Bay Area Engine Modelers Club

The Crank Calls

December 2017

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NEXT MEETING
December 9, 2017 at
Golden Gate Live Steamers
Tilden Park
Berkeley, CA
Doors open at 9:00 AM
Meeting starts at 10:00 AM

Upcoming Events

December BAEM meeting will be the on 2nd Saturday, December 9th with our Annual Potluck luncheon at the GGLS building in Tilden Park. Doors open at 10:00, meeting at 11:00, Potluck luncheon immediately following meeting.

MEETING PLACE FOR December 9th

We will meet this month (December) at the Golden Gate Live Steamers meeting room in Tilden Regional Park, Berkeley, CA.

MEETING NOTES

November 18, 2017
Bob Kradjian, Secretary

CHRISTMAS LUNCHEON

Bring your dishes and good cheer to our December 9 meeting! This is always a highlight of the year. A couple of engines to run would be lovely as well.

President Paul Denham called the meeting to order at 10:00 am at the Golden Gate Live Steamer's meeting room. We were scheduled to meet at the Tech Shop in Redwood City but only hours before the meeting heard the startling news that the Tech Shop had entered into bankruptcy and was in total lock down. Our faithful friends at the Golden Gate came to the rescue and again offered their lovely room. Your secretary also thanked Jim Newton the Executive Chairman and founder of the Tech Shop for his contributions to the hobby and to our group. Jim graciously responded during what must have been a time of considerable stress. He even asked what he could do for us! Jim is a true gentleman and a visionary.

Should we search for a new clubhouse? It is comforting to know that the Golden Gate group has offered us the use of their lovely facility. Steve Jasik will investigate the possibility of a Palo Alto meeting place at the Museum of American Heritage on Homer Avenue (moah.org). Jim Freel will also look into a possible meeting spot at Moffitt Field.

VISITORS: Colin Graff is an engineering student at Cal Poly, San Luis Obispo. In addition, Steve Zetter's fiancé, Sharon, visited us. Welcome to both!

TREASURER'S REPORT: The Goodguys management has completed their payment to us. Our finances remain solid.

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

FIRST POPS: Jim Freel's V-8 is now running steadily instead in short runs. It's one of the finest model engines we've seen. Congratulations, Jim!

WEME REPORT: We must soon formulate our club direction for 2018. Remember, the Good Guys management is planning on our participation in August. We owe them a response detailing our involvement, or lack of it, before much longer. The latest "GoodGuys GoodTimes Gazette" features our last August showing. On page 106, is photo of Dwight Giles and Gene Ellerbusch running a Black Widow V-8 outside the hall. Another photo shows Eric Harrell 3D printing an engine block, as well as a photo of his flat head Ford. Also pictured is one of Paul Knapp's fine Cirrus four-cylinder engines. The author goes on to write of the "…wealth of knowledge from the WEME members who bring these creations to life. The wow factor applied to kids of all ages, mostly those over the age of 40, and year after year the WEME group never disappoints."

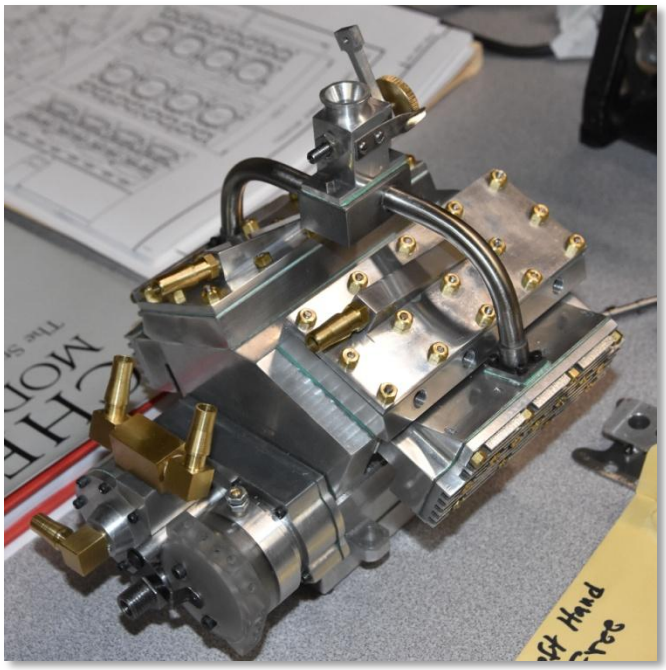
Paul Denham is working on an updated Club Roster. Thank you for your work on this.

BITS AND PIECES

Dwight Giles has embarked on another ambitious project. He is assembling ten GEM kits for members to build. These built-up kits involve no castings. The complex welded-up hopper is made of chrome-molly steel. The TIG welding was very nicely done by a friend of Dwight's. The stroke is one-inch; the bore is seven eighths' of an inch. Dwight's finished model was there for our inspection. It's a beauty and goes far beyond the older farm engine kits seen earlier.

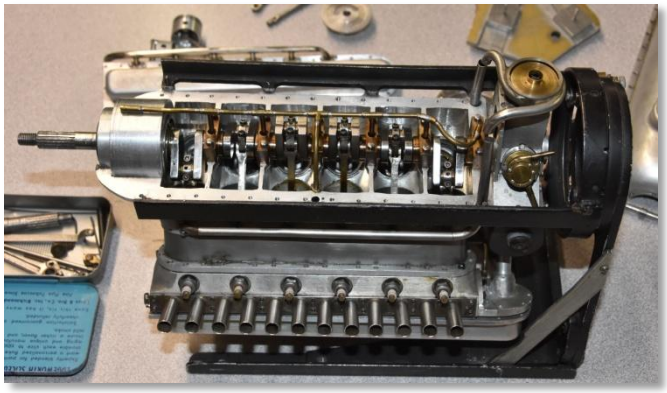
Dwight followed with a wide-ranging discussion of the sticky parts in building this engine. He included detailed information on his built-up flywheels with stainless steel rims. The gas tank construction uses tank ends pressed into an ingenious die that assures accurate centering. Another tactic explained was friction driving for the small brass tank ends. He prefers this to double sided tape. He gave us the detailed sequence of steps for machining the crankshaft. The piston should be made of 2024 or 7075 aluminum. He avoids 6061 as it tends to be "sticky' and not cut as cleanly. This also applies to cutting deep fins on a cylinder. He advises keeping the valve seats very narrow to allow for ease in lapping, about 1/32 to 1/16 inch only. Ring grooves must be cut five to ten thousandths deeper than the ring is wide. The grooves are a key part of ring sealing and must be cut accurately.

In the kit is an article from Strictly I.C. on balancing single cylinder engines. Hard to find parts are also included such as: needle valve threads, valve keepers, gears, rings, head gasket, and of course--plans. Note that this engine is not a hit and miss design, it is throttle controlled. As a bonus, president Paul says that if you make one of these engines with good compression, he'll provide the spark. What a deal!

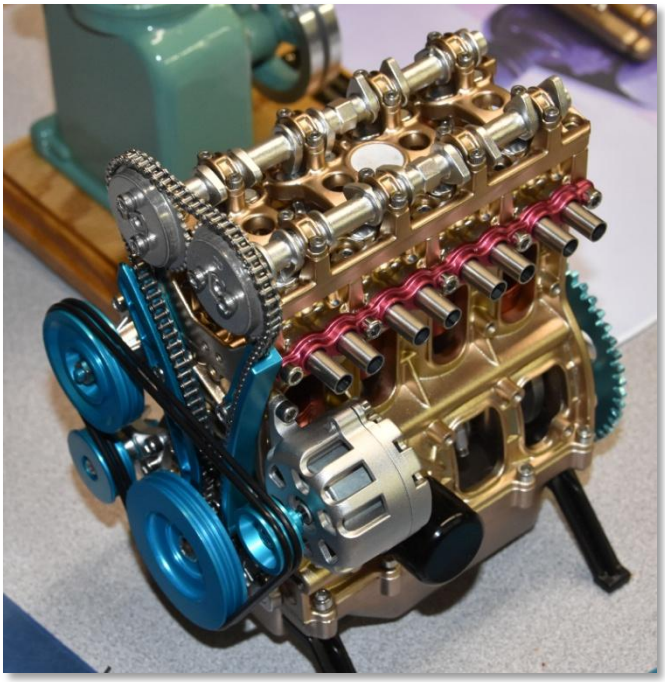


Joel Cohen brought us up to date on his project that involves creating a 45-degree V-8 based on the Westbury 15 cc. four-cylinder Seal Minor design. The displacement is 30 cc. The format is two of these little engines banked into a forty-five degree Vee. He has now added the water pump, the distributor, and the carburetor. He bought a radiator originally intended for cooling computer components. The camshaft was made without a grinder by using multiple flat cuts and a fixture. This is a unique and ambitious project.

Bob Kradjian showed the Curtiss D-12 engine built by the late Al Ingersoll. Al was a remarkable, self-taught talent. The engine is amazingly complex and faithful to the original engine. However, he used



only two valves per cylinder rather than the original four. The engine, although never completed, is a tribute to Al's remarkable skills.



A Banggood four-cylinder cut-a-way engine was next shown. It is a kit with several hundred parts including very complex castings. It features double overhead chain driven camshafts, four valves per cylinder, and an electric motor that drives the assembled parts. It is truly a lovely demonstration engine. The kit comes in a large, printed metal box with four foam layers containing the clearly labeled and fitted parts in precise cut outs. The development cost for this kit must have been many thousands of Yuan. Some of the castings are remarkably complex and delicate. It is available from banggood.com for over $400. To see a video of this kit being assembled, go to You Tube and enter:

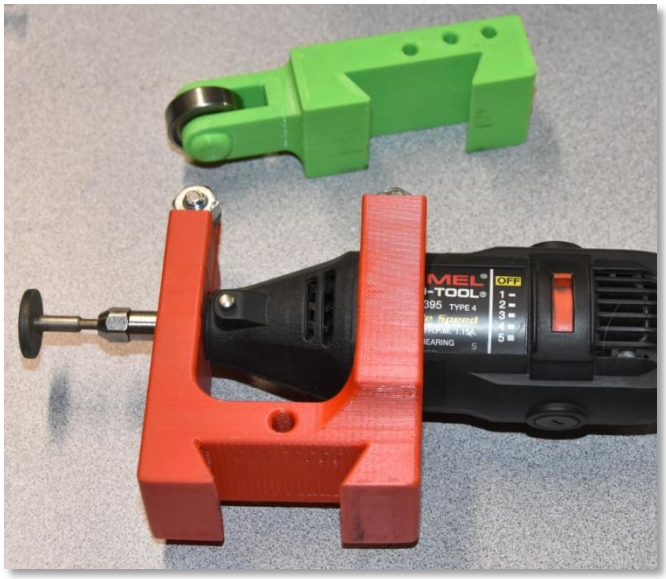
Teching Four Cylinder DOHC Model Engine. There is part 1 and part 2. As a "teaser" there was a promise made to bring another Banggood model to the December meeting. This will be a Vee-Twin.

Tim Horn showed us a very old and neglected Atlas airbrush compressor that he found. It was dirty, had a dead motor, and a bad valve. He completely rebuilt it, fitted a PM flywheel, and painted it. A lovely, yet functional, showpiece is the result.

Peter Lawrence showed the latest additions to his Merlin V-12. These include banjo fittings, various oil pipes, custom nuts, and fittings for oil filters. Peter has no plans for this engine, just several books published by the Rolls-Royce Heritage Society. Some of these books showed technical drawings as well as detailed cross-section views with front and side elevations. He is making steady progress on this long-term project. The small oil filters were purposed as automotive carburetor filters. The part numbers are FRAM CG11, WIX 33044, and AC GF27. He is working on oil pressure regulators for the crankshaft reduction gears, the supercharger bearings, and the camshafts. His goal is to all the complex oil circuits functioning by the end of the year.

Another discussion followed concerning the history of the famed Rolls Royce "Merlin" engine and its relationship to the Curtiss engine line. Curtiss first developed the World War I OX-5 V-8, and later the K-12, the D-12 modeled by Ingersoll, and finally to the Conqueror that was sold by license to the English. That engine was honed, enlarged, and through a very long series of evolutionary changes became the Merlin. When combined with the legendary Spitfire it was key in winning the air battle for Britain in World War II.

Paul tells us of a fine, small, five-volt electric water pump for our water-cooling needs. At five dollars plus shipping, it's just right for builders that don't want the complication of building and driving a mechanical pump. See Paul for ordering details.

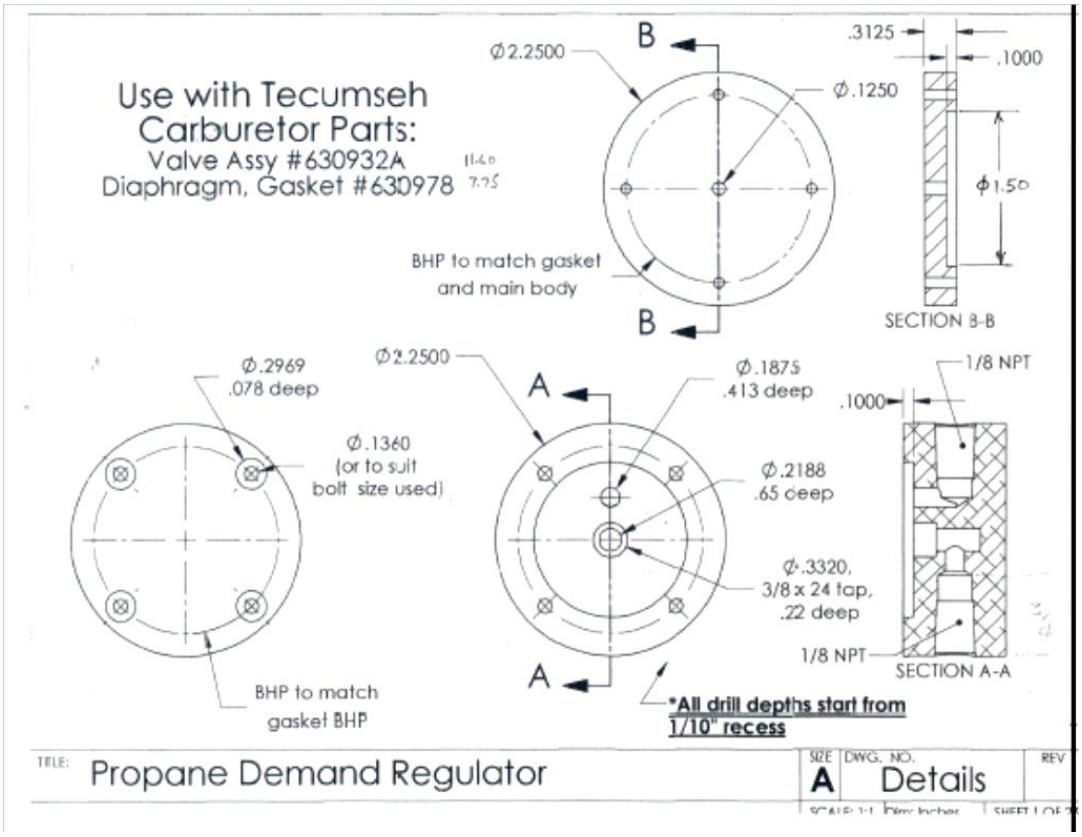


Mike Rehmus went back to his 3D printer for a Dremel tool holder that fits in his lathe tool holder.

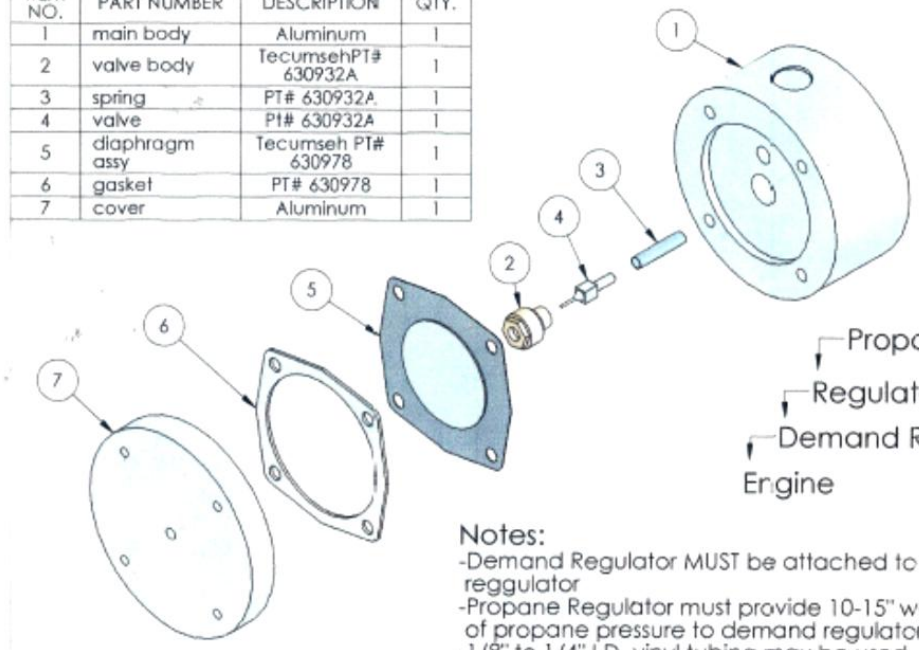
He also told us of the uses of a "pot chuck" for the lathe. Essentially, it is a slotted sleeve with a metal piece in the slot. This is turned true, the piece removed without disturbing the sleeve, new material inserted which will now run amazingly true. Warning: don't look this up in the Internet; you'll just get a lot of recipes. Other discussion included lathe "dogs", and tapered mandrels.

Aaron Keller joined us after a long absence. He is playing "hooky" from a machining 101 course at Diablo Valley College that usually occupies his Saturday mornings. He showed us a live center and a quill stop he made for a Bridgeport. Next semester he plans to take Machining 102.

Ray Fontaine suggests that we make pictures or videos of our shop to be shown on our large flat screen video. It has both a USB and an HDMI port. At present, we have no cables, but our president may bring such, and a video for our next meeting.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	main body	Aluminum	1
2	valve body	TecumsehPT# 630932A	1
3	spring	PT# 630932A	1
4	valve	Pt# 630932A	1
5	diaphragm assy	Tecumseh PT# 630978	1
6	gasket	PT# 630978	1
7	cover	Aluminum	1



Propane tank
Regulator
Demand Regulator
Engine

Notes:
-Demand Regulator MUST be attached to a propane reggulator
-Propane Regulator must provide 10-15" water column of propane pressure to demand regulator 10" = .36 psi 15" = .54 psi
-1/8" to 1/4" I.D. vinyl tubing may be used for connections

TITLE: Propane Demand Regulator
SIZE A
DWG. NO. Assembly
REV