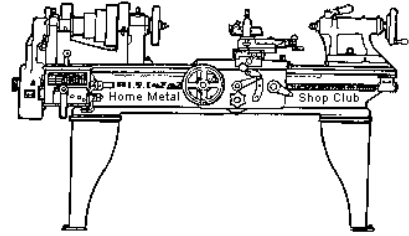




February 2022
Newsletter

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<http://www.homemetalshopclub.org/>

The Home Metal Shop Club has brought together metal workers from all over the Southeast Texas area since its founding by John Korman in 1996.

Our members' interests include Model Engineering, Casting, Blacksmithing, Gunsmithing, Sheet Metal Fabrication, Robotics, CNC, Welding, Metal Art, and others. Members enjoy getting together and talking about their craft and shops. Shops range from full machine shops to those limited to a bench vise and hacksaw.

If you like to make things, run metal working machines, or just talk about tools, this is your place. Meetings generally consist of **general announcements**, an **extended presentation** with Q&A, a **safety moment**, **show and tell** where attendees share their work and experiences, and **problems and solutions** where attendees can get answers to their questions or describe how they approached a problem. The meeting ends with **free discussion** and a **novice group** activity, where metal working techniques are demonstrated on a small lathe, grinders, and other metal shop equipment.

President <i>Vance Burns</i>	Vice President <i>Ray Thompson</i>	Secretary <i>Joe Sybille</i>	Treasurer <i>Gary Toll</i>	Librarian <i>Ray Thompson</i>
Webmaster/Editor <i>Dick Kostelnicek</i>	Photographer <i>Jan Rowland</i>	CNC SIG <i>Martin Kennedy</i>	Casting SIG <i>Vacant</i>	Novice SIG <i>John Cooper</i>

This newsletter is available as an electronic subscription from the front page of our [website](#). We currently have over 1027 subscribers located all over the world.

About the Upcoming 12 March 2022 Meeting

The next general meeting will be held on 12 March 2022 at 1:00 P. M. on-line at Zoom.us. The March Zoom Meeting ID is 839 3915 8014 and the Passcode is 612671 .

General Announcements

[Videos of recent meetings](#) can be viewed on the HMSC website.

The HMSC has a large library of metal shop related books and videos available for members to check out at each meeting. These books can be quite costly and are not usually available at local public libraries. Access to the library is one of the many benefits of club membership. The club has funds to purchase new books for the library. If you have suggestions, contact the [Librarian Ray Thompson](#).

We need more articles for the monthly newsletter! If you would like to write an article, or would like to discuss writing an article, please contact the [Webmaster Dick Kostelnicek](#). Think about your last project. Was it a success, with perhaps a few 'uh ohs' along the way? If so, others would like to read about it. And, as a reward for providing an article, you'll receive a free year's membership the next renewal cycle!

Ideas for programs at our monthly meeting are always welcomed. If you have an idea for a meeting topic, or if you know someone who could make a presentation, please contact Vice-President Ray Thompson.

Members are requested to submit to the club secretary the name, address, telephone number, and website address, if any, of any metal or other material stock supplier with whom the member has had any favorable dealings. A listing of the suppliers will appear on the homepage of the club website. Suppliers will be added from time to time as appropriate.

Recap of the 12 February 2022 General Meeting

By Joe Sybille



Ten participants attended the virtual meeting. There was one visitor, Robert Reed. President Vance Burns led the meeting (above photo).



Show and Tell



John Cooper had several items to show. At right is a set of boring bars from SHARS. The set uses CCMP inserts and has boring bars in sizes from 3/8" to 3/4".



Next, Cooper showed an indicator set from Starrett. He found the set on e-Bay. See left photo. Next, below right, is a vernier caliper with carbide scribe. This, too, was an e-Bay purchase.



Next, at left, is a Jackson Curve Mark burning straight edge. It is 24" long and Cooper uses it to make straight linear cuts with his plasma torch.

Lastly, Cooper showed a 4 flute carbide end mill (right photo) that is 1/8" diameter by 3" long. He purchased the end mill from GoVets.com and is pleased with the quality of the end mill.



Richard Douglas exhibited a cordless oscillating tool. The tool has a brushless motor and is powered by a 20 volt rechargeable lithium ion battery (left photo).

Dean Eicher showed an adapter he made for his lathe. The adapter is used with his steady rest and can hold workpieces up to 3 5/8" square.

Safety Moment

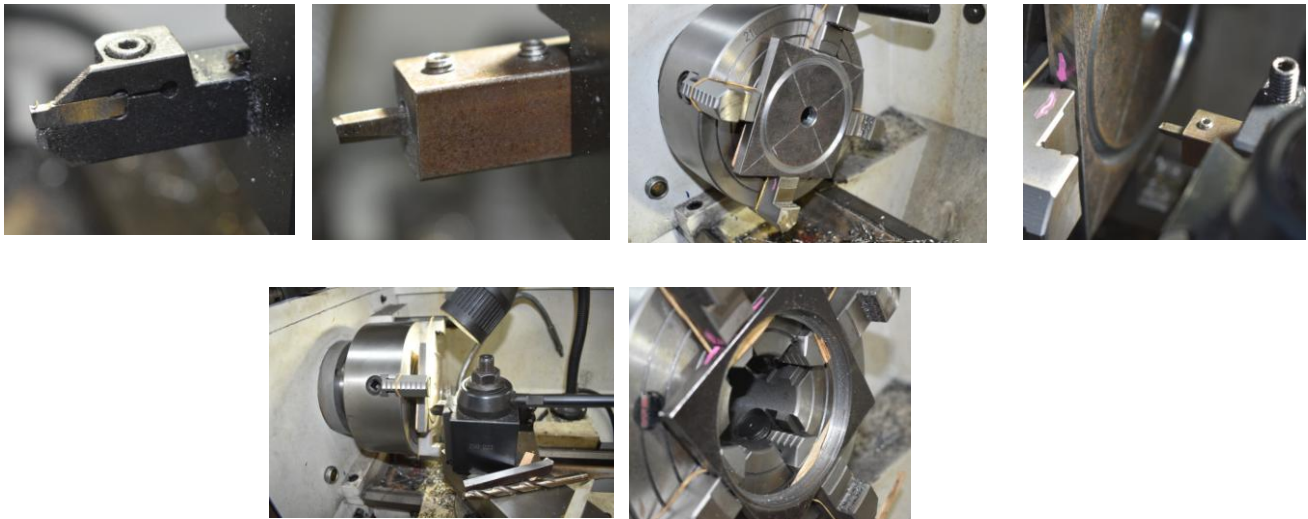
Three safety videos were shown today. The first depicted a construction site whereby workers were shown atop a container filled with cement. During the lifting of the container, one of the crane cables broke and the cement contents spilled onto the workers who had fallen to the ground. The safety lesson learned was the unsafe practice of hitching a ride on equipment being lifted to a higher elevation.

The next video depicted the unsafe practice of refueling a table top food warmer. Upon adding what appeared to be alcohol to the still hot fuel receptacle, the newly added fuel ignited spontaneously and the ensuing flame injured one of the diners at the table. The safety lesson learned was to always allow a fuel burner to cool before adding fresh fuel.

The last video depicted a demonstration of the hazards associated with a boiling liquid expanding vapor explosion typically known as a BLEVE. This condition arises when a pressurized liquid reaches temperatures above its boiling point. As the liquid temperature rises, so does its pressure. If the containing vessel remains intact, the contents will remain liquid. If the vessel ruptures, there is a sudden loss of pressure and the accompanying lower boiling point will cause the liquid to change to a gaseous state and expand rapidly. Combustible liquids will likely ignite and cause damage by the ensuing fire. The safety lesson learned when dealing with BLEVE's is to keep a safe distance away and allow the fire to burn out on its own.

Problems and Solutions

A participant showed pictures of his using trepanning techniques to cut out a disk from a steel plate. See photos below.



Articles

Wood Reamer

by Martin Kennedy

I've been replacing the 60 year old piping in my house with PEX piping. There are two 60' runs of PEX that go completely across my house. It needed to cross through about 30 ceiling joists, so I needed to drill a lot of holes. The OD of 3/4" PEX is 7/8". I'm used to working with metal, where a 0.001" -0.005" clearance is usually adequate, so I figured a 1" hole would be plenty big enough to run the pipe. I drilled all the holes and started to run the pipe through them.

I started with a reel of pipe at one end. I had my helper unspool and push as I pulled it through the holes. I had no problem getting the PEX through the hole. The second hole went OK. By the third hole, it was getting a bit harder to pull. I made it through the fourth hole and got it started on the fifth.

It would not budge at that point. I realized I had a big problem, since I was only about 17% of the way through, and it was only going to get worse. After briefly considering rigging up something to pull the pipe through the remaining holes, and likely pulling it apart, I realized I needed bigger holes.

The holes were drilled with a 1" spade bit. These work fine for the initial hole. The flat drill follows the center point, which keeps it on axis. But you can't then use a bigger spade bit to enlarge the hole.

I could probably enlarge the holes with a conventional drill, but the largest Silver and Deming bit I had was 1". I bought a 1 1/4" auger bit for my drill to enlarge the hole. Bad idea. The bit jumped all over the hole until it bit in and then completely stalled my drill. I had a bigger geared drill, but it scares me. When it sticks in a hole it tends to wrap you around the drill. I thought it would be an excellent way to add some unnecessary holes to the ceiling sheet rock!

I needed some sort of wood hole reamer. I don't think they exist. I could make one! A shop project!

The design has a 1" nose that keeps it centered, plus a 1 1/4" end to center it on the new hole as it passes through the wood. I made the first cutting blade out of mild steel. It dulled quickly and the first nail I hit ruined it. The second cutter was made out the shank of an old 3/8" tool steel milling cutter. I cut it on a surface grinder, and sharpened it with a diamond cutter. I threaded the shaft and used it to pin the cutter in the tool. I found that I needed to make the reamer body about 0.050" smaller than the hole for it to turn easily.

It worked great. The new reamer quickly enlarged the holes in the joists, and I was able to easily pull the PEX through all the holes.

