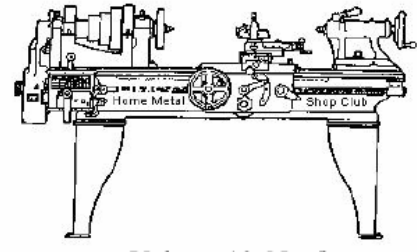




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Newsletter

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Visit Our Home Page www.homemetalshopclub.org

Statement of Purpose: *Membership is open to all those interested in machining metal and tinkering with machines. The club provides a forum for the exchanging of ideas and information. This includes, to a large degree, education in the art of machine tools and practices. Our web site endeavors to bring into the public domain written information that the hobbyist can understand and use. This makes an organization such as this even more important.* -- Founder - John Korman (deceased)

President	<i>John Hoff</i>	Secretary	<i>Dick Kostelnicek</i>	Webmaster	<i>Gene Horr</i>	SIG	<i>Dennis Cranston</i>
Vice President	<i>Dennis Cranston</i>	Treasurer	<i>Emmett Carstens</i>	Librarian	<i>Dennis Cranston</i>	Coordinators	<i>Richard Pichler</i>

Next Meeting October 14, 2006

To be announced.

Minutes of the September 9, 2006

by Dennis Cranston

Business Meeting

The business meeting was held at Lyndons BBQ prior to the regular meeting. No business was discussed.

General Meeting

29 members were in attendance, President John Hoff presiding.

In lieu of a speaker, we discussed various items of interest to club members. The machining and tapping of various exotic materials such as Delron was discussed.

Dick Kostelnicek gave a demonstration on how to set up and use a dial bore indicator.



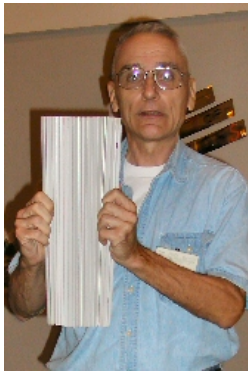
The members were asked to bring the various drill grinding fixtures to the next meeting.

Show & Tell....

Joe Scott showed a toe jack used to move machinery that he fabricated from a trailer lift mechanism.



Ed Gladkowski showed his machine way cover made from a discarded window air conditioner expandable seal.



The novice meeting covered drilling issues.



Dual Speed Control for Monarch 10EE

by George Carlson



Why dual speed?

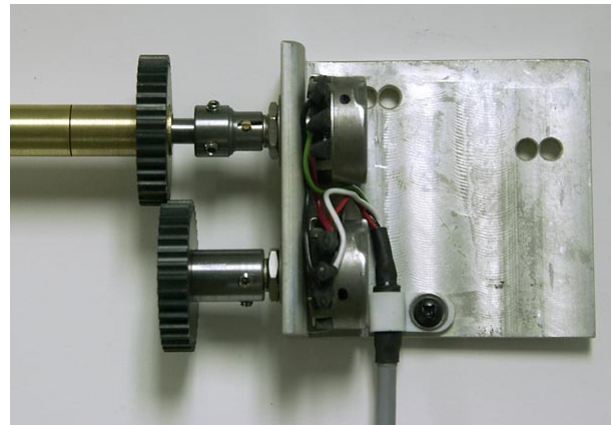
When I bought my Monarch, about 9 years ago, someone had taken the original thyatron electronics out and replaced it with two variacs. This was a terrible solution because the speed was not regulated, and only the armature voltage was variable, thus the full range of speed was not available. I designed a new solid-state drive system and installed it (I am an electronics design engineer, so I had a little advantage). The new motor controller could be controlled with a simple 0 - 10V for 0 - 100% speed. I installed a single potentiometer to control the speed. This system has worked very well for the last nine years. The motor responds quickly and regulates well, even under heavy loads.

I've written this article not as a how-to, but just to give other owners of Monarch 10EE's some food for thought.

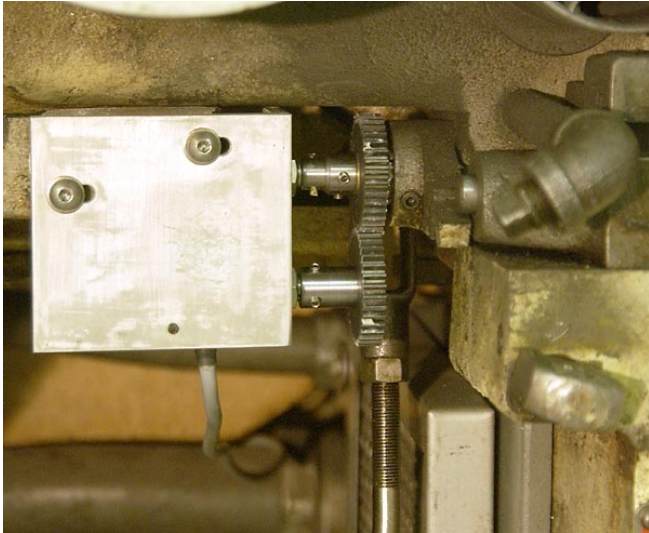
I always thread using the half-nut engaged at all times, reversing the carriage by reversing the motor. This allows me to cut very precise threads, and avoid crashes do to mis-engaging the half-nut. But I always thought it would be nice to run the lath faster in reverse to return the carriage a little quicker. I finally took the time to come up with a neat solution to the problem.

My special design of the motor controller makes this a fairly easy thing to do. All I have to do is have two speed-control pots, and use a relay to switch between them. The coil of the relay is wired in parallel with the reverse contactor coil, so the relay is normally de-energized. When the motor is reversed, the relay closes and selects the output of the reverse speed pot.

The trick was to come up with a neat way to install the second potentiometer. My solution was to make a dual speed control with one knob inside the other. The photo above shows this dual knob. The outside of the knob is the main, or forward, speed control. The inside knob is the reverse speed. The two knobs are coupled using a wavy washer so that when the outside knob is turned, the inside knob will turn as well. To set the reverse speed higher, all you need to do is hold the outside knob and turn the inside knob to set the reverse speed. To reset the knob, so that forward and reverse are the same, all you have to do is turn the outside knob fully clockwise, the counterclockwise, and the inside knob will be set the same as the outside.



I would like to have used a tandem pot, with coaxial shafts, but I couldn't find any, and the space inside the machine was limited. So I built the assembly shown above. The gear is mounted the he outside shaft, which is the forward control. The inside shaft, which is the reverse speed, is coupled to it's potentiometer using a sliding coupling. The fiction between the inside and outside knobs is controlled with a wavy washer under the reverse knob, and the position of the coupling. (the coupling provides the tension between the inner and outer shafts).



Here's the potentiometer assembly installed inside the machine. I had to remove some of the casting in order to make room for the top potentiometer.

The system system works beautiful, I'm wondering why I took nine years to get around to installing it.