

The Crank Calls



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MEMBERSHIP \$25.00 US

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NEXT MEETING

**Saturday, November 16, 2024, 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

- November 16: BAEM meeting at GGLS
- December 14: BAEM meeting/potluck at GGLS
- January 18: 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 October 12, 2024. Paul Denham welcomed 14 members.

This meeting was held a week earlier than usual, to avoid conflict with our club participation in the Maker Faire, which was scheduled for Oct. 18-19-20. See below for a report on that event.

NEW MEMBERS/VISITORS

BAEM members are reminded that visitors are welcome at our club meetings, and we're always looking for new members.

TREASURER'S REPORT

Paul Denham reported that the club's finances are in good shape.

CLUB BADGES

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

SHOWS AND EVENTS

Engine shows and similar events provide an opportunity for BAEM members to display their craftsmanship to an appreciative audience. They also serve to publicize our club's existence to potential future members, helping build our membership.

BAEM encourages all its members to participate in shows. Your help is needed to populate our display tables. You don't need an impressive collection of model engines to display. In fact, you can help without anything at all to display, as we always need people to provide coverage. It's a lot of fun interacting with members of the public, explaining what the engine model building process is all about.

-Maker Faire Bay Area

The Maker Faire Bay Area was held at Mare Island Naval Shipyard on October 18-20, 2024. This is a big show, with about 50 different exhibitors and roughly 3,000 visitors each day. The large number of visitors and the physical layout of the premises resulted in logistical challenges. Setup and takedown access was limited to early morning hours and at the end of a long show day. There was inadequate overnight security, which meant we had to completely setup and takedown our display engines each day of the show. Then there was the issue of parking passes and participant admission passes for show exhibitors. Faire management was unwilling to provide us with an adequate number of passes, which led us to cancel our involvement with the show. Faire management softened their position somewhat, and our participation plans resumed.

Steve Hazelton was the organizer of our participation in this event. BAEM members who assisted were Paul Denham, our club treasurer Deirdre Denham, John Lechman, George Spain, Dwight Giles and Wes Wagon. Steve negotiated parking and admission passes for all club members who participated. He also handled arrangements for electrical and compressed air needs at our display tables, as well as the display tables, chairs, and sun shades.

The show was scheduled to run Friday-Saturday-Sunday. We skipped participation on Friday, and showed up at the exhibitor parking area at 8:00 am

on Saturday. Show visitor gates opened at 10:00 am, and the crowds of the curious began visiting our booth.

Our booth was outdoors, at the North end of the fairgrounds, a few feet from the Napa River. The warm weather couldn't have been better. We were free to run our engines in this well-ventilated setting, and the crowd was always delighted to hear the Gilmore V8 roaring to life.



BAEM booth at Maker's Faire

We had a steady volume of visitors at our booth all day long. It was a mixture of families with young kids and gearheads of various types. At least a couple dozen people showed real interest in the club, as possible future participants.

"I love you guys! Love seeing your engines on display," said one woman. "I've seen you guys every year. Before this at the Good Guys shows, and before that when you used to do shows in Vallejo." Let's see, that was back in 2009 or so. Nice to encounter such dedicated fans.

One father seemed to be providing his young son with particularly detailed explanations of how the engines worked. "I have a Ph.D. in combustion engineering," he explained.

The crowds persisted all day, sometimes three or four persons thick. Lots of interest, lots of questions. We were exhausted by days end. It was decided that one day was all we could do.

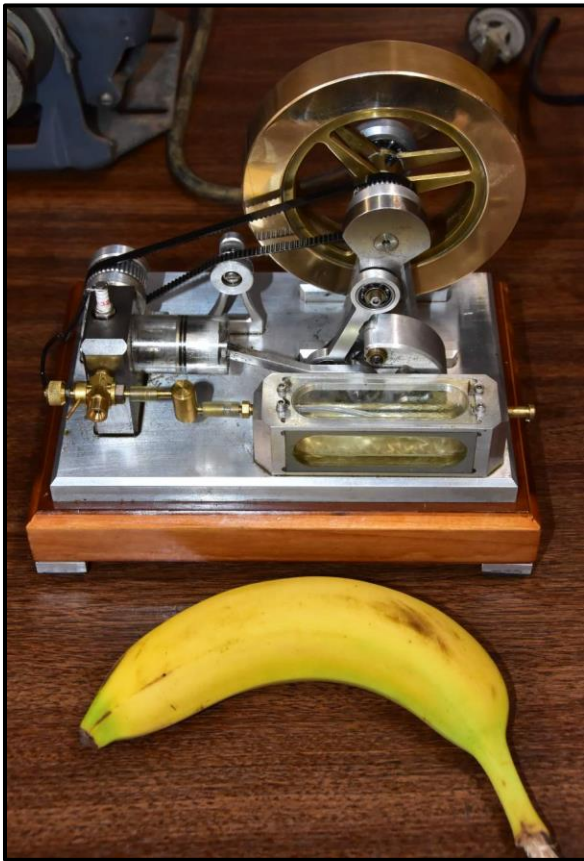
FIRST POPS

At last month's meeting, George Spain ran his inline-6 on two cylinders and Paul Denham ran Carl

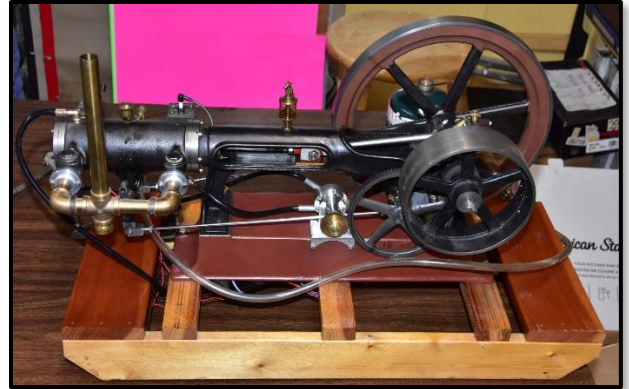
Wilson's Mery "Explosive" engine. Project details are provided below.

BITS AND PIECES

Paul Denham brought in two reworked engines. The one was a Ridder designed Atkinson with a glass cylinder. Originally built with an evaporative fuel system, which didn't run well. Paul reworked the rotary valve timing, installed a new Sage-Getty ignition and a fluid fuel tank. It ran very nicely.



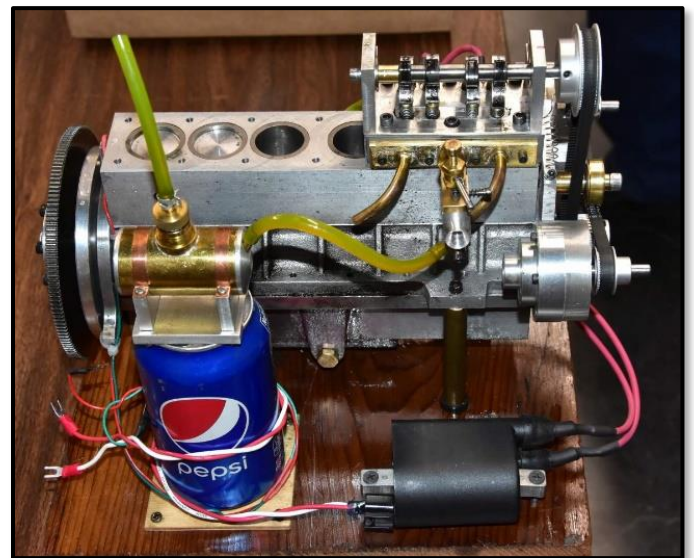
Paul's single-cylinder Atkinson engine, designed by Jan Ridder



Paul Denham ran the Mery "Explosive" engine

Of related Mery interest, Ray Fontaine discovered that while Martin still offers the Mery casting kit, they do not currently offer the gears. Ray developed jigs to cut five gears per setup on his Tormach mill using a manual indexer and is discussing a gear production contract with Martin.

George Spain is developing an in-line 6 of his own design which started with a block and crank from Dwight Giles. Three pairs of pistons operate together. George ran his engine using a two-cylinder head he used to verify the design. Engine has an electric starter and operating oil pump and ran surprisingly well on two cylinders.

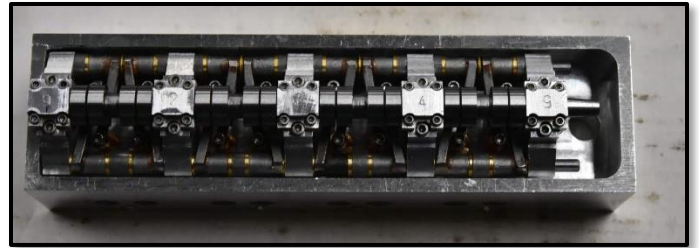


George Spain's 6-cylinder inline, running on only 2 cylinders.



George gets it running.

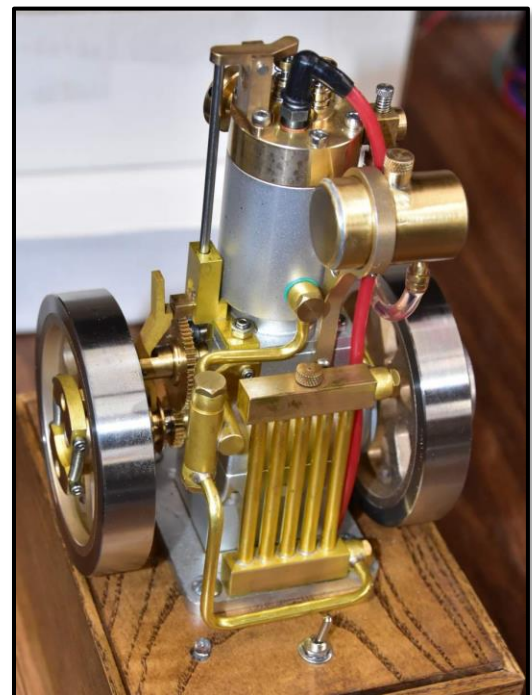
Peter Lawrence brought in a head assembly for the in-line 4-cylinder engine he used for design verification of his Merlin V12 aircraft engine. This head replicates the 4 valve per cylinder feature of the Merlin. The head was complete with camshaft, rocker arms, valves, and guides. He described the difficulties encountered when boring the double angled holes for the spark plugs and valve ports. Peter developed a procedure to spot the hole centers with the head held horizontally in the vice and the mill spindle at a perpendicular angle. For drilling, the mill spindle is then set to a 10-degree angle and the piece in the vice is placed on a 10-degree angle wedge. A pointer in the chuck is then carefully matched to the small spot marks made previously, then swapped for a drill while only moving the quill and not the table. This procedure ensured the precise, consistently repeated angled holes that he desired.



Peter's cylinder head assembly

Peter also shared his desire to publish a Merlin project book with plans modeled after the Valley Press books written by Kozo Hiraoka. Recall Peter's recent descriptions of his work to manually produce dimetric projection drawings. Peter has approached Valley Press to explore interest in his project. He is also considering a "path finder" project writeup based on his in-line 4 engine, perhaps for posting Home Model Engine Machinists forum.

Chuck Klor bought in his Banggood Chinese vertical hit-and miss engine that arrived with shipping damage. After replacing the damage parts he had trouble getting it to run and asked Paul for troubleshooting help. Paul replaced the spark plug and Chuck made a nice mounting box and the engine runs well.



Chuck Klor's Banggood engine

Larry Zurbrick brought in an “in progress” CNC project. His three axis CNC assembly is made up of EBay and Amazon acquired components. A controller, three stepper drivers, power supply, optoisolator limit switch inputs, and one stepper motor were wired up.

Larry and envisions a CNC controlled engraving router. He has acquired a 20,000-rpm spindle with ER20 collets and a 120V 3-phase variable-frequency convertor. Larry is using the open source FluidNC firmware in an ESP32 micro controller. The controller can interface with CNC software running on a variety of platforms such as smart phone, tablet, or desktop computer.

Links to the open-source software:

FluidNC: <https://github.com/bdring/FluidNC/tree/main>

Universal G-code Sender:

https://winder.github.io/ugs_website/

Scorchworks engraving software:

<https://www.scorchworks.com/Fengrave/fengrave.html>

Ray Fontain recently returned from a trip to Tasmania, where game hunting is still practiced using wooden bow and arrows. Ray witnessed the fabrication of an arrowhead from a steel rod that appeared to be a large concrete nail. A charcoal hearth with elephant stomach blowers heated the steel, which was work hardened using a hammer on a rock anvil. The nail head became the pointed end and a double row of barbs were later cut with a chisel. Ray invested \$20 to acquire the arrowhead but presumably brought it home in checked baggage rather than carry on.

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

BAEM member Jim Piazza has two items that he is offering to sell:

--A boiler. Asking \$125.

--A Holridge Radius Cutter. Asking \$375



Boiler for sale.



Radius Cutter for sale.

If you're interested in acquiring either of these, contact Jim at jdanzpiazza@comcast.net or call him at 408-446-4825.

BAEM member Chuck Klor recently purchased a number of items from PM Research with the intention of constructing a model engine powered by live steam.

Item	Cost
Water gauge	\$31.00
Pressure gauge with syphon.....	\$84.00
Water tank.....	\$69.00
Water pump fully machined.....	\$69.00
Steam boiler kit.....	\$289.00
Safety valve.....	\$21.00
Solder and flux.....	\$14.00
ESBIT dry fluid 2 boxes @\$12.00 ea....	\$24.00

This listing shows the items purchased, and what Chuck paid for them. All the items are new, in their original packaging.

Chuck has changed his mind regarding this model project. Rather than deal with the gory details of returning all these items to PM Research, Chuck would prefer to turn them over to another BAEM member who would be inclined to use them in a steam-powered project of their own. Chuck asks that whoever wants

these make a \$100 donation to the club, and the entire bunch is yours.

Chuck will bring all these items to the next meeting. If you have any questions, you can reach Chuck at klorconsulting@yahoo.com.

The club thanks Chuck for his generous contribution. We look forward to hearing about the build details of the project by the lucky buyer!

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 mgybyrne3@comcast.net

-Wes Wagon at weswag@ix.netcom.com