



# SCHSM

Southern California Home Shop Machinists

June 3, 2017

## OFFICERS

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

## COMING EVENTS

Picnic

Sat, June 10, 2017, 10:00 a.m.

Alondra Park, Torrance

Antique Engine and Tractor Show

SCHSM Exhibit June 24, 2017

9:00 a.m. - 4:30 p.m.

Antique Gas & Steam Engine Museum

2040 Santa Fe Avenue

Vista, CA 92803

July Meeting

Sat, July 1, 2017, 2:00 p.m.

El Camino College

Model T Swap Meet

Sat, July 22, 2017

7:00 a.m. - Noon

5000 Lew Davis Street

Long Beach

Enter from Conant Street

WEME Show

August 25-27, 2017

Alameda County Fairgrounds

4501 Pleasanton Av.,

Pleasanton, CA 94566

WESTEC

September 12-14, 2017

L.A. Convention Center

## Preface

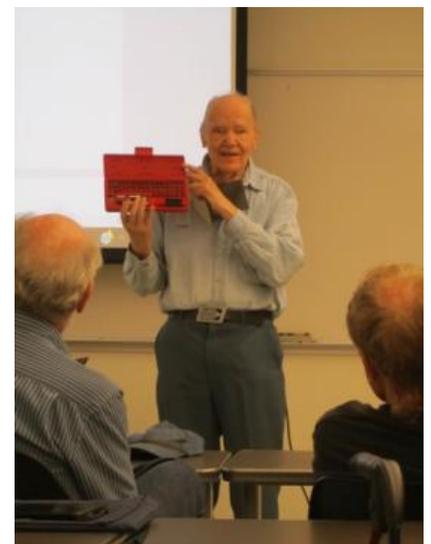
The June monthly meeting of the Southern California Home Shop Machinists convened at 2:00 p.m. on Saturday, June 3, 2017. We met in classroom AJ115 on the first floor of the Industry and Technology Building at El Camino College in Torrance, California. There were approximately 32 members in attendance, and no visitors.

## Club Business

President Charlie Angelis reminded everyone about the Club Picnic to be held on Saturday, June 10, 2017 at 10:00 a.m. He asked anybody needing a special diet (i.e., gluten free, vegetarian, Cap'n Crunch, etc.) to contact him before the event and he'll make every effort to accommodate their needs. Treasurer Jim Endsley passed around a sign-up sheet and collected \$12.00 per person from those who had not already signed up for the picnic.

Eldon Barkley spoke about the upcoming Model T Swap Meet to be held on Saturday, July 22, 2017 at the Long Beach City College Veteran's Stadium. Admission is \$5.00, but parking is free. See sidebar for further information. Eldon has reserved an 18' deep x 20' wide exhibit space for the Club, and will have two pop-up canopies erected. Again, Club members are encouraged to attend and exhibit their latest projects. Remember to bring a folding chair, plenty of water, and a hat. If you have an extra pop-up canopy, please bring it along.

Jim Endsley gave an impassioned plea for increased member participation in the upcoming Antique Engine & Tractor Show. The show will take place on the grounds of the Antique Gas & Steam Engine Museum, located in Vista, California. Jim has reserved an exhibition room for Saturday, June 24, 2017. SCHSM members are encouraged to display their projects and help promote the Club. There are plenty of exhibits, such as running steam engines, running internal combustion engines, traction engines, model railroad exhibits, and vintage agricultural equipment. For additional information, go to



*Norm Wells showing a set of driver bits for security fasteners.*

<http://agsem.com/event-tractor-show.php> . Anybody interested in attending should contact Jim Endsley to make arrangements. There is free parking and admission for exhibitors.

Millar Farewell polled the membership to determine if there were any interest in taking a tour of the Edelbrock Foundry in Hemet, CA. Twelve members indicated they would attend a tour if were to be held on a weekday. Millar said he would approach the Edelbrock folks and attempt to arrange a visit.

Charlie Angelis reminded everyone of the upcoming WESTEC trade show to be held at the Los Angeles Convention Center. He added that members should go to <http://www.westeconline.com/> and sign up for free admission. See sidebar for time and location.

Ken Rector and Millar Farewell spoke about the Western Engine and Model Exhibition (WEME) show, hosted by the Bay Area Engine Modelers (BAEM) in conjunction with the GoodGuy's 31st West Coast Nationals. It will take place in August at the Alameda County Fairgrounds in Pleasanton, CA. Highlights include a premier car show, vintage tether car racing, beautiful model engines from Paul Knapp's extensive collection, and high performance V-8 engines built by BAEM members. Ken asked members to attend the event and show their projects. He also asked members to consider sending projects or completed models with him to display if they can't attend themselves. For more information, go to <http://wemeshow.com/> and <https://www.good-guys.com/wcn-2017> .



WEME Show, Pleasanton, CA Aug 25-27, 2017

Ed Hoffman advised that El Camino College will not be holding classes in the Industry and Technology Building during the months of July and August. This means that the exterior doors to the building will be locked and the air conditioning will not be turned on. Either Ed or the campus police will have to open the northwest door with a pass card to let us in. Once opened, someone will have to mind the door from the inside to let other members in. Members arriving after the start of the meeting will have to call or text a fellow member to let them in.

## Presentation

### How to Choose a Cleaning Solution

Charlie Angelis showed a YouTube Video posted by Applied Science entitled "How to Choose a Cleaning Solution." The video provides tips and tricks for selecting the correct cleaning solution for a given application, and the science behind it all. Charlie augmented the video with information from a chemist's perspective. The video is especially helpful for anyone preparing an item for painting, plating, anodizing, etc. To view the video, go to <https://www.youtube.com/watch?v=HiL6uPNIqRw> , or go to the YouTube homepage and perform a search for the aforementioned title.

### Show and Tell

Jim Endsley showed a set of low profile, ball end Allen Wrenches used for accessing Allen screws in tight places. Jim said that while the wrenches work well in instances where there is little clearance above the head of the fastener, they provide inadequate leverage when attempting to use the ball end on the long leg of the wrench.

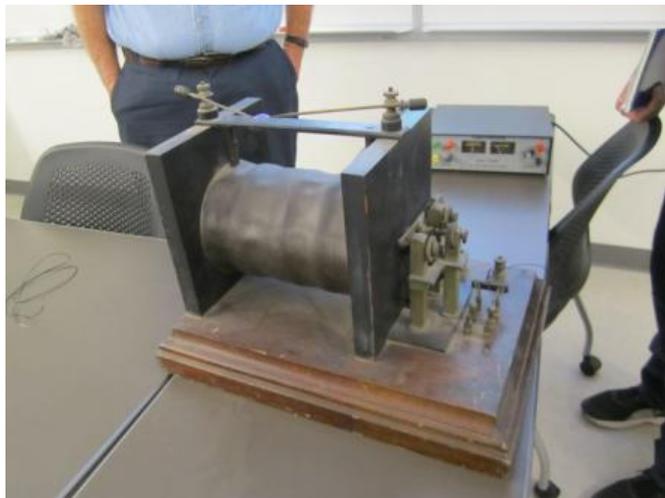


Top and Center: Low profile, ball end Allen wrenches; Bottom: Standard ball end Allen wrench



John Miller demonstrating his Thordarson Spark Apparatus, circa 1904.

John Miller demonstrated a Thordarson Electric Spark Apparatus, circa 1904, Patent Number 751574A. As you may recall, John was seeking information about this apparatus during the May, 2017 meeting. Since then, he got it working and was kind enough to bring it in. Throwing the switch on a primitive, pre-OSHA, pre-UL electrical contraption in excess of 110 years old is always accompanied by a bit of trepidation. However, John boldly approached the apparatus, albeit with all the respect due a coiled rattlesnake, and switched it on. After a loud “pop,” a small plume of smoke, and some fiddling with the controls, a large, steady arc emerged between the two electrodes on top of the main coil. It truly was a crowd pleaser. No fuses were harmed, but perhaps should have been, during the production of this film.



Thordarson Spark Apparatus, circa 1904.

Norm Wells showed some unusual tamperproof stainless steel screws and a set of driver bits from Grand Rapids Industrial Products he bought to drive them with. His set of driver bits also accommodates several other styles of tamperproof fasteners.



Grand Rapids Industrial Products driver bit set for tamperproof fasteners. Inset: Tamperproof screws.

Dan Snyder showed a video of a Thomas & Smith hot air pumping engine he admired on YouTube. He was so intrigued with this engine that he decided to model it in 3D using OnShape. After deciding on the size of some of the main parts, he worked out the geometry for the linkage, lengths of the links, anchor and pivot locations, etc. Dan showed his 3D model, including an animated version. Very impressive work.



Dan Snyder showing his 3D rendering of a Thomas & Smith hot air pumping engine.

Dan Snyder also passed around the ER-11 collet chuck and angular bearings he will be using on his high speed router spindle. He described that project at last month’s meeting.

Millar Farewell said that anybody interested in Model Engineers' Workshop Magazine should consider subscribing rather than pay bookstore prices. By subscribing, you can save about 50% off the bookstore price. Depending upon the subscription package you choose, you could also gain access to the digital archive of back issues. For additional information, go to <http://www.model-engineer.co.uk/editorial/page.asp?p=695>.

Ken Rector showed some model engine parts that were printed on his friend's inexpensive (<\$200) 3D printer. Ken explained that he's been scratch-building a scale model of a Darracq 2 cylinder, water-cooled, 25 HP aircraft engine, circa 1909. He modeled the individual parts in 3D during his design phase. His friend offered to print some of the parts to demonstrate the ability of his 3D printer. Ken sent him the digital files for various crankcase covers and received the printed parts a short time later. He mated the plastic parts up to some of the aluminum parts he'd already machined and they fit perfectly, even with respect to the dowel pins used for alignment purposes.



*Ken Rector's 3D printed crankcase components.*

Fred Bertsche gave a brief update on the rebuild of the Club's Farm Boy display engine. He advised that the rebuild, like the original build, was a team effort. Lewis Sullivan did an excellent job of machining a new cylinder sleeve from a stick of Durabar Class 40 Gray Cast Iron. Jim Long made a new case-hardened wrist pin using his improved TCG to grind the locking flats on each end and ensure that they remained coplanar. Graham Hollis provided the part numbers for the o-rings he used on the original build, and for an improved Viton Quattro o-ring to replace the original Buna-N square piston ring. Fred de-carboned the cylinder head and valve assembly, which had accumulated a heavy build-up. He also machined a new wrist pin bushing, pressed it into the connecting rod, and reamed it to final dimension. He finished the honing of the cylinder using an 800 grit hone to provide a smooth surface against which the Viton Quattro piston ring will seal. Fred has acquired all the necessary parts and will have the Farm Boy reassembled and "back to spec" in time for the Picnic on June 10th.



*SCHSM's Farm Boy Hit & Miss Engine*

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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](mailto:fbschsm@yahoo.com).