



SCHSM

Southern California Home Shop Machinists

November 4, 2017

OFFICERS

President	Charlie Angelis
Vice President	Michael Vulpillat
Secretary	Fred Bertsche
Treasurer	Jim Endsley

COMING EVENTS

December Meeting
Sat, December 2, 2017, 2:00 p.m.
El Camino College

Gunther's Yard
Sun, December 3, 2017
9:00 a.m. - 2:00 p.m.
2380 Curry St.
Long Beach, CA

January Meeting
Sat, January 6, 2017, 2:00 p.m.
El Camino College

Preface

The November meeting of the Southern California Home Shop Machinists was convened at 2:00 p.m. on Saturday, November 4, 2017. We met in classroom AJ115 on the first floor of the Industry and Technology Building at El Camino College in Torrance, California. There were approximately 30 members in attendance. We also had three visitors: Jerry Logan, a machine shop owner, model engine builder, and collector of vintage hit and miss engines; Dave Nathanson, a computer programming consultant with a background in machining and R&D; and Gary Takamiyashiro, who is attending machining courses at North Valley Occupational Center and outfitting his home shop.

Club Business

Edelbrock Foundry Tour

Millar Farewell secured arrangements for the Edelbrock Foundry tour. It is scheduled for Saturday, November 9, 2017 at 10:00 a.m. and will be limited to 20 members. Charlie Angelis passed around a sign-up sheet and approximately 15 members signed up by the end of the meeting.



Michael Vulpillat speaking about heat treating, furnace construction, and burner design.

Attendees are encouraged to carpool to the facility, which is located at 13820 Buena Vista Street, San Jacinto, CA 92583. After the tour, the group intends to meet for lunch at a local restaurant.

Donations

Guest and prospective member, Jerry Logan, generously donated to the club four complete model engine casting sets. Two of the casting sets are for the "Seal" - a 15cc, 4 cylinder, 4 cycle, spark ignition, water-cooled marine engine, which was designed by Edgar T. Westbury in 1947. The other two casting sets are for the "Sealion" - a 30 cc, 4 cylinder, 4 cycle, spark ignition, water-cooled, forced lubrication marine engine. The Sealion is a later Westbury design from around 1959.



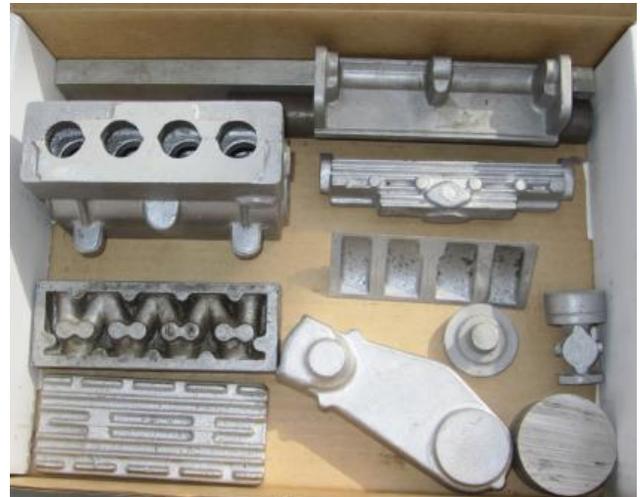
Jerry Logan presenting a generous donation of 4 engine casting sets to SCHSM.

Hemingway Kits in England still offers casting sets for both engines, either as "material kits" (with 10 aluminum castings, bar stock, gears, piston rings, valve springs, molded distributor cap [Sealion only,] and many other peripheral items,) or as "castings only" kits (with 10 aluminum castings and no other materials.) The castings donated by Mr. Logan are older "castings only" versions and contain only 9



One of two 15cc Seal engine casting sets donated by Jerry Logan.

castings in each kit. The difference appears to be the lack of a crankshaft bearing carrier casting in each of the older kits. These carriers are easily turned from bar stock. There is no molded distributor cap provided in either of the Sealion kits that were donated to us.



One of two 30cc Sealion engine casting set donated by Jerry Logan.

Hemingway Kits' current price for the 15cc Seal "castings only" kit is 128.50 British Pounds (approx. \$169.35 US,) and another 28 British Pounds (approx. \$36.90) for the drawings and construction notes. Shipping from England is NOT included in the price. The current price for the 30cc Sealion "castings only" kit is 162 British Pounds (approx. 213.50 U.S.,) plus another 28 British Pounds (approx. \$36.90) for the drawings. Again, shipping is not included.

Both the Seal and the Sealion are advanced projects requiring considerable equipment, experience, skill and perseverance. The drawings call out British threads, so the builder must have the appropriate taps and fasteners, or convert the specs to suit his or her preferred tooling and

fasteners. The 30cc Sealion kits include drawings for a distributor (again, no distributor cap or casting is included in either set.) However, there are no drawings or parts for a distributor in the 15cc Seal kits. Builders are left to their own creativity to fashion a distributor for the Seal. A design that allows for timing adjustment while the engine is running would be advantageous. For photos and further information regarding the Seal and Sealion engines, see

http://www.hemingwaykits.com/acatalog/The_Seal___Edgar_T_Westbury.html and
http://www.hemingwaykits.com/acatalog/The_Seal_ion___Edgar_T_Westbury.html.

The disposition of the castings sets will be discussed and perhaps decided during the December 2, 2017 club meeting. The options discussed so far are: to offer them individually at auction to club members at the December 2, 2017 meeting; or retain one or both kits of either the Seal or the Sealion for a future team build. Retaining both kits of the chosen model would ensure a ready supply of back-up castings, should the worst happen... If all goes well, the remaining kit could be auctioned off at a later date.

Frank Schettini auctioned off two reduction boxes, a vintage amplifier, and an electronic timer/beat amplifier for adjusting clocks and watches. He donated the proceeds to the club. Frank also brought in a box of "give-away items which he passed out to the members in attendance.

Report: Little Machine Shop Open House

Willie Jordan gave a report on SCHSM's participation at last month's Little Machine Shop (LMS) Open House. Refer to the Events section later in this newsletter for details and photographs.



LMS Founder, Chris Wood, and SCHSM Member, Norm Wells, at the 2017 Little Machine Shop Open House.

Gunther's Yard

Doug Walker announced the upcoming Gunther's Yard to be held in North Long Beach on Sunday, December 3, 2017. See sidebar for time and place. Betty Gunther and her family host this annual open house to showcase the collection of her late husband, George Gunther. Over his lifetime, George amassed a huge collection of vintage engines, farm equipment, automobiles, tools, Americana, and small railroad cars. The American Truck Historical Society, the Military Vehicle Collector's Club, the Long Beach Model T Club, A.M.C., and W.A.P.A will have displays. SCHSM will have a display table, and Doug is asking anybody interested in working the table to contact him.

Presentation

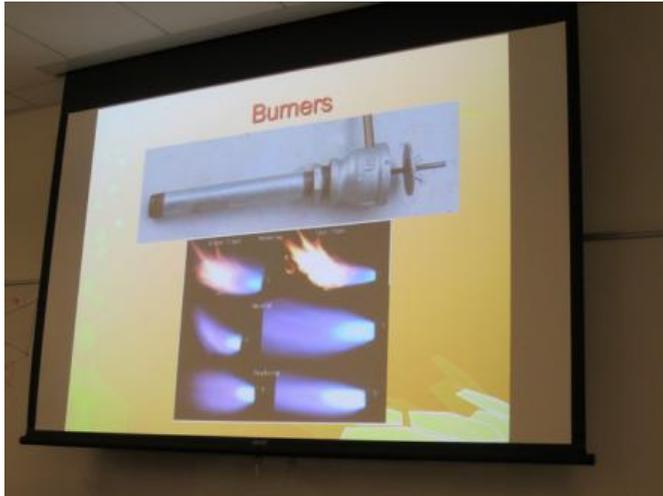
Expanding on last month's presentation, Michael Vulpillat gave a presentation entitled Heat and Metals: Requirement, Process, Technology, and Applications. He started with a summary of the many applications for heat as it pertains to metal processing: heat treating, forging, annealing, hardening, shaping, melting, casting, welding, smelting, metal extraction, and metal purification. Michael outlined the temperatures that must be reached for the transforming, melting, and smelting of steel and iron; and for the melting of aluminum.



Michael Vulpillat speaking on "Heat and Metals."

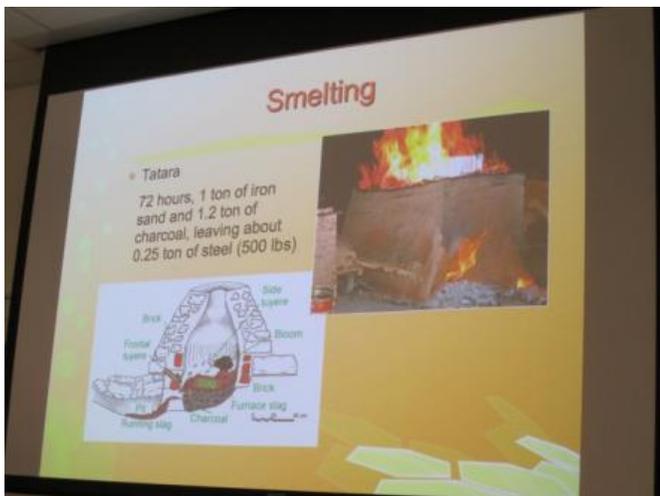
Michael outlined the fuels and energy used to heat metal: solid fuels such as coal, coke, charcoal and wood; liquid fuels like diesel; gasses such as propane, MAPP, acetylene, and H₂; and electricity. He also listed the flame temperatures achieved by various fuels. He explained the combustion process – mix (stoichiometry,) heat distribution, flame speed, detonation and deflagration.

Michael discussed burners and burner design, including mixing, flame shaping, flow, aspiration, pressure, velocity, and attachment (blow-off and flashback.) He also described building a home-made furnace with suggestions for materials, and he provided a couple of good websites for more information on the subject – www.hightemptools.com and www.foundry101.com .



Michael Vulpillat discussed burner design considerations.

Michael closed his presentation with a segment on basic safety when working around hot/molten metal. He reminded us to keep a bucket of sand, a bucket of water, and a fire extinguisher at the ready. Wear proper attire and personal safety equipment - eye protection, suitable footwear, gloves, apron, etc. Keep work area uncluttered and maintain a clear path for rapid egress. Beware of moisture, wet material, and puddled water when working around molten metal as it can cause a dangerous steam explosion and/or spraying of molten metal. Michael also warned of a phenomena known as "Dragon's Breath." You might want to "Google" that one...



Michael also spoke about the smelting process.

Show and Tell

Jim Endsley showed how he used a screw extractor to remove a broken vial from the level in his rifle scope alignment tool. He found a replacement vial and glued it in place, thereby making the fixture as good as new.



Jim Endsley described the replacement of a damaged vial in his rifle scope alignment tool.

Bob DeVoe shared some insurance concerns he encountered when a fire destroyed his home workshop. He also showed a belt roller he made from aluminum tubing to replace the composite roller of his belt sander that was damaged in the fire.



Bob DeVoe's replacement belt sander roller (Center) made from aluminum tubing (Left) to replace fire-damaged composite roller (Right.)

Frank Schettini showed some LED light panels he bought from American Science Surplus. The panels are about one foot square and emit a tremendous amount of light at a fraction of the cost of incandescent lighting. Frank intends to retrofit his home shop lighting system with the LED panels.

Don Huseman showed a Craftsman "Midget Wrench Set," more commonly known as "ignition wrenches," Craftsman Part # 42319. Don finds that they come in very handy for a wide variety of fiddly little projects.



Don Huseman's ignition wrench set.

Lorry Widger offered for auction three books on machining and several nice billets of 6061 aluminum.

Events

On Saturday, October 28, 2017, approximately twenty SCHSM members participated in the annual Little Machine Shop (LMS) Open House in Pasadena, CA. We had five long tables filled with projects, displays, and running engines. Hundreds of spectators stopped by throughout the day, all showing a genuine interest in our exhibits. LMS Founder, Chris Wood, and his staff were, as always, very gracious hosts. They provided a very spacious shaded display area and plenty of food and refreshments. LMS had on display a great deal of merchandise, and staff was on-hand to answer any questions. There were several vendors in attendance, including Tormach, Laser Center/Edge Finder, Priest Tools, Starrett, ACT, Cobra Carbide, and others. A photo album named "Little Machine Shop Open House 2017" has been added to the SCHSM Yahoo Group. It contains several photos taken during this year's open house, most of which are shown below.

2017 Little Machine Shop Open House









SCHSM welcomes presentations by members or guest speakers on any subject related to metal working activities. If you have some knowledge or experience you feel may be of interest to our members, or if you know someone that may have something interesting to relate, please consider making a presentation at a meeting. Presentations may be a little longer and more detailed than a show and tell, and may be accompanied by slides, video, or physical displays. Probably every member has some experience they can share, and this is the purpose of SCHSM. Please contact President Charlie Angelis to make arrangements to give a presentation.

SCHSM meets in Classroom AJ115 on the first floor of the Industry and Technology building of El Camino College, 16007 Crenshaw Blvd. Torrance, California, at 2:00 p.m. on the first Saturday of every month. The building is near Parking Lot B. Enter the campus from Manhattan Beach Blvd.

If you would like to contribute an article to this newsletter, or make a comment, contact the editor, Fred Bertsche. He can be reached via the SCHSM Yahoo Group, or at fbschsm@yahoo.com.

Find us on the web at www.schsm.org.