SCHSM

Southern California Home Shop Machinists December 2, 2017

OFFICERS

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

COMING EVENTS

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, 2018, 2:00 p.m.
El Camino College

February Meeting
Sat, November 3, 2018, 2:00 p.m.
El Camino College

Preface

The December meeting of the Southern California Home Shop Machinists was called to order at 2:00 p.m. on Saturday, December 2, 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 and no visitors.

Club Business

2018 Election of Officers

President Angelis reminded the membership of the upcoming February elections for officers to serve during the 2018 term. He asked members to compile a list of potential nominees before the January meeting. He also took a preliminary poll to determine if any candidates already exist. The results are as follows:

President: Charlie Angelis (Charlie is willing to serve another term.)

Vice President: Michael Vulpillat (Michael is willing to serve another term.)

Secretary: Fred Bertsche (Fred is unable to serve another term.)

Treasurer: Jim Endsley (Jim is willing to serve another term.)

Gunther's Yard

Douglas Walker reminded everyone about the Gunther's Yard Open House 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

Norm Wells speaking about grinding wheels..

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, and Douglas asked for assistance with setting it up and taking it down.

Club Picnic

President Angelis polled the members in attendance as to their preferred date to hold the annual club picnic. Saturday, June 9, 2018 - the Saturday following the June club meeting – was the preferred date. Jim Endsley has since secured a reservation for our usual spot in Alondra Park for June 9, 2018.

Club Apparel

Jim Endsley announced that he is taking orders for club apparel – denim shirts, polo shirts, and hats - embroidered with the club logo. The prices are as follows:

Item Description	XS-XL	XXL
Denim SS Shirt Button-Up	$44	$49
Denim LS Shirt Button-Up	$44	$49
Polo Shirt, Men's	$36	$38
Polo Shirt, Women's	$36	$38
Cap	$18	

Jim passed around a form for members to order whatever items of apparel they want to buy. He'll pass the form around again at the January meeting for those who missed the December meeting. This will also provide an opportunity for those who already logged an order to amend it. Apparel was last offered in 2014, and this year's prices are only 10% higher.
Jim is limiting the offerings to the apparel outlined above. If anybody wants to take the lead on orders for other items with the club logo, i.e. shop aprons, key fobs, pens, lighted yo-yos, etc., please coordinate with Jim regarding the artwork, as well as the monetary aspect.

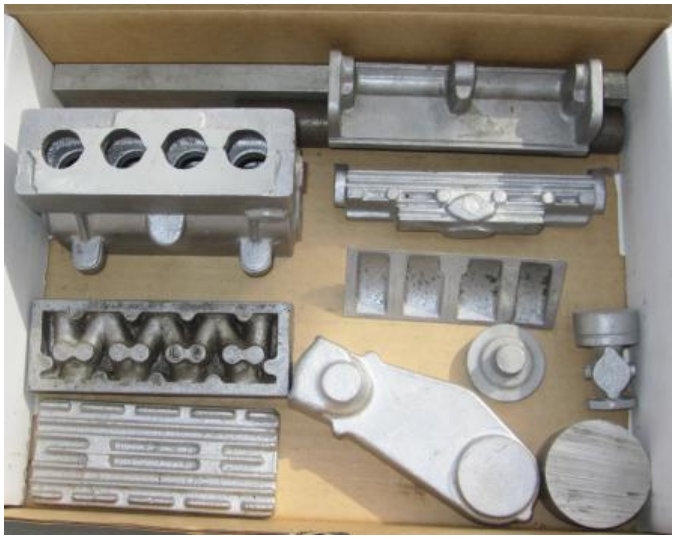
Presentations

Donated Casting Sets

Fred Bertsche gave a brief overview of the four casting sets donated by Jerry Logan at the November, 2017 meeting. There are two casting sets for the 15cc "Seal" engine, and two casting sets for the 30cc "Sealion" engine. Both engines were designed by Edgar T. Westbury in the 1940s and 1950s. For further information about these engines, refer to the November, 2017 SCHSM Newsletter.

All four of these "castings only" kits appear to be complete, and each comes with a set of drawings. After some discussion, the members in attendance decided that none these casting sets would be a good candidate for a team build. The matter of the castings sets and what to do with them was postponed until the January, 2018 meeting.

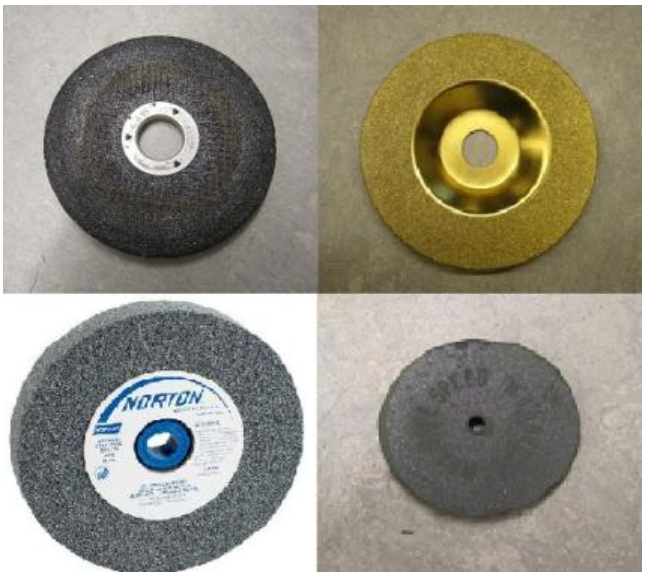
One of two 15cc Seal engine casting sets donated by Jerry Logan.



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

Grinding Wheels

Norm Wells gave a presentation on grinding wheels, and showed several examples of those used in his home shop. He showed examples of aluminum oxide, silicon carbide, cubic boron nitride (CBN,) and diamond wheels. He included a variety of different shapes and styles. He touched on their applications, and proper use. Norm explained how to make sense of the coded designations found on the labels of grinding wheels using tables found in tooling supplier's catalogs and Machinery's Handbook.



A sampling of Norm Wells' grinding wheels.

Norm said that coarse wheels – those with larger grit sizes - cut faster and run cooler, but leave a poor surface finish. Fine wheels – with smaller grit sizes - cut more slowly and generate more heat, but produce a better surface finish. Norm said that if you experience glazing on a grinding wheel, switch to a softer grade wheel. If your wheel is breaking down too quickly, switch to a harder grade wheel. Norm summarized the various bonding materials used in the manufacture of grinding wheels and touched on their applications. He also spoke on the subjects of dressing, truing, and balancing grinding wheels.

Some of Norm's wheel dressing tools.

Norm ended his presentation with a segment on safety when working with grinders and abrasives. He reminded everyone to use safety glasses, a face shield, and a suitable dust mask when grinding. A suitable dust mask is especially important when grinding carbide and alloys containing chromium.

Show and Tell

Lewis Sullivan showed how he modified a saw blade with a 5/8ths inch arbor hole to fit his Inca table saw which has a 20mm arbor. Lewis said that finding saw blades to fit the 20mm arbor is difficult, and they're expensive when you can find them. So, he simply modified a more common and less expensive saw blade that came with a 5/8ths inch arbor hole.

Lewis dug around in his scrap bin and found a large punching die which had its top and bottom faces ground parallel to each other. He used the die as a parallel to elevate the saw blade above his mill table, giving him sufficient clearance to run a boring bar through the arbor hole. A series of clamps applying downward pressure to the blade, just inboard of the edges of the punching die, secured the blade in place.

Top Left: Illustration of Inca table saw. Top Right: Inca saw blade. Lower Left: Drill bushing and guage pin in 5/8ths arbor hole. Lower Right: Punching die used as a parallel to support saw blade for boring.

To center the arbor hole under the spindle, Lewis placed a hardened and ground drill bushing with a 5/8ths inch OD into the arbor hole of the saw blade. He found a gauge pin that had a close sliding fit with the 3/8ths inch ID of the drill bushing and chucked it in his mill's spindle. Then it was just a matter of adjusting the mill table's X, Y coordinates until the gauge pin slid into the drill bushing with no resistance. Lewis locked his table in place, double-checked his alignment with a test indicator, and then enlarged the arbor hole to 20mm with an off-set boring head. Lewis said the modification took little time and saved him a considerable amount of money.

Lewis also showed a table saw sled he made for use on his Inca saw. It was constructed of plywood, with nylon guides that run in the saw's table slots. In use, the workpiece to be cut is placed on top of the sled, nestled against the rear fence, adjusted laterally for the correct length of cut, and then secured in place. The entire sled is pushed through the spinning saw blade with the workpiece along for the ride. There are several advantages to be gained by using a table saw sled, including increased safety, quicker set-up, less tear-out, and greater productivity when making multiples of a part. Fixtures, clamps, and auxiliary fences can be used in conjunction with the sled to increase its versatility and repeatability.

As with any machinery or attachments, safety guards are a must here. A table saw sled allows the spinning saw blade to extend above its top surface during the cut, and become exposed behind its rear fence after the cut – this is especially dangerous if no guard is in place since people are naturally inclined to place fingers behind the fence when operating the sled. Again, proper guards should be installed and kept in place when using this attachment.

Lewis Sullivan's table saw sled.

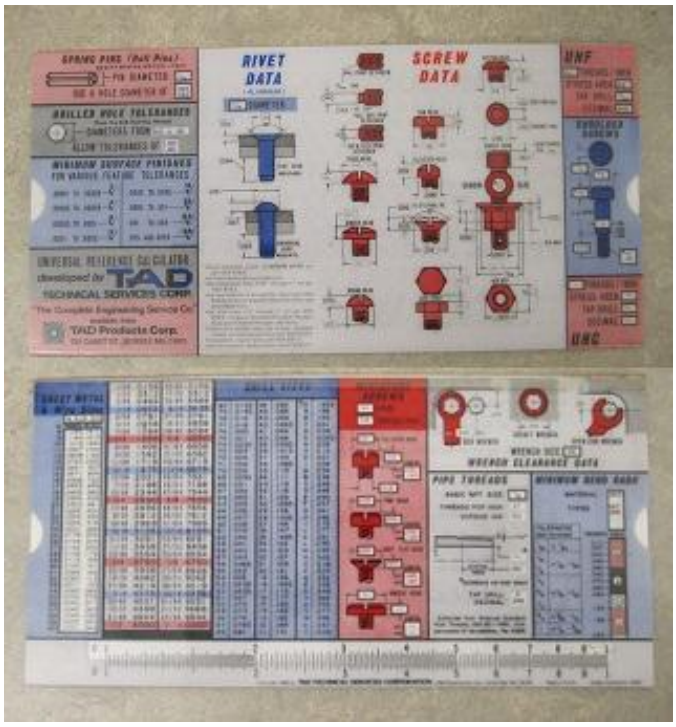
Bob DeVoe showed a variety of faceplates that fit a 1 ½" X 8 tpi lathe spindle. He pointed out differences in how each was balanced, and also showed variations in the bolthole patterns used to secure workpieces. Bob graciously gave all of the faceplates away to members who could use them.

Bob DeVoe showing one of many different style faceplates he brought.

Bob also showed some shop manuals for various spring making tools. Some of the tools were for making springs in the home workshop, others were larger, industrial size machines used for production.

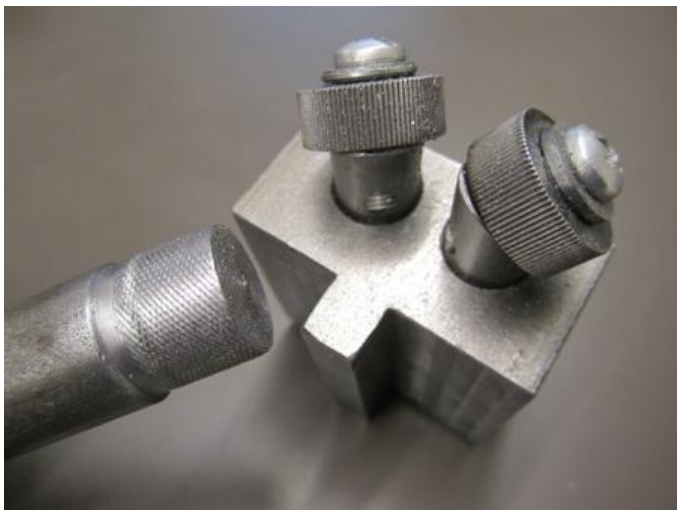
Douglas Walker showed a mock-up of a metal bracket he made to secure a braided wire to a delicate wooden picture frame in order to hang it. Conventional picture hanging hardware would have split the thin wood and prevented the frame from sitting flush against the wall. Douglas's design avoided those concerns.

Larry McDavid showed a TAD Universal Reference Calculator he picked up on eBay. This clever gadget was developed by TAD Technical Services Corporation to calculate things like hole sizes for roll pins, rivet data, screw data, thread information – both UNF and UNC, wrench clearance data, sheet metal and wire sizes, pipe threads, minimum bend radii, and drill sizes.



Larry McDavid's TAD Universal Reference Calculator.

Ken Rector, followed up on his previous presentation about a knurl cutting tool he made from plans in Home Shop Machinist Magazine. He showed another version of the cutter, which is much easier to make and has fewer parts. It also cuts knurls instead of displacing material. Ken showed an example of a nice knurl he cut with the simpler tool.

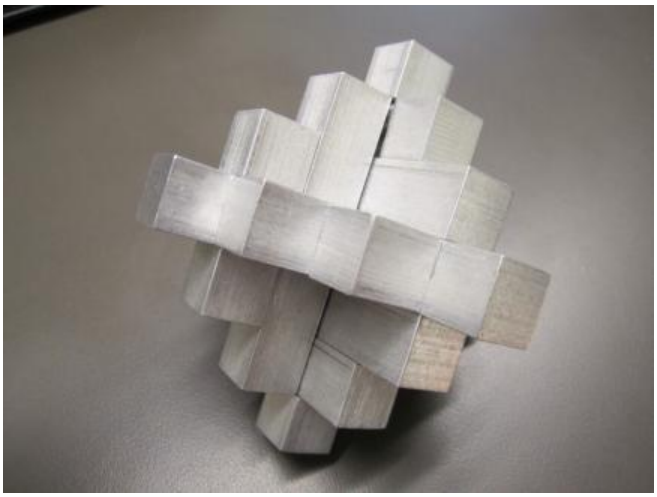


Ken Rector's knurl cutting tool and an example of how it cuts.

Don Huseman showed a KDK quick-change tool post with a boring bar tool holder. Don is restoring the camlock assembly of the toolpost, which has become worn with years of use.

Don Huseman showing a KDK toolholder he is restoring.

Jim Endsley showed a clever puzzle he machined from aluminum barstock. Apparently, several people tried unsuccessfully to take it apart, so Jim shared the solution. It involves identifying the key piece and manipulating it in a way that at first glance does not seem possible.



Jim Endsley machined this rather difficult puzzle.

Jim Endsley gave every member present at this month's meeting a digital multimeter from Harbor Freight. He said they were an early holiday gift. Thank you, Jim!

Jim Endsley presented one of these multimeters to every member in attendance.

Marv Frankel showed a small, delicate adapter he made from brass to join a 3/16ths inch diameter handle to a metal attachment, each having different threads. He volunteered to do the project for a friend who uses the tool for some type of needlework. Marv explained that he had to get very creative in order to cut the threads on the very small diameter stud without bending it or snapping it off.

Marv Frankel made the small threaded adapter marked in red.

Events

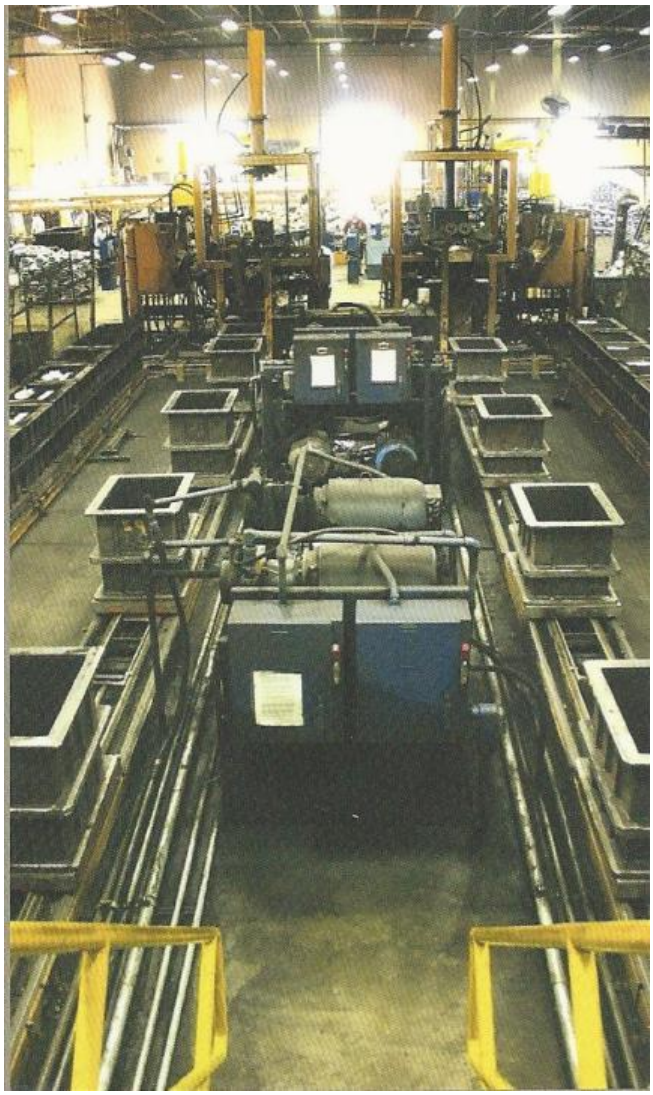
Edelbrock Foundry Tour

On Thursday, November 9, 2017, approximately twelve SCHSM members toured the Edelbrock Foundry in San Jacinto, California. The Edelbrock Foundry is a subsidiary of Edelbrock, LLC – the high performance racing products giant in Torrance, California. The foundry produces aluminum castings for Edelbrock, LLC, as well as for outside companies in the farm implement, railcar, and other non-aerospace industries.

This was an unprecedented opportunity and we were very fortunate to be granted an invitation. A special thank you goes out to Millar Farewell for his hard work in making the arrangements. Since the facility was in full operation at the time, we were asked to wear sturdy boots, approved safety glasses, and hearing protection. We were also warned to be on the lookout for moving forklifts and workers moving equipment and product around. This proved to be excellent advice as the entire place was a beehive of activity.

Our hosts; Gary Simmon – Manager/Engineer, Pete Altis – Foundry Manager/Engineer, and Charles Emerson – Production Manager, were very gracious hosts. They went above and beyond the call of duty to show us the many aspects of their operations. They also answered every question we threw at them, often adding additional information they felt may be pertinent.

We were split into two groups and taken through the facility's two massive buildings. One building was primarily dedicated to permanent mold metalcasting, and the other to sand metalcasting. Other departments within the two buildings included pattern making, core production, heat treating, engineering, and machining. Our guides stopped in each department and gave a thorough explanation of what was going on. The workflow was very efficient, with molds, cores, and molten aluminum being prepared simultaneously, then immediately brought together in an assembly line that would have made Henry Ford envious.



One of many assembly lines at the Edelbrock Foundry.

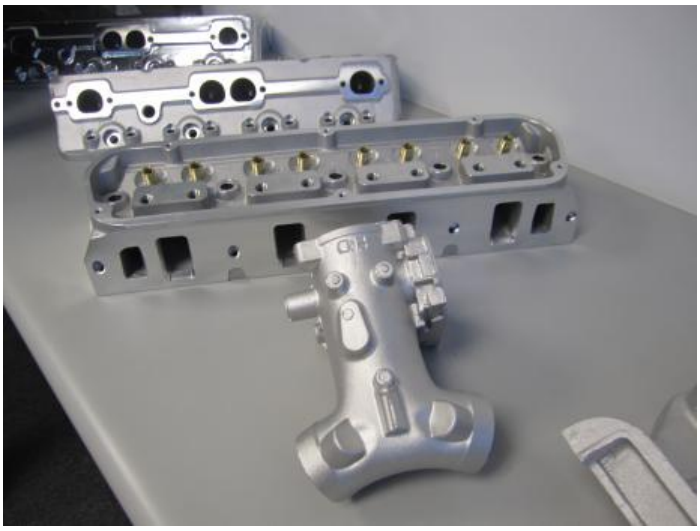
The tour lasted about an hour and a half and was a very informative experience. When we regrouped in the main conference room, our hosts gave each of us a shopping bag filled with Edelbrock literature and souvenirs. A special thank you to Edelbrock Foundry and our hosts, Gary, Pete, and Charles for their warm hospitality, and for providing us with truly fantastic insight into their industry.

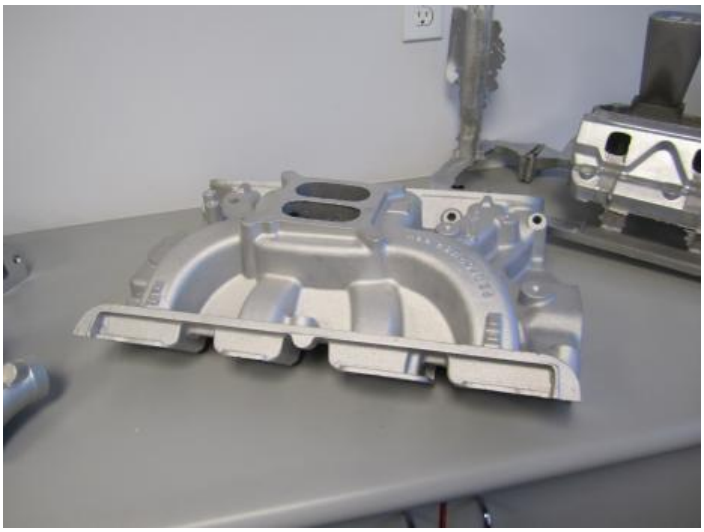
Following the tour, approximately nine of us met for lunch at a local coffee shop. We killed an hour or two comparing notes about the tour, catching up on the latest news, and telling war stories.

The tour group debriefing at a local restaurant in San Jacinto.

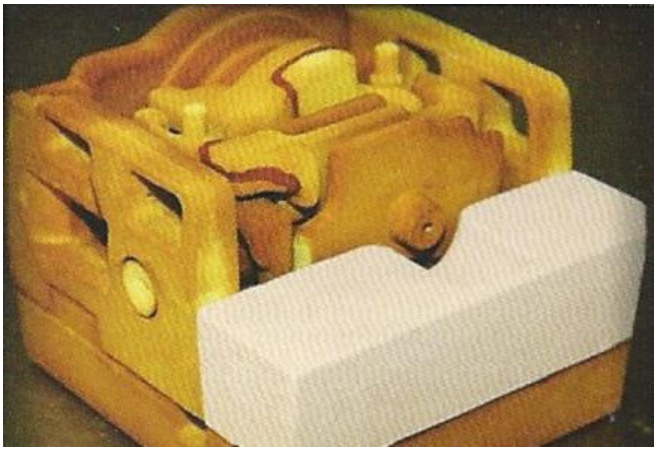
2017 Edelbrock Foundry Tour

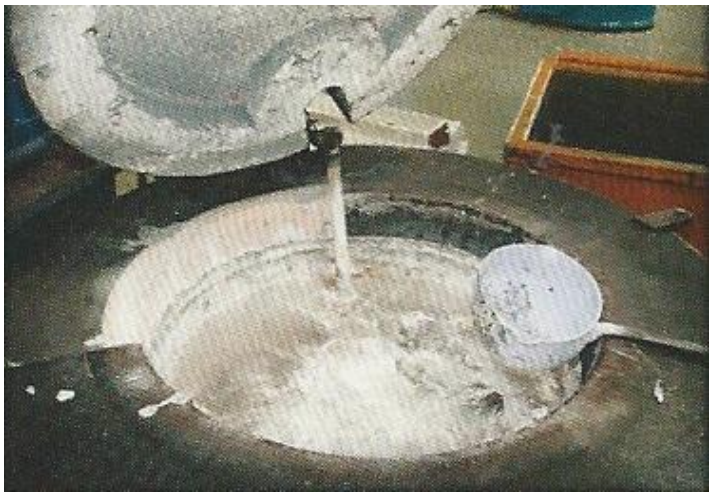
Random Photos

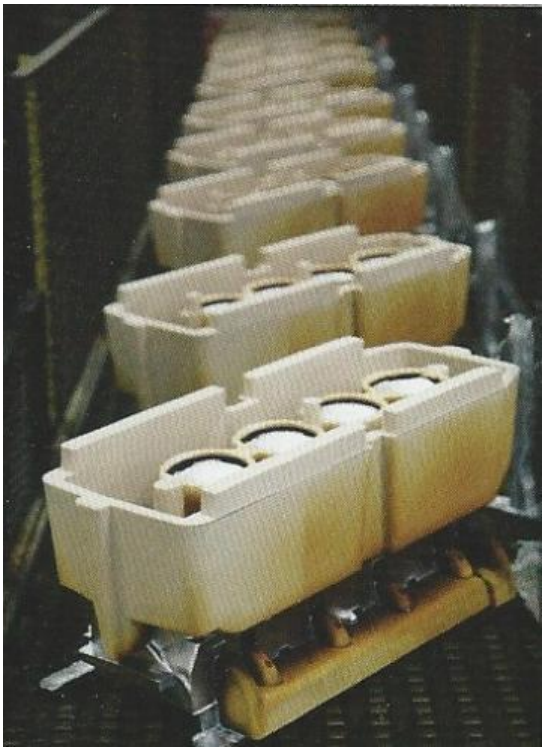


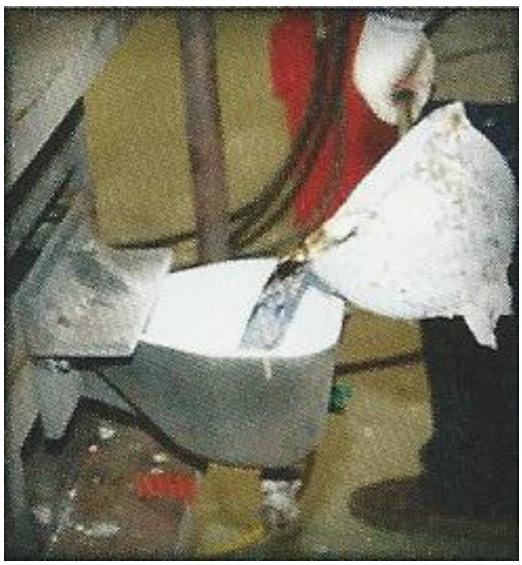


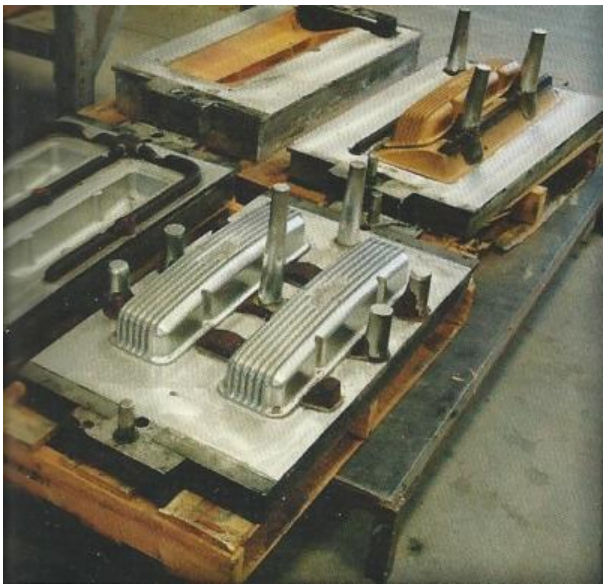

DANGER
HOT METAL
AREA

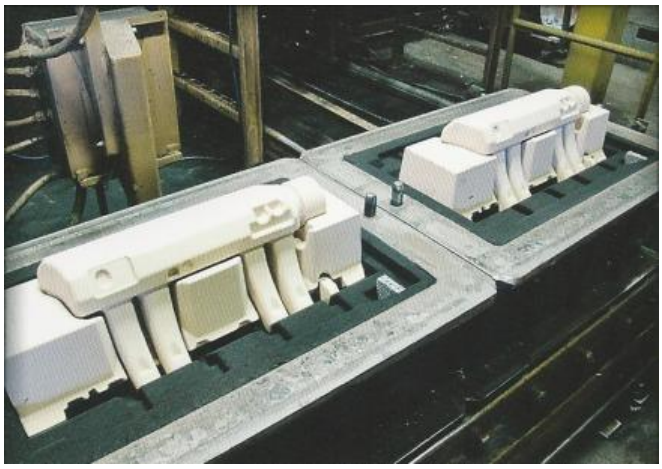












****

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.