

The Crank Calls



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MEMBERSHIP \$25.00 US

Contact Paul Denham at
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NEXT MEETING

**Saturday, April 19, 2025, at the
Golden Gate Live Steamers clubhouse site in
Tilden Park, Orinda, CA**

Gate opens at **9:00 am**
Meeting starts at **10:00 am**

Upcoming Events

- April 19: BAEM meeting at GGLS
- May 3: STEAM Discovery Festival, Solano
- May 16-17: Farm & Tractor Days – Branch 13
- May 17: BAEM meeting at GGLS
- June 21: BAEM meeting at GGLS

See below for more details regarding events. Watch Crank Calls, BAEM emails and BAEM web page for updates. BAEM meetings are usually 3rd Saturday of the month except December.

MEETING NOTES

The Bay Area Engine Modelers met at the Golden Gate Live Steamers clubhouse on March 15, 2025. Fourteen members and one guest attended. Paul Denham update club status: finances are in good shape and annual \$25 dues are payable.

NEW MEMBERS/VISITORS

The club was pleased to meet a potential new member, Paul Benkoven of Sebastopol. Paul has a home shop and has been machining for about five years. He's mostly built PM Research kit models that run on compressed air. Paul sounds like a good fit for this group. Welcome!

BAEM members are reminded that visitors are welcome at our club meetings, and we're always looking for new members, whether or not they have a specific machining project in mind.

TREASURER REPORT

Annual \$25 dues are payable for 2025. Please give your check to Paul Denham, or mail it to Deirdre Denham at 1937 Merchant St, Crockett, CA 94525. Make checks payable to "BAEM".

CLUB BADGE

If you are a member in need of a badge, contact Mike Rehms (editor@modelenginebuilder.com) who has offered to produce them.

SHOWS AND EVENTS

Shows present an opportunity to show off our fine engines and meet potential new members of our club. After all, what could be better than spending a day hanging out with people who are fascinated by our model engines, and want to hear all about what we've been doing?

S.T.E.A.M. Discovery Festival

Saturday, May 3, we have the S.T.E.A.M. Discovery Festival at Solano Community College. (S.T.E.A.M. stands for Science, Technology, Engineering, Arts, Mathematics. Nothing to do with that product of boiling water.)

<https://steamdiscoveryfestival.com>

Steve Hazelton is coordinating.

steve.hzltn@gmail.com (707) 501-3535

Rio Linda Farm & Tractor Days – May 16-17 EDGE&TA – Branch 13

Rio Linda Historical Society, 6852 Dry Creek Road, Rio Linda, CA 95673. Jason Green is the coordinator for Branch 13. (916) 716-6845 ducks2k@comcast.net. Ray Fontaine is coordinating for BAEM. Raftus2@outlook.com (925) 447-0213. He will be attending.

Note that Ray is the coordinator of BAEM participation in EDGE&TA – Branch 13 events. The events highlighted here are those that might be of particular interest to BAEM members. The entire calendar of Branch 13 events can be found [here](#).

GGLS Spring Meet and Open House

May 31-June 1 we have the GGLS Spring Meet and Open House. Saturday is just for the GGLS folks, who always appreciate our work. Sunday is open to the general public. Steve Hazelton is coordinating. steve.hzltn@gmail.com (707) 501-3535

Edge&TA-Branch 13 – July 31-August 3

Amador County Fairgrounds, 18621 Sherwood Street, Plymouth, CA. Robert Facino (916) 417-8732 rtsco@netzero.com is the Branch 13 contact. Ray Fontaine is coordinating for BAEM. Raftus2@outlook.com (925) 447-0213. He will be attending.

FIRST POPS

No first pops at the last meeting.

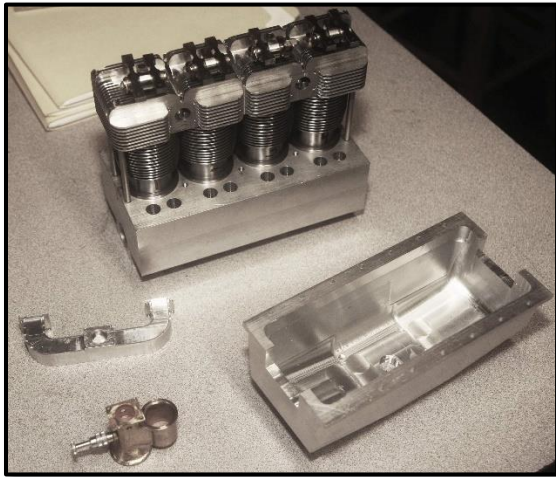
BITS AND PIECES

Charlie Reiter thanked longtime BAEM member Carl Wilson for his gift of nearly 600 pounds of brass, which Charlie will make good use of. Charlie brought in some shop-made devices suspected to be whistles, sirens, or examples of calliope steam whistles. Many were acquired while visiting Carl Wilson while on a brass scrounging mission. Carl machined several and collected others. Charlie showed a “conductor’s whistle”, used to communicate from one end of the train to another, via coded signals, in the days before radio-based communication became standard. There were several different audio pitches, including an “F” pitch from an air calliope and an “A#” pitch from another. He also demonstrated a “slide whistle”, which sounds a sliding, glissando sound effect by changing the length of the air column within a tube. Fun stuff!



Charlie's whistle's

Peter Lawrence keeps his model machining enthusiasm high by working on several projects in parallel. This month he brought in his Cirris inline 4 airplane engine replica. Major components he displayed included the block with pistons, heads, valve rockers and oil pan. The cooling fins cut into the cylinder and head were very impressive. Peter used a parting tool with a narrow carbide insert to cut the fins.



Peter's Cirris parts

To machine the cylinders, Peter first bored them slightly undersized, then mounted them on an expanding mandrel to hold them for the fin cutting step. He then lapped the inside bore to final size.



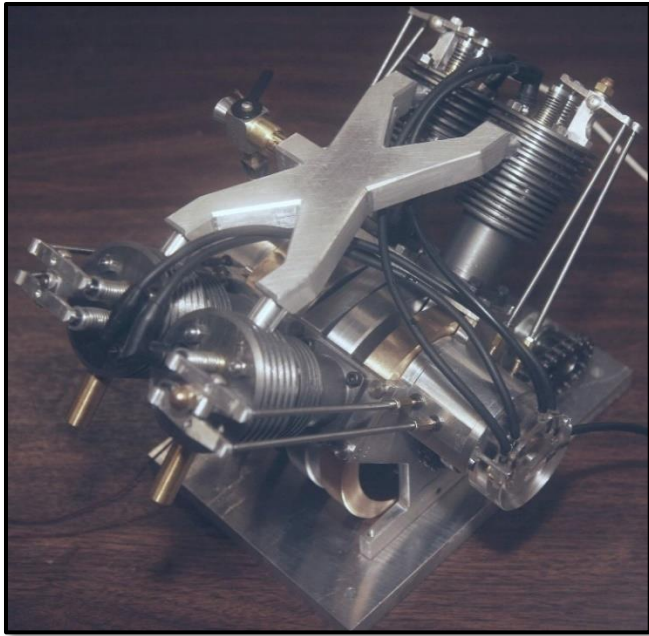
Intake manifold and brass carburetor.

He had also machined the intake manifold and a brass carburetor. The manifold was machined from 6061 bar stock in two pieces: a u-shaped “bottom” and a flat “top”. The 6061 is only “somewhat” weldable, so his plan was to fasten the parts together using JB Weld, rather than tig welding. The carburetor was fabricated from brass stock obtained from Carl Wilson. The carb has a float bowl to meter the flow of fuel into the carb jet. Peter used fuel-resistant foam for the float material.



Peter's oil pan

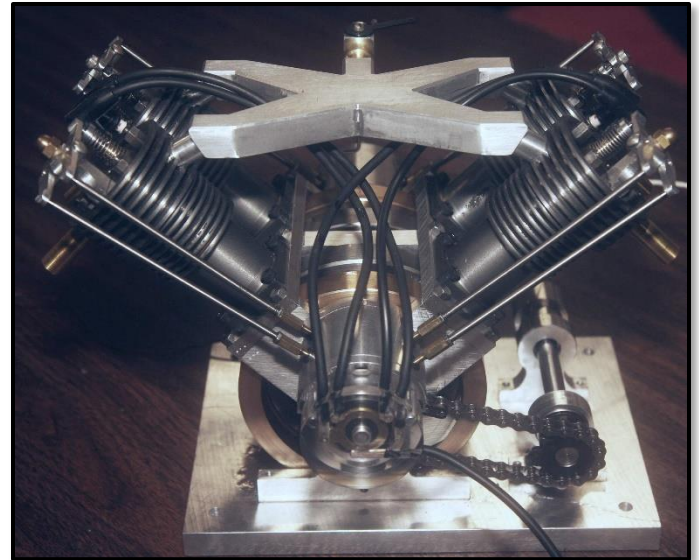
Peter also described how the oil pan started out as a six-pound block of aluminum and is now less than a pound. Must have created one impressive pile of swarf!



Paul's Double Ducett

Paul Denham has reached the half-way mark in completing his four-cylinder "Double Ducett" derived from Randall Cox's two-cylinder Hoglet design. Recent progress includes an innovative V shaped carburetor intake manifold, ignition, distributor, and final assembly. Paul reported that he had achieved a brief "first pop" which managed to slip the connecting rods phasing on the crank shaft. His next half will involve pinning the rods to the crank, reassembly, tuning the ignition, and then achieving reliable running.

The "X" shaped intake manifold resulted from Paul's consideration of several design alternatives. The primary design goal was 4 equal-length gas pathways from carburetor to intake valve, to ensure an equal quantity of fuel-air mixture was delivered to each cylinder. Not shown in the photograph was delicate internal baffling to ensure equal gas flow. The purpose of this was to help achieve balanced performance from each of the four cylinders.



*90 degree "V" topped by an "X" shaped manifold.
There are gear-driven cams at each end of the crank.
The chain/shaft is part of the starting mechanism.*

Paul reported he had been burning out Hall Effect sensors. Pete Lawrence suggested that primary inductance was the problem, causing the +5V power supply to exceed design limits. The fix is a filter on the 5V power supply. Peter said he learned about this issue from an engineering design note in the data sheet for a Hall Effect sensor specifically intended for automotive applications.

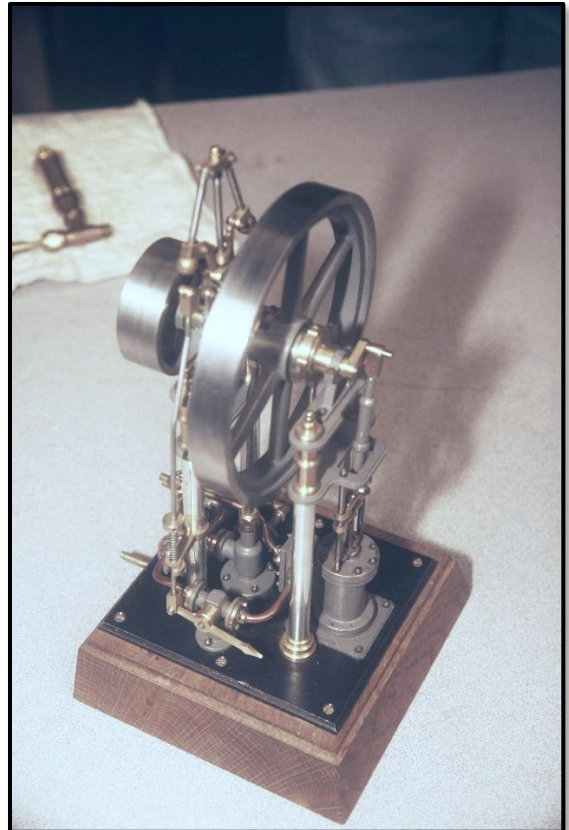
Dwight Giles brought in castings for an Atomic .60 Racing Engine produced by JZVR Engines & Castings in 1946. This single cylinder 4 cycle engine was intended for use in model airplanes or tether cars. It has 60 cc displacement, and will probably reach 20,000 rpm. Dwight offered to give the kit and plans to anyone who has a serious interest in building the engine.



*Dwight offering a casting kit for
an Atomic .60 Racing Engine*

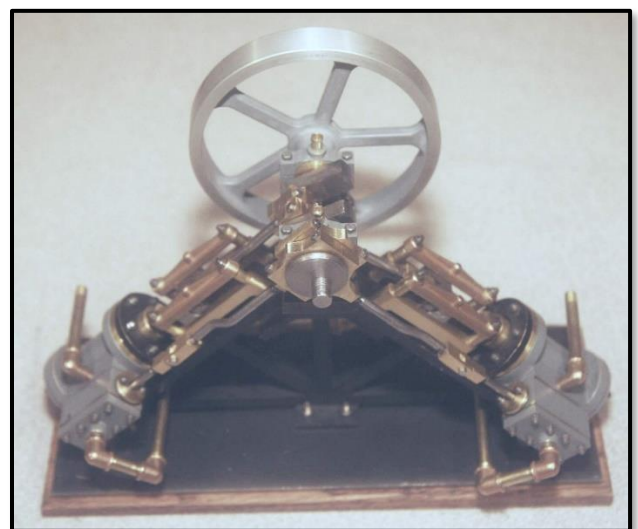
Guest Paul Benkoven is an acquaintance of Mike Rehms, who invited Paul to our meeting. Paul shared some of his machining experience including restoring Victorian light fixtures for his wife's antique business.

Paul brought in two interesting steam engines he had built. One was a Donatus vertical column steam engine built from a Bengs parts kit (<https://www.bengs-modellbau.de> [website in German, for English click language switch in upper right of main page.]) This engine is a replica of a mid-1800s vertical steam engine with flyball governor.



*Donatus vertical column steam engine
built by Paul Benkoven*

The other engine design was influenced by Stuart V twin steam engines. Paul built his engine from bar stock using his inverted V design.



Paul Benkoven's inverted V steam engine

RAMBLINGS

Working on an interesting project? Got a great BAEM story? Share it with us here. Send us pics and project details, and your hard work will be shared with the entire club.

FOR SALE

Got something you'd like to sell? Your ad is free and will be seen by likely customers.

NEWSLETTER CONTRIBUTION

Your contributions to this newsletter are appreciated: workshop reports, tech articles, reviews, historical pieces, whatever. You contribute, we'll figure out how to post it. Send your contributions to either or both of us. Thanks!

-Mike Byrne at mgbyrne3@comcast.net

-Wes Wagon at weswag@ix.netcom.com