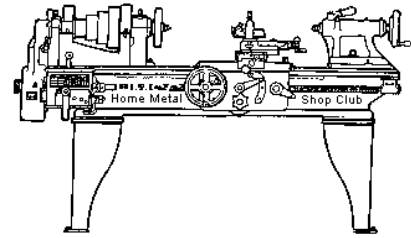




**October 2018**  
Newsletter

Volume 23 - Number 10



<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<br><i>Brian Alley</i>             | Vice President<br><i>Ray Thompson</i> | Secretary<br><i>Joe Sybille</i>  | Treasurer<br><i>Emmett Carstens</i> | Librarian<br><i>Ray Thompson</i> |
| Webmaster/Editor<br><i>Dick Kostelnicek</i> | Photographer<br><i>Jan Rowland</i>    | CNC SIG<br><i>Martin Kennedy</i> | Casting SIG<br><i>Tom Moore</i>     | Novice SIG<br><i>John Cooper</i> |

This newsletter is available as an electronic subscription from the front page of our [website](#). We currently have over 1185 subscribers located all over the world.

## About the Upcoming 10 November 2018 Meeting

The next general meeting will be held on 10 November at 12:00 P. M. (Noon) at the South Houston Branch, Harris County Library, 607 Avenue A, South Houston, Texas 77587. Brian Alley will give a presentation on "Tramming a mill or Drill Press w/o an Indicator".

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.

**Reminder:** Yearly club dues of \$15.00 were due at the September meeting. Treasurer Emmett Carstens will accept cash or a check made payable to him.

Members are requested to provide suggestions for general discussion on how the meetings should change, if at all, to increase interest.

The yearly tailgate sale will take place at the end of the December general meeting.

## Recap of the 13 October 2018 General Meeting

By Joe Sybille, with photos by Jan Rowland



Twenty-four members attended the 12:00 P.M. meeting at the Parker Williams, Harris County Library, 10851 Scarsdale Boulevard, Houston, Texas 77089. There were no visitors in attendance. There are twenty-four members in good standing with the club.



President Brian Alley led the meeting (right photo).

## Presentation



Club member Richard Douglas gave a presentation on “Glass Production – Tulsa Ford Glass Plant”. He began by defining glass as a non-crystalline amorphous solid that is often transparent and has widespread practical, technological, and decorative uses. Soda-lime glass accounts for the vast majority of manufactured glass. Its composition is 75% silicon dioxide with the remainder sodium oxide and calcium oxide.

The production of glass has a long history. Archaeological finds reveal glass has been man made as early as the third millennium BC. As processes developed over the centuries, glass uses included vessels, windows, and beads. From the tenth century onward, stained glass windows became popular. Advances in glass making processes include Broad Street, Crown Glass, Blown Plate, Float Glass, and Tempered Glass. Of the processes, two main methods are in use today, float glass and glassblowing. Sheet glass is produced using the float glass process. Bottles and containers are produced using a glassblowing process. Glass produced using the float glass process is made by floating molten glass on a bed of molten metal, usually tin. This results in glass with a uniform thickness and flat surfaces. Glass produced using a glassblowing process is made by using a blowpipe or blow tube to inflate molten glass into a parison (bubble). The still warm bubble is then formed into a shape of choice.

The Tulsa Ford Glass Plant is no longer in operation. Before going out of business, the plant made glass for both the automotive and construction industries. The plant made glass using the float glass process. It had two melting furnaces and each day made the equivalent of a sheet of glass 50 feet wide by 5 miles long. The furnace and annealing line was about 2000 feet long. The largest single piece of glass made at the plant was 10 feet by 12 feet. The most complex shape made at the plant was the rear window for the Mazda RX-7 automobile.

Presentation slides may be found at link: <http://www.homemetalsclub.org/news/18/ford-glass.pdf>

## Safety Moment

President Brian Alley showed a video on life altering accidents that could have been prevented if the workers had not been in a hurry to get the job done and had given a few seconds of thought on their pending work procedures.

## Show and Tell

*John Cooper* spoke about his upcoming visit to the trade show Fab Tech 2018 to be held 6, 7, and 8 November in Atlanta, Georgia.

*Martin Kennedy* exhibited a bronze casting he made from a 3D printed mold. The casting is a part for a model marine engine and is shown in the right photo.



*Richard Douglas* spoke about an upcoming exhibition on, among other things, legacy metal working practices. The exhibition will take place on Saturday, 17 November 2018, from 10:00 A. M. to 4:00 P.M. at Old Mill Pond Museum, 2900 South Main Street, Lindale, Texas 75771. The cost is \$15.00 at the gate. For more information, visit [www.visitlindale.com](http://www.visitlindale.com).



*Brian Alley* showed an indexer he fabricated using a 3D printer. See photo at right.

## Problems and Solutions

A member had a piece of metal that resisted all efforts to cut it. He wanted to know the composition of the metal. Several suggestions were offered, including the likelihood the metal was Inconel. Also, this member asked for recommendations on the best tooling to fix a work piece during face milling operations. Several recommendations were offered.

Another member requested suggestions on which metal cutting saw would serve him better, a horizontal band saw or a chop saw. Several members agreed the horizontal band saw would be the best choice because of its versatility.

Another member had a number of M17 metric wrenches resulting from the purchase of equipment and wanted to know if there were any takers in the membership for the wrenches. Several members accepted gladly.

Another member has a DRO with an index function that does not work properly and requested suggestions on how to resolve his problem. Several suggestions were offered including: check the memory battery and if there is none, install one using a blocking diode and a battery.

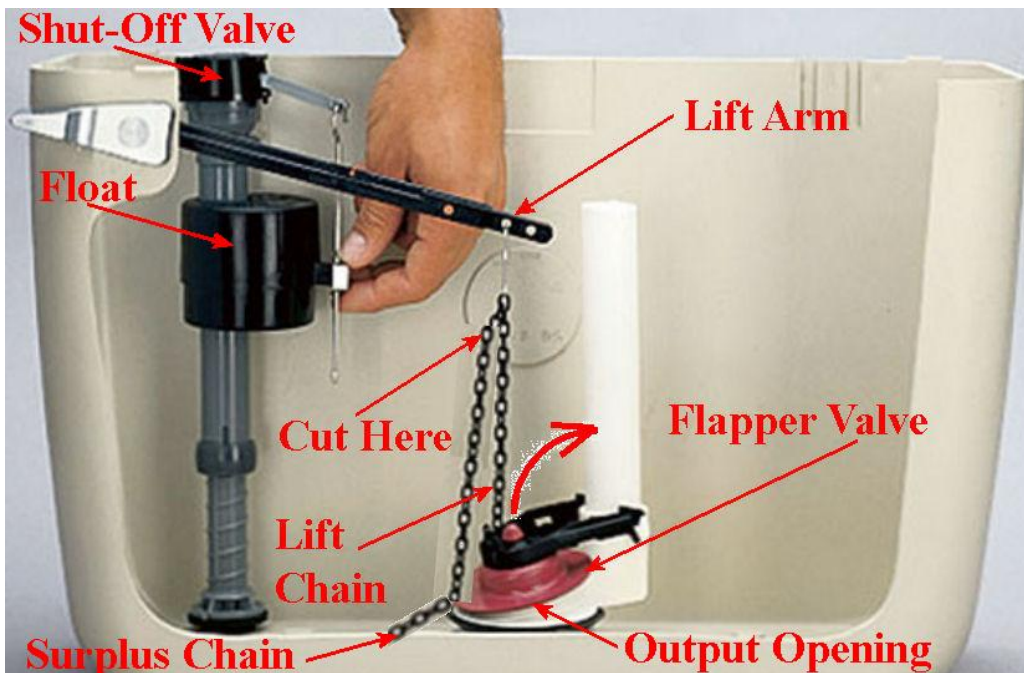
## Articles

### **The Agony of Frugality**

*By Dick Kostelnicek*

I pride myself in personally resolving all domestic catastrophes. Hiring a repair person would be abhorrent to me. I save all surplus material that might come in handy for future projects or repairs. You know how it is, those remnants that you put in little plastic cabinet drawers, never to be seen again.

Referring to the illustration on the next page, here's a brief description of domestic toilet operations. The unit is flushed when an externally operated **Lift Arm** pulls on a **Lift Chain** that raises the hinged **Flapper Valve**. Tank water rapidly flows into the basin below through an **Output Opening**. The rush of water holds the flapper open till it is nearly spent. The flapper then rotates closed under its own weight, sealing off the opening. The basin then refills via a **Float** operated automatic **Shut-Off Valve**.



About every 5 years a flapper ages and loses its elastomeric properties. Being inflexible and / or misshaped, it no longer provides a good seal, and water slowly leaks into the basin below. This leakage causes the float-fill mechanism to cycle briefly on and off every so often in order to maintain the water level in tank. This process is both wasteful and annoying. The repair

consists of a \$5 flapper valve that is easily installed, available everywhere, and comes with pictorial instructions on how to remove and install it.

A new flapper's lift chain is of generous length in order to accommodate variations in water tank depth. You should adjust it to be slightly slack between the lift arm and the closed flapper. Now, due to my frugal nature and not wanting to put the surplus chain in one of those little plastic drawers, I left it hanging to accumulate on the bottom of the tank (see above illustration). This would allow me to adjust its length in the future or cut it off for use in some future project. It was this Frugality that led to my Agony.

The newly installed flapper worked well for a period of time, but subsequently the leaking resumed. I disassembled the repair, checked all surfaces for irregularities and reassembled the mechanism. It would work for a while and then start leaking again. Well, after many days of this agony and much inspection, I finally determined the cause of the leak that came to me one night in a dream.

That surplus chain, after several flushes, would randomly be drawn along with the rushing water into the basin opening. When the flapper closed, the surplus chain prevented the flapper from completely sealing off the tank water. The next flush would lift the surplus chain which might or might not be again drawn into the outlet. Hence, the leaking would come and go, leading to my frustration. A professional plumber would learn of this problem early in his training but we mortals surely are doomed to such fate. So, stick to the tried and true method! Cut off the surplus and put that remnant into one of those little plastic drawers.

