for the exact distance from the block required.

Dwight used 3/8” thin-walled stainless steel tubing. He feels the tubing wall thickness is best at 0.028”. Other available tubing thicknesses are 0.035” and 0.049”. Tubing is available from MSC or Aircraft Spruce. A friend who is an expert welder used TIG fusing with no filler for perfect seams. Of course, a jig was necessary to hold all in proper alignment during the welds.

Finally, Pat O’Conner showed us a General Motors air-conditioning pump that he attempted to disassemble. When this was not possible, he sawed it open. The complicated innards involved six piston pumps in three cylinders, an electrical clutch, and an elaborate swash plate pump for the Freon.

The meeting was adjourned at 11:26 am.