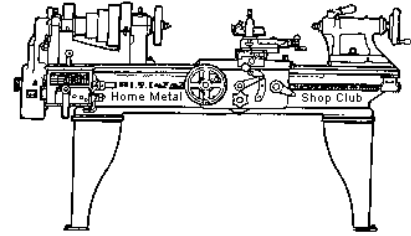




March 2020
Newsletter

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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>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>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 1027 subscribers located all over the world.

About the Upcoming April 2020 Meeting

Due to the social distancing requirement brought on by the Covid 19 virus pandemic, the April meeting is canceled.

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.

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 March 2020 General Meeting

The March general meeting was canceled due to the Covid 19 virus pandemic.



Long time club member *Gene Rowan* died of cancer on March 16, 2020. Gene was the proprietor of *Rollformers of Texas* located in San Leon, TX.

Comment on the previous article “Dehumidifying Shop Air” By *Keith Mitchell*

I read [John Hoff's article](#) in the last newsletter. John's article is well presented and he found a creative way to remove the water from compressed air. One thing I did not see in his system is a way to reheat the air after it is cooled. This is this important because the air leaving the refrigerated section is at the dew point for the temperature of the liquid bath. As John mentions, if we expand a gas it cools. Since the cold air is at the dew point (water saturated) and if we expand the air through a plasma or paint gun, we can create liquid water droplets. Adding heat to the cold air means that although the air will still cool

when expanded it will not reach the dew point. Adding heat in commercial refrigerated dryers is accomplished by exchanging the hot incoming air with the cold discharge air. In a home shop this can be accomplished by just storing air in a reservoir where enough residence time is allowed to raise the air temp. Another way is to route the cold air through a small heat exchanger in the air stream of the compressor cooling fan which is usually the drive pulley. Suitable heat exchangers are available at a reasonable price on Amazon. They are sold as supplemental auto transmission oil coolers. I have one of these in my air system to cool the air before it goes to the refrigerated dryer. Air temp from the compressor is 130 F. Leaving the exchanger, the air temp is 70 F with a 67 F ambient temperature.

Articles

Accurate Lathe Compound Angle

By Dick Kostelnicek



I wanted to tool post grind the outer diameter of some less than perfectly manufactured, imported ER32 collets. The collets were compressed and super glued to a cantilevered mandrel held in a 3C lathe collet (see left photo). Therefore, I had to set the angle that my lathe's compound slide makes with its longitudinal axis as close to 8 degrees as possible. Taper grinding would reduce the collet's run out and allow for reduced friction when tightening the ER collet nut

in an end mill holder. But, that's a story for another time.



The left photo shows the tooling that I used to accurately set the lathes compound angle. Included is a precision angle block set capable of creating angles from 1 to 45 degrees in 1 degree steps. The individual blocks were held together and attached to a V block with some small button neodymium magnets.

I used a 10 inch long round precision test bar that was held between lathe centers. In order to provide a flat surface parallel to the lathe's axis for referencing the angle blocks, I attached a precision V-block to the test bar (see right photo). The V-block's face was set to vertical by rotating the test bar as indicated by an electric level.



The lathe's compound angle was set to 8 degrees by traversing a dial indicator along the angle block. When the reading held constant, the angle setting was achieved (see left photo).