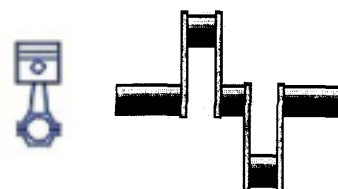


The Crank Calls



September 2004

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NEXT MEETING
September 18, 2004 – 10AM
At Robert Schutz's Shop
366 40th St. Oakland, CA

Check out the BAEM Web Site at
www.baemclub.com
Send your project photos to the
Web Master Jim Piazza.
Phone: 408-446-4825
Email: jpiazza@ix.netcom.com

TO JOIN THIS CLUB
Contact Lewis Throop at
27272 Byrne Park Ln.
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94022-4324
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lthroop@aol.com

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Meeting Notes

August 21, 2004

Bob Kradjian, Secretary

President Ken Hurst called the meeting to order at 10:02. We had 51 in attendance.

Visitors were Cor Langewis, Ken Campbell, Paula Birmingham, Frank Accettola, Dale Shoemaker, and Rick Avedikian. A special note must be made of a visit from Doug Penny all the way from Minnesota. He has been following "Crank Calls" on the Internet for several years, gave me a call the night before the meeting and joined us. Thanks to Jim Piazza for his hard work on the club web site. Also, a warm welcome to new member, Aaron Mandle.

Treasurer Lew Throop reports that we are solvent with around \$1500 on hand.

Events Coordinator, Dick Pretel, reported on the Quail Lodge show last weekend. This is our first appearance at the famous "Pebble Beach" weekend. It was an elegant affair and we received a warm welcome followed by an invitation for next year. Roy Brizio of Brizio Street Rods invited us to participate in his May Open House next year. This is the best Open House event in the Bay Area and is held in his South San Francisco facility. You may have seen Roy and his crew building a '32 Ford roadster for the daughters of Vic Edelbrock on the Discovery Channel TV series.

GEARS (that stands for Gas Engine & Antique Reproduction Show) will kick off with their first-ever show on September 25 and 26 in Portland, Oregon.

Remember Visalia in October! Men, Metal, and Machines will make its second appearance at the beautiful new convention center. The dates are October 23 and 24. Mention the Men Metal and Machines show and get the \$79 special rate at the Radisson Hotel Visalia. The hotel is connected to the convention hall. The hotel number is (559) 636-1111. Book soon, the hotel is filling quickly.

Another great show is the San Francisco Model Yacht Club Wooden Boats On Parade scheduled for Spreckel's Lake October 30 and 31. We will be showing on the 30th only.

The tentative date for the Blackhawk Automobile Museum is November 20 for our last scheduled show of the season.

Mike Rehms reported on the Summer Cabin Fever show in York, Pennsylvania. He was particularly interested in an anodizing kit displayed by one exhibitor. The details are available at www.focuser.com/anodize.html. The vendor is Ron Newman and the web site is worth a visit if you're interested in anodizing. Mike says that the process is powered by an inexpensive battery charger and is in the \$20 to \$70 range. He sells a printed guide for \$20 post-paid. Lew Throop reminds us that any anodizing releases very noxious and corrosive vapors, including acids, that will do a number on your Starrett treasures. Be careful.

Bits and Pieces

Paul Bennett showed, and ran, his unusual Wall Four. The motor was originally intended for a boat installation along with another Wall. One engine to turn the usual counter-clockwise and this one to turn—you guessed it—clockwise. He did succeed and it's a fine runner. When asked about the problems encountered he declined to comment on the basis that women were present. We can safely assume it wasn't easy. Paul got around the "tall" distributor



problem by mounting it on the end of the camshaft pointing forward. (This reminds me of a beat-up Sea Lion that I bought at one of the PRIME shows. After a good bit of restoration, it would only pop when an

attempt was made to run the beast. It was finally determined that not only was it a clockwise runner, it had a different firing order than the usual 1-3-4-2! After that, it became a great runner.)

Dwight Giles showed his very nice Wall Four with an powder coated block. He also had 200 compression and oil control rings. He also brought a bunch of cast connecting rods and billet rods. Dwight certainly has mastered the art of the piston ring.



John Meredith brought his good running Forrest Edwards radial made from bar stock. John added his own version of a wet sump oil tank at the mid-bottom position and his own diffuser to better handle crankcase vapor. When you have the opportunity, carefully inspect the beautiful machining that Meredith



shows on this remarkable engine. All edges are crisp and clean with uniform, faint machining marks.



I showed my venerable Seal Minor (15 cc) and my original Twin Cam Four.



Steve Meyers shared the latest work on his developing V-8 project. He created an elaborate jig that allows for precise checking of the piston top-dead-center as well as the lift of intake and exhaust valves. These are measured with separate dial indicators.



Dick Pretel was browsing on e-Bay and picked up a bargain cut-a-way O.S. FS .91. The seller had done the

work on his own engine and did a very sanitary and complete job. I'd like to see Dick make a nice mount and a remote electric drive slowly turn the engine.



Pretel also showed his Wall Four. This highly modified Wall is deceptively clean on the top-side. When the birch ply box is tipped, you see a remarkably busy underside with a radiator, fan, starter, coil, etc. all nicely arrayed. Good job, Dick.



Young (18) Aaron Mandle wowed us with his Bob Shore's "Little Devil." It is complete except for the breaker points and the governor. As mentioned above, Aaron has just joined the club.

Cor Langewis was a first-time visitor bringing a 1/10th scale "Coomber's Rotary Steam Engine." Cor made this 1876 design from an English casting set in 1994. It has no crankshaft and uses a remarkably ingenious arrangement of two wheels, one stationary—the other rotating. Now, hang in there just a little longer. The rotating ring is centered below the center of the stationary ring. The rotating ring cradles a cylinder and piston in the center, the stationary ring is not circular on its inner perimeter, but elliptical. The elliptical "bumps" push on the two ends of the rod passing through the piston. This results in a to and fro motion of the piston in the cylinder when the rotating ring completes a cycle. Thus we have a reciprocating piston without a traditional crankshaft.



If all this has made you nauseous, look at an animation at www.keveney.com Once there, go to animated engines and Coomber. This site reminded me that we saw a Coomber at PRIME built by the nice old gentleman, Marlyn Hadley.

John Palmer continues to surprise with his versatility. Now he's making dies and pressing out 26 gauge steel

radiator plates.

This is for his half-scale Rumley tractor and he reminded us that the Rumley originally used oil for cooling. It ran at around 300 degrees in a non-pressurized system.

Carl Wilson told of a long interest in cam grinding. He once was helped by a motorcycle cam wizard from San Jose named Schaller. Later he made a master lobe pattern



and fashioned a pair of very nice lobes. A quick look at the Internet tells of a "Bus" Schaller that made the cams for Joe Petrali's record breaking Harley (over 136 mph in 1937) as well as for the Mickey Thompson Indianapolis car.

Ken Hurst displayed the "Little Devil" that our late friend, Bob Shores, never had the opportunity to market. It is an attractive 5/8th bore inch hit and miss engine. Ken will make this available to interested parties at no profit to himself. After expenses the monies will be donated to the club. The "casting set" involves the upper and lower case, a bronze flywheel, and the plans.

Ken showed the other new Shores engine, the "Pacifier." This is a very attractive, small, V-4 casting set that will be in two bore versions. One 5/8 inch, the other 3/4 inch. The "kit" will include a crankcase, bell housing, bearing cap for the center main, and flywheel castings as well as the usual plans.



Ken also showed a neat fixture for timing his V-8's that involves a timing wheel, 2:1 gearing and timing for the odd and even cylinders.



Also coming along nicely is the "Black Widow" V-8 with the five main bearings and cam installed. These engines drew a lot of attention at the Good-Guy's show.

Steve Jasik displayed two magazines, "The Toy Trucker" and "The Toy Farmer" for those interested in miniature items related to those areas.



Our continued thanks to host, Robert Schutz, for his wonderful meeting facility. Remember, we are responsible for meticulous clean-up and respect for the

business areas. Don't leave any equipment or objects without labels identifying the owner. Robert should only have to open the doors, close the doors, and have a good time.

The BIG show of the year for us is always the GoodGuy's West Coast Nationals. It is history and went swimmingly for BAEM. We ran engines all day long for three long days. Our engines held up well and were extremely well received by the knowledgeable street rodders. Pitching in for our club was Ken Hurst, George Gravatt, Dwight Giles, Eugene Corl, Don Jones, Bill Nickels, Karl van Dyk, Pat O'Connor, Leonard Higgins, Dick Pretel, and your humble scribe. We had a number of distinguished visitors to our exhibit including three visits from the "Good Guy" himself (Gary Meadors), hot rod pioneer Blackie Gejian, LeRoy Sabbatini (who exhibited what is possibly the world's finest Kurtis-Offy midget racer in front of our display), Mike Clark from the TV hot rod show at Boyd Coddington's shop, Roy Brizio, and other Street Rod celebrities. Eugene's 1/3 scale small-block Chevy got a lot of well-deserved attention from the attendees. We have learned over the years that street rodders are, by far, our most appreciative viewers. They know engines and understand that we can't just buy our engine parts at the local hot rod shop. As before, we had many expressions of sincere appreciation such as, "Awesome," "Too cool," "You guys are the best part of the show," and-- "I can't believe what I'm seeing." Gary Meadors wants us back next year and even suggested that we can exhibit at the other GoodGuy's events in March, May, and November. But he said; "I don't want to wear you guys out, I appreciate what you do." Incidentally, we met several folks that want to join the club.

Ken Reynolds reports that his Silver Bullet (Bob Shores casting two cylinder 3/4 bore and stroke Mike Neal ignition system) is finished at last. It took a while to finish because I never worked on it steady. I tried cranking it over last Sunday (8/29/04) and the head gasket failed. I will be replacing the head gasket with better material. Ken Reynolds Kentucky member



TECH TOPICS BY PAT O'CONNOR

TECH TOPIC AT THE SEPTEMBER MEET

For our September Tech Talk we will have Mr. Charles Evans of AMSOIL discuss how his AMSOIL synthetic lubricants provide long life and reduced maintenance in automotive and high performance engine applications. Pat O'Connor

Tech Topics

Aug. 21, 2004

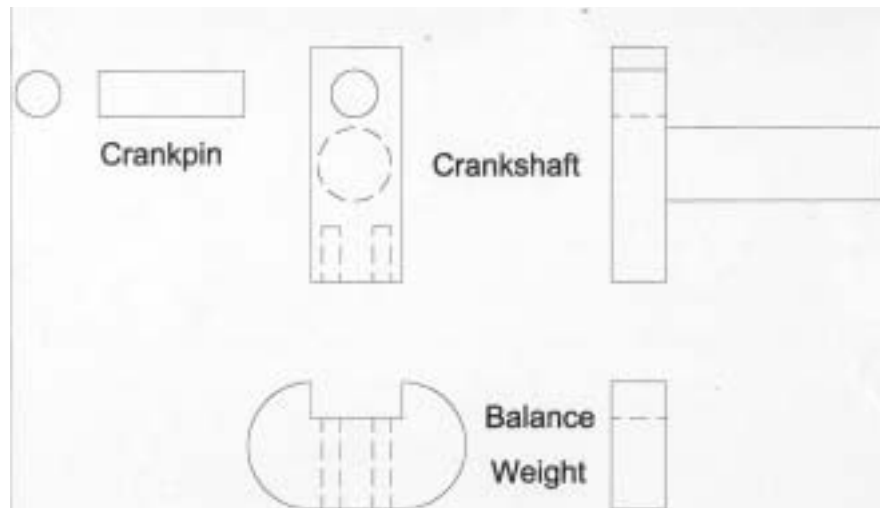
Carl Wilson

Sins of omission: I failed to give Pat O'Connor credit for much of the report on last month's Tech Topics: Pat did the drawings of the various types of crankshafts (except the Z crank) and did most of the captions. Better late than never!

Tech Topics continued with crankshafts for radial engines at the August meeting. John Meredith talked about the 5-cylinder radial designed by Forrest Edwards, and Lew Throop discussed the Kinner 5 cylinder, and the Jemma 7 cylinder.

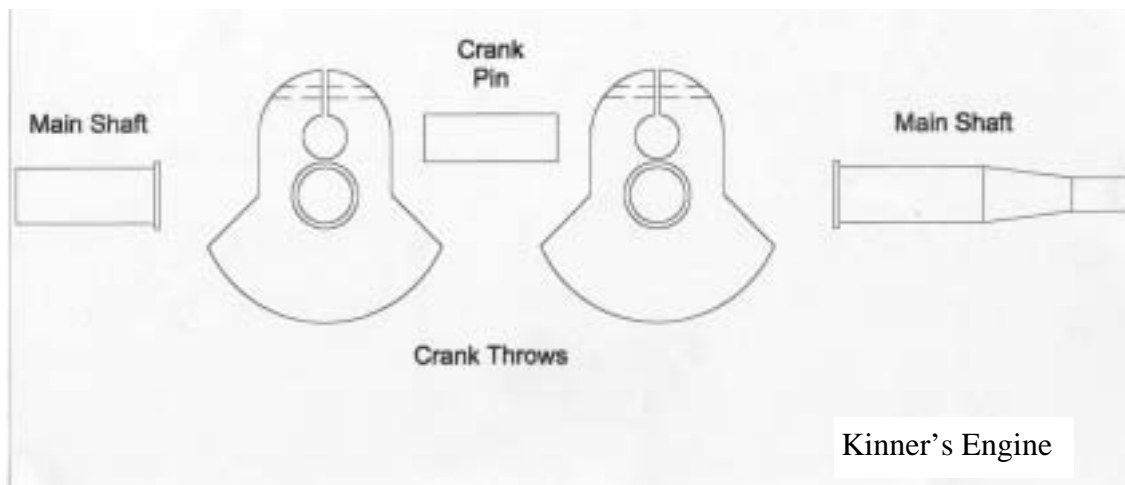


Let's start with Lew's Jemma crankshaft. This is about as simple as a crankshaft can be. Lew machined the mainshaft and throw (cheek) from a round piece of cold rolled steel. The shape of the counterweight was sawn and milled to shape, and the hole for the crankpin drilled and reamed. The crankpin was hardened and then pressed into the crankshaft with Loctite. Lew used both a press fit and Loctite: the British call this the belt and suspender method, if one technique doesn't hold, maybe the other will! Jemma was designed by Eric Tomlinson, named for one of his grand-daughters, and serialized in "Strictly IC" magazine starting with Vol. 12, No. 72.



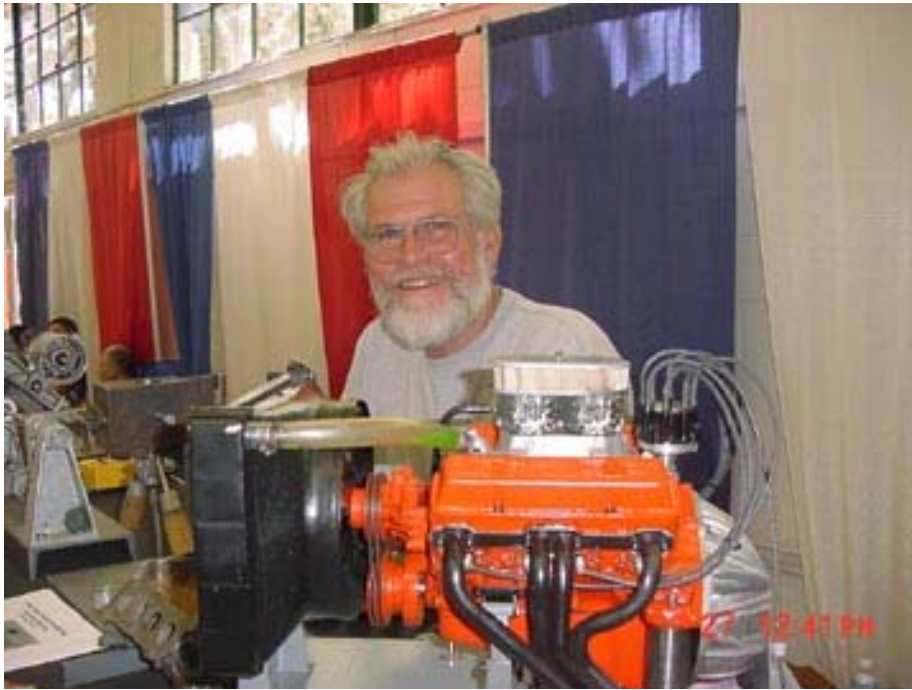
Forest Edward's En-

This crankshaft could be built from a piece of rectangular stock, but John Meredith used a piece of round stock. He turned the shaft to size leaving the throw as a disc. He then sawed the excess material off and milled the throw to its rectangular shape. The last two operations were to bore for the crankpin and drill and tap for the counterweight. The counterweight is fabricated separately and bolted on. This is the major difference between this design and the Jemma. One note: a major reason for bolting the counterweight on to the crankshaft is that this construction reduces the diameter of the round stock by about 1 1/4". It also allows the crank to be machined from flat stock if desired.



Merritt Zimmerman designed this one-quarter scale model of the Kinner 5 cylinder radial engine. The prototype was used in a number of aircraft designs in the '30's and '40's. Pieter Dekker described the construction of the model in "Strictly IC" magazine beginning in Vol. 6, No. 36. This drawing is a simplified version of Merritt's design. It uses 5 pieces assembled by pressing the main shafts into their respective crank throws (webs) and by clamping the crankpin into the throws by a bolt in each throw. Lew modified the design by pressing the crankpin into the main throw (right-hand) rather than bolting. The left-hand crank throw and its shaft (Lew called it a 'follower crank') drives the diffuser wheel and other accessories such as the oil pump. Pressurized oil is fed into the crankpin

GoodGuys West Coast Nationals



GoodGuys West Coast Nationals



Good Guys - Bob Kradjian with Leroy Sabbatini and Blackie Gejian Oakland Roadster Show founders



Upcoming 2004 Club Events

By Dick Pretel, Events Coordinator

San Francisco Model Yacht Club

Wooden Boats On Parade at Spreckel's Lake October 30 and 31.

We will be showing on the 30th only.

Blackhawk Automotive Museum, November 20.

West Coast Engine Exhibitions For 2004

GEARS – Gas Engine Antique Reproduction in Portland, Oregon September 25 & 26, 2004

Web Site: www.oregongears.org Phone: 1-800-640-4888

BRANCH 22 HOSTS E.D.G.E.&T.A. 44TH NATIONAL SHOW & BUSINESS MEETING

October 8, 9, & 10, 2004 at Santee Lakes, Santee, CA. Setup October 6 & 7.

Web Site: http://www.edgeta.org/National_Show_2004.htm

For additional information phone Cliff Northcote 619-478-5500 or Dudley Mills 619-478-5787.

2nd Annual Men, Metal, & Machines! Visalia Conventions Center. Visalia, CA

October 23 & 24, 2004. Phone: 1-800-789-5068.

Web Site: www.cabinfeverexpo.com/MMM

East Coast Engine Exhibitions For 2004 and 2005

Cabin Fever Expo in York, PA. York Fairgrounds Expo Center

January 15th & 16th, 2005. Auction January 14th 2005

Web Site: www.cabinfeverexpo.com/CFE

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