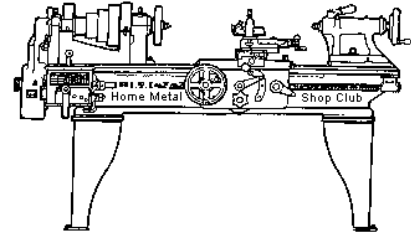




**April 2018**  
Newsletter

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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>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 1166 subscribers located all over the world.

## About the Upcoming 12 May 2018 Meeting

The next general meeting will be held on 12 May at 12:03 P. M. (**note: this is ½ hour later than usual. One time only.**) at the [South Houston Branch](#) Library located at 607 Avenue A, South Houston, TX 77587. Tom Schwab will give a presentation on Lost Wax Casting. If you have any antique hand tools, bring them for show-n-tell.

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 Ray Thompson](#).

## Recap of the 14 April 2018 General Meeting

By *Dick Kostelnicek*, with photos by *Dick Kostelnicek*

Thirteen members attended the 12:00 P.M. meeting at the Northworks Digital Factory, 7523 South Freeway, Houston, TX 77021. There were three visitors in attendance, Ben Smith, Kevin Comlin, and Tom Schwab. There are 32 members in good standing with the club.

President Brian Alley (right photo) led the meeting.



## Presentation



Dr. Larry Ciscon, head of the Northworks Digital Factory, hosted the club's members at his facility in Houston TX. Larry and former club member J. D. Wise started this software/hardware shop five years ago in order to enter the fast moving CNC machining, injection molding, and digital 3D printing business. Currently they do batch



printing and molding of small parts for various clients. They have banks of 3D printers (right photo) running programs from memory cards. Their injection molds are machined on a VM3 Haas CNC mill.

All of their programs are sourced in cloud memory for convenience and security via the Drop Box web site.

## Show and Tell



*Richard Douglas* showed several antique guns that he manufactured from kits (left and right photos..



*Brian Alley* brought a carbon fiber shelf that he 3D printed to augment the dashboard compartment in his wife's car that holds CDs (left photo).



*John Cooper* machined some delrin (plastic) bushings that are part of the window raising mechanism in one of his old cars.



## Articles

### My Atlas Lathes

Ken Johnson

My father bought a used 10 inch Atlas lathe and bench milling machine for me when I was a teen. I put them to good use and subsequently passed them along to my son. He has since upgraded his home shop to include a Bridgeport milling machine, a new lathe, surface grinder, TIG welding equipment, a kiln, a large CNC milling machine and more. I, however, still have an extensive wood shop and do a lot of woodworking. Recently, I mentioned to my son that I missed having a metal lathe.

Last fall, my son was given a vintage 12-inch Craftsman commercial lathe that was in fair shape but needed reconditioning. The main issue was with the gear train connecting the spindle with the quick change gearbox. It looked like the previous owner had attempted to replace some of the gears with ones having the wrong pressure angle. The incorrect gearing tore up the teeth on 9 of the original gears.

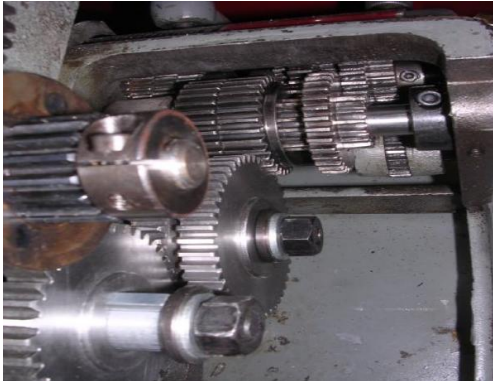


It took two 440 mile round trips from my son's shop in Jaffrey New Hampshire to deliver the lathe to my home in Bellefonte Pennsylvania. The first delivery was the lathe. I temporarily set it on a wooden stand (left photo) so that I could inspect and remove the damaged gears. The second trip brought home the machine base and motor.

At the right are examples of the damaged gears. Exact gear replacements are no longer readily available. The fix was to order stock gears and modify them to fit.



They required machining and some broaching. Three of them were compound gears which presented a challenge to reproduce.



Fortunately, my son had the tools and equipment to make them. He also had a furnace to braze one of them in an argon atmosphere.

At the left are some of the new gears looking down the gear train toward the quick change gearbox. The gears in the quick change remain a bit worn but without serious damage..

I am so glad I found the Home Metal Shop Club's website. It is a valuable resource. I especially like the members' hints. I can't thank you enough.



This photo is of my refurbished 12-inch Craftsman lathe mounted on a mobile base in my garage.