



SCHSM

Southern California Home Shop Machinists

October 3, 2020

OFFICERS

President	Doug Walker
Vice President	John Miller
Secretary	Ron Gerlach
Treasurer	Jim Endsley

COMING EVENTS

October Virtual Meeting
Sat, 3 October 2020, 2:00p.m.
via Zoom

PREFACE -

The virtual September meeting of the Southern California Home Shop Machinists was called to order a little past 2:00 p.m. on Saturday, September 5, 2020. We met in the cloud from our individual homes via Zoom. There were 32 members in attendance, which was a new 12 month high.

CLUB BUSINESS –

Doug called the meeting to order. A short discussion about the BarZ Bash ensued. Members were curious if anyone present had attended the Bash which apparently was held on August 28-29. No one reported attending though later in the meeting someone mentioned that they had “virtually” attended.

New members: There was a new member by the name of Michael Miller. He lives in Chino Hills and is primarily a wood worker but does own a lathe (HiTorque 3540) and a CNC mill. When he mentioned his home town, he noted that the temperature there was 108 degrees and on the way to a predicted 113 degrees.

There was a brief discussion about members who were using their iPhones to participate in the meeting but had not properly registered their names so they would appear on the screen.

Jim Endsley reported that there were no changes to the club treasury. It was noted that the SCHSM.org and SCHSM.com web sites were now active and were properly directing viewers to the groups.io site.

El Presedente Doug talked about adding some content to the otherwise blank calendar on the group.io site. The following dates/ events were thrown out for consideration: The AGSEM Fall Open House event, Gunther's Yard on the first weekend in December, the date for club elections, the yearly tool swap meet.

Ed gave an update on the El Camino plans for campus activities. This Fall's classes that can be online will be online. There are no scheduled classes until the February timeframe. The exceptions to this are any hands-on vocational type classes. He noted that mid February was probably the earliest for on campus club meetings. He also described how USC when to an on-campus format and had to quickly revert back to on-line when new COVID-19 cases spiked.

Mike Lucek was asked about the timing for any website content and he could not commit to any time frame.

Don Huseman reported that he had been in contact with well known Youtuber, Tom Lipton, who goes by the Oxtool moniker. Tom agreed to make an on-line presentation to the club on some undetermined topic. Don was going to get back to him to see what topic he wanted to address. Good job Don.

PRESENTATIONS

Millar Farewell Some may recall that Millar did a brief presentation on a CNC plasma cutter table back in November of 2018 (how time flies). At that time, he had ordered but not yet received his Langmuir Cross Fire CNC table. He had learned to use CNC plasma cutters at Long Beach city college and was anxious to have his own. Well, it did arrive some time ago and he has been very busy applying his new machine to just about anything around the house and shop that needed to (or could be) cut. The table



itself, which is shown above, has a working area of approximately 24" X 24". When he sets it up he allows a 6' X 6' working area around the machine to allow for access and working space. The plasma cutter is a Hypertherm Powermax 45 inverter style cutter that handle up to 3/4" steel. He operates it with a clean and water free source of air, using 6CFM at 85psi. He showed a variety of photos of the items he had fabricated so far. Several of these items were things for his wife in the kitchen (smart move). He also made



a variety of brackets for the shop, a pivoting platform for his laptop, some levers and handwheels. Here is the laptop support arm after cutting and welding had been completed.



After clean up and painting he had an attractive and functional device to support his laptop while using his Plasma cutter. Here it is in place attached to the Langmuir table.



He shared a video of cutting a piece of steel and it was surprising how fast it moved. As can be seen in the photos, the cuts are quite clean. One thing he mentioned was that he adds Borazo to the water under the cutting table. This raises the pH and reduces the tendency to form rust. One last photo shows the table and his laptop during a cutting



session. This is obviously before he had built the laptop support bracket. Millar made the offer to fabricate parts on his CNC table for club members as long as they provided a suitable CAD file and the raw materials for the project. They would then have to contribute some reasonable TBD donation to the club for the "fabrication fee"

SHOW and TELL

Michael Vulpillat talked about a general purpose CNC machine. He plans on it being a 2' X 4' proof-of-concept design. He hopes to gain experience with the design and build. He can then use his experience and some of the design concepts as a basis for more purpose built machines.

Don Huseman talked about putting a protective sheath over the digital calipers he is mounting to the Z axis of his surface grinder. His grinder has a fine increment feed dial that goes down to .0001" increments but he wants something to automatically keep track of large vertical movements.

John Miller talked about a 2 start 4tpi thread that he either saw or was working with on a project. Several members including Eldon and Ed provided some info about how these were cut. The common idea was that the multi start thread required some way of indexing the work piece. One common way was to use a dog attached the part being threaded and using a four jaw chuck to hold the part. The dog can then be moved from

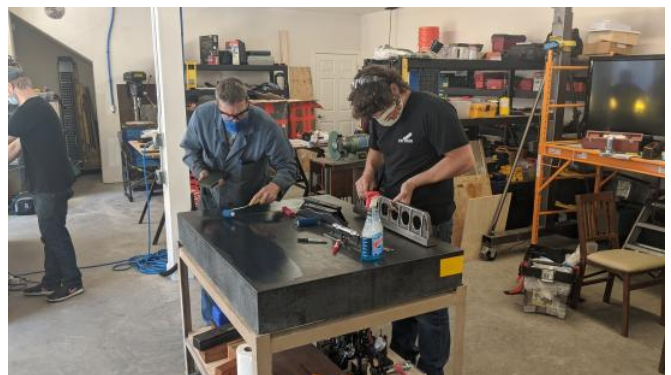
jaw to jaw to get either a 2 start or four start thread. A 3 start thread could be made by utilizing a 3-jaw chuck.

Matt Rulla discussed his scraping class held in his shop and conducted by Richard King. There were 12 attendees.

Everyone was asked to bring a project so there were a good variety of items and surfaces to be scraped. This photo shows the entire group with Richard King sitting to the right of Matt. Note that all students were practicing good medical safety measures by wearing masks. This was apparent in all the photos shared by Matt.



The participants brought their own hand scrapers but Richard provided the power scrapers. Matt's surface plate was used for reference in the class since something that big and heavy cannot be conveniently shipped around the country.



Matt's project for the class was his 24" straight edge which he had previously machined from a raw casting and applied paint to the raw non-machined surfaces.



Here is an example of what appears to be a shaper ram. One of Richard's original Kingway alignment tools is shown checking the alignment of the various flat surfaces in an effort to bring them all into parallel planes.



Variations of this alignment tool have appeared in various home shop publications over the years. The interesting little tool below, which is obviously hand made, is a simple 1" square opening.

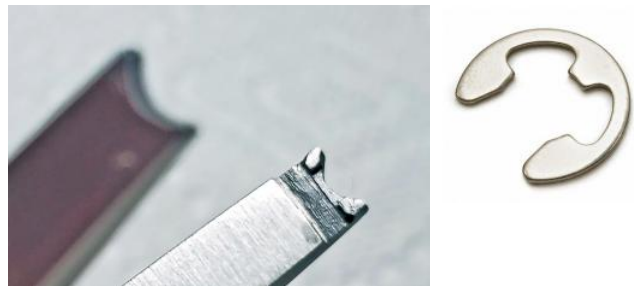


It is simply moved around the freshly blued surface being scraped to judge the relative progress of the scraping process. One simply counts the number of blue points which are contact points with the surface plate. As the scraping progresses to a finer and finer degree of accuracy the size of the blue points gets smaller and the total number goes up. Opinions vary, but 20 to 40 points in the square (ppi) would be considered to be a good bearing surface. It all depends on what the goal is for the machine and how much time one wants to dedicate to achieving these goals. The next class Richard King will be conducting is November 11-15th at Null Space Labs in Burbank California.

Larry McDavid showed an image he had previously emailed the group of a special set of pliers.

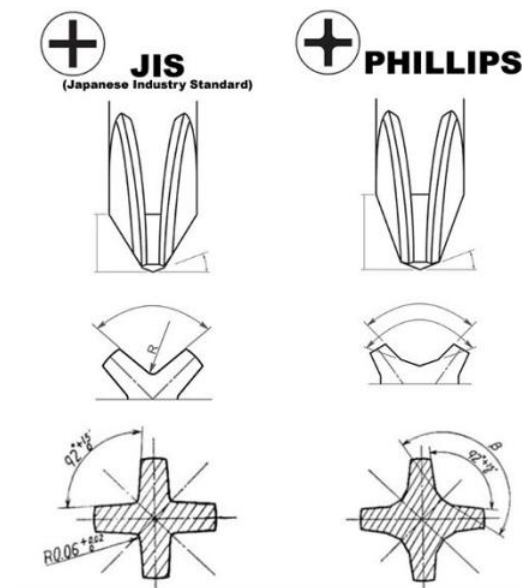


After a few guesses from the group he revealed that they were for removing E-clips. They are specially shaped to grip the back side of the clip so that it remains in one's possession as it is extracted from a shaft. Without these pliers it is not uncommon for the clip to go flying to places



unknown during a typical removal. They are designed for specific ranges of E-Clip sizes.

He then discussed various cross head screw heads and drivers. The most common in the US being the Phillips which has a designed in feature that promotes the camming out of the driver under high torque situations. This was purportedly devised to eliminate the need for torque controlled drivers



during the early days of automotive manufacturing in the US. The next was the Posi-Drive which looks very similar to a Philips but the screw heads and drivers have straight sided blades with no curved sections to initiate a cam-out under high torque conditions. These are usually marked with a fine cross across the top of the screw head. The next type of driver, the JIS, has been common in Japan



since WWII. The JIS screw heads frequently contain a small dot or dimple if space allows. This whole discussion then lead to other members bringing up yet more cross head drivers. One was the Robertson drive commonly found in Canadian products and is more common with wood screws. The second type mentioned by both Eldon and Norm was the Reed & Prince which again looks similar to a Philips or Posi-Drive but has a much longer and narrower taper.

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 Doug Walker to make arrangements to give a presentation.

SCHSM met 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 until March of this year. Meetings are now held via Zoom. This will continue until at least October of this year.

If you would like to contribute an article to this newsletter, or make a comment, contact the editor, Ron Gerlach. He can be reached via the SCHSM Groups.io Group, or at r7734g@hotmail.com.

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