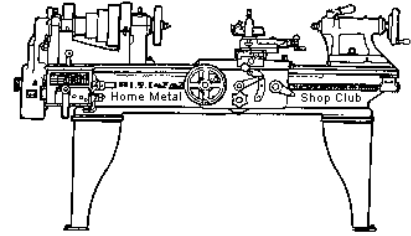




August 2022 Newsletter

Volume 27 - Number 08



<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
Vance Burns

Vice President
Ray Thompson

Secretary
Joe Sybille

Treasurer
Gary Toll

Librarian
Ray Thompson

Webmaster/Editor
Dick Kostelnicek

Photographer
Jan Rowland

CNC SIG
Martin Kennedy

Casting SIG
Vacant

Novice SIG
John Cooper

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 September Meeting

The next general meeting will be held on 10 September 2022 at 1:00 P. M. on-line at Zoom.us. Log-in credentials are as follows: Meeting ID 863 5113 1635. Pass code 698541.

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 13 August 2022 General Meeting

By Joe Sybille



Seven participants attended the in-person meeting. Five participants were in person and two were on-line via Zoom.us. There were no visitors. Vice-President Ray Thompson led the meeting (right photo).



Presentation



Club member Rich Pichler gave a presentation on building a strong shelving unit for the workshop.

He began by explaining the cost savings between purchasing new industrial shelving and buying quality used shelving or quality L-shaped framing at garage sales. The savings are substantial for suitable shelving or industrial quality L-shaped framing. When visiting garage sales, one should carry disassembly tools to make shelving parts easier to transport in a car.

Any L-shaped framing found at garage sales will likely require cutting to size, unless the shelving unit is intact and only requires re-assembly in the workshop. Pichler made a fixture to cut accurately the L-shaped framing. The fixture, shown at right, has a circular saw mounted on a track to allow repeatable cuts. He uses a metal cutting blade in the saw.



Pichler advises shelf unit builders to avoid using particle board for shelving. Over time, the particle board sags and weakens, and, when exposed to spilled liquids, begins to deteriorate. Plywood at least $\frac{3}{4}$ " thick is preferable and can withstand years of use and the occasional liquid spill.

Examples of shelving units built by Pichler are shown below.



On some of the shelving units the bottom 3 feet to 4 feet is devoid of flat shelves. This allows the storage of movable tools on wheels to fit within the shelving unit proper. Some shelving had fabricated pull-out shelves. This facilitated retrieving items placed at the back of the shelf. Reinforcement steel shapes of at least 1"x1"x1/8" were added for extra support as required for heavy equipment or wide shelving.

Plastic totes, properly labeled, serve to contain similar items in one location on shelving. Certain plastics are susceptible to degradation caused by warm temperatures found in non climate controlled garages. See photos below.



After building a shelving unit, for safety, one should consider anchoring the unit to the wall. Doing so alleviates any chance of the unit tipping over. Follow this link to [Strong Shelf Building Tips](#):

Safety Moment

The safety video shown today pertained to ergonomics in the workplace. Musculoskeletal injuries were identified as the number one injury in the workplace. To minimize these types of injuries workers must be aware of four factors, namely posture, force, frequency, and early intervention. **Posture** pertains to creating a strong base when working. Think of self as a pyramid rather than a tower. Do not bend. Hinge instead. Hinge at joints and lift with knees and avoid bending with your back. Turn; do not twist at the waist. Instead, turn entire trunk.

Force pertains to lifting within one's comfort zone. Find easier ways to do a job. Keep tools within arm's reach. Use carts, dollies, and get help for items too heavy or unwieldy to handle alone.

Frequency pertains to repetitive actions which causes more wear and tear on the body. Taking periodic rests and stretches are helpful.

Early Intervention pertains to recognizing warning signs of problems, since musculoskeletal injuries get worst over time. Warning signs include tingling in the hands and fingers, swelling or inflammation of the joints, muscle stiffness or weakness, range of motion loss, and discomfort when making certain movements.

Problems and Solutions

A participant requested suggestions on possible problems he may encounter when removing thin fins from a heat sink. Several suggestions were offered.

Articles

Building Heat Sinks

By Joe Sybille

I needed two heat sinks for a homemade power supply under construction. This article describes how I sourced the parts, the modifications required, and the challenges encountered.

From my scrap bin, I dismantled a thermoelectric cooling radiator, previously used in a small cooler. Two major parts proved useful, a 5"x5" finned heat sink and one 4 1/2"x4". For my project, both were too large. I chose the smaller of the two and determined the cutting sequence to reduce the size. See photos below.



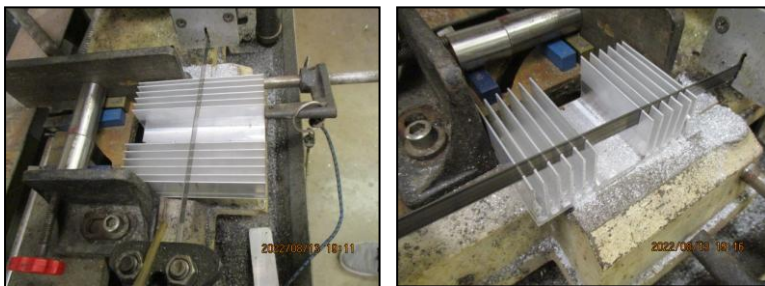
The photo on the left is the original radiator. The next one is the smaller of the radiator heat sinks mounted in the mill vise with the designated fins for removal marked in blue. Knowing the unsupported fins would vibrate, I placed Styrofoam between the fins to stiffen them. It did not work. Next, I took the workpiece to the vertical bandsaw to cut the no longer needed fins. This worked, as the narrow blade



removed most of each fin, leaving short stubs. See rightmost photos above.

The remaining stubs were short enough to be removed by the endmill without concern for vibration. See photos at left.

Following removal of the stubs, I cut the heatsinks to size. A horizontal bandsaw made easy work of this task. See photos below.



Shown at left below are the two heatsinks nested in the mill vise to clean up rough edges. The finished heatsinks are shown at right. I would like to thank club member Dick Kostelnicek for his assistance and use of his equipment and tools.

August 2022 - Home Metal Shop Club Newsletter - V. 27 No 08

