Bay Area Engine Modelers Club

Erank Calls

President Secretary Treasurer Events Coordinator Tech Topics Editor/Printer Paul Denham Bob Kradjian Deirdre Denham Steve Hazelton pedenham@comcast.net bkradjian@aol.com pedenham@comcast.net steve.hzltn@gmail.com

Larry Zurbrick

baem_editor @pacbell.net

NEXT MEETING March 19, 2016 at Golden Gate Live Steamers Tilden Park, Berkeley Doors open at 9:00 AM Meeting starts at 10:00 AM

NEW MEETING PLACE FOR MARCH 19

We have been invited to use the meeting room of the Golden Gate Live Steamers for our March Meeting. Please go to: <u>goldengatels.org</u> for a map and directions.

From the GG Live Steamers website:

The GGLS track is located in Tilden Park in the hills above Berkeley. Get on highway 24 and head towards the Caldecott tunnel. Take the Fish Ranch Road exit. If you are going East it is the first exit after the tunnel; if going west, it's the last exit before the tunnel. Take Fish Ranch Road up the hill and turn right on Grizzly Peak Blvd. Continue on Grizzly Peak Blvd until you come to Lomas Cantadas. Turn right on Lomas Cantadas and then an immediate left and follow the signs to the Steam Trains. If you are a visiting Live Steamer, instead of going into the Redwood Valley Railroad parking lot, continue down Lomas Cantadas and turn left to enter through our club gate to our parking lot that is reserved for members and guests only.

Upcoming Events

MEETING NOTES

February 20, 2016 Bob Kradjian, Secretary

Pro-tem President Mike Rehmus called the BAEM March 2016 meeting to order at 10:00 AM with the words, "Welcome to about the 5000th meeting of the Bay Area Engine Modelers."

BAEM meetings: 3rd Saturday of the month

Through the hard work of Christine Kradjian and Don Jones's daughter Lisa, arrangements were made to meet a last time at Chabot College.

We observed a minute of silence in remembrance of our dear departed President Don Jones.

We held an election for BAEM President. No one volunteered for the position except Paul Denham who was elected unanimously. Paul then assumed the role of meeting leader.

An open discussion of a possible "two state solution" for future meetings ensued based upon the fact that half of our members live North of Hayward and half live South of Hayward. The idea is to find another location near of south of Hayward and alternate meeting locations every other month.

March 2016

MEMBERSHIP \$25.00 US

Contact Paul Denham at pedenham@comcast.net

DUES ARE NOW DUE

FIRST POPS: No First Pops were reported this month.

VISITORS: There were no visitors.

EVENTS: Steve Hazelton informed us that the Mini Maker Fair in Benicia on April 16th is interested in having us exhibit engines. It is a good opportunity to interest a new "Maker" generation in engine modeling.

Penngrove Power one day show will be held July 9th in Penngrove, CA.

See <u>http://www.baemclub.com/pages/events.html</u> website for more information on both events.

We have been invited to display engines at the USS Hornet Museum in Alameda on July 4th. More details at upcoming club meetings.

TREASURER'S REPORT: Paul Denham says that we are solvent. **He is accepting dues for those who need to re-enlist for 2016. Dues are \$25.00 per year.**

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

BITS AND PIECES





Dwight Giles described some of the aspects of reworking Al Aldrich's Holt engine. New piston rings and new cam shaft was made and installed. Dwight noted that the original cam was very soft and had a few places "where the cam used to be". A Torrington one way bearing was also installed to aid starting. Dwight noted that each cylinder was bored to a slightly different diameter by the original builder which made things a bit interesting. Each cylinder has a different piston and rings. The radiator was built from a car engine heater core. The radiator pieces were assembled using epoxy, no welding was involved. The oiling system is a dip system, no oil pump. It was also noted that never had plans for this engine.



Dwight donated four cast iron model airplane (or possibly boat) engines from the 1930's or possibly the 1940's to anyone in the club who would be interested in completing them. Dwight was unable to find any information about these engines. Anyone building a completed engine would be "on their own" coming up with construction plans.



Jim Piazza showed his latest efforts in printing parts for his Offenhauser engine parts project. The printed engine block halves turned out about 0.050" short. This was attributed to contraction in the hot melt. If the printed parts are to be used as a mold for making a casting then both the shrinkage of the plastic and metal casting would need to be compensated by scaling up the part. The printed parts can also be jigged up to test the CNC program before committing to machining final parts. An "actual metal" water pump is nearing completion as shown in the center of the photo. Sealing the impeller shaft to the housing uses both sealed bearings and graphited packing material between the two sealed bearings.

The questioned arose whether the parts could be printed in wax so that they could be used for an investment casting. Roy Anderson noted that wax material patterns are very expensive based upon his past experience.



Your Secretary showed V-8 castings given to me by Ed DeGear. The crankshaft is a 180 degree crank similar to the one used in the current hot Ford V-8. The bore and potential displacement haven't been worked out yet. The fins on the cylinder head are molded, not machined. Ed was mostly famous in the boat world and was the first person to offer a commercial V-drive for a boat. He also designed reversing pitch propellers. Many of his works were published in various magazines.



Mike Rehmus discussed piston fit and lapping. Citing past inputs from Jerry Kieffer regarding good piston to cylinder fit, Mike showed the results of Dwight's lapping work on Mike's engine's 0.875" cylinder bore. Mike covered one end of the cylinder with his thumb to hold the piston in place while holding the cylinder vertical. The piston slid out of the cylinder as soon as he removed his thumb from the end of the cylinder.



Paul Denham showed the raw castings he purchased to make a Denny improved Ericsson hot air (Stirling) engine. (For an example of a completed model engine see:

http://www.homemodelenginemachinist.com/sho wthread.php?t=23876)

Paul states that the engine will use 2" bar stock for the cylinder liner and a graphite piston. He is planning an all ball bearing design.

March 2016 Crank Calls



Paul also showed a few spark ignition coils built by Paul's brother with a modified winding technique to prevent the coil winding layers from shorting. One method of coil winding is to wind a layer along the length of the coil core, put a layer of insulation on the layer, wind another coil layer, another insulating layer, etc. Paul described a method where a multiple section Delrin® bobbin is utilized placing multiple wound coils adjacent to one another. He also described the drilling of holes into the stock so as to form a semi-circular groove into one side of the "fin" when the fins are machined into the bobbin. The semi-circular grooves act as wire guides to the bottom of the spool for the next winding layer.



Peter Lawrence described the short comings of commonly available brass laps for honing model engine cylinders. As the brass laps wear and are adjusted, they only change diameter in the center which is not conducive to honing a uniform cylinder diameter. Peter recommends using a longer lap such as the one he purchased from the Helical Lap Co. (pictured to the right in the photo above) (http://www.helicallap.com/). The Helical Lap has a long taper along its length making small adjustments in diameter straightforward. The lap portion is available separately from the mandrel portion making lap replacement easy.

Peter described his trials and tribulations making piston rings using the Trimble method. Although he used a digitally controlled electric furnace to temper the rings, the rings lost all their "spring" due too high a temperature making them worthless. He decided to use an alternate method. He makes the rings oversized, slits them, and then laps them to size using a dummy cylinder. The lapping is necessary since the compressed rings are not circular when compressed to the cylinder diameter and would not form a gas tight seal. The tool which he uses to hold the rings during lapping holds a dozen or so rings (picture in the center of the photo above) so as to lap multiple rings at the same time. Lapping compound is applied to the rings, the tool with the rings is inserted into the cylinder and pushed/pulled in and out to lap the rings circular.



Jim Bove purchase a turn of the century toy as a 20 year old kid. After trying gas, natural gas, and propane but couldn't get it to run. Jim ran into another person who had the same toy and was

informed that it only ran on acetylene. This toy harkens back to the day when calcium carbide was used to illuminate automobile headlamps. The ignition is provide by a flame. There are a few markings on it that say "Paradox". Jim says he sees this engine occasionally for sale on eBay. (Editor's note: More information can be found at the Smithsonian Museum website:

http://americanhistory.si.edu/collections/search/o bject/nmah_846983)

Ray Fontaine discussed the Club's collection of "Engineering in Miniature" magazines that are available for loan. He was interested to see how the magazine evolved over the years in terms of advertising and machines available. These are available to Club members and he prefers that they be lent out as a set and not individual issues.



Jerry Franklin showed us his very 1st thread turned on his lathe. He turned out a 13/16-11 thread and stated that if anyone could find a nut of same size he's sure it will fit! Jerry also made a T-nut on his mill along with several hold downs (photo above).



THE PICTURE PAGE



"Welcome to about the 5000th meeting of the Bay Area Engine Modelers."



BAEM Club members displaying the Sherline Lifetime Achievement Award for Craftsmanship