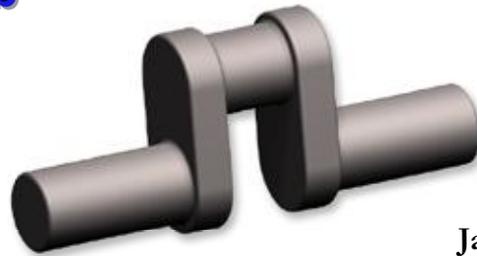


Bay Area Engine Modelers Club

The Crank Calls



January 2017

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MEMBERSHIP \$25.00 US

Contact Paul Denham at
pedenham@comcast.net
**Membership Dues are now
due!**

NEXT MEETING

**January 21, 2017 at
TechShop Midpeninsula
2415 Bay Rd
Redwood City, CA**

Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

BAEM meetings: 3rd Saturday of the month

MEETING PLACE FOR November 19th

We will meet this month (November) at the TechShop Midpeninsula, 2415 Bay Rd, Redwood City, CA.

DIRECTIONS: Take the Woodside Rd exit on US 101 heading West, Make your 1st left onto Broadway, 1st Right onto Charter St, 1st left onto Bay Rd and a left into the TechShop parking lot.

MEETING NOTES

December 10, 2016
Bob Kradjian, Secretary

President Paul Denham called our annual Christmas meeting to order at 10:12 am.

VISITORS: We had no new members but Paul mentioned several good folks who pay our dues and become members but have not been able to attend. They enjoy our club newsletter and want to support the group.

Visitors this month were the wonderful company of our significant others.

PROJECTOR PROJECT: The club has purchased a 55-inch Sony smart TV. This was after consultation with Mark Johnson of the GGLS group.

The plan is to devise a swing down mount from the ceiling in their meeting room. If it works as hoped, it will allow videos and photos to be displayed as well as large images from the front table taken with a smart camera.

FIRST POPS: Peter Lawrence has had some early, but not sustained, running from his four-cylinder engine. See Bits and Pieces for details.

However, if there is a category for first *reliable* pops, Paul wins with a hit and miss engine built many years ago with his father. He wanted to achieve the same consistency and reliability that John Palmer had with his same design. To accomplish this, he used a propane fuel system as described by John. He also had to fabricate a new steel follower bearing for one that had a thin case harden. He wanted a louder and more authoritative exhaust note and changed the diameter and length of the pipe to achieve this.

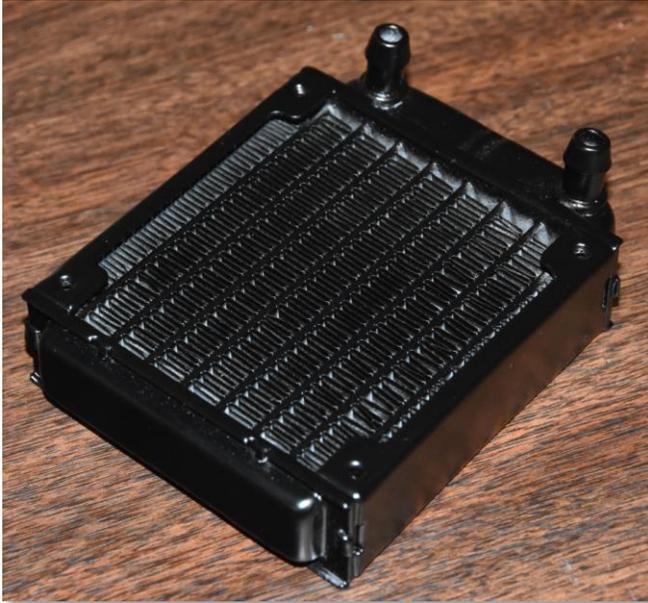
EVENTS:

There are no scheduled events.

TREASURER'S REPORT: We had a personal report from Deidre Denham. We are solvent and thank her for her efforts.

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

BITS AND PIECES



Paul showed us a lovely small radiator designed for water cooling of computer CPU units. See eBay under “CPU cooler” for listings. As an example, *sidewindercomputers.com* has a huge listing of radiators of various sizes and shapes, clamps, tubing and other pieces. This is just one of many web sites and literally several thousand listings connected with liquid computer cooling. You will become familiar with Herbie clips, stainless steel worm-drive clamps, Durelene PVC tubing, and other necessary fittings for water cooling.

Sadly, there are no radiators with top and bottom outlets, so you will need to mount them sideways.

Paul mentioned an alcohol-based paint for our engines and small parts. It flows beautifully and dries without brush strokes, almost appearing to have been sprayed on.

Tamiya Acrylic Paint uses isopropanol and glycerol ethers as drying agents. They claim one hour drying time.

Floquil is the other paint used by railroad folks for years, but it appears that the EPA has become involved and the formulation has changed several

times as a result. I believe that the line has probably been discontinued and old stock is being carefully guarded.

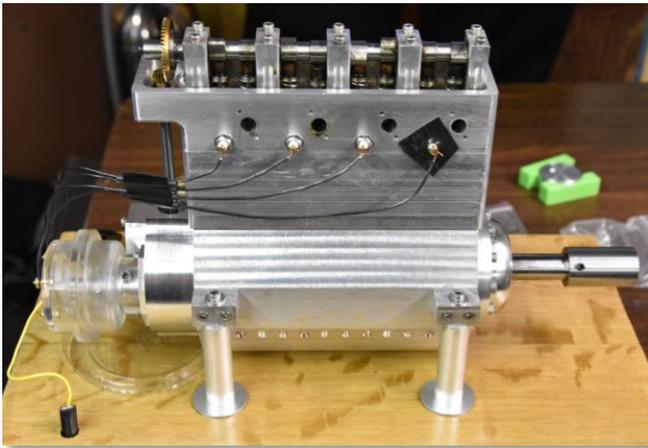
The very fine grain of the pigment allows subjacent metal details to shine through.

Mike showed a 5.5 mm bore scope purchased from eBay for \$11.00! It can be plugged into your XP computer for a picture. It has a USB plug with a tiny flip out for the mini USB needs. Available in 5 mm and 3.5 mm sizes. The inexpensive ones seem to be Android compatible; the least expensive iPhone models were in the \$28 and up range. These will require a software download. Just search “bore scopes” on eBay for a bewildering number of choices if interested in these intriguing devices.

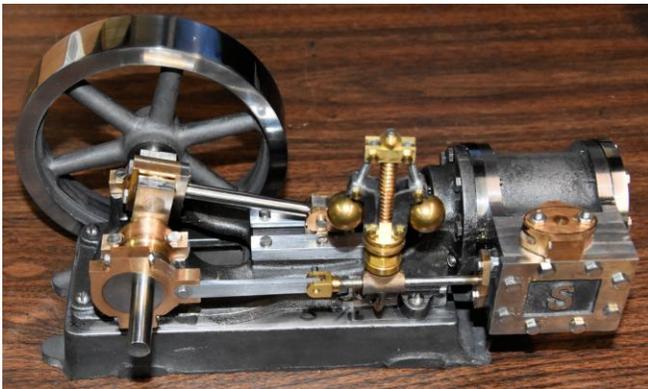


Continuing with his 3 D printing, Mike has continued to refine his magnetically held ring light (based on angel lights) for Bridgeport mill spindles. He has also made a fixture for an inexpensive light bar magnetically held. Next he built a gravity marble toy, a plan holder for the Bridgeport mill, and a variety of other projects.

He also printed a device for holding the cylinder head for Dwight’s GEM 1 engine. For applications needing increased strength, carbon fiber can be easily obtained for printing but costs roughly twice as much as the standard plastic tubing. His latest project is a three and a half watt laser unit to cut gaskets. This is around one hundred dollars from Banggood (banggood.com). This site has a huge array of electronics, tools, supplies, etc. The nut and bolt assortments are very inexpensive. Don’t know about the quality, but far less than MSC.



Peter Lawrence had first pops (about five seconds) from his “test mule” engine. It is actually a lovely, original, four-cylinder in-line gem. It uses a single overhead camshaft driven by a bevel-gear vertical shaft. He is currently sorting out ignition problems, with his Hall-effect system sensors flaming out regularly. Paul Denham mentioned that he uses reed relays to avoid that problem



Peter Lawrence bought a bargain set of castings from eBay for the classical Stuart No. 9 steam engine. Unfortunately, the bargain price also bought a luxuriant layer of rust on all parts. This required huge amounts of “elbow grease”, wire brushes, and liberal use of Naval Jelly to return the castings to the usual excellent Stuart standard. It seems the active ingredient in Loctite’s Naval Jelly is probably phosphoric acid in a gel base. There are a number of other proprietary products for rust removal such as Evapo-Rust, and Jasco Metal Prep. For items that can be dunked in soda, electrolysis (anode and cathode) with a battery charger is very effective.

Peter’s steam engine, finished in just one month, is a very lovely piece of machining. There is no trace of

residual rust on the castings. Note the fine finish on the flywheel. He plans to run his DC generator with it.

Dwight showed us a compressed air-powered model airplane engine called the “Air Hogs”. It uses a simple “bash valve” in the piston head for valving.

Steve Zettler showed us two screw jacks (with both right and left hand threads) he is making for a machining course at the Western Nevada College in Carson City. Very nice work, Steve! He told us of the intricacies of reverse rotations and chucks that spin away.



Our annual Christmas feast was the same success that we have enjoyed for over twenty years. The variety and quality of the food and deserts was spectacular. How our women (and men) manage to do this each year without central planning is a wonderful mystery.

The joviality and pleasant conversation capped a wonderful afternoon. Thanks to all who participated and attended.

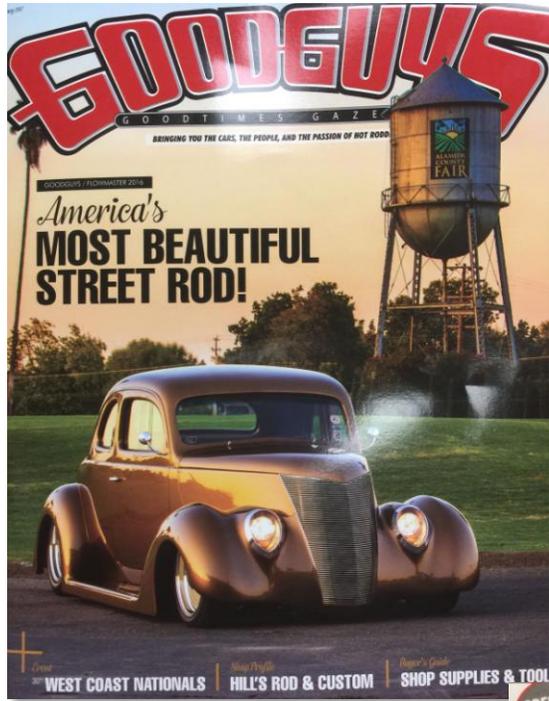
Our next meeting will be at the TechShop in Redwood City. We are grateful to them and the Golden Gate Live Steamers for providing us places to meet.

WANTED:

Milling attachment for a small lathe. Contact Larry Bunch at wendyrocky2@gmail.com

THE PICTURE PAGE

A LOOK BACK TO WEME 2016 AT GOODGUYS



SPECIAL EXHIBIT

SCALED HORSEPOWER

The unquestioned special highlight at the West Coast Nationals is the annual miniature engine exhibit. Put on by the Bay Area Engine Modelers, the WEME Show (Western Engine Modelers Exhibition) is the club's biggest meeting of the year. Not just limited to western modelers, they come from far and wide to display and start their miniature marvels – some from as far away as England.

The scale engines all work, start and run like Swiss watches! The precision engineering and intricate parts and pieces on display here must be seen to be believed. Perhaps the coolest part of all is that these modelers must build the tools and castings necessary to build the miniature engines! Can you imagine the patience and perseverance it must take? They never cease to amaze us.

The late John Gilmore designed and built this blown V8 before he passed away in 2015. Fellow BAEM members finished off a few electrical items and it started right up. Due to its "shorty" headers, it was the exhibit's loudest engine by far. This thing THUNDERED! The block was CNC machined from a solid chunk of aluminum.



The sexiest engine we saw was the Riggle DOHC inline 4-speed boat engine. Builder Jim Riggle produced his own patterns and molds for the water-cooled DOHC monoblock engine.

One of the prettiest engines we saw was James Freel's all aluminum, highly detailed "Black Widow" 1/4-scale V8.



Lots of cool brass fittings, radiator and fuel tank adorned this 1/3-scale Wall 4-cylinder model engine.



Arizona's Paul Knapp built this 1/4-scale Pratt & Whitney "Wasp Jr." 9-cylinder radial aircraft engine. Paul estimates that the engine's 15.8 cubic-inch displacement will produce over ten horsepower at 4,000rpm!



The one-cylinder "hit & miss" engines are always cool to watch and listen to.



Hearing the stories and details from the model engine builders themselves is one of the highlights of this exhibit!

Here is the 1/2-scale Edwards 5-cylinder radial model aircraft engine. Designed and built by Forest Edwards, the 5-cylinder radial burns regular gasoline, incorporates a dry sump lubrication system, and produces more than six horsepower!