

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

The Crank Calls



July 2011

President	Don Jones	(510) 566-3153	dj712@sbcglobal.net
Secretary	Bob Kradjian		bkradjian@comcast.net
Treasurer	Ken Hurst	(707) 257-2481	icengine@comcast.net
Events	Ken Hurst	(707) 257-2481	icengine@comcast.net
Tech Topics	Carl Wilson		toolcarl@comcast.net
Editor/Printer	Larry Zurbrick	(408) 448-5752	lz_m57@pacbell.net

MEMBERSHIP \$25.00 US

Contact Ken Hurst at
(707) 257-2481
2650 Indiana Street
Napa, CA 94558

NEXT MEETING

July 16, 2011 at
Chabot College, building 1500
25555 Hesperian Blvd, Hayward 94545
Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

August 26-28
Western Engine Modeling Exhibition at Goodguys
25th West Coast Nationals, Alameda County
Fairgrounds, Pleasanton, CA

MEETING NOTES

June 18, 2011

Bob Kradjian, Secretary

President Don Jones called the meeting to order at 10:00 am.

Treasurer's report: Ken Hurst is on vacation this month, but says that all is well with club finances.

Secretary's report:

SWAP MEET for the July meeting! Bring your unused goodies and see if other members would like them.

I announced the Palo Alto Concours. Since then the event came off nicely. Our club was well-received and featured Ken Hurst, George Gravatt, Steve Meyers, Don Jones and Bob Kradjian.

We plan a club show at the annual Intel employee car show July 20.

WEME Show news: For exhibitors, please go to the web site and copy the application information and submit either by e-mail or as a hard copy to the

address provided. We are nearly complete for our exhibitor listings! The latest Good Guy's "Good Times Gazette" has a nice mention of us on page 193. It plugs our appearance as the: "Model Engine Nationals". There is a photo of Randall Cox's visible four.

Visitors: None

First Pops:

Pat O'Connor has opened up a new category, and that is the "RE-pop". He has extensively overhauled his highly modified in-line four based on a Wall. New cast iron cylinder liners replaced steel liners. Of interest, one of the previous liners was against metal and had no water contact due to core shift. He also made new connecting rods with more length for higher compression. Roger Slocum reground the shaft journals. I think Pat found that a re-build is as tough as the original construction at times.

ELECTION RESULTS:

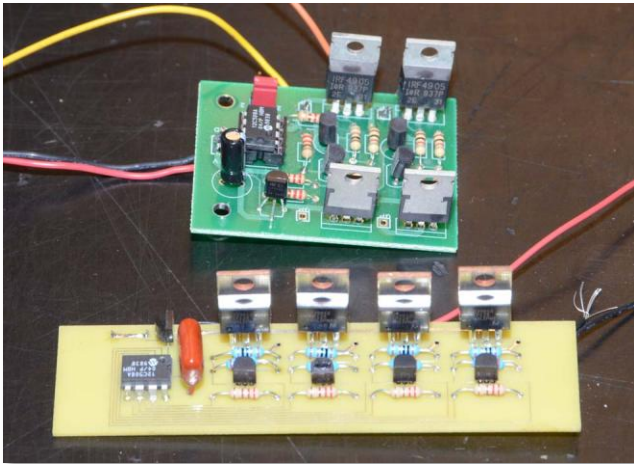
President: Don Jones has kindly agreed to continue in his post

Secretary: Bob Kradjian is up for another year.

Treasurer: Ken Hurst will continue his duties.

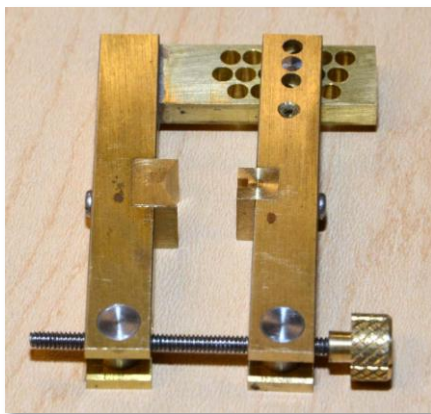
Member-at-large for the Board of Directors: Gary Moore. Congratulations and thanks to Gary.

BITS AND PIECES

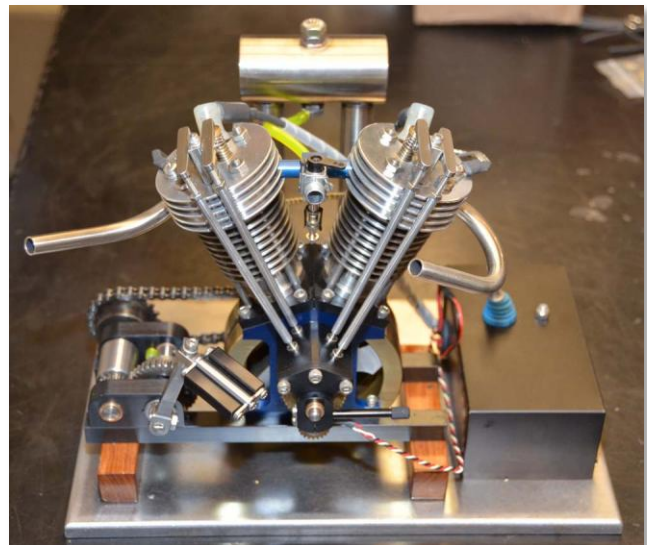
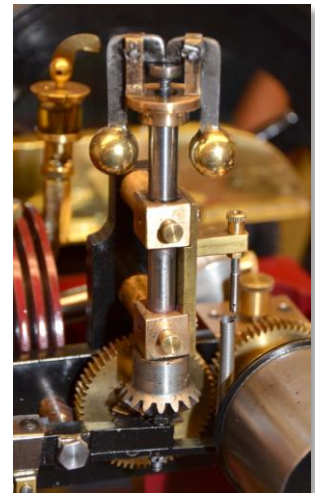


Low Throop tested the Jerry James glow driver unit shown at the May meeting. It works well. Shielding for RC applications will be necessary.

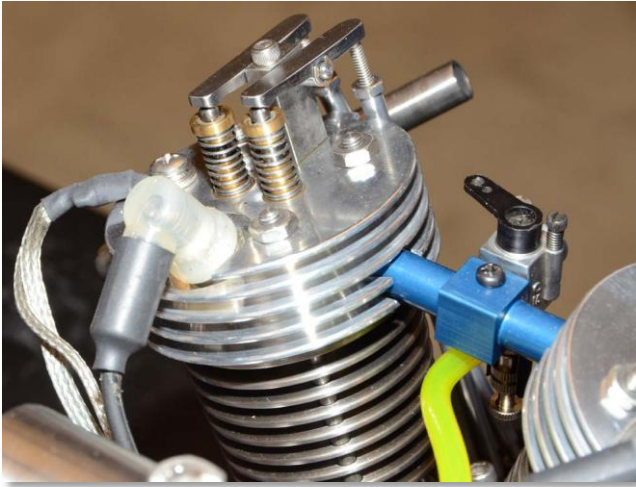
A discussion of honing (internal and external) versus grinding for finished surfaces followed next. A summary would suggest that honing gives a finer surface than grinding. Grinder “chatter” can be seen at higher magnifications with bluing. The use of diamond dust as a medium was discussed. The difficulty in removing all that abrasive even with ultrasonic was noted. The Sunnen Company web site, especially <http://www.sunnen.com/graphics/> is instructive.



George Gravatt fired up his totally original opposed-piston design. He substituted fiber gears for the metal gears in the middle of the gear train. This resulted in a considerable reduction in noise. He also switched from the original hit and miss arrangement to throttle control. This engine attracted positive attention at the Palo Alto Show.



Lon Keeth brought back his very pretty “Hoglet” after a tear down and black anodizing on many pieces. He has additional plans for extensive polishing on his stainless steel gas tank. When he



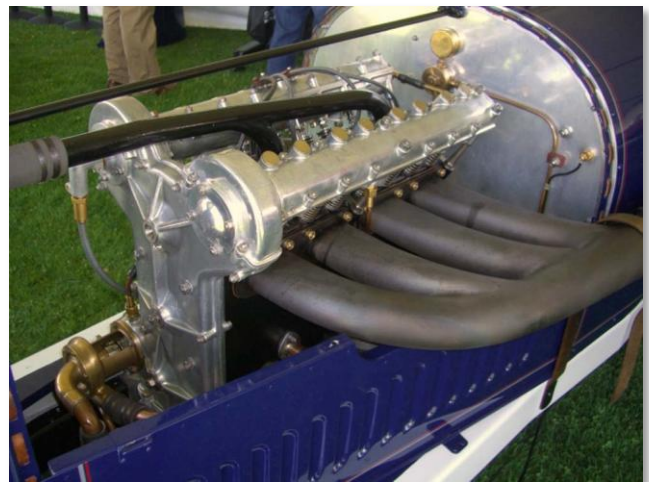
attempted to buy the specified parts for the kick start mechanism he learned that the company was out of business. He fabricated his own system with a Torrington clutch bearing. Perhaps he will collaborate with Mike to make his design an addition to the original design article. His kick-starter has no high spots or binds and works better than my original version. However, he says it's "...still a bear to start". He is using a C and H ignition system.

An interesting discussion of "Babbitting tricks" revealed that John Palmer and the other old-timers had some neat low-tech tricks. How about spitting on the melt, if it bounces twice, it's OK. Or, if you poke a stick in the melt and it turns a chocolate color, it's fine. Finally---a smoking of acetylene soot on a journal will provide a 0.002" clearance dimension. For the history of Isaac Babbitt's marvelous 1839 invention see Babbitt under Wikipedia. Many modern engines still use Babbitt as the inner lining of steel shelled and bronze inserts.

Mike Rehmus gave a nice presentation on the overhead projector detailing the Bentley supercharger under construction by Mike Sayers in the UK. His work is truly remarkable with no castings or CNC used. The model is based on the half scale 4.5 liter Bentley.

The progress of Conley's Stinger 609 V-8 project was mentioned. Member Paul Knapp will be providing spark plugs for this line of engines. For interesting videos and photos of this latest V-8 see: www.conleyprecision.com/online_video.

Finally, last month I spoke of a possible French engine that pre-dated the Miller and Offenhauser engines. Some authorities consider it to be the first truly modern racing engine. To our surprise, that very engine (and car) was at the Palo Alto Concours d'Elegance. It was, of course, the 1913 Peugeot. See the photos that follow below. This is not a replica; it is the exact engine and car that won the Indianapolis Race in 1913! There will be a bit more about the development of this engine in the next newsletter.



TECH TIP: MOLDED SPARK PLUG WIRES, Part 2

Carl Wilson



Dwight Giles continued the saga of his molded spark plug wires for the Black Widow V8 engine. Last month he showed 2 finished molds. During the intervening month he cast polyurethane rubber into the molds and brought them to the meeting for Bits and Pieces. He removed the two clamp screws, opened the mold and showed us the result:



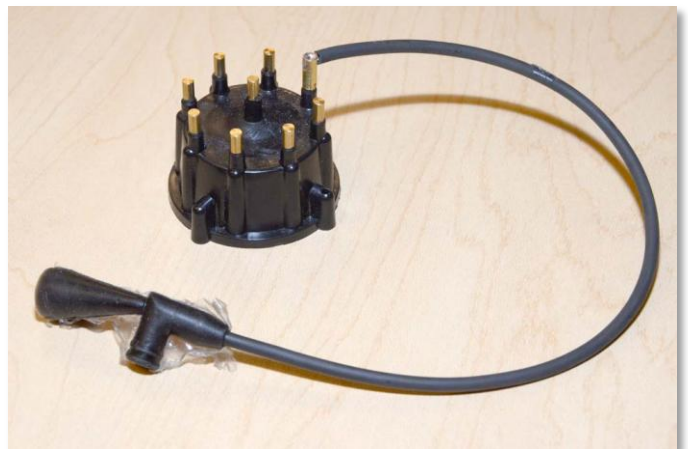
There is a minimum of flash to remove and Dwight says that it simply pulls off leaving a nice right angle spark plug boot.

The wire is rated for 5000 volts, and Dwight said that this is a bit low. The good stuff rated at higher voltages is correspondingly more expensive – well, the price comes down if he buys 1000 feet of the stuff. The detail is still unresolved. The terminals at the end of the wire are short lengths of thin-walled brass tubing. Dwight makes a short axial cut the tube at the end and then a cross-cut at the end of the axial cut to form a T shaped cut. He then squeezes the tube slightly to close it sufficiently to

grip the spark plug or distributor terminal. The wire is stripped to the proper length, tinned, and soldered to a hole drilled across the tubing. Some care needs to be exerted in tinning and soldering the wire to prevent solder running too far down the wire. Excess solder would render the wire effectively solid and provide a place where it could fracture.

Looking back at the first photo: the wire and its terminal are inserted into the mold and the locating pin (knurled pin at the side) is placed to hold the terminal in the center of the cavity. The mold is closed and clamped with the knurled screws at the top.

The rubber compound is Micro-Mark TCR-40 or a similar compound from TAP Plastics. This polyurethane rubber must be tinted to the color desired – Dwight has both red and black color and he says that the black dye must be well-stirred before adding the molding rubber. He uses an accurate scale to weigh parts A & B to ensure the correct proportions. Stir the mixed material well trying not to introduce air bubbles. If you have a vacuum system, use it to degas the mix. A vacuum can also be used to draw the rubber into the mold. Dwight didn't want the complication of setting up a centrifugal casting device or a vacuum system and settled for just slinging the mold around on a piece of cord. It worked fine, just watch the overhead fluorescents!



There is the first spark plug wire, without its distributor end boot. The cone shape at the left side of the boot is the sprue – the channel through which the rubber enters the mold. This excess material will be cut off. The cast distributor caps were from a vendor (Barker) in Florida.

The discussion then moved to the advantage of using a clear distributor cap in troubleshooting a misfiring engine. The use of a clear cap allows the easy detection of rotor alignment problems, or faulty wires and fouled plugs. Some cases of dual (cross) firing were seen and corrected. Bob Kradjian noted the necessity of venting the interior of the distributor cap to the outside to prevent the build-up of ozone, a byproduct of an electric arc. Too much ozone and the spark go where it ought not.

Thank you Dwight for the two excellent presentations. I would like to add my thanks to the photographs taken by the newsletter editor Larry Zurbrick. Good photos make for easier writing.

CORRESPONDENCE

Steve Jasik writes, “Here are 2 pictures of the Ring Light I put on my Milltronics which has a quill that is about 105mm in diameter as it is setup for 40 taper tool holders. Normal Bridgeport mills have quill dia. of 86mm.”



[following additional write up is Bob Kradjian's – Ed.]

Steve Jasik brought in a ring light he devised using a grouping of LED's which he built a housing for to protect it from chips and coolant. Cost for the LED ring is about \$8.00 plus shipping. This fits on the end of the quill and thus follows the work neatly. Angel Eye light is a common designation for the similar LED array halos that a few car companies have incorporated around the headlights . Also known as Cree lamps for a North Carolina company.

You can find these items at www.dealextreme.com and www.ebay.com.