The Bay Area Engine Modelers Club, Branch 75 of EDGE&TA

The Crank Calls

February 2006

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NEXT MEETING
FEBRUARY 18, 2006 AT
Robert Schutz's Shop, 366 40th St. Oakland, CA
Doors open at 9AM
Meeting starts at 10 AM

DUES ARE DUE
$25.00
CONTACT
LEW THROOP AT
(650) 941-8223

Events Coordinator Report -Dick Pretel

Here are 3 show dates that are tenitive.
February 18th at Pier 45 in San Francisco given by the SF Model A club.
March 25 – 26 Merced, Calif. To be held at the Merced AG museum on 140.

MEETING NOTES
1-2-06
Carl Wilson

Best wishes for the New Year to all who read these notes. May all your parts be "spot-on," and your engines start at the first pull.

We had a bumper crop of guests for this meeting and it is a pleasure to introduce them:

James Freels: an enthusiast of hit-n-miss engines
Larry McLure: likes all kinds of engines
Chris McCoy: works on small-scale rotary engines – (**See page 4**)
Bennet Sprague: graduate student in combustion
Mike Pinkerton: ceramics/materials, opposed piston engines, very high temperature diesel engines
Scott Garrison: Sterling engines, physics student at Cal

The last four guests recorded that they learned of Bay Area Engine Modelers through our web page. Here is evidence of the value of our presence on the Internet. Our web-master, Jim Piazza, would like to re-design the pages, but no longer has enough time to accomplish this much-needed task. He wants the site to continue to attract visitors and thus to move up in the estimation of the web search engines. This is a shameless plea, or guilt-trip: would someone volunteer to freshen-up the look of the BAEM web-page www.baemclub.com.

Lew Throop reports that we had 118 dues paying members last year, but that so far only 59 had renewed for 2006. At the end of the meeting I saw some members crowding around Lew to pay up. If you were not among them, send your check to Lew; payable to him.

Ken Hurst made two of the Wall 30cc single cylinder 4 stroke engines. It features an 1 1/4" bore atop an 1 1/4" stroke and is fired with a 12 volt coil and battery system. The pull starter was an organ donor from a small chainsaw and is grafted on very nicely. Note the "gas tank on a post" which feeds fuel by gravity to the carburetor. Ken said that this arrangement guarantees that the fuel will leak out of the carb if he forgets to turn off the valve.

Ken also displayed the castings for a 192cc, OHC, V8 engine designed by Tryygve Örkenrud, a Swedish model engineer. This solid and massive engine measures 30mm bore by 34mm stroke. Give yourself a treat if you have Internet access and visit Tryygve's website at: http://fly.to/orkenrud. This guy builds engines!

George Gravatt is building this Atkinson cycle engine from castings designed and poured by BAEM's own engine kit builder, Joe Tochtrop. The prototype dates from the tail end of the 19th century. James Atkinson's design was intended to compete with the Otto cycle engine without infringing on existing patents. The unique linkage inserted between the crankshaft and the big end of the connecting rod causes a complex movement of the piston that allows all four of the working strokes of the Otto engine, i.e., intake, compression, power, and exhaust, to be completed in one revolution of the crankshaft. There are no timing gears and the cam is part of the crankshaft. An excellent illustration of the operating principle of this engine is here: http://www.keveney.com/Atkinson.html. I "googled" on **Atkinson cycle engine**, and suggest that you do also. You can read about its use in some of the automotive hybrid powerplants such as the Toyota Prius. George reports that he encountered trouble when he tried to mill the yoke without first making a clamping fixture. Seems the end mill got a little hungry for aluminum and crash…..!

Dwight Giles is building 3 Vaughan hit-n-miss engines from casting kits. So far he has made this pile of parts including the connecting rod, governor fly weights, and lots of cap screws.

John Vlavianos showed some castings made from his patterns for the Upshur designed model of the Palmer ZR-1 marine engine. This model was featured in the first issue of Model Engine Builder and was built from bar stock. John mentioned two changes he has made: first, he increased the bore from 3/4" to 7/8", and second, he will make available a special head that will convert from the original T head to overhead pushrod actuated valves. He also devised a neat mandrel to turn the cylinder outside diameter and to face both ends.

He plans to make the kit of casting available for $150.

Contact John for further details.

I had the pleasure of announcing first pops and some sustained running of the Morrison and Martin model of the Mery Explosive Vapor Engine. I gave a good try at having the engine running for this meeting, but I had to arrive empty handed. It is on its fourth gas mixer (it runs on propane) and second ignition system, and all that effort has not fully sorted out the details of getting it run smoothly.

Ken Hurst's last duty as club president was to preside over the election of new officers. It was "deja-vue all over again!" Many of us remember that we elected Ken when he was absent, and we did it all over again in electing Pat O'Connor. There were a few chuckles over this.

The new roster of club officers is:

President: Pat O'Connor
Secretary: Carl Wilson
Treasurer: Lew Throop
Tech Topics: Dwight Giles
Newsletter Editor: Bill Nickels

On behalf of the members of the club members I say "Thank you, and, well done" to our two retiring officers, Ken Hurst and Bob Kradjian. You have left behind some very big shoes.

Up next was the dynamic duo of Chris McCoy and Bennet Sprague, two of our guests. They are working on nanotechnology rotary engines; fortunately they brought with them two scale models of a Wankel engine that we could see. The rotor, stator, and tip seals are tool steel. The tip seal has a small leaf spring underneath to provide sealing pressure. Careful control of the thickness of the stator and rotor provides the face seal. A wire EDM shop cut the figure 8 shape of the stator. The larger of the two engines has run on RC fuel generating 30 watts at 10-14,000 rpm. Ignition is by an electronic system driving a 12v automotive coil to spark a 1/4-32 plug.