

The Crank Calls



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MEMBERSHIP \$25.00 US

Contact Paul Denham at
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NEXT MEETING

**Saturday, September 17, 2022, 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

- Sept 17: BAEM meeting at GGLS
- Sept 17-18: GGLS Fall Meet
- Sept 30-Oct 1: EDGE&TA-13 Antique Equipment Show, Galt
- Oct 15: 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 monthly Bay Area Engine Modelers meeting was held at the Golden Gate Live Steamers site on August 20, 2022. Twenty-two members were present including new member Joel Hainley. Welcome Joel, hope you enjoy being part of our club!

NEW MEMBERS/VISITORS

Ed Huff paid us a visit.

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

TREASURER'S REPORT

President Paul Denham reported the club is still financially sound.

Reminder: 2022 dues of \$25 are way past due. Give your check to Paul Denham at the next club meeting, or mail to Deirdre Denham at 1937 Merchant St, Crockett, CA 94525. Make checks payable to "BAEM".

CLUB BADGES

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

UPCOMING SHOWS/EVENTS:

GGLS is having its Fall Meet this September 17 & 18, and BAEM has been encouraged to show our model engines. We'll have tables and sun shades. Saturday is for GGLS members, and Sunday is open to the public. This event is good exposure for our club, with an appreciative audience. Plus, free food for BAEM members!!! Dogs will be available but not burgers. Also expect salads, cookies or cakes or other dessert items, and beverages.

Branch 13 of the Early Day Gas Engine & Tractor Association (EDGE&TA) is having its annual fall Antique Equipment Show at the McFarland Living History Ranch, 8899 Orr Rd, Galt, this coming September 30-October 1. BAEM is invited. Ray Fontaine will NOT be attending, due to conflicting travel plans, but you can contact Ray for more information, rayfontaine2@att.net Even better, check out the Branch 13 website at: <https://branch13edgeta.com/>

GOODGUYS SHOW REPORT:

The Goodguys West Coast Nationals custom car show was August 26-28 at the Alameda County Fairgrounds. We had fun showing our model engines to a highly interested audience, including several potential new BAEM members.



At the Goodguys show, Joel Cohen explains one of his model engines to an interested attendee. Note the nice cloth table covers that were provided.

BAEM members helping out at the show included Joel Cohen, Paul Denham, Eugene Ellerbusch,

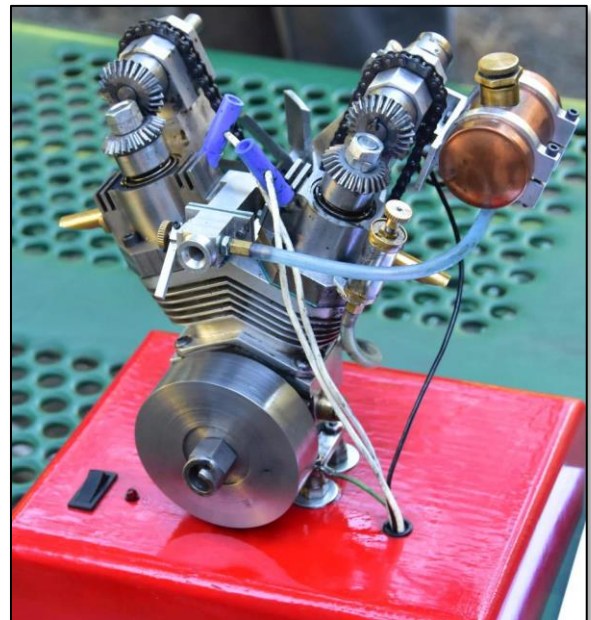
Ray Fontaine, Jerry Franklin, Steve Hazelton, Lon Keeth, Peter Lawrence, Steve Ridgway, George Spain and Wes Wagon. Special thanks to Steve Hazelton for coordinating our show logistics.



Steve Hazelton at Goodguys show

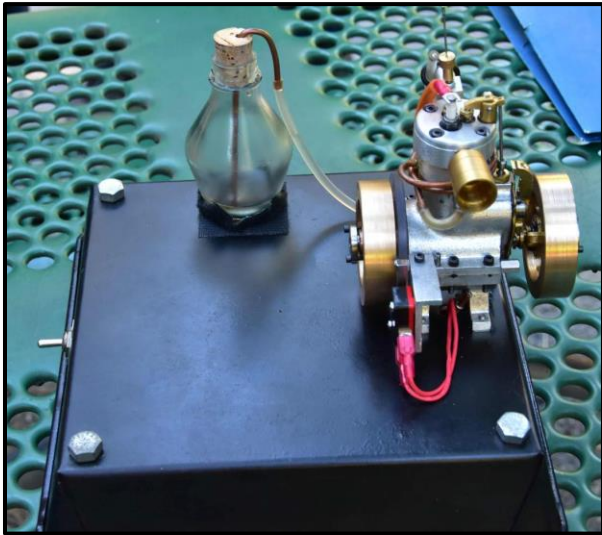
FIRST POPS

Joel Cohen has his rotary valve V-twin running. Late issues were found to be rings failing to seat, rather than valve problems. Engine started and ran well.



Joel Cohen's rotary valve V-twin

Jerry Franklin had his Bob Shore designed Little Devil single cylinder hit and miss mostly complete and popping but not yet running. He intended to use one of Paul Denham's SGI ignition kits but needed a data sheet to hook it up. His workaround was to install a Kettering ignition with points.



Jerry Franklin's Little Devil. Nice work!

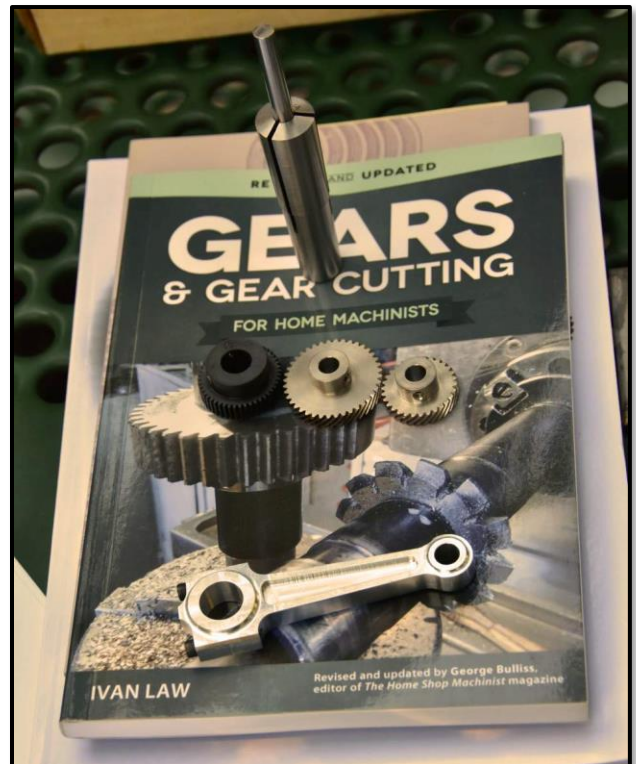


Peter's 48-DP helical-cut gears that were problematic

Obviously, this is complicated stuff. Peter described how he consulted numerous learned treatises regarding gear design and fabrication. One after another, he displayed each weighty tome, informing us of the lack of coverage regarding dimensions of helical gears. He described his deep internet search for manufactured helical gears of the small size he required, and his lack of success. Nevertheless, he persists.

BITS AND PIECES

Peter Lawrence is reverse engineering his version of a Hanson vertical diesel. This engine uses a pair of helical gears to connect the crank shaft to the cam shaft. Gears purchased from Stock Drive Products (<https://sdp-si.com/>) were found to be oversize by square root of 2 for a 45 deg helix angle. Peter learned to his chagrin that "diametrical pitch" associated the helical gears is not the same as "diametrical pitch" for spur gears. Pitch circle diameter for helical gears, as measured in the "[ab]normal DP" system, is equal to $1/(\cos(\alpha) * D)$ where alpha is the helix angle. What's "48 DP" for such helical gears is the size of cutter used to make them, hence for example my 48 DP helical gears do mesh with 48 DP straight spur gears, but are quite a bit larger in diameter for the same number of teeth. He found some catalogs where imperial helical gears were measured in the "[ab]normal DP" system and metric of the same catalog were in the "transverse DP" system, and they usually weren't very clear about the difference.

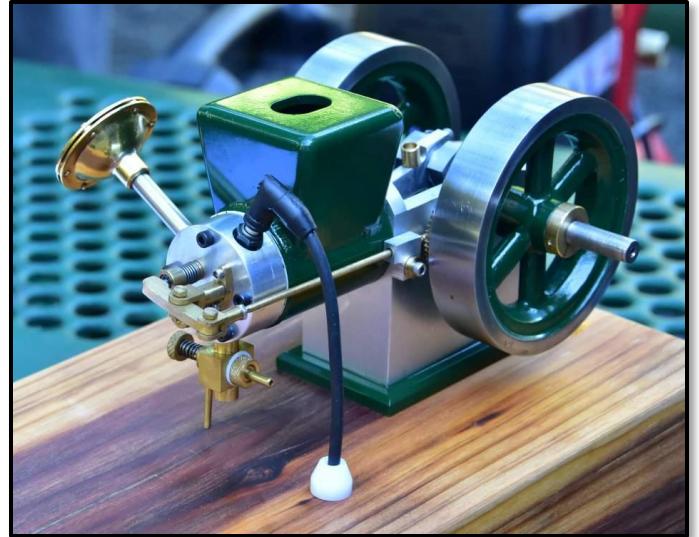


A gear book without answers for helical-cut gear questions

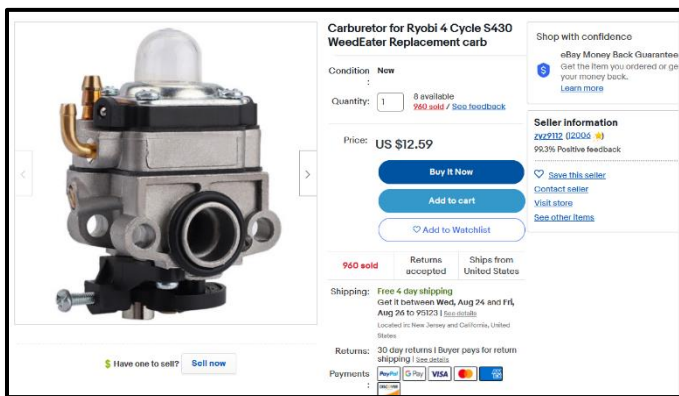
As a result of this demotivation, Peter showed several connecting rods for his Duesenberg 4 and De Haviland Cirrus aircraft engine. Subsequent discussions addressed possible techniques for producing shop made helical gears. Peter also brought samples of silicon bronze TIG welding rods and nonconducting aluminum oxide rod suitable for spark plug insulators and generously offered to share.

Peter is obviously very good at solving technical machining fabrication challenges. We look forward to hearing of his progress at future meetings.

Paul Denham is also skilled at solving engine fabrication challenges. He mentioned that he found a 4-cycle carburetor on Ebay for around \$13 that solved some temperamental problems he was having idling his Wall 4.

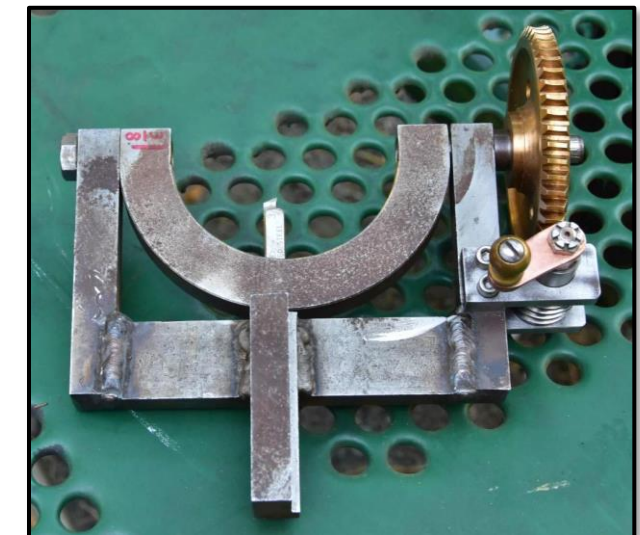


Larry Zurbrick's GEM-1. Nice.



Sometimes, the answer is an Ebay weed eater carb

Larry Zurbrick brought in a very nice GEM-1 hit and miss that was nearly completed. He had painted it very nicely and mounted it on a nice box. Ignition installation should complete the engine. Larry did share that after post painting assembly “no compression” revealed valves no longer seated, so he requires some lapping. Larry attributed his surge of progress on this engine to his recent retirement.



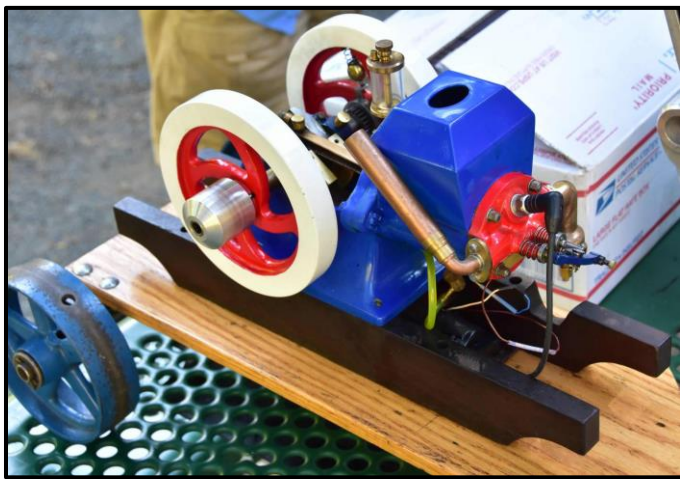
Charlie Reiter's smartly modified lathe ball-turner

Mike Rehmus brought in a super charger rotor and case that he 3-D printed on his very accurate resin printer. Jim Piazza designed the supercharger and provided Mike the 3D models for the parts, ready to be printed.



Jim Piazza-designed supercharger rotor and case, 3D printed by Mike Rehmus

Paul Denham brought in his very first model engine with a nice cart. This 1982 project was a collaboration with his dad who did most of the heavy machining. Casting kit used is believed to be the Cole's "Large Horizontal Hit & Miss Gasoline Engine" seen in Cole's 1984 Catalog 24. Hopper profile was customized. The engine initially ran so quietly that Paul added an amplifying exhaust port.



Paul Denham's first model engine, a hit & miss he built with his dad in 1982

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.

WANTED

BAEM member Larry Bunch wants to purchase a Logan 11 x 36 Lathe and asks that anyone who knows of one for sale please contact him.

Larry Bunch 209-404-6700
wendyrocky2@gmail.com

FOR SALE

Mike Rehmus announced that he is moving into a retirement community and will be divesting some of his model engineering machinery. Right now, only the Bridgeport and the 5 Hp. Vertical air compressors are for sale. Get in touch with Mike if you're interested in either of these items: editor@modelenginebuilder.com

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Dwight Giles has a vintage motor he is offering:

-1.5 hp electric motor. 1750 rpm. 110/220v AC single phase. Heavy! Price: Free!

Contact Dwight at jig313@aol.com or ph: 707-648-1481

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

NEWSLETTER CONTRIBUTIONS

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.cm