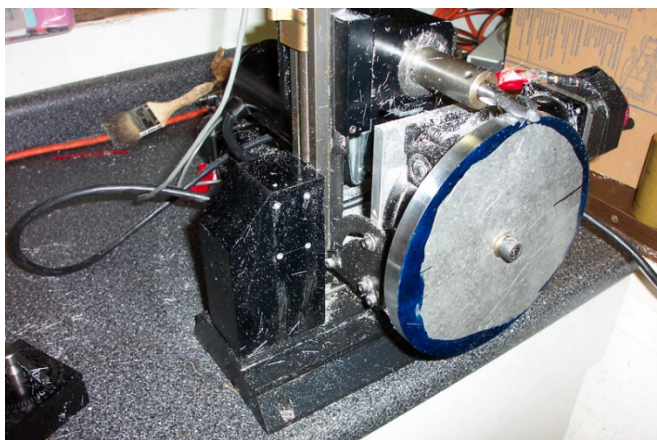
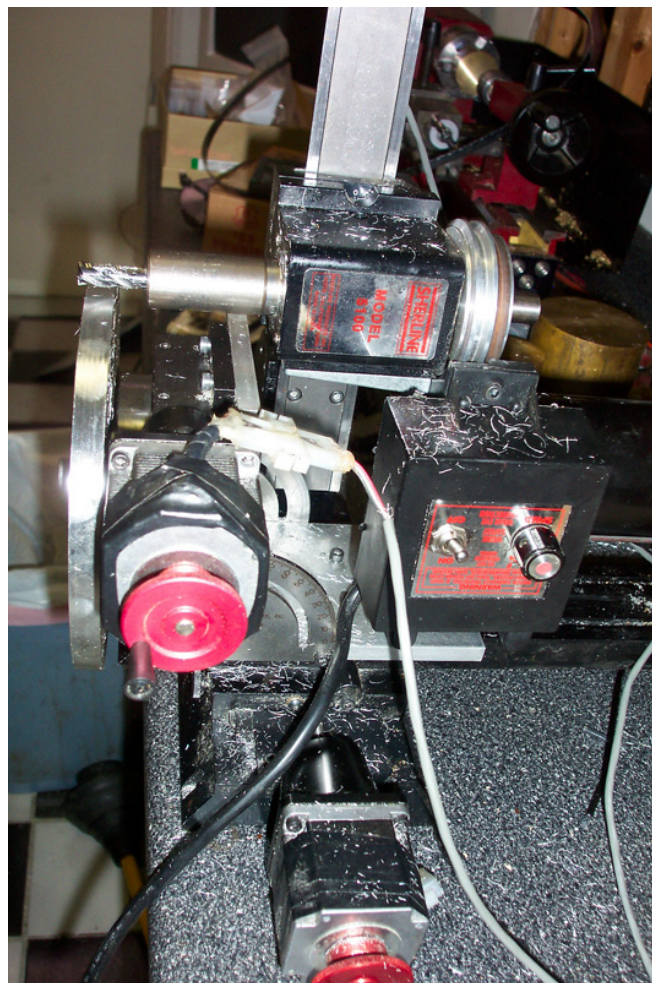


## Extreme Project 3—Cutting 7" and 14" Diameter Gears on a Sherline Mill/ Mark Jones

Mark Jones has enclosed photos of the setup he used to cut large aluminum gears for the azimuth of a amateur-made 10' binocular telescope. Normally, the 4" rotary table in the vertical position can handle a gear blank that is slightly larger than the 4" table, but that's about it. Even so, that's a pretty big gear for a machine this size. Mark, however, needed to cut some REALLY BIG gears, so he figured out a way to do it with the equipment he had on hand...a Sherline CNC mill.



The 7" x 1/2" thick aluminum gear in the first and second photos is being milled round using a rotary table and the side of an end mill held horizontally with the headstock rotated to the 90° position. Note the extra holes in the side of the column base. You can see how the column is relocated to attach to the side of the column in the third photo. The hole pattern on the left side is the same as the one on the front. The mill is bolted to the bench at the very edge so the gear can hang over the edge of the bench. The second photo shows the gear teeth being cut. Note the relocated Z-axis column mounted to the SIDE of the column base. Mark uses the Mach 3 CNC program.



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*Here is a photo that pushes even this extreme setup to its limits--a 14" diameter aluminum gear being cut in the same manner.*