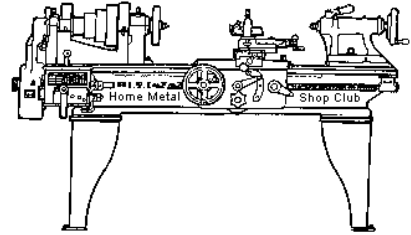




July 2015 Newsletter

Volume 20 - Number 7



<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>Norm Berls</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>Unfilled</i>

This newsletter is available as an electronic subscription from the front page of our [website](#). We currently have 856 subscribers located all over the world.

About the Upcoming 8 August 2015 Meeting

The next general meeting will be held on 8 August at 12:15 PM (note delayed start time) at the [Spring Branch Library](#) that is [located at 930 Corbindale Rd.](#) - Houston, TX 77089. Dan Harper will give a presentation on Indexing – part 1 of 2.

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 that could make a presentation, please contact [Vice President Norm Berls](#).

The Battleship Texas is looking for docents for the metal shop located inside of the ship.

Recap of the 11 July 2015 General Meeting

By *Martin Kennedy*, with photos by *Jan Rowland and Dick Kostelnicek*

Twenty-eight members and no guests attended the noon meeting at the Parker Williams Branch Library. There are 59 members in good standing. President *Vance Burns* led the meeting.



Presentation

The scheduled speaker, Dan Harper, had technical difficulties with his PowerPoint presentation and was unavailable to give his presentation on Indexing. The presentation has been delayed until the next meeting. In lieu of the presentation, the club members had a round table discussion on indexing.



Safety Moment

Vance Burns showed a [video](#) documenting the frequent Houston metro rail accidents.

Gary Toll said that the most dangerous activity on a lathe is using a strip of emery cloth on a lathe. The strip can roll over itself and pull in and remove fingers if the user is not very careful.

Filing on the lathe using a file without handle is another potentially dangerous activity, as the tang of the file can be driven back into the user's torso. Rings and other jewelry can cause problems around the shop. Other members recalled times where a ring cut their fingers when caught by an moving piece of machinery. Additionally, rings can get white hot if they short out on 12V while working on cars. It is recommended to remove all jewelry when working in the shop.

Long work on the lathe without a tailstock can deform and bend into an "L" shape and cause lots of problems. Long work pieces should be supported. This is also true of stock that extends through and to the left of the headstock.

Show and Tell

Rich Pilcher brought in what was advertised as a clamp and for which he paid \$3.00 at a garage sale. It was actually an unused Starrett micrometer. Rich held a silent auction for the micrometer and donated the proceeds to the club.

Martin Kennedy made a presentation on a [kit used to thread on the lathe](#). A discussion of threading and knurling followed. He donated three books and called attention to some [equipment being sold](#) by the estate of a late club member, Joe Williams. Martin brought in several mills and drills to give away.

Dan Harper passed around a laser engraved pen that he received at the HouTex equipment show.

The club librarian, *Ray Thompson*, demonstrated and discussed the content of a catalog he created of the club's library holdings. The [catalog](#) has been added to the club's website. A subset of the library is brought in to each meeting. Ray said that if members wanted a specific book from the library, they should [email him](#) and he would bring it in to the next meeting.

Problems and Solutions - Ask the Blacksmith

Dick Kostelnicek requested a presentation on the [Arduino microcontroller](#).

A member asked about local sources for machine screw drills. Mentioned were local suppliers such as Bass, Rex and MSC.

Dean Eicher wanted someone to make a small quantity of flanges to adapt a large hole saw to a drill used to cut away epoxy embedded in the pavement. The epoxy seals battery powered equipment previously installed in the roadway.

Articles

Lathe Tools for Quick Threading

By *Martin Kennedy*

I often thread things on my lathe. I can cut threads using the lathe, but for small threads there's a much faster way. I use dies for external threads and taps for internal threads. I've been using a tool that works with my dies for many years. I recently upgraded the threading kit to include a way to use taps. This is a fairly easy project to make. You'll find that you use it all the time. Here's a picture of the kit.



From the left, there's a 1/2-inch shaft made with an integral #2 Morse taper that fits directly into the lathe tailstock. My original kit had a rod that I put into a chuck that fits into the tailstock. Either will work.

The next piece is the adapter for the dies. I have a set of hex dies, so I made a hex adapter. I know that they're actually rethreading dies, but they seem to work OK for threading. The tool holds the die exactly perpendicular to the piece being threaded. The shaft of this piece fits over the 1/2-inch shaft. The 1/2-inch hole is drilled all the way through the tool so that as a rod is threaded past the depth of the die, there's somewhere for it to go. The tool is knurled to provide a hand grip. I ran a flat file over it after knurling. If it spins in your hand, the knurl peaks are not detrimental to your hand.

Similarly, the next piece is the adapter for the taps. Instead of making the whole thing from scratch, I used an old tap handle. I cut the body of the tool for a tight fit, then drove a roll pin through the tool and tap handle.

The last piece is a handle to be used when you can't hold the tool tight enough by hand grip. Note that the handle should only be used when the lathe's spindle is locked and NOT ROTATING! You don't want to be holding on to a handle that might start spinning!

Here are some pictures of the kit in use on my lathe.

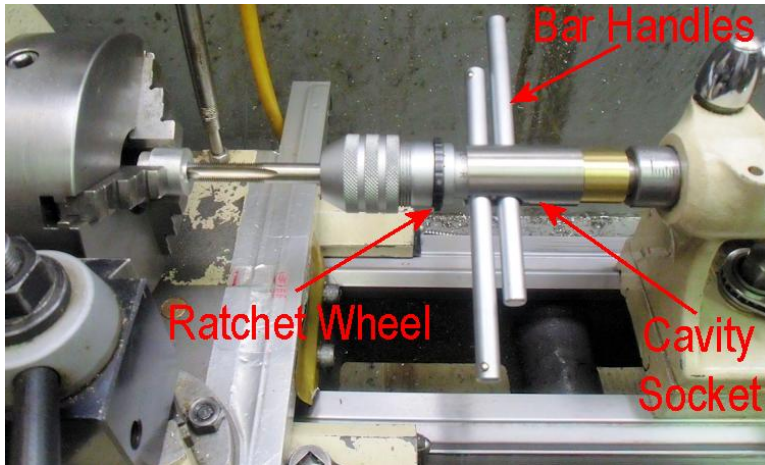


When using a tap or die, I run the lathe at 300 rpm or so. I've run it slower or faster depending on what I'm trying to do. I put some cutting oil or Tap Magic on the piece being threaded. I jam the die quickly into the piece. If you go slowly, it tends to not catch and will grind down the end of the piece being threaded. The tap should be fed more slowly and not jammed into the piece. Depending on the size of the tap or die, you will want to grip the tool differently to keep from possibly breaking a tap. For small taps and dies, grip lightly. For large taps and dies, you'll probably have to use the handle and a locked spindle after getting the die started.



Lathe T- Handle Support

By Dick Kostelnicek



I've often encountered trouble when tapping holes in work that's chucked in the lathe. For small taps, it's easy to start a tap corks or snap it off while turning a horizontal T-handle wrench by hand. If you secure the tap in a Jacob's chuck that's set in the tailstock, you'll have to contend with constantly moving the tailstock with one hand as the tap is rotated and advanced by the other. If you power rotate the headstock, one of two bad things can happen: 1. The tap slips in the Jacobs' chuck and / or the chuck's Morse taper shank rotates in the tail stock. 2. You break off the tap because you have

absolutely no tactile feedback of how much torque you're applying.

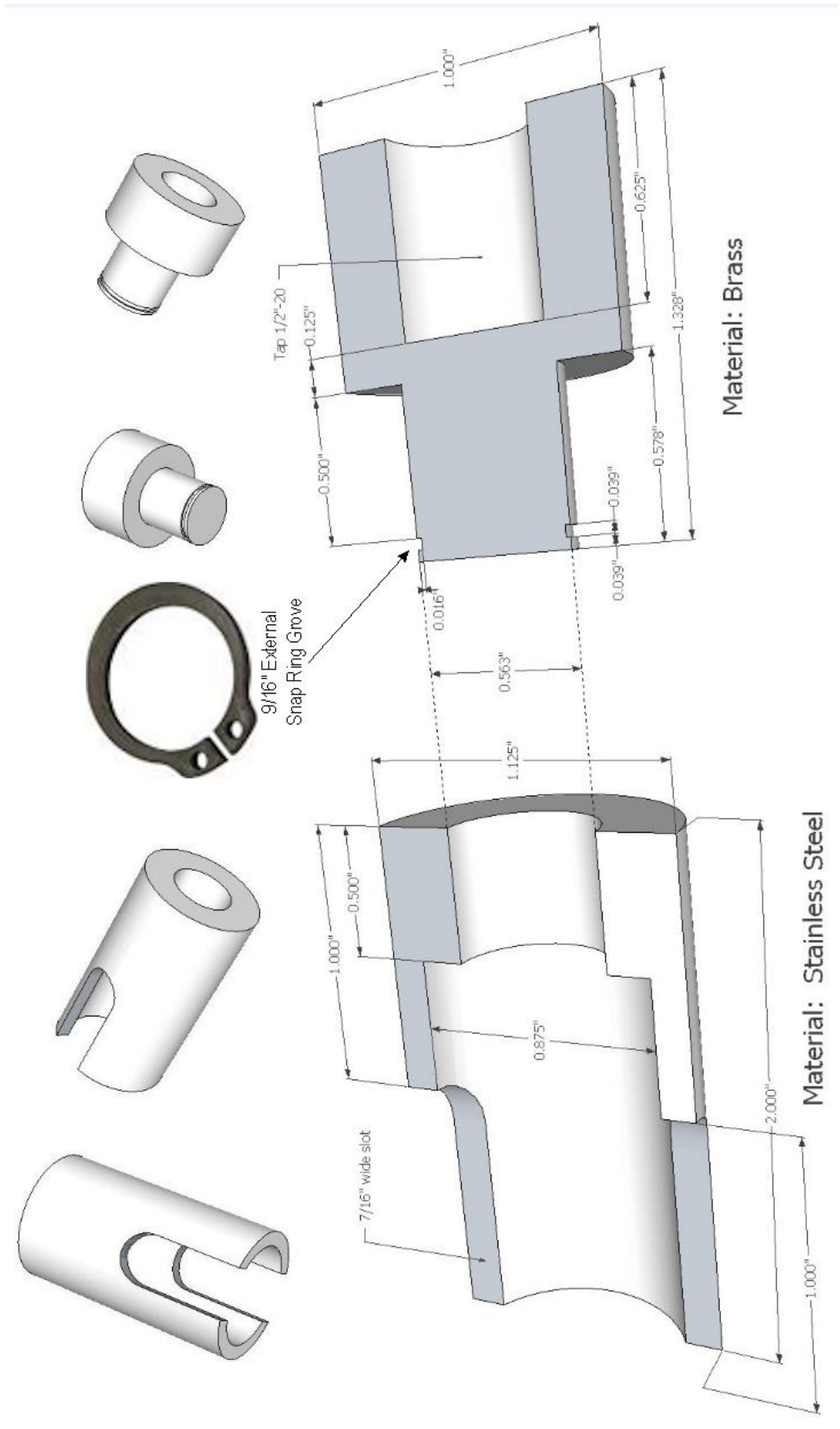
I acquired a T-handle ratcheting tap wrench (see right photo) from Harbor Freight for about \$20 (sku #97633). It drives Imperial taps from 1/4 to 5/8-inch. With a flip of a ratchet wheel collar (above photo), one of three ratchet settings is engaged: forward, locked, and reverse. Two round bar handles can be pulled out in order to apply a large manual torque. The manufacturing quality is outstanding for this chrome plated but inexpensive hand tool.

I made a rotatable cavity socket, having clearance for the bar handles, that slips over and supports the outboard end of the tap wrench (see right photo and drawing below). The fixed brass end of the socket is fitted with a commercially available 1/2-20 - #2 Morse drill chuck arbor. By threading on an arbor with a larger Morse taper, I can use the cavity socket to support tapping in a larger lathe.



In use, I place the T-handle support in the tailstock, slip the cavity socket over the outboard end of the T-handle wrench, place the headstock in back gear to prevent rotation of the work, and then use the wrench's ratchet action to hand tap the hole. The tap wrench can advance about 1-1/2-inch without turning the tailstock ram's advance hand wheel. Hence, you can quickly reverse the ratchet wheel with one hand in order to break chips and use the other hand to apply torque to the bar handles for the entire length of a thread.

For hand tapping threads smaller than 1/4-inch in the lathe, refer to [article above](#) in this newsletter or a hand tool described by an [article in a previous HMSC newsletter](#).



Material: Brass

Material: Stainless Steel

9/16" External Snap Ring Groove

Tap 1/2"-20

7/16" wide slot