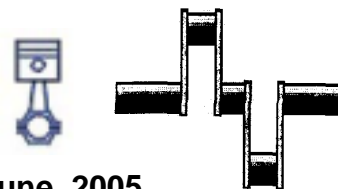


The Crank Calls



June 2005

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**TO JOIN THIS CLUB OR
RENEW YOUR MEMBERSHIP**

Contact Lewis Throop at
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NEXT MEETING IS A SWAP MEET

June 18, 2005 At

Robert Schutz's Shop, 366 40th St. Oakland, CA

Doors open at 9AM

Close at noon

**All items must be tagged, for sale,
donated to the club, not for sale, etc.**

**NOTICE – ALL UNMARKED ITEMS WILL
BE DONATED TO THE CLUB**

MEETING NOTES

5-21-05

Carl Wilson

Ken Hurst called the meeting to order and asked our guest to introduce himself: Jerry Keyes. Lew Throop gave a brief treasurer's report, and Ken reported on the recovery of Bill Nickels and thanked him for producing the April newsletter despite his injuries.

Speaking of injuries: Bob Kradjian called at 9:30 Friday night and asked if I would take the secretary duty for him. Seems that he was loading an engine into his car and his back decided that this was the time to announce an extreme pain event. I commiserated with him and exchanged some back injury stories, but didn't think of the best line until later: "Hey Doc, take two and call me in the morning!"

Dick Pretel talked about the forthcoming events, but all of them will be over before this newsletter will be published. First is the Hot Rod Show at the Blackhawk Museum in conjunction with the Danville Dukes on May 30. Second is a small show in the park across from the Stanford Shopping Center (and I didn't write down the date.)

Mike Rehmus talked a bit about the NAMES show in Detroit. Then he got down to business and asked if anyone had information on the Olympus engine built by Albert Hutton. It is an in-line 6 cylinder DOHC (if I remember correctly) and was featured in another magazine, possibly Model Engineer. Mike would like to know of its whereabouts, and if any drawings or other details are available.

Bits and Pieces:

Tom Hite: This engine was made by Olsen and Rice, famous for model airplane engines. They decided that there was a market for a small utility engine in the 3/4 to 1 hp range. On the flywheel side it looks very much like a lawnmower engine by Briggs and Stratton or Tecumseh. But on the shaft side it is a large model airplane 2 stroke engine, especially the double exhaust ports. The "Tiny Tiger" portable generator used this engine. Also see photo on page 6.



Mike Rehmus: The September issue of MEB (Model Engine Builder) will feature an engine designed by Hamilton Upshur. It is a T head single cylinder loosely based on a Chesapeake Bay fishing boat engine, probably a Palmer Brothers (Cos Cob, Connecticut.) The model is 3/4" bore by 7/16" stroke and is built from bar stock. It is water-cooled and the head is in two parts to allow the water passages to be machined. The crank is built-up, pressed and pinned for security.



Dwight Giles is building this engine. He used a brass flywheel cast by John Vlavianos rather than turning it out of bar stock. Because the valves are on opposite side of the cylinder, the engine requires two cams and

three timing gears. Dwight discovered that it was not easy to get the valve timing correct. The ignition points are copper and they operate a Mike Neal ignition system.



Cor Langweis built this model of Hall's Rotary Steam Engine of 1860. This vane type engine was not successful because of high steam consumption and only three were built. The prototype developed 37 hp at 1500 rpm with a rotor of about 12" diameter. The governor is a horizontal flyball with a unique tapered sleeve operating the steam admission valve.

George Gravatt and Dwight Giles are machining a 1/3rd scale model of a 5 hp Galloway hit-and-miss from castings by DeBolt. It has a 1 3/4" bore by 3 3/8" stroke on a bar-stock crank turning 10" flywheels. The intake valve is inside the exhaust valve pedestal, an unusual design.



Jaime Quevedo showed his Silver Bullet. A capacitor discharge system ignites the fuel provided by an OS carburetor. He lowered the compression ratio and installed a larger flywheel to improve low speed running. One cylinder has 60 psi compression pressure and the other has 45 psi. Correcting this is the next project – then adding a deflection plate in the crankcase to reduce windage losses.



Steve Jasik's ongoing project is building 2 of the Corliss Steam Engine by Coles Power Models: 1 1/4" bore by 2 1/2" stroke. These steam valves are turned from 304 stainless steel



on a CNC lathe. They are gorgeous. Steve hopes to have the engines mostly completed by the Men, Metal, and Machines show in Visalia this fall.

TECH TOPICS: GIZMOS AND FIXTURES for ENGINE BUILDING

May 21, 2005
Carl Wilson

Steve Jasik recommends tooling sold by CDCO Machinery Corp. Their web site is: www.cdcotools.com. He displayed their angle block, centering indicator, and a midget grinding vise.



Carmin Adams says that he would not like to have to do without this cylinder hone built from sketches by Roger Slocum. The body is aluminum and carries 3 or 4 hand finishing stones glued to strips of steel. There are 4 springs beneath the strips to push the stones outward and provide the cutting pressure. The stones are retained in the longitudinal grooves by the socket head cap screws that are visible in the circumferential grooves. The flexible drive was part of a brake cylinder hone. The drawing for this handy tool was published in the June 2001 BAEM newsletter.



This is the business end of the driving center made by Carmin for turning crankshafts. The center (right) and the drive pin (left) are at the same center distance as the throw of the crank so the pin fits into "the other center hole." The length of the drive pin is adjustable, but it is a good idea to drill the center holes in the workpiece to the same depth.



Photos By Mike Rehmus

John Palmer calls himself the “cold iron blacksmith.” The story is that only one blacksmith has ever been sent to hell, and that was for working cold iron. Now a machinist almost always works cold iron and John is still with us, so we know that he is a machinist not a blacksmith, QED. John brought some of his cold-working tools otherwise known as punch and die sets. These are made from mild steel and work very well: you may not need



fancy tool steels for low production tooling. This punch and die made the large holes in the radiator for John’s model of the Rumley OilPull tractor. The punch (left) is held in the ram of the press by the shank on the left side. The long pin on the right aligns the punch to the die through a hole in the workpiece. The die (right) is not secured to the press. Note the recess in the die below the cutting edge. This is to make it easier to extract the slug (scrap.)

Let’s take some time out and define two words: pierce and blank. To pierce is to make a hole of some shape in the work – the inside of the hole is the scrap. Blanking is the other way ‘round: the outside is the scrap. This punch performs piercing. Because the inside is scrap, its shape after cutting is unimportant and therefore the cutting edge of the punch can be modified to reduce the force required to push it through the work. Cutting starts at the



four points left by the scallops and progresses along the cutting edge until the slug is cut free.

This set makes a spring retainer (second from left.) The blanking punch and die (assembled) is on the right. The blank is shaped between the forming punch (far left) and its die (second from right.) The pin in the punch aligns the punch, work, and die. The order of operations is: pierce the center hole, then blank. The workpiece now looks like a fender washer. It is then formed.

This is a draw punch and die. Drawing is the operation that forms cups and closed cylinders like soft drink cans. The work piece is pierced and blanked to form a washer. The punch is placed onto the pin of the punch holder (two items on the right), then the blank is sandwiched between the punch and die (left.) The press pushes the blank through the hole in the die to produce the shape shown in front. John uses STP for lubrication.



Members of BAEM made their annual appearance at the Blackhawk Auto Museum on a sunny Memorial day. Ken Hurst, Dwight Giles, George Gravatt, Steve Meyers, John Palmer, Don Jones, and Bob Kradjian were the participating members who spoke to a small, but knowledgeable, group of street-rodders and visitors.







This engine was made by Olsen and Rice, famous for

Hi BAEM Members V-4 Peewee Project

Here are the answers to some questions about the V-4 Peewee project.

I was wondering how many castings make up the set?

Answer. There are six (6) castings in the set. Crank Case, Oil Pan, Bell Housing, Center Main Bearing Cap, and (2) Cylinder Head's.

Also are the gears available or do they have to be cut?

Answer. The gears and seals are available from Wm. Berg. All part numbers are listed on the drawings. As a side note, I may try to make up and supply a "Kit" of accessories. I am working with a big Bearing House here in Dallas on the pricing. Does the completed engine look like the one in the gallery on the Florida AME website?

Answer. Yes, the engine will look like the one on the Florida AME web site. That is the one and only example of the Peewee V-4, and was built by Bob Shores, and finished just before he passed away in May 2004.

Last but not least is what are the dimensions of the engine?

Answer. The Bore and Stroke of this engine is .625. The overall length is about 5.5".

I will try to give the information you all need. Dirk Tollenaar

The first run of castings will be 12 sets. I will almost immediately place another order with the foundry for 12 more, so there will be plenty of casting kits. I would prefer to sell the castings and plans as a single package. The engine requires the castings to build it, but I guess one could hog the engine from a solid.

The castings for the Peewee engine were proven by Bob Shores himself. This was the last engine he built in the year and a half prior to his passing. His engine ran, and is now placed away for safe keeping by his family.

Now we need to talk about other items. Dirk Tollenaar

I plan on using the US Mail for shipments. It is my understanding that they have a package price of \$7.50 for any weight, to any US address, as long as it fits in the box. This is the most cost effective delivery I have found.

Now to the cost of the Casting Sets. I am asking for \$155.00, plus shipping for the package for anyone who is not a member of the BAEM Club. However, if you are a dues paying member, I agreed to give them a discount of \$15.00. This was done because Bob Shores was a member of that club. So if you are a member, then the cost is \$140.00, plus shipping.

As to method of payment, I will accept a Check, or PayPal.

I am quite sure that you are aware that this engine is water cooled, and requires a Radiator. Bob's wife, Margaret, gave me his tooling to make the required parts for the Radiator kits. I have all the required materials to make the kits on hand. However, I have made a real big error. Long story, short, being a Machinist, I figured that I could improve on the tooling, and clean up the press. Well, all was great, until I removed the die from the press, and when I replaced it, I did not get it aligned correctly, and ruined the punch. I have made the required new punch, and it is being heat treated and ground at a friends Tool and Die machine shop in Dallas. When I get it back, I hope to be more careful this time. I hope to be making Radiator Kits soon. They will be \$50.00, plus shipping of around \$3.50.

I hope I have given you all the answers to your questions.

Thanks, Dirk Tollenaar

FOR SALE

Tree Journeyman 310 – 3 Axis CNC Mill
DynaPath - Delta 10M Control
Table 10" X 44"
Spindle Taper 30NMTB With some tooling & manuals
\$4500.00

David Palmer 707-938-2181
Brian Palmer bdpalmer@sonic.net

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

Upcoming 2005 Events

By Dick Pretel,
Events Coordinator

West Coast Engine Exhibitions For 2005

3rd Annual Men, Metal, & Machines!

Visalia Conventions Center. Visalia, CA
October 22 & 23, 2005. Phone: 1-800-789-5068.
Web Site: www.cabinfeverexpo.com/MMM

GEARS 2005

September 24-25, 2005
in Portland Oregon

BAEM is invited to the following events

By Dick Pretel, Events Coordinator

Blackhawk Automotive Museum, TBA

Gotelli car show Saturday Sept 27, 2005, 9AM-5PM

Good Guy's West Coast Nationals, Pleasanton August 26-28, 2005

Historic's at Monterey, TBA

FOR SALE

Emco/Mier 7 by 24 CNC lathe
for sale. Six position turret head and all
accessories for operation.
Mounted on roll around stand. Lathe has
hardly been used and is tape
driven. Lathe can be updated with a new
board and software to accept G
codes from your computer. Original cost
was \$14,000. Buy it now for \$3200.
Dick Pretel 408 732 6507

Model Crankshafts and Camshafts

By Roger Slocum

Hardened and ground alloy steel crankshafts

Web Site www.cranksandcams.com

Email: roger@cranksandcams.com.

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