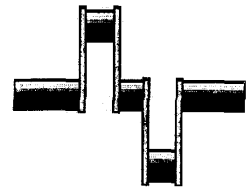


# The Crank Calls

The Bay Area Engine Modelers Club, Branch 57 of EDGE&TA

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November 2001

www.baemclub.com

**NEXT MEETING**  
**17 November, 2001**  
**AT 10 AM**

**AT**  
**Robert Schutz's SHOP**  
**366 40th St.**  
**Oakland, CA**



Time to polish and tune up your engines for the annual Holiday Party.

Dues are looming on the horizon. Let's get them in early and make the treasurer's vacation happen sooner.

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## BAEM MEETING NOTES

October 20, 2001

Bob Kradjian, Secretary

President Pete Brooks was off repairing serious termite damage to his domicile and I was asked to chair the meeting.

There were, for the first time that I can recall, no visitors.

We promptly got down to the important business, electing officers for 2002.

Treasurer Lew Throop, and secretary/special event coordinator Bob Kradjian, had round heels and were pushed over for yet another year.

For the position of club president, Dick Pretel nominated Ken Hurst. Discussion followed and Ken was unanimously elected to the position.

For the out of area members, let me say that Ken has been a stalwart in the club's activities since he first arrived. He is a prolific builder and has just finished his seventh engine. Ken's engines are well finished and are all strong runners. He has a strong machinist's background working on submarines at Mare Island. His enthusiasm for our hobby has led him to develop an incredible web site, <http://nvbackflow.com/engines>. Visit this at once if you haven't done so!

Congratulations, Ken, we know you will do a great job.

The end of fourteen years of publication of our hobby's magazine, *Strictly I. C.* was duly noted. BAEM member, Bob Washburn and partner, Frances have our deepest thanks for their unique and valuable contributions to engine builders everywhere.

Discussion concerning our newsletter and club web site followed. A study group composed of Mike Rehmus,

Jim Piazza, Robert Schutz, and Steve Jasik will chew over the many aspects of this issue.

Member Bill Nickels showed his photos and video from Prime. Both were well done.

#### Bits and Pieces:

Jim Piazza's first of six pulse jets is finished with the exception of the laser-cut reed valves. Jim has produced a unique and well-finished project.

Steve Jasik's Corliss steam engine governor mechanisms, three such, are progressing nicely. A fine example of CNC work in our hobby.

Rudy Pretti brought it his latest effort. This one is another gem; a highly modified Bob Shores "Little Angel." The modifications include a set of flywheels with "coffee-grinder" curved spokes, an oval coolant tank, an oval cylinder head, and a general over-all fine finish. It runs, but needs the usual sorting out in this department.

John Palmer brought his original "J and E Junior," half horsepower, hit and miss engine. Robert Schutz is thinking of starting one. John fired it up for the group.

Chris Leggo showed his originality again with a load dynamometer. This device includes a gear pump that leads into an orifice, to a heat exchanger, to a reservoir. A valve controls the load, and the reading is made on a scale forced down by the lever arm. Chris is asking for a partner to supply a robust model engine to test the whole thing.

Lew Throop has found a low cost CNC program (takes G code commands) on the net. It is called *Master 5 CNC Real-Time* and is found at <http://users.andara.com/~fenerty/master.htm>. Lew showed an example of steam engine parts cut on his own cnc mill.

I showed a Sea Lion that I found in Los Angeles. Also, the unique four-cylinder engine that Randall Cox showed at PRIME. This engine is pictured on the back cover of the latest issue of S.I.C. It now has a running stand, header pipes, a new fuel system, an extra flywheel, and new wiring. The unique features of this engine include a "barber pole" distributor, an OPEN crankcase, and modular construction. Randall is a genius for sure. It is the easiest starting and slowest idling miniature engine that I have ever seen.

Scott brought in a oval shaped chisel handle, that he got from Dwight on a visit to his shop. Dwight Giles promises to tell us how he turned this useful item.

Mike Rehmus made up a new batch of club badges. The only problem is that they say BEEM instead of BAEM. We don't need these stinkin' bodes. New ones are coming.

There's a rumor going around the club that there will be several of those wonderful Mery 6-cycle engines to be built by members Pretel, Wilson, and Armstrong.

Thanks to Roger Slocum for the first of two talks on heat-treating fundamentals. Details to be provided by our tech topics guru, Scott Overstreet.

After the meeting, Ken Hurst said that our last show of the year in Sacramento was a rousing success with George Gravatt, Red Garlough, and John Vlavianos contributing to the effort.

Again, our thanks to our host Robert Schutz. Robert feels that the best time for our December party meeting would be from noon till 4 PM or so, rather than in the evening. Discussion at next meeting if warranted.

You can't say that I didn't warn you. Those of you who missed our last meeting missed a really good introduction into the fine points of steel metallurgy and hardening for the common man - maybe defined as



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# TECH TOPICS

BY  
SCOTT OVERSTREET



the guy who thought he really didn't want to know more or possibly anything but discovered that he really did or the guy who thought that he knew everything but over the years developed some questions that never got answered. Roger Slocum fixed problems of these sorts for lots of us. Roger developed an appreciation within us as to just what is achieved by the addition of various alloying agents along with carbon and what happens within the carbon lattice structure of the steel as the heat treating temperature of the steel is raised, held and then reduced in the hardening cycle and again in the equally important tempering cycle.

Now, all isn't lost. Roger says that the best is yet to come. Roger will present the second installment of his presentation during our November meeting in which he will focus on various materials which are easily heat treated in the home shop. Of the steels, Roger says that 0-1 oil hardening steel, is so fool proof that small work can be reliably heat treated with nothing more than a torch and a can of "Pennzoil." Roger is planning on several demonstrations along this line which I'm happy to say will tie the ribbon around a Tech Topic session we had quite some time ago - Remember the session on making your own quick and dirty special reamers, drills etc. The designing and making of the various tool forms was well handled at that time but the selection of a suitable steel and the heat treating thereof was left for a later meeting. Finally, here comes the rest of that story, but that won't be all. Roger has several home shop heat treatable materials to go through besides 0-1. One of these is beryllium copper. This unique material is easily handled in the home shop and makes small precision springs and electrical contacts easy. Thanks ahead of time Roger.

Scott Overstreet



Steve Jasik's Corliss governors.



Breathing end of Jim Piazza's pulse jet.



More pulse jets. Jim Piazza's completed engine alongside Karl Van Dyk's German produced jet. Venturi has been removed.



Rudy Pretti's "Little Angel".



Chris Leggo's "Original" dynamometer.



John Palmer's  
"J and E Junior".



Bob Kradjian's Westbury Sea Lion.



CNC produced parts  
for steam engines  
along with Offy part.



Circular parallel from Mike Rehmus.



Bob Kradjian's Randall Cox engine.

Photos by Mike Rehmus.