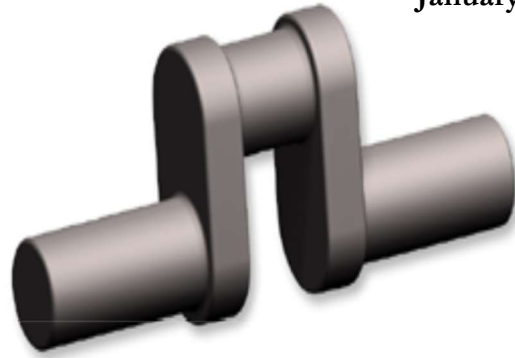


The Crank Calls



President	Paul Denham	pedenham@comcast.net
Secretary	Your name here!	Please consider volunteering
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MEMBERSHIP \$25.00 US
 Contact Paul Denham at
 pedenham@comcast.net

NEXT MEETING
Saturday, January 16, 2021 at the
Golden Gate Live Steamers clubhouse in
Tilden Park, Orinda, CA
 Doors open at 9:00 am
 Meeting starts at 10:00 am
 Meeting will be outdoors, masks required
 Social distancing will be observed

Upcoming Events
 BAEM meetings are usually 3rd Saturday of the month except December. Upcoming meetings:

- January 16, 2021 at GGLS
- February 20, 2021 at GGLS
- March 20, 2021 at GGLS

MEETING NOTES

December 2020

We skipped the December meeting/potluck.

NEW MEMBERS/VISITORS

BAEM members are reminded that visitors are welcome at our club meetings, and we're always looking for new members.

TREASURER'S REPORT

The 2021 dues of \$25 are due. Pay now so you'll be all paid up. Give your check to Paul Denham. Dues can also be mailed to Deirdre Denham at 1937 Merchant St, Crockett, CA 94525. Make checks payable to "BAEM".

The BAEM club is solvent. Recent contributions to the club treasury have been generated by sales of engine construction "kits" (and other items) by Dwight Giles. The club thanks Dwight for generating these contributions.

CLUB BADGES

If you are a member in need a badge, contact Mike Rehmus (mrehmus@byvideo.com) who has offered to produce them.

MEETING VENUES

Upcoming meetings will be at GGLS, due to the ability to meet outdoors, reducing the risk of Covid 19 infection. Masks must be worn.

Watch Crank Calls, BAEM emails and BAEM web page for updates.

SHOW PARTICIPATION

Nothing to report.

FIRST POPS

No first pops, but rumors abound that Paul Denham got his Black Widow 4 to run.

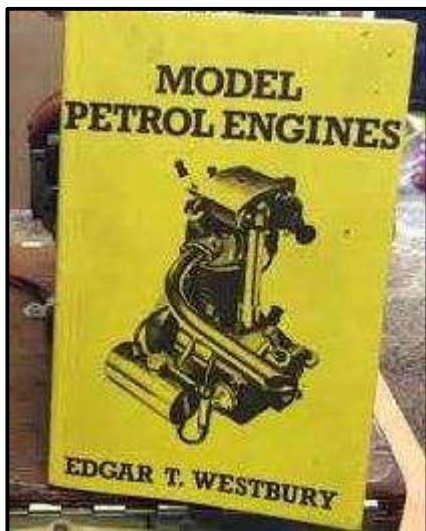
BITS AND PIECES

BAEM member John Vietti kindly reported on some of his recent workshop adventures. He has been working on three different projects.

Kittiwake This is a single cylinder, 4-stroke, air-cooled, 15 cc, overhead valve, spark ignited internal combustion engine with a 1.0" bore and 1.125" stroke. The design was first published by Edgar T. Westbury in 1944. Westbury was a British designer of numerous model engines.

https://en.wikipedia.org/wiki/Edgar_T._Westbury

<http://www.modelengineneeds.org/etw/index.html>



Casting kits are available for many of Westbury's popular engines, but evidently not for the Kittiwake. http://www.hemingwaykits.com/acatalog/Internal_Combustions_The_Engines.html



John's Kittiwake

John, using castings he obtained many years ago, recently constructed his version of the Kittiwake. Improving on the traditional design, John's model has electric start and a high-tension magneto for spark. See it running here:

<https://www.youtube.com/watch?v=po8tyRom21I&t=89s>

Silver Bullet This is a 2 cylinder, 4-stroke, water-cooled, .66 cu in, overhead valve, spark ignited internal combustion engine with a .75" bore and .75" stroke. Designed by Bob Shores.

<http://www.floridaame.org/GalleryPages/gallery%20Bob%20Shores.htm>

Casting kit and plans available on Ebay.



Red Wing This is a ¼ scale model of a stationary farm engine manufactured by the Red Wing Motor Co. It is a single-cylinder “hit ‘n miss” type engine. John’s Red Wing is bored and stroked for displacement 40% larger than standard. Rather than use a buzz coil for the spark ignition, John added an oscillating low tension magneto. According to John, “I really wanted a Webster type mag but couldn't figure how to get the coils inside at model scale, so I reversed the situation, put the magnet inside and the coil outside. It runs well. I also added oversize bronze flywheels to lengthen the coasting time.”



Here's a YouTube video of it running:
<https://www.youtube.com/watch?v=IUrhnQcBvwY>

John reports: “I’ve spent a lot of time trying to get my version of the Silver Bullet to run well. I’ve seen many of these engines at shows but few run, and then poorly. At NAMES a few years ago I saw a really sweet running Silver Bullet by Chuck Kuhn. I copied many of his design changes, with permission. The biggest change was to make a 180-degree crank. I departed further with changing the valve gear to Harley knuckle type. It ran thru the end of the 2019 show season and then sort of quit. I’ve been back on it for two months but still can’t get it to run as well as before. I’m on my 5th set of pistons, numerous cam timings and even moved some cam lobes around, still not happy with it yet. Very frustrating.”

John favors using magnetos as a source of spark, believing they are under-utilized and unappreciated. He explains the advantages of an oscillating magneto in hit ‘n miss engines: “In hit and miss engines, the advantage is you get the same spark intensity at any rpm. A big failing of mags on slow speed or when starting engines is they don’t deliver a strong spark at low rpm, thus the use of an impulse or a spring loaded device to spin the rotor fast at low rpms.”

RAMBLINGS

THE BAY AREA ENGINE MODELERS AND THE RACING ENGINE
 By Bob Kradjian

If asked, “Who invented the modern racing engine?” most of us would immediately think of Harry Miller, Fred Offenhauser, and the Duesenberg brothers. But the key to the racing success achieved by the engines

associated with these famous names was the uncle of a BAEM member.

BAEM member Jay Eitel passed away in 2012. He was born in 1916 in San Jose. As a youth, he learned about internal combustion engine design from his uncle, Elbert J. Hall.

Uncle Hall was an engineering genius. His formal education did not exceed the seventh grade, but he, from his early teens, worked with hit and miss engines in the agricultural fields of San Jose, California, becoming an expert mechanic. He then set up his own shop for repair of internal combustion engines. In 1906, Hall built a race car, the "Comet", which he drove, dominating Northern California dirt track racing.

In 1910, E. J. Hall and businessman Bert Scott formed the Hall-Scott Motor Car Company. They quickly developed a series of all original engines for the railroad "motor car" industry. The company evolved into aviation, becoming one of the major manufacturers of airplane engines used during World War I. Working with Jesse Vincent of Packard in 1917, Hall developed the Liberty V-12 aircraft engine.

Throughout Hall's long career, he was a proponent of the hemispheric combustion chamber, four valves per cylinder, crossflow port design, overhead camshafts, and lightweight aluminum pistons. All features we associate with the modern racing engine.

As a youth, BAEM member Jay Eitel learned many aspects of engine development first-hand from his uncle.

In 1921, E.J. Hall received a call for help from the Duesenberg brothers. Their Indianapolis engine was regularly snapping valves and valve springs. He said: "Send me an engine and I'll look it over". He completely redesigned the cam profiles and intake/exhaust porting, resulting in a reliable, winning engine.

Enter Tommy Milton. He was a mechanic-driver for Duesenberg who drove to two Indianapolis victories. After a dispute with the owners, he angrily left and joined Harry Miller and Fred Offenhauser in Los Angeles. There, he divulged the E.J. Hall "secrets" that had improved the Duesenberg engine, and requested a consultation from E. J. Hall. Miller was

happy to do that, as Hall was a regular purchaser of the carburetors his company manufactured. This was an example of early industrial espionage. Hall subsequently did an extensive re-design of the Miller twin overhead-cam four, which became known as the "Offy" and became a spectacular success, practically unbeatable at the brickyard from that time on with 27 victories.

In this way, the uncle of BAEM member Jay Eitel was a key player in the design of one of the most successful racing engines in the history of the Indy 500.

Mechanical design aptitude apparently ran in the family. Hall's nephew, BAEM member Jay Eitel, enjoyed a lifetime of success in the field of mechanical design. He designed, patented, and produced the "Cherry Picker". This was truck with an electric one-man bucket for overhead work. His company, Telsta, produced hundreds of these lift units that were controlled by a single 'joy-stick'.

He also produced large original lathes for his older brother William's company Eimac. With Jack McCullough, Eimac was a Silicon Valley pioneer in 1934. The lathes were custom designed for producing the large 150T power triodes. These greatly aided the English with the radar detection of Luftwaffe swarms during the air Battle of Britain.

Club members may remember the visit of Jay's Corvair to the Chabot College meeting place. This Corvair had a Jaguar V-12 engine installed in its nose. That engine was connected to a Pontiac transaxle in the rear via a flexible driveshaft. Jay held over twenty patents, one for a variable compression engine.



Jay Eitel (left) with Anthony Rhodes (BAEM) and Jay's Jaguar V-12 in a Corvair



Jay's all-original midget roadster. Powered by a supercharged Ford V-8 60 mounted behind driver. Jay built the entire car including frame, suspension, even the wheels.

Our wonderful club's connection to the racing engine is second-hand but a wonderful tale, nonetheless. And don't forget our club's other connection to Silicon Valley, the Home Brew Computer Club. Their original meeting, in March of 1975, was in the garage of our first President, Gordon French. But that story will have to wait for another day.

-Bob Kradjian

Steve Hazelton's video interview of Jay Eitel:
<https://www.youtube.com/watch?v=gXLSa0U3nws>

<https://en.wikipedia.org/wiki/Hall-Scott>

Book about the Hall-Scott company: "*Hall-Scott: The Untold Story of a Great American Engine Maker*" by Francis H Bradford and Ric A. Dias. Published by SAE. Available on Amazon.

FOR SALE

Dwight Giles has some stuff he is offering:

-**"Little Devil" Engine Kits.** Contains full set of plans, castings, a flywheel and assorted parts. Price is \$100 donation to club.

-**Castings & Drawings for Örkenrud 340 V8.** This is the same casting kit Wes is using for his build. Price is \$100 donation to club.

-**1.5 hp electric motor.** 1750 rpm. 110/220v AC single phase. Heavy! Price: Free!

-**Engine Mount Box.** Beautiful wooden box for mounting your larger engine. Perfect for a Black Widow V8. 3 available. Price is \$200 donation to club.

Contact Dwight at jig313@aol.com
or phone: 707-648-1481

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Got something you'd like to sell? Your ad is free and will be seen by likely customers.

