

## General Project 36—Cutting Helical Gears on a Sherline Mill/Carlos Vicente

“I bought a lathe and a mill in 2010, I was a very beginner and remember I sent an inquiry on how to cut helical gears. The answer I got was using CNC. I preferred to use the traditionally method as I saw in the page 226 of *Tabletop Machining* book by Joe Martin.

The good news is that finally I did it and I would like to share some pictures to you guys. I used my mill and adapted a rotary table using gears of the thread cutting attachment to connect the X axis of the mill with the rotary table.”

Thank you,  
Carlos Vicente

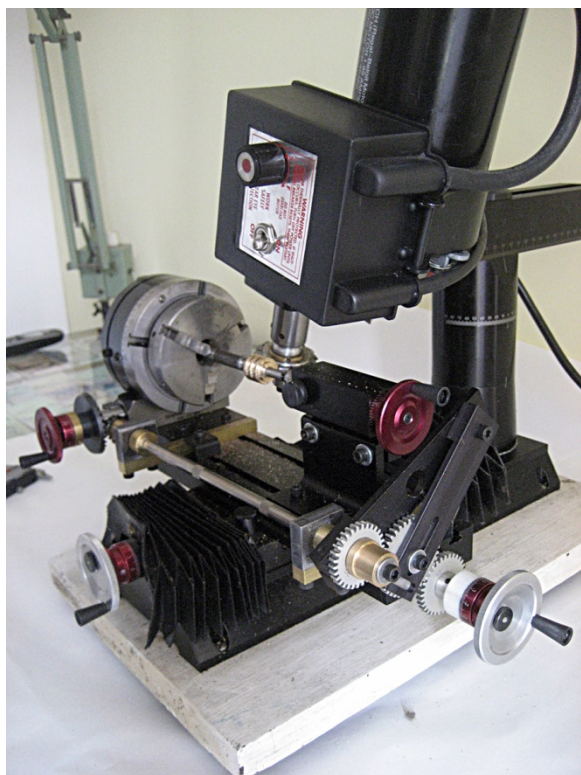


FIGURE 1

FIGURE 1—This shows the overall setup of the mill with the rotary table and thread cutting attachment in place.

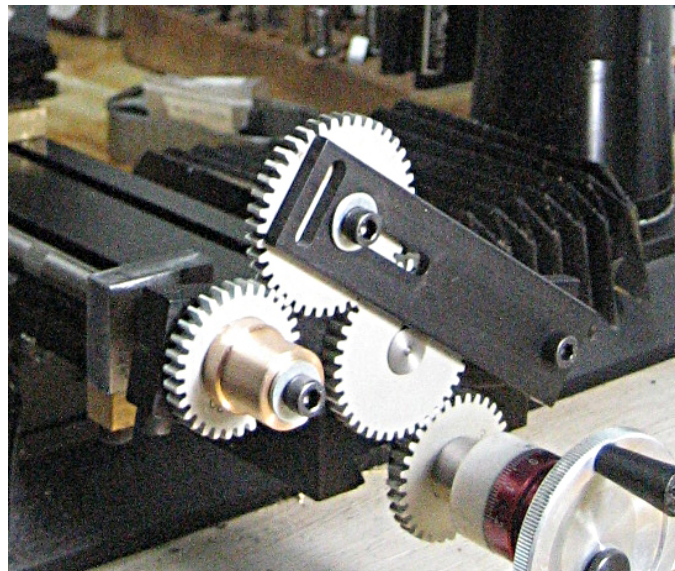


FIGURE 2

FIGURE 2—Close-up of the thread cutting attachment mounted on the end of the X-axis.

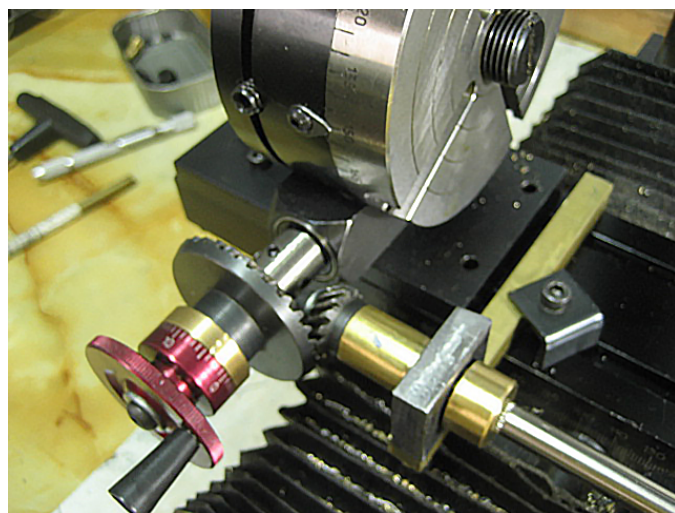


FIGURE 3

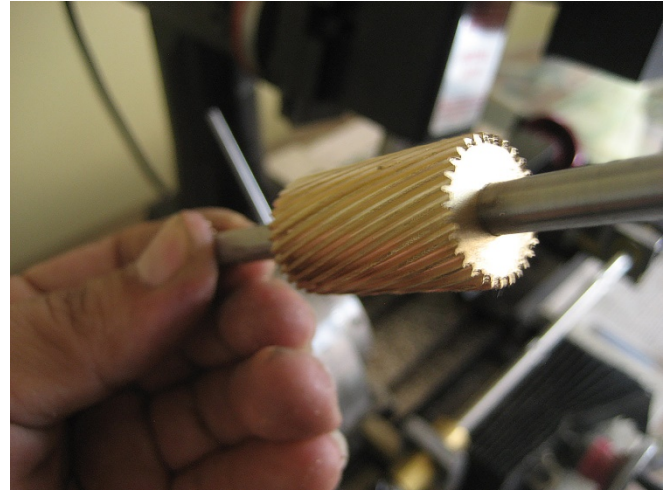
FIGURE 3—Close-up of the gear set-up mounted between the handwheel and the rotary table. The rotary table is connected by way of bevel gears, an axel, and other gears to the lead screw on the X-axis.

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*FIGURE 4*

FIGURE 4—One of the small helical gears mounted in the 4-jaw chuck on the rotary table.



*FIGURE 5*

FIGURE 5—The final photo shows a finished helical gear cut without the aid of a CNC program.

#### **Detailed Video Available**

If you would like to know more about this gear cutting process you can watch a video that Carlos has posted on YouTube. [CLICK HERE](#) to watch the Helical Gear Cutting video. He is so “Old School” that he even has a steam engine that can run his lathe. To see more of his projects check out his YouTube channel, [PerúMechanics](#). The videos are in Spanish, but he has provided English subtitles.