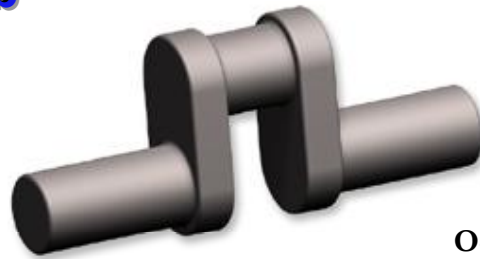


Bay Area Engine Modelers Club

The Crank Calls



October 2015

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MEMBERSHIP \$25.00 US

Contact Paul Denham at
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NEXT MEETING

October 17, 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

August 15, 2015

Bob Kradjian

President Don Jones called the meeting to attention promptly at 10:00 am. Don gave us a report on the adventures his summer students had with heat-treating their project hammers. They were dealing with a carburizing furnace at 1751 degrees for 8 hours. A discussion of heat-treating followed.

VISITORS: Steve Zutler visited us from Reno came over with Mark Cave. He has been a member in the past and is renewing his membership. Welcome back, Steve!

FIRST POPS: None reported.

MEETINGS: The ever-shrinking Pacific Coast Machine Tool Expo in Santa Clara was disappointingly small this year.

TREASURER'S REPORT: We are progressing well in transferring the paper work to Paul and Deirdre Denham's care. We have ample funds remaining prior to repairs and maintenance on our compressor. We experienced a condenser fan problem part way through the show. Carl Wilson has volunteered to take the compressor to his shop and sort out the difficulty. Through the generosity

of John and Diane Gilmore, the club now has a show trailer properly registered in the club name.

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

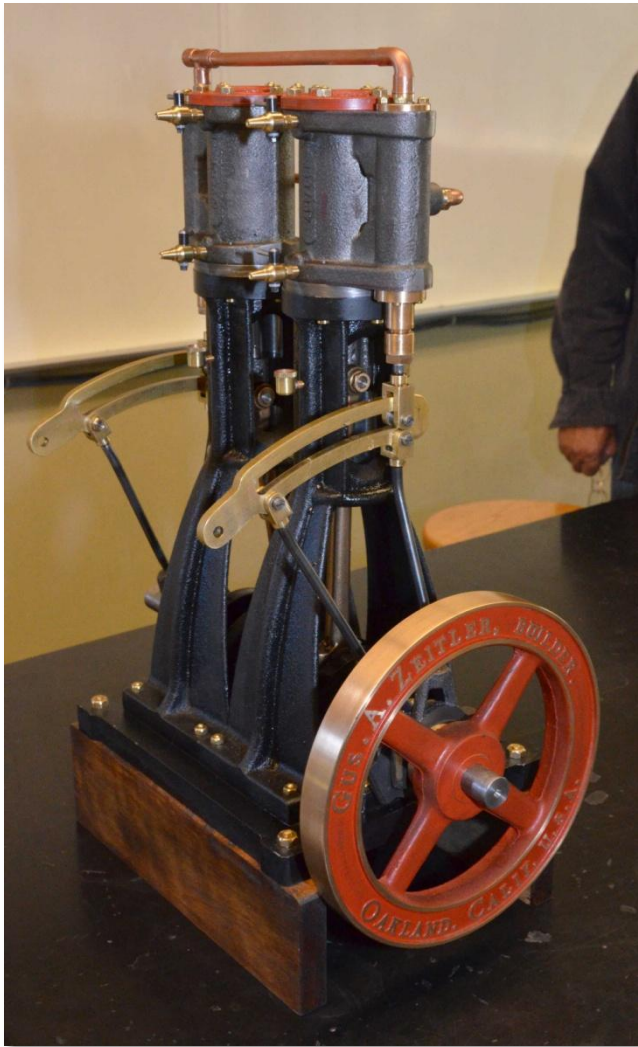
WEME WRAP UP:

Overall, the show was a success this year although the overall attendance to the Goodguys event was down this year. Mike Rehms has suggested for 2016 that we invite a group of model railroaders that have an excellent display of small desktop steam engines. Another possible group to join us would be Model Engine Collectors Association (MECA) for their annual meeting.

Steve Hazelton, in addition to a superb job of running the show, has added several videos of the show to his You Tube channel. You can see this at: Steve Hazelton on You Tube. Under "Engines only baem 2015" you will see most of the engines that ran at our show. Members Armstrong, Keeth, Freel, Vietti, Gravatt, Hettinger, Hurst, Kradjian, Cohen, Fontaine, Aldrich Ridgeway, and visitors Chretien and Rector all had their work shown. Steve Hazelton also added interviews with the Tormach and the Little Machine Shop folks as well as an interview with Skip from the Laser Center

Finder booth. Be sure to review the entire collection of videos from 2014 and 2015. It is an impressive body of work. In addition, we are pleased to announce that Steve has agreed to become our Events Coordinator.

BITS AND PIECES

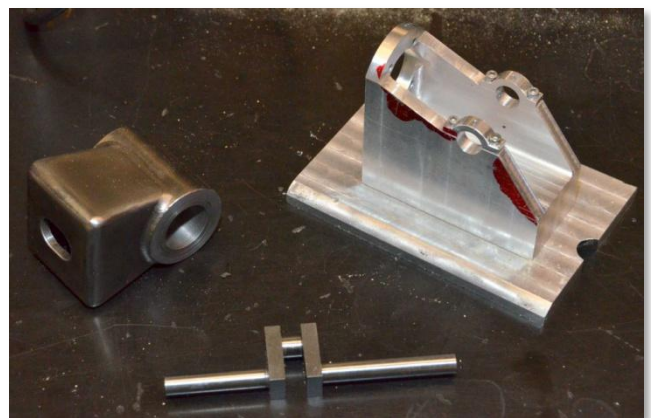


Jim Bove used two sets of PM Research castings for a single cylinder engine, to make a remarkable attractive TWIN cylinder steam engine! With remarkable ingenuity, he combined the singles and even added a unique flywheel. It was a discarded valve handle with the knobs removed.

John Palmer shared some old timer's lore on the use of honey as a belt dressing. It slips a bit when first applied but then is very effective. Watch out for the bees, though.



Jerry Franklin showed us a lathe pulley with an overload clutch he is building while getting his shop up to speed.



Mike showed us the progress on his base for a single cylinder engine using CNC.

Mike also informs us that gearotic.com now has software to cut harmonic drives. If not familiar with gearotic, a useful introduction is easily available on good old You Tube. Just type in: "gearotic motion" when on that web site. Very interesting material is available.



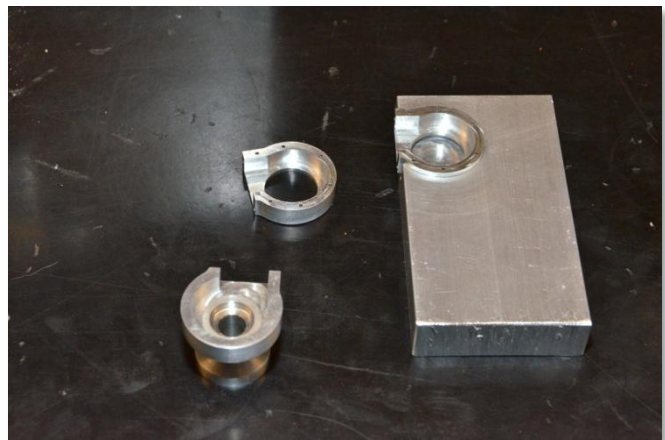
Next, a Coil winder by Dwight Giles made several years ago. It has a counter for the 10,000 to 17,000 windings of number 46 wire necessary. Paul Denham is winding coils for his ignition projects. John Vietti has also helped with his knowledge of winding coils for his magnetos. The importance of paper insulation between winding layers was stressed.

A discussion of single-phase, two-phase, and three-phase power for a ten horsepower motor to power a CNC mill followed. It seems that a motor that large will require three phase power. This can be difficult to arrange if you are renting premises from a skittish landlord. Rotary phase converters versus solid-state converters, versus a VFD system, were discussed. The conclusion was that our member could not

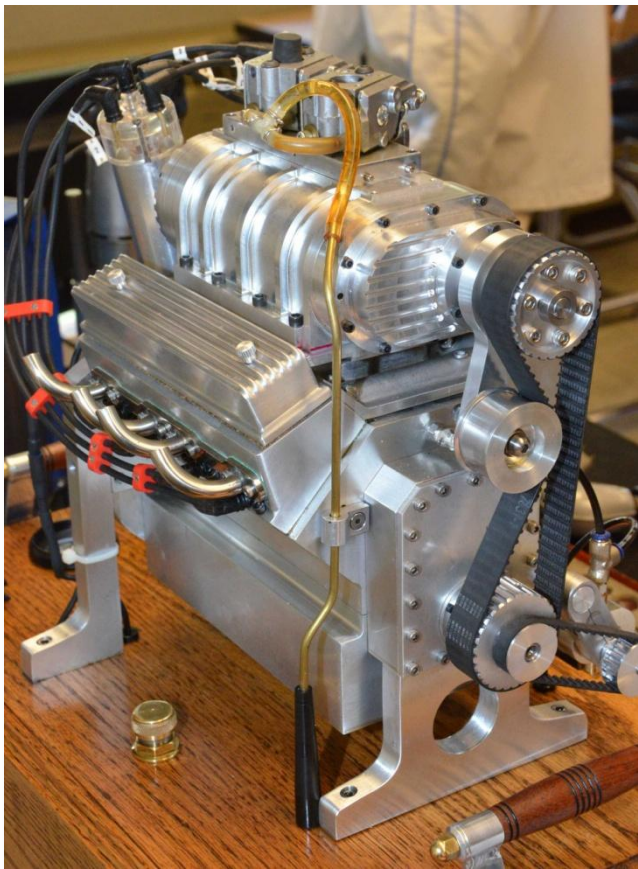
The "Wooden Wobbler" toy powered by a vacuum cleaner was built by Carl Wilson four years ago and is still a hit with the kids at our shows. Plans were published in "Model Engine Builder".



Paul Denham noted that Dwight did not have a power drawbar puller for his new milling machine head and surprised him with one. It is powered by an impact wrench from Harbor Freight (for less than \$20.00). Plans (\$15.00) for a similar power drawbar are available from cnccookbook.com. The power of the puller, and the resulting tightness of the tool grip, is adjusted by the combination of a butterfly valve and judicious adjusting of the air pressure.



Jim Piazza showed us his water pump housing parts for an Offenhauser static engine project. He is developing a very nice group of engine pieces. We look forward to some sub-assemblies soon.



John Gilmore's beautiful V-8 was shown by Paul Denham and Dwight Giles. The engine runs well after optimizing the spark timing and the grounding for the ignition system. It has dual distributors, a Kettering system on the right distributor and CDI-type on the left side. Paul made a short MP3 showing the engine revving freely and creating a lovely exhaust note with an overlying blower whine.

Carl Wilson described his adventures in gaining optimal compression in his Mery engine. He then performed a leak-down test. It seems that the literature reflects the cylinder sizes encountered in automobiles, not our small-bore engines.

There was also a need for a non-marring wrench for studs. He described camera or lens wrenches that can develop excellent gripping power without marring or distorting the work piece. The disadvantage of these tools is that they must be very close to the exact diameter of the part being gripped. I related a similar problem in holding a chrome-plated flywheel. A Vise-Grip strap wrench was devised using brazed holders for a canvas strap.

A small amount of tape was used to make up a tiny difference in diameter. The shop-built device worked quite nicely.



Peter Lawrence fabricated a nice intake manifold from copper and silver-soldered the joints. He filled the tube with Cerro Bend prior to bending. Final assembly was done on a jig to keep all parts aligned. He was concerned about the toxicity of cadmium in residual Cerro Bend when heated for silver soldering. He next tested the compression and leak-down in his cylinder and head assemblies. The leakage was not acceptable so he switched to caged valves made with bronze. These valves will be actuated directly by an overlying camshaft acting directly on a bucket Offenhauser-style.

Peter shared his experiences with cylinder laps at our last meeting. He didn't mention any progress in his current report.

A member discussed problems with running the Upshur twin engine. Modifications to make that engine more efficient were suggested. Members felt that repositioning the spark plug, and keeping to cast iron rings instead of O-rings would be helpful.