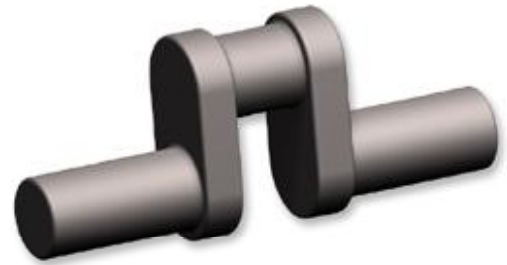


# The Crank Calls



July 2012

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## **MEMBERSHIP \$25.00 US**

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2650 Indiana Street  
Napa, CA 94558

### **NEXT MEETING**

July 21, 2012 at  
Chabot College, building 1500  
25555 Hesperian Blvd, Hayward 94545  
Doors open at 9:00 AM  
Meeting starts at 10:00 AM

### **Upcoming Events**

BAEM meetings:  
July 21, 2012  
September 16, 2012  
WEME August 24-26, 2012 @Goodguys

## **MEETING NOTES**

June 16, 2012

Bob Kradjian, Secretary

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

### **VISITORS:**

A visitor was Richard Green, a long-time friend of Jay Eitel, who has a full machine shop and is considering an engine build. Also Ken Kuchta and his father, Zig. They are working on the Fairbanks-Morse three cylinder engine, an ambitious project. They were encouraged to bring the engine to the next meeting so that we can see their progress. Welcome to all three!

### **IN MEMORIAM:**

It's with sadness that we report on the death of our member, Jay Eitel. He was not only an amazing automobile constructor; he was a remarkable inventor. His chief contribution was the "Cherry Picker". This bucket lift device changed the world for utility and line workers. He held 65 patents and founded TELSTA, a company that manufactured

hundreds of these lifts that are still in use. His early passion was for building and racing midget autos in the days before the advent of the Ford '60 and the Offenhauser. The engines in those days were Drakes, Harley-Davidsons, Elto's, and auto engines with the blocks sawn in two. His family was remarkable. Jay's uncle and childhood hero was E.J. Hall. Hall was the designer of the "Liberty" aircraft engine in World War I and the co-founder of Hall-Scott Aviation Power Plants. Jay's younger brother Bill Eitel was the co-founder of EIMAC, or Eitel McCullough. EIMAC was one the early electronic firms in the Silicon Valley along with the Varian brothers. They built huge radar tubes for World War II use. Jay manufactured all the jigs, fixtures, and specialized equipment for EIMAC and also led the move to Salt Lake City for EIMAC.

Steve Hazelton filmed a lovely hour and a half interview with Jay Eitel in his home three years ago. In the interview Jay discussed his remarkable life with cars, EIMAC, and the lift industry. Perhaps Steve can be persuaded to show a shortened version at a later meeting.

## ACTIVITIES:

The Palo Alto Concours again featured the BAEM crew of Hurst, Gravatt, Meyers, Chapman, O'Connor and Kradjian. Our display generated a good bit of interest through the day where we enjoyed perfect weather. After a good bit of finagling, we were able to bring Jay Eitel's beautiful roadster to the show and show it immediately in front of our engine display. It received an amazing amount of attention and deserved praise for the late Jay Eitel. Jay knew hundreds of people in the automotive fraternity both in California and in Detroit, Michigan.



Steve Meyer made a solo appearance for the club at the Coarsegold Fifth Annual Car Show, near Oakhurst on Highway 41. It was a charity benefit for the Hanna House. He took Dwight's Green four-cylinder engine (patterned after half a Black Widow) to run. For display, he showed his Challenger blocks in differing levels of completion. His Panther Pup and his ignition demonstrator completed his showing.

Dwight and Mike plan to meet with the Santa Rosa Model Club in early July to explore their coming to our annual show.

## WEME Report:

The WEME registration forms are available. Fill one out early to spare our workers congestion in the last few days. These forms are also available on line. Go to ([wemeshow.com](http://wemeshow.com)).

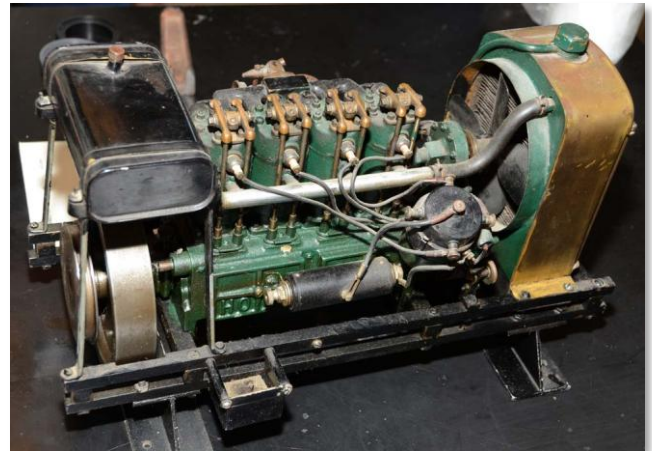
Exhibitor list is slowly growing. The World's Fastest Indian display team will not be able to attend. Member Jim Moyer has family responsibilities that

preclude his trip down from Washington State. Ron Bement will be there with his fabulous engines.

## BITS AND PIECES



Steve Jasik bought a nifty new Nikon camera that did not have a filter ring adapter. That's not a problem if you have a CNC lathe. This is a 13 thousands affair with a half millimeter thread. Steve made a couple of these delicate and precise rings.



Dwight Giles brought a lovely older miniature engine find. This one was complete with a coating of dust.

The gas tank appears to have originally been a "3 in 1" oil can. The engine is the well-known 1915 Holt 75 Tractor Engine that was featured in old Cole's Catalogs. Bore: 1", Stroke: 1 1/4". Overall length: 12 inches. The builder was thought to be the late Roger Anderson who had a machine shop in Vallejo.

Incidentally, the cost for the castings at that time was \$135. But as long as we're discussing low prices long ago, consider this: the 1936 Wall Brochure lists



the venerable Wall Four, castings and drawings for \$17.50!

The castings currently are \$389.00 for the casting set and the drawings. Cole's is still in business in Texas and their Catalog No. 26 is easily available on the Internet.



The old 1978 "Golden Anniversary" Cole's Catalog is instructive concerning the Holt engine kit. It states: "We listed this engine around 1940, but after the war, it lay dormant. Now it has been reactivated. This required a new set of patterns to comply with modern foundry practice. This engine was used most successfully for tanks in World War I".



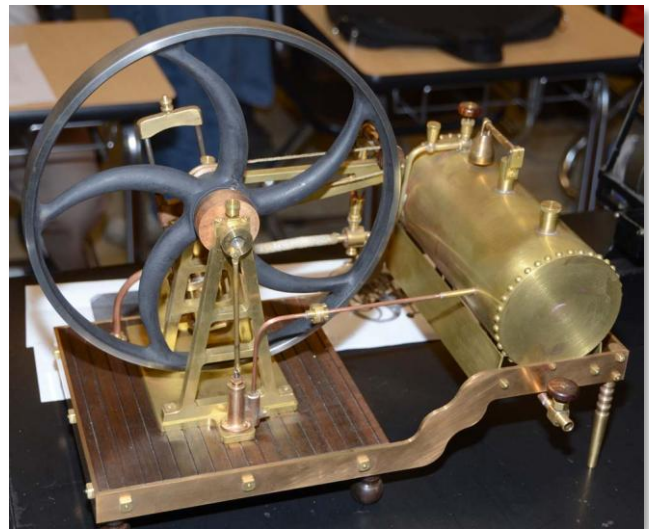
A short discussion concerning the Holt factory and its ties to the San Francisco Bay Area followed. Most of our members know a good bit about the history of Holt much of which centers about Stockton where they had a wooden wheel factory. Benjamin Holt developed the first continuous track tractor there in 1904.

After W.W. I., Holt and Best tractor companies combined and became the Caterpillar Tractor

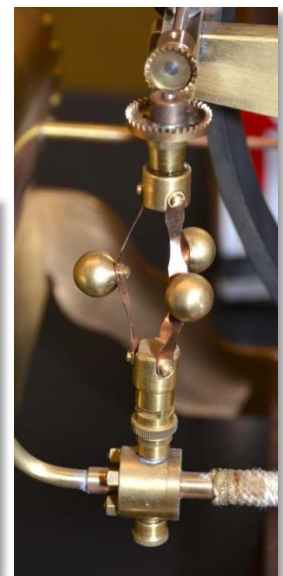
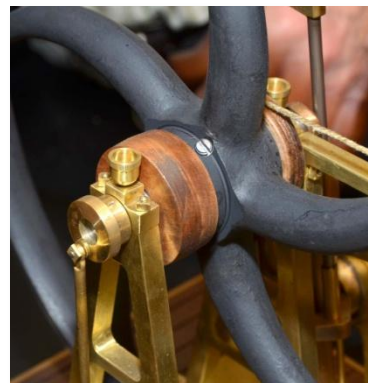
Company. This move was after a legal battle of 20 million dollars in today's money.

I bought one of these Holt engines from Jim Bove many years ago. I believe he found it at an auction. It was a smooth runner, but it was also an exhaust "spitter". It would shower droplets of oil gently into the air that would then descend on all the environs within an 8-foot radius.

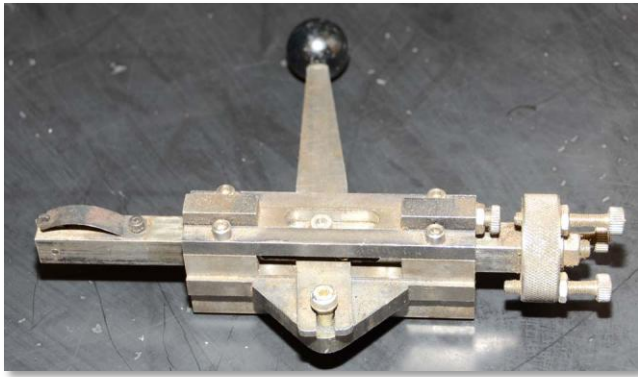
Racecar builder Don Edmunds replaced the stock con-rod caps with dippers. This greatly helped when used with a lowered oil level.



Jim Bove displayed his latest creation. This one was a whimsical re-creation of a steam engine that he spotted on e-Bay. When the bidding soared out of sight, Jim simply looked at the ten photos and contrived a larger version of his own based on those photos. The larger scale was attributed to the size of a flywheel he found laying about in his shop. It's a very pretty engine that operates



nicely on compressed air. When it comes to originality Jim and George Gravatt are showing the way.



Roy Anderson showed us a nifty engraving tool. He used this to mark crisp division lines for hand wheel hubs. A spring gadget returns the cutter to the starting position. Short and longer stops limit the scored lines to major and minor divisions. It all makes for very nicely done tool.



Carl Wilson decided to use a hand-operated air pump he spied at a swap meet for the "Wooden Wobbler". This will take the place of a more complicated pedal-powered system we were discussing last meeting. Let's see if the kids can destroy this one! Carl also described a 1950's vibrometer. It measures vibration in the thousandths of an inch. It projects light onto a mirror to measure that vibration up to fifteen thousandths. I plan to bring a "Vibra-Tak" device to the next meeting. This was a low-buck device that used a tuning slide to estimate rpm on an engine. It

was popular with U-Control speed enthusiasts in the 50's and 60's.

Carburetion problems were proposed as a future topic. Builders who have done the best with these issues were discussed.

Joel Cohen found some old drawings for a Westbury "Kiwi". He is contemplating a build based on the plans from solid material.

Mike mentioned the Gutenberg book project on the Google site. I was able to locate this at: <http://books.google.com/books>

The Tech Topic for next meeting will be the "built up edge" of our cuttings tools along with information concerning cutting compounds. I learned that BUE is the abbreviation for that edge. A quick look at "built up edge on cutting tools" on YouTube furnished a nice group of videos. It explains why we get some sudden jumps in surface quality when the BUE breaks off, but nothing else has changed.

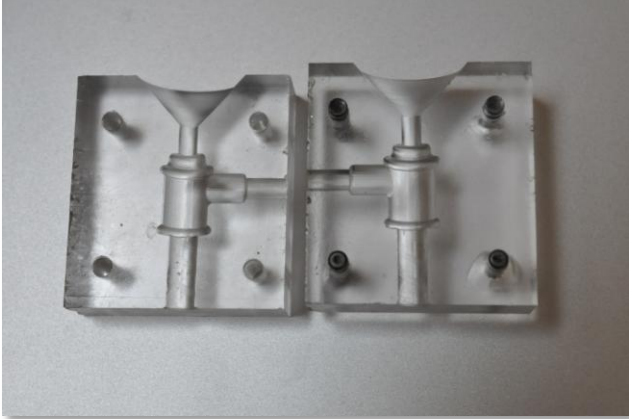
The subject of Tech Topics was discussed. We need more members to discuss a favorite topic. You don't need to be a world authority; just sharing the topic will certainly stimulate a lively discussion with the lively minds in our group.



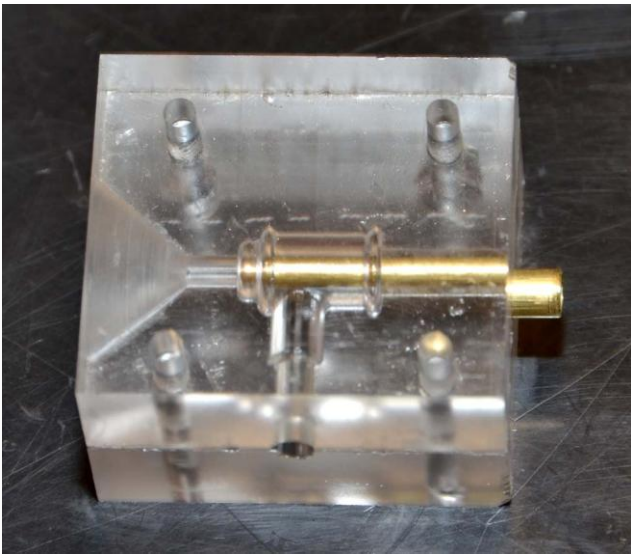
## TECH TOPIC

Carl Wilson

If every foot could use a shoe, then is it true that every spark plug could use a boot? Jim Piazza didn't think that a bare wire wrapped around the spark plug terminal was quite copacetic so he became a cobbler and made boots. Jim has a 3 axis CNC mill - he first spent some time drawing and programming before cutting material. Here is the mold:



It was milled in right/left identical pieces using the mirror function built into the CNC controls. Roughing was done with a 1/8" ball end mill and finishing with a 1/16" ball mill. Mold alignment is handled by the four dowel pins in the right half mating into matching holes in the left.



The terminal was made from brass and soldered to the wire. The assembly was placed into the mold using a core pin to hold the terminal in place:



Here is the finished boot in its place atop the spark plug.