

TIP 101 — Mill Setup for Cutting Gears/Pamela Weiss

Using the Rotary Table to Cut Gears on a Sherline Mill

You can easily cut gears on a Sherline mill with the addition of a rotary table (P/N 3700*), a right-angle attachment (P/N 3701), gear cutters, and gear-cutter arbors. You will also need a means of holding your part to the rotary table; you can mount the part in a chuck, or you can use a blank end mill holder fixture.

***NOTE:** CNC-Ready and full CNC rotary tables are also available (3700-CNC, 8730, and 8700).

1. First, mount your right-angle attachment to your mill table.
2. Mount your rotary table to the right-angle attachment.

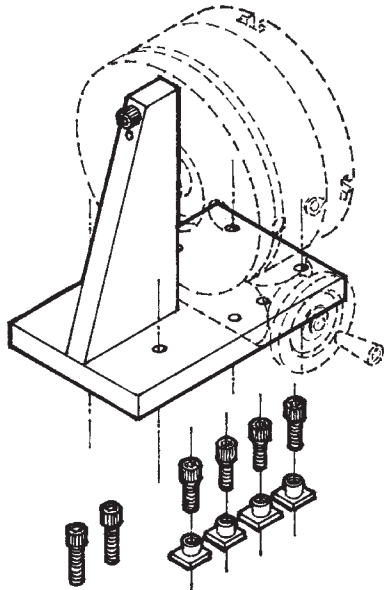


FIGURE 1—Optional Sherline right-angle attachment (P/N 3701) with hold-down nuts and screws. The manual rotary table is represented as a dotted outline.

3. Mount your part to the rotary table using the end mill holder fixture, or a chuck.

A. End Mill Holder Style Fixture (see Figure 2):

You will need to drill a hole in the fixture's blank end to accept a draw bolt. Attach your part to the fixture with a heavy-duty washer and the draw bolt, and then screw the fixture onto the rotary table using the chuck adapter (P/N 37090).

- B. **Chuck (see Figure 3):** Mount your chuck onto the rotary table using the chuck adapter and then mount your part in the chuck.

Please see page 5 of the P/N 3700 Sherline rotary table instructions for details on calculating gear cuts: [CLICK HERE](#).

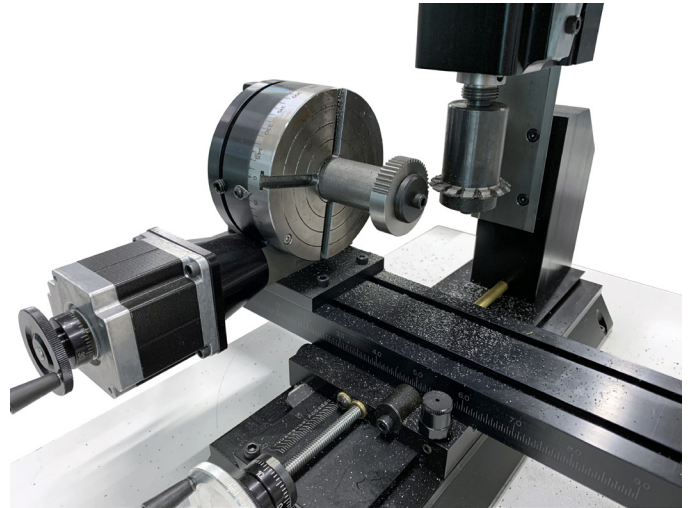


FIGURE 2—This is a typical gear-cutting setup. The gear is held on the rotary table with a customized, 2" end mill holder (P/N 3082). The gear cutter is an involute cutter and is held in the headstock spindle with a gear-cutter arbor (P/N 3231). This rotary table is driven by a stand-alone CNC controlled rotary indexer.

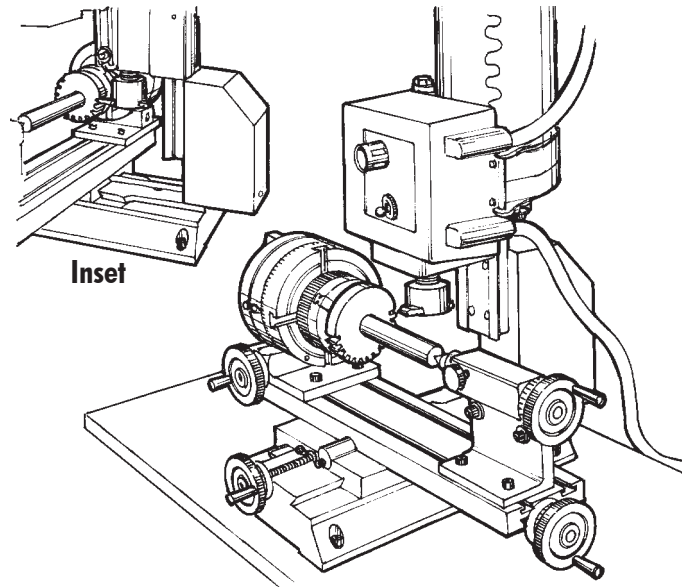


FIGURE 3—Here is another sample setup for cutting a gear using a chuck. The optional adjustable right-angle tailstock (P/N 3702) steadies the other end of the long shaft. The teeth are cut using a gear tooth cutter holder (P/N 3217). The small inset shows the column moved back to the rear hole to allow clearance for cutting larger diameters.