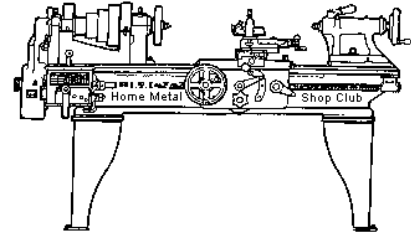




## January 2018 Newsletter

Volume 23 - Number 01



<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>Brian Alley</i>	Vice President <i>Ray Thompson</i>	Secretary <i>Joe Sybille</i>	Treasurer <i>Emmett Carstens</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>Tom Moore</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 1144 subscribers located all over the world.

### About the Upcoming 10 February 2018 Meeting

The next general meeting will be held on 10 February at 12:30 P. M. (*Note: This is ½ hour later than normal. Just this one time.*) at the Harris County, South Houston Branch Library, 607 Avenue A, South Houston, TX 77587. Richard Douglas will continue his presentation on Refractory Hard Metals.

Visit our [website](#) for up-to-the-minute details, date, location maps, and presentation topic for the next meeting.

## 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](#).

## Recap of the 13 January 2018 General Meeting

By Joe Sybille, with photos by Jan Rowland



meeting (right photo).

Twenty-two members, including new member, Dwayne Nedbalek, attended the 12:00 P.M. (Noon) meeting at the South Houston Branch, Harris County Library, 607 Avenue A, South Houston, Texas 77587. Welcome to the club, Dwayne. There were no visitors in attendance. There are thirty members in good standing with the club.



President Brian Alley led the

## Presentation



Club member Richard Douglas gave a presentation on “Refractory Hard Metals”. Broadly speaking, refractory hard metals are those with a high melting temperature and excellent resistance to wear. Two definitions of refractory hard metals are in use. One includes five elements; namely, niobium, molybdenum, tantalum, tungsten, and rhenium. The other includes the aforementioned ones in addition to nine more elements: titanium, vanadium, chromium, zirconium, hafnium, ruthenium, rhodium, osmium, and iridium.

Common among all fourteen elements is a melting point above 3,034 degrees Fahrenheit (1,668 degrees Celsius) and a specific gravity greater than 4. Most of the elements have commercial applications such as tools to work metals at high temperatures, wire filaments, casting molds, explosive primers, paint pigments, surgical instruments and tools, cutting tools for machining steel, and steels for making chemical reaction vessels in corrosive environments. Other uses for refractory hard metals include, among others, parts for jet and rocket engines, electronics, electrical contacts, numismatics, detectors, alloying agents for resistance to corrosion, abrasives for grinding wheels and sandpaper, and jewelry. Additive compounds such as carbide, nitride, boride, and silicide serve to enhance certain properties of steel such as strength, melting temperature, and hardness.

[Presentation slides may be found at the following link.](#)

Recycling refractory hard metals will be the subject of the second part of the presentation at the February meeting.

## Safety Moment

President Brian Alley [showed a safety video](#) with an important central theme: One is responsible for one’s safety both in the workplace and in the home workshop. No matter how many safety slogans are present in the work area, it is incumbent upon the worker to ensure safe work practices are followed.

## Show and Tell

*John Cooper* showed a rod bender he is nearly finished building and a hand scraper purchased at a garage sale (photos below).



*Dick Kostelnicek* exhibited a T-8 LED tube lamp that is typical of the ones he is installing in his shop to replace the T-8 fluorescent tubes currently installed. Each lamp uses 18 watts compared to 40 watts for a ballasted fluorescent T-8 lamp. As a bonus, the LED lamps need no ballast and can be connected directly to 120 or 240 volts 50-60 cps (photo at right).



*Randy Jacobs* displayed a device that enables an Android device to display images captured by a borescope (photo at left).

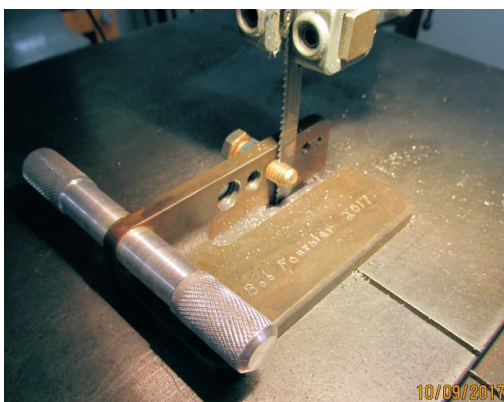
## Problems and Solutions

A member wanted to borrow a machinist level to adjust the level of his lathe. Alternative means were recommended. One alternative involved using a perfectly flat piece of granite or glass placed across the ways. Within containment such as a thick rubber band or the screw on part of a two-part top for a mason jar, place a marble or ball bearing. The lathe is level when, as one adjusts the leveling legs of the lathe, the marble or ball bearing remains centered within the containment.

## Articles

### Cutting Threaded Rod

By Robert Fournier



How many times have you tried to cut threaded rod or a bolt on an upright bandsaw and have the blade roll rather than cut the work? I made a simple jig from 1/4-inch angle iron having a slot for the blade adjacent to the angle's upright web. I drilled and tapped the web for #10 to 1/2-inch coarse threads. An added feature is two aluminum knurled handles that keep your hands away from the saw blade. Use a locknut on the outside of the angle web to



positively ensure that the work does not roll.