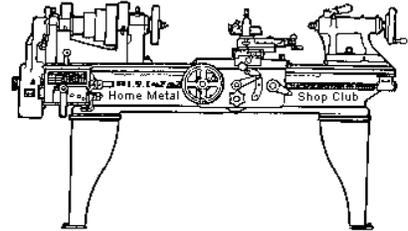


**September 2014**  
Newsletter

Volume 19 - Number 9



<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>Dennis Cranston</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 over 693 subscribers located all over the world.

## About the Upcoming 11 October Meeting

The next general meeting will be held on 11 October at noon at the [Spring Branch Memorial Library](#) in Houston, Texas. Martin Kennedy and Joe Williams will give a presentation on **Ten Useful Things for the Shop**.

Visit our [website](#) for up-to-the-minute details, date, location, 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. The library is maintained by the [Club Librarian, Ray Thompson](#). These books can be quite expensive, 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](#).

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 'ugh ohs' along the way? If so, others would like to read about it. In the September 2012 HMSC board meeting, the board elected to waive membership fees during the next membership renewal cycle for those providing newsletter articles.

Ideas for programs at our monthly meeting are always welcome. 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](#).

All annual memberships expired on 1 September. Dues of \$15 for the next fiscal year are now overdue and should be paid to the treasurer Emmett Carstens. He will accept cash or a check made payable to him.

## Recap of the 13 September 2014 General Meeting

By Joe Sybille, with photos by Jan Rowland

Thirty members, including two new members, Michael Wilkins and Lamar Flanagan, attended the noon meeting at the South Houston Library, 607 Avenue A, South Houston, TX 77587-3659. Welcome to the club Michael and Lamar. There were no visitors.



## Presentation

Club member Norm Berls gave a presentation on **A Metal Easel for Oil Painting**. Norm is an accomplished landscape artist, and he pursues this activity as a hobby. By necessity, his 'office' is usually outdoors when not in a studio or classroom. About twenty years ago, he wanted an easel capable of supporting his canvasses in varying dry weather conditions.

Unable to find a suitable easel on the market at the time, he decided to build his own. Norm's basic design goals were to have an easel convenient for use in a studio, classroom or outdoors. The easel had to withstand hard usage, and it had



*Norm Berls*

to facilitate sharp focus technique oil painting. This technique emphasizes very detailed oil painting.



The easel had to be portable and lightweight, and fit in Norm's SUV. Stability in a light wind was an important requirement, and the easel had to hold the canvas securely. The canvas mounting bracket had to be adjustable for both large and small canvasses, provide hand support for fine detailing brushwork, and allow the canvas to be tilted away from the painter. Furthermore, the easel had to be able to move boxes of painting equipment and supplies and facilitate painting from both a sitting and a standing position.

The requirements seemed too extensive until Norm got inspiration for his design from a small hand truck. A tilting telescoping frame, adjustable canvas support brackets, upper and lower, a wide and deep truck base and wheels serve to meet the requirements of Norm's easel.

Materials of construction included structural aluminum and structural mild steel shapes, aluminum sheet metal, red oak wood, Masonite board, wheels, and aluminum paint. Norm constructed the easel using nuts and

bolts and brazing.

Functionally, the wide and deep truck base provides plenty of space for art supplies, and the wheels facilitate locating the easel in grassy areas and rough terrain. The upper and lower canvas frame holding clamps work well and provide a sturdy work platform.

A second generation of the easel would include more brazing and fewer nuts and bolts. At about 75 pounds the easel is a chore to move about, and Norm would like to reduce the weight and still maintain sturdiness in a light to moderate breeze.

Here is the [link to Norm's presentation slides](#).

## Safety Moment

*Vance Burns* showed a video of unsafe workshop practices and reminded those present to keep shop safety first and foremost in mind when working in the shop.

*Gene Blogett* cautioned members about the hazards associated with the storage of steel wool. In his shop he observed steel wool undergoing spontaneous combustion. Fortunately, Gene was present when it occurred.

## Show and Tell

*Dick Kostelnicek* showed an abrasive cutoff saw that uses an air die grinder to propel a 3-inch by 3/64 inch thick cutoff wheel. The saw's primary use is to cut dowels, roll pins, and tool bits. (see the article at the end of this newsletter and photo at right.)



*Joe Williams* demonstrated and then gave away a radius tool that he made to cut grooves in a disk. (photo at left).

*Randy Jacobs* displayed a clamp he made for use with his drill press (photo at right).



*John Hoff* explained the use of an air operated draw bar he made for his newly acquired CNC (computer numerical control) mill (photo at left).

*Tom Darragh* exhibited two lathe chucks used to support a rifle barrel undergoing modification (photo at right).



*Dan Harper* displayed a side hammer he made by cleverly using a threaded rod and taking advantage of the internal threads in the handle of a pair of vice grips (photo at left).

*Phil Lipoma* offered to the members a free non-working auxiliary DC power unit. The unit came from a B17 airplane. After the meeting the members went out to his truck to inspect the unit.

## Problems and Solutions - Ask the Blacksmith

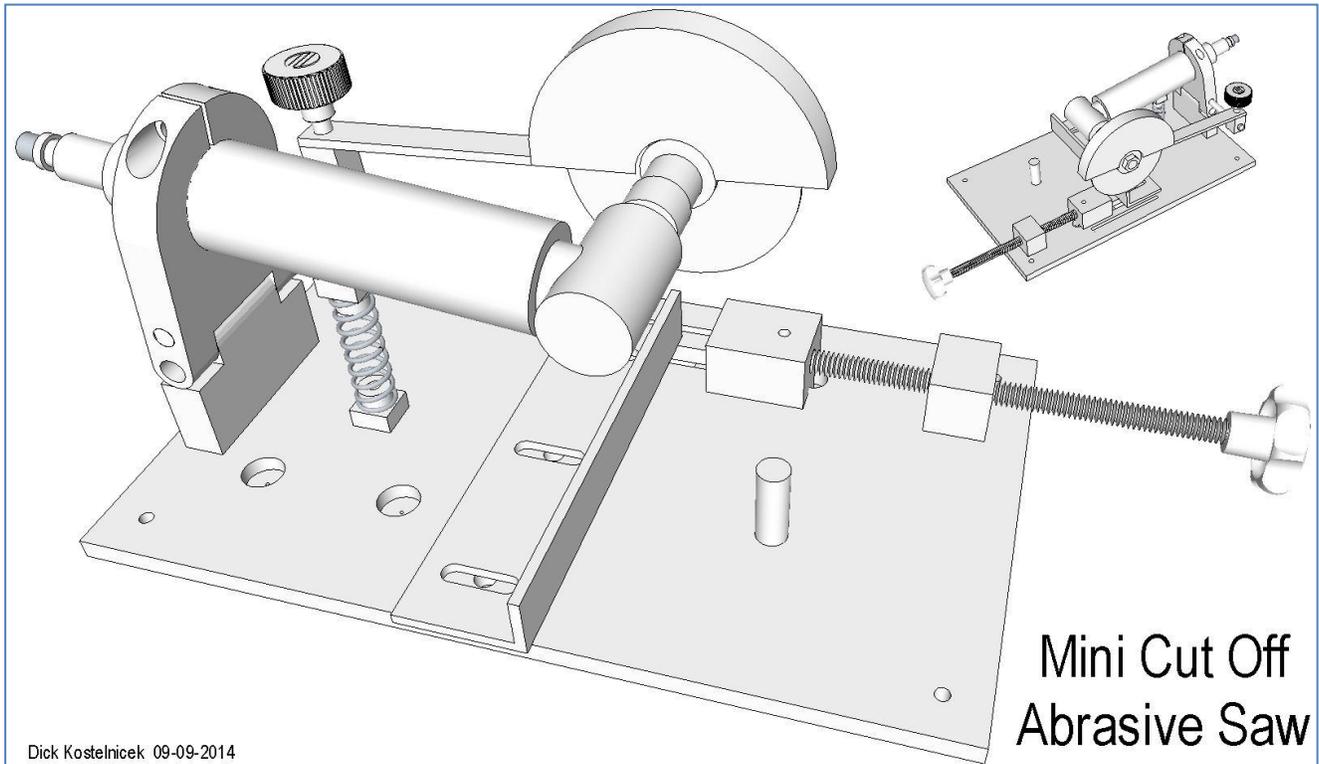
A member has a gear with three symmetrical holes. He wanted to know the best way to transfer the hole locations to a blank disk on which he planned to mount the gear. Several alternatives were offered including transfer punches.

A member has a tool post grinder with an inoperative motor. He sought recommendations on the best way to repair the motor. Suggestions ranged from having the motor repaired to replacing it with a new one.

## Articles

## Mini Cut-Off Abrasive Saw

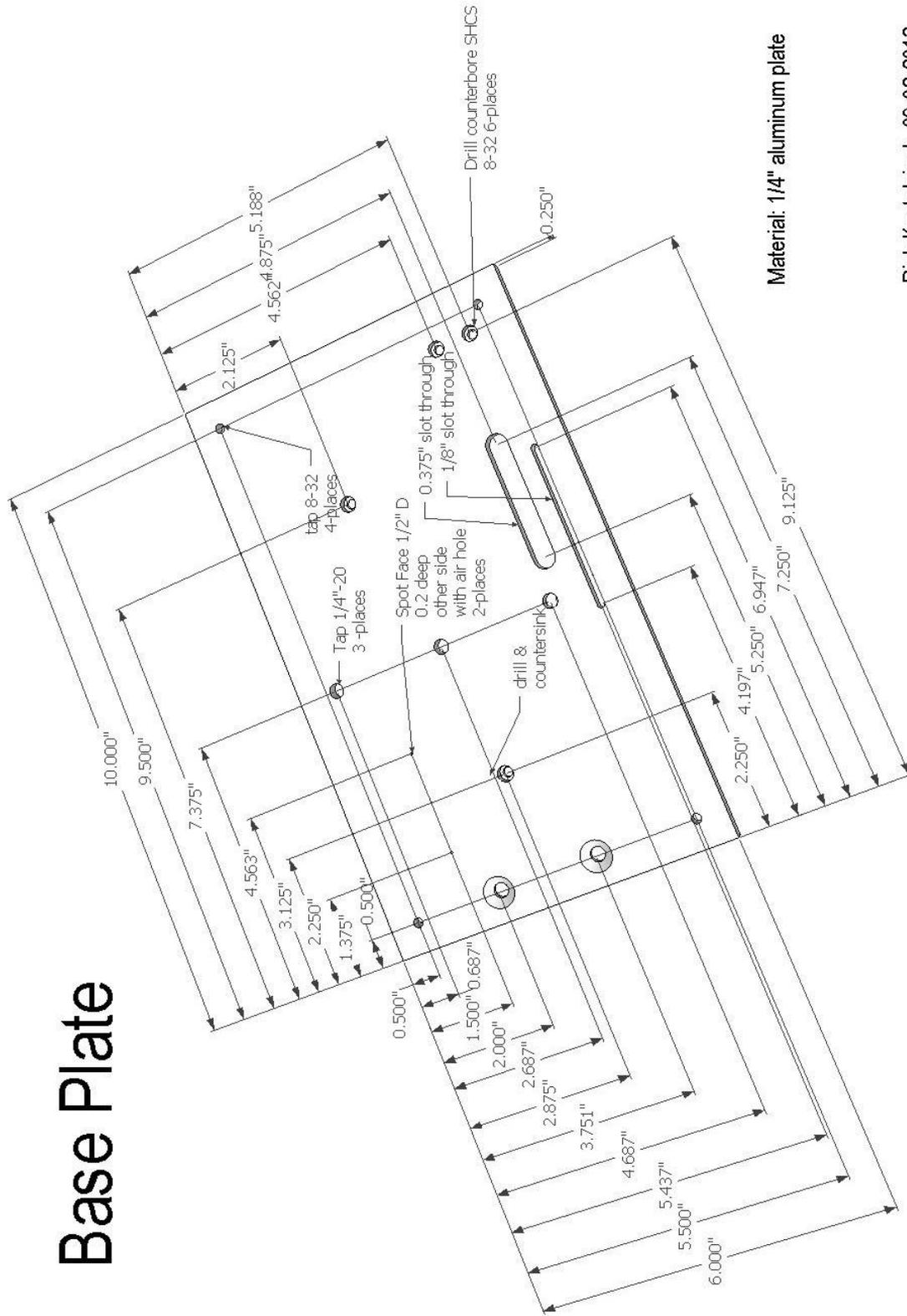
By Dick Kostelnicek



Cutting hard materials to precise length such as tool bits, roll pins or dowel pins has always challenged me. These items are small in size, difficult to grasp, and get hot when cut. The ideal saw for these items is a miniature cut-off abrasive saw. The abrasive wheel cuts by friction and transfers most of the generated heat to sparks that leave the piece being cut relatively cool. The saw illustrated above uses a ¼-inch air driven die grinder as a prime mover to turn a 3-inch x 3/64-inch thick abrasive cut-off wheel. It has an integral clamp that holds material up to ¾-inch square. I did not include the ability to cut angles other than 90 degrees, as my applications are all square cuts. A 6-inch steel rule, clamped to the angle back rest with a machinist's clamp, acts as a repeatable depth stop. In order to capture the generally small and warm part that is cut off, I use a pickup magnet attached to a rod to catch the drop.

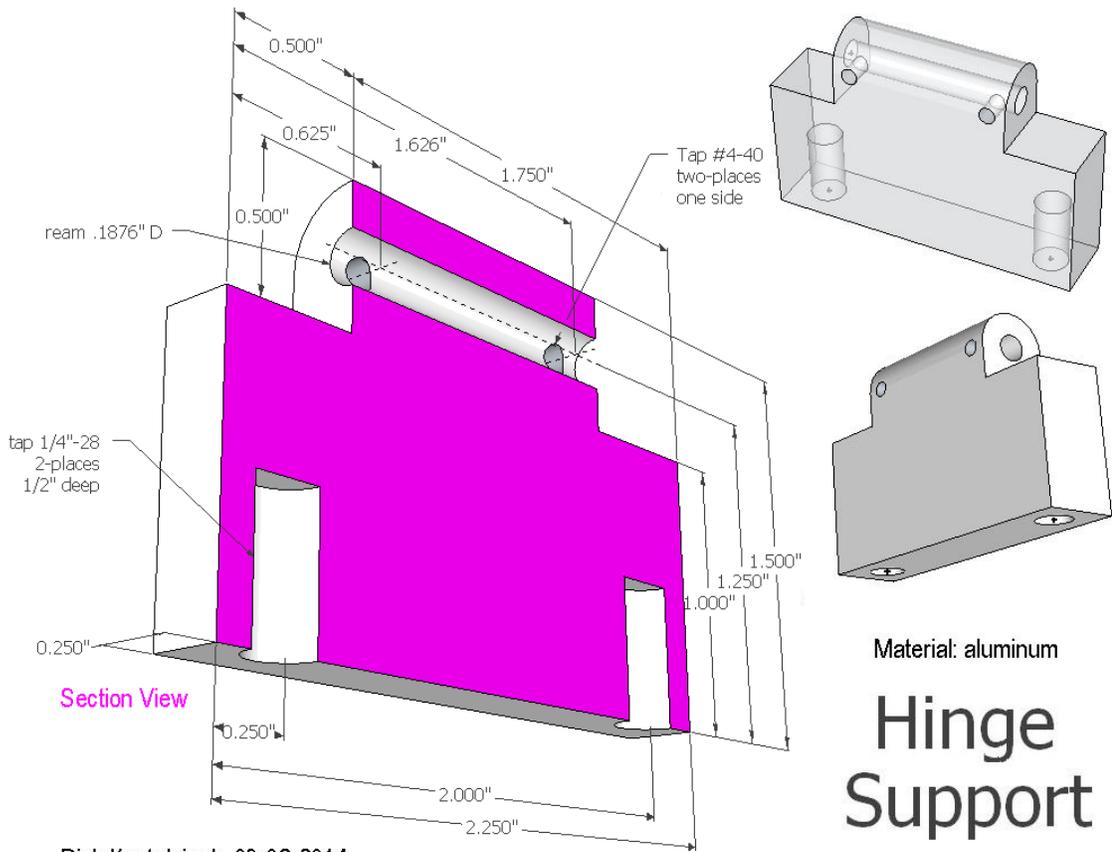
Shown below are measured drawings that should allow you to make your own saw from available parts. Two ½-inch button magnets are epoxied into counter bored holes in the base plate near the air motor's return spring to magnetically hold the two small open ended wrenches (not shown) for tightening the air motor's spindle nut. A 3/8-inch vertical post on the base holds a supply of 3-inch abrasive wheels. A universal air swivel is attached to the air inlet of the die grinder so that the air supply hose doesn't restrict the motors movement (see photo in the Show & Tell part of this newsletter). The [air die grinder](#) and [abrasive wheels](#) are available from Harbor Freight.

# Base Plate

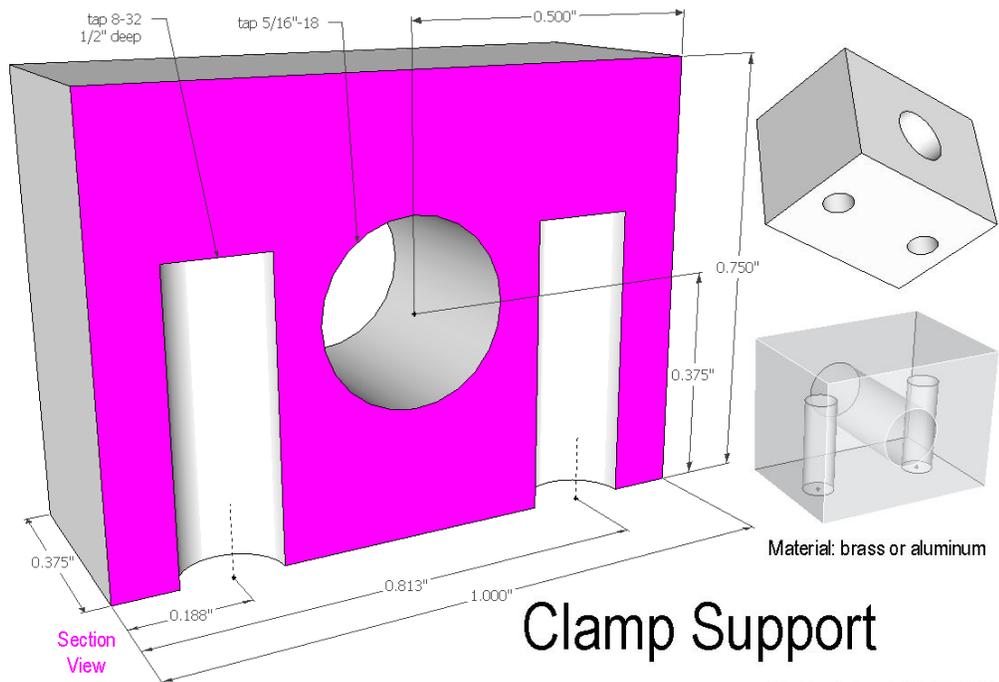


Material: 1/4" aluminum plate

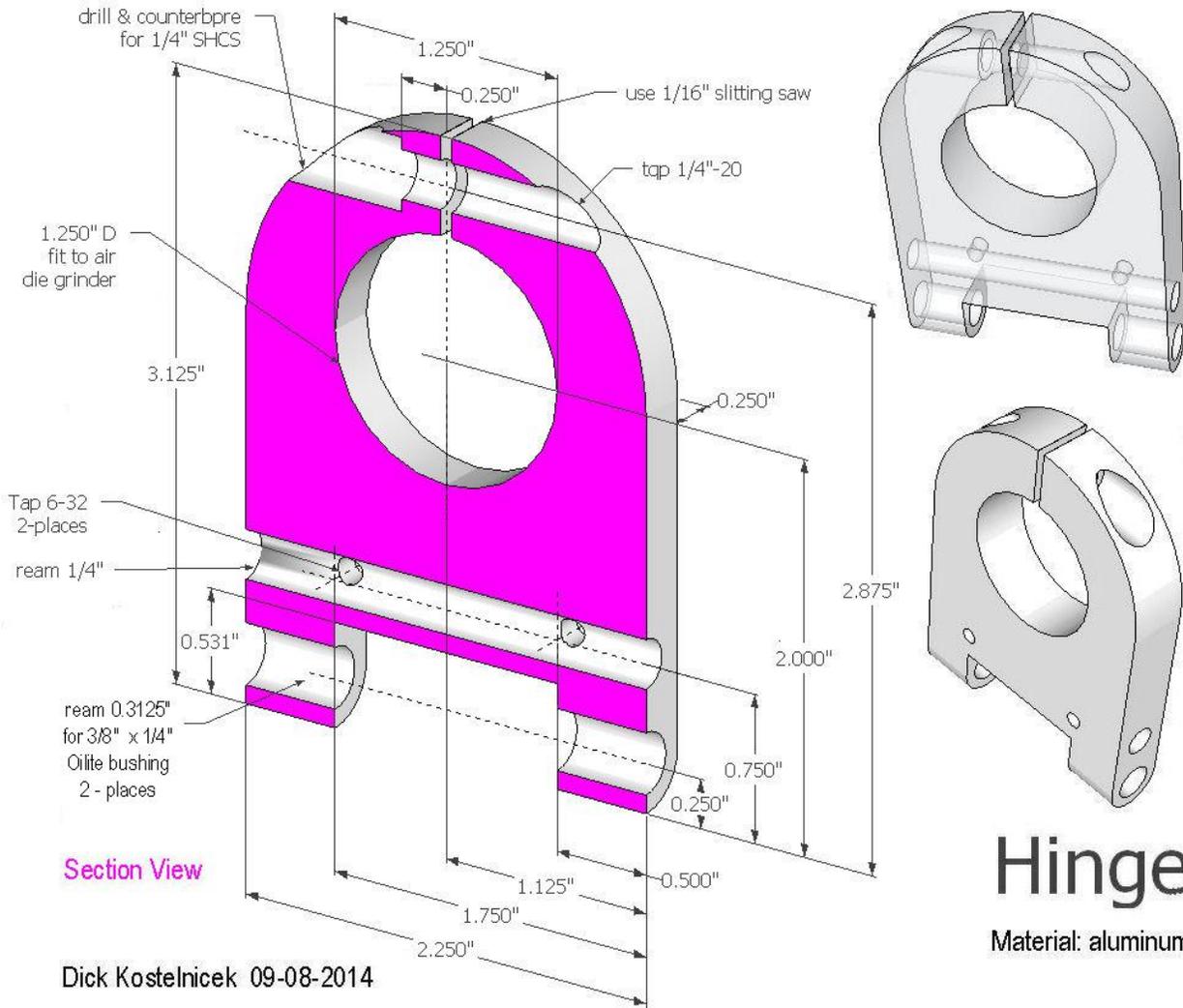
Dick Kostelnick 09-08-2013



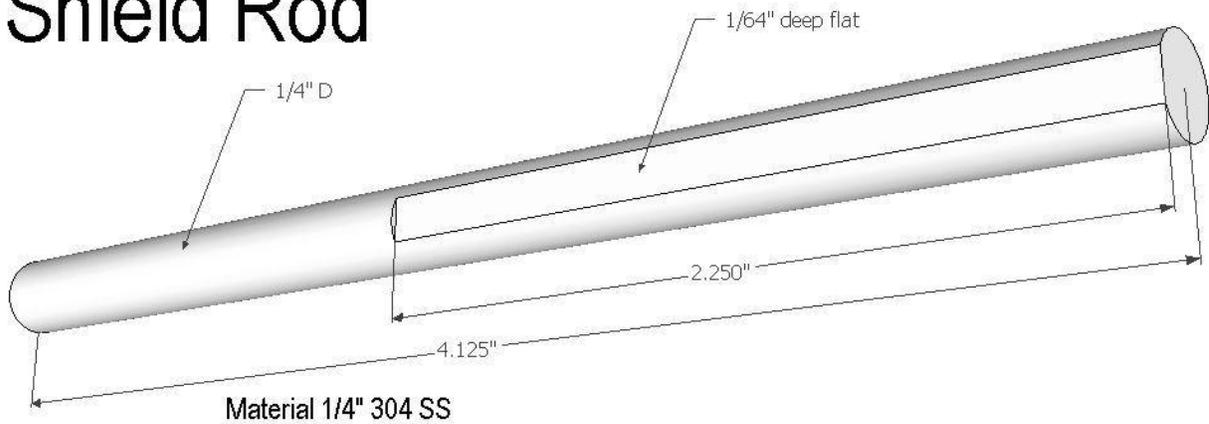
Dick Kostelnicek 09-08-2014



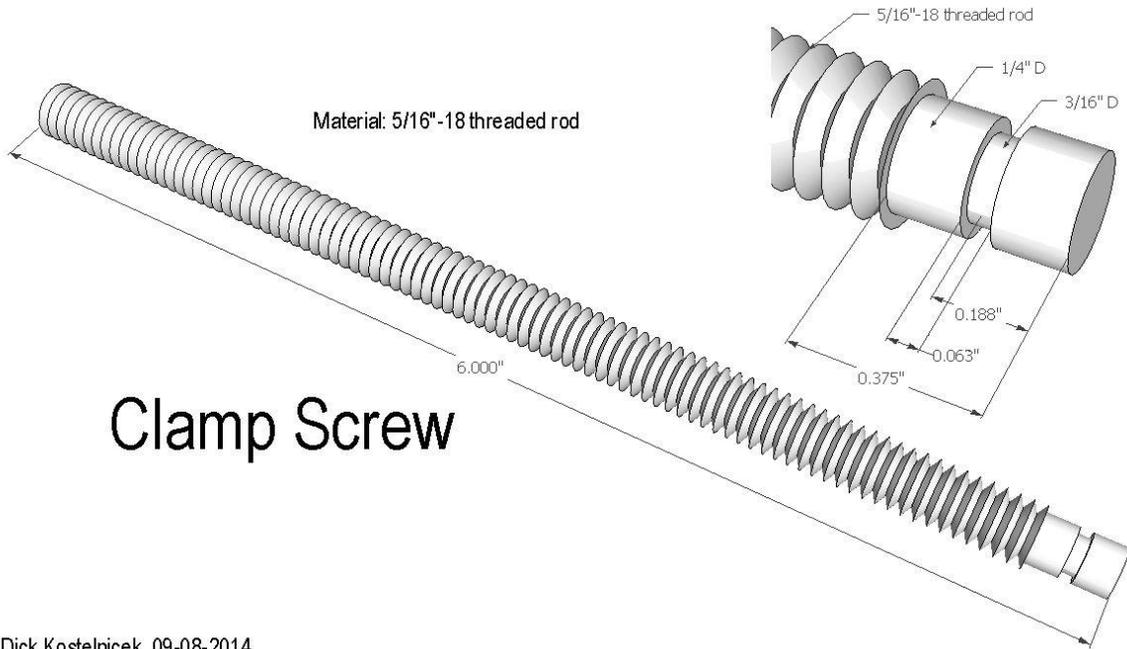
Dick Kostelnicek 09-08-2014



# Shield Rod



Dick Kostelnicek 09-08-2014



## Clamp Screw

Dick Kostelnicek 09-08-2014

