

## Mill Tooling Plate

P/N 3562 (7" x 13"), P/N 3563 (7" x 18")

### About Tooling Plates in General

The original Sherline 4" x 10" mill tooling plate went into production after a request from a customer who had damaged his mill table. It was an intelligent request because we use tooling plates on many of our large shop machines. They not only protect the machine's table from damage, but they provide an inexpensive, modifiable surface for clamping work that is as flat as the machine's original table. We felt it was time the Sherline miniature machine tool line should be able to benefit from this same shop practice. This larger tooling plate offers some additional features.

### Use of the Mill Tooling Plate

The P/N 3562 tooling plate was designed to give customers a larger work surface. The plate was designed primarily for the 5800 NexGen mill. When mounted on the 5800, it will increase the usable machining area of the mill to a full 7" x 13" (that's an additional 5.0" in the Y-axis and 8.2" in the X-axis). It can also be used on the 2000 mill, however, it

limits the usable Y-axis travel to 2.85". It has a hole pattern pre-drilled to make it easy to clamp down the Sherline mill vise. Additional holes were also added to accommodate the Sherline rotary table, but you should feel free to drill whatever additional holes are needed to meet your particular clamping and setup needs. (See Figures 5, 6, and 7 on the last page for setup options.) We use 10-32 holes for the Sherline clamp screws. Unless you have a particular need for another size, you might want to stay with that size for additional holes so the same size screws can be used in all holes. An optional 7" x 18" (P/N 3563) tooling plate is available for the 5800 NexGen mill (that's an additional 5.0" in the Y-axis and 13.2" in the X-axis).

In addition, this plate features three T-slots that can be used like the slots in the mill table to attach clamps or other items using positionable T-nuts. In the bottom of the T-slots are 1/4" holes for alignment pins to speed up squaring up fixtures with the table. Four steel pins 1/4" x 1" come with the set.

The material used for the plate is 6061-T6 aluminum which is milled to 3/4" thickness. The surface is not anodized. Therefore, additional machining to the plate can be done to suit your unique needs.

### Clamping the Tooling Plate to the Mill Table

Use all six mounting screws and T-nuts provided to mount the tooling plate to your mill table. Do not over-tighten the T-nuts or you can damage your table slots. The heads are countersunk into the tooling plate to leave your working surface free from obstructions.

### Clamping Parts to the Tooling Plate

It should always be your goal to try and hold a part as firmly as possible for milling. If a part moves during the cutting process it will probably be ruined. The heavier the cut you wish to take, the more important this becomes. The best way to hold a part more securely is by adding more clamping points. Do not over-tighten the points you already have. For example, on the mill vise, use four clamping points rather than two.

For drilling holes in a part or to make fixtures to clamp to the table for some setups, keep in mind that the holes in this plate are 1.00" (25.4 mm) on centers.

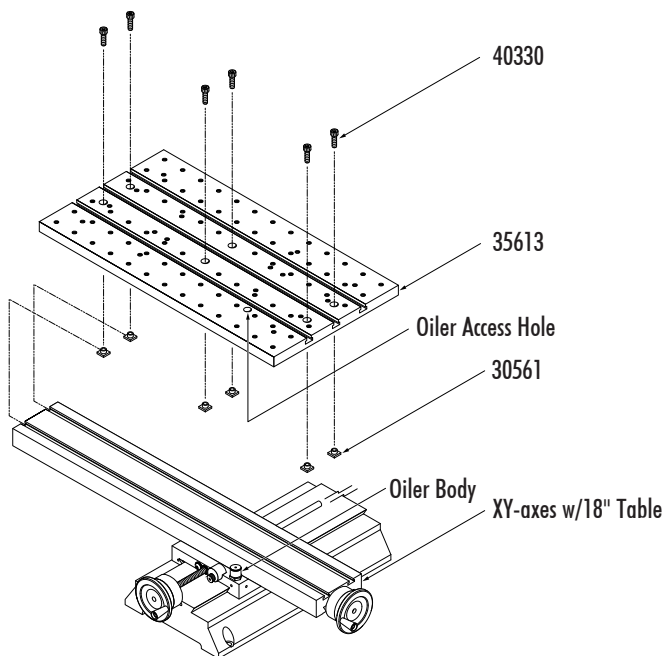


Figure 1—The tooling plate must be mounted with the oiler access hole in the front of the machine in order for it to align to the oiler body.

### Lubrication of the XY Base

The machine slides should be kept clean and lubricated with a light machine oil or grease. New units come from the factory lubricated with a Teflon-based synthetic grease that works exceptionally well. It is available in small quantities through auto parts stores under several major brand names. Leadscrews are lubricated as needed with light machine oil.

#### Lubricating the XY Base

1. Add oil to the oiler in the saddle. There is an oiler-access hole in the tooling plate (See Figure 2).

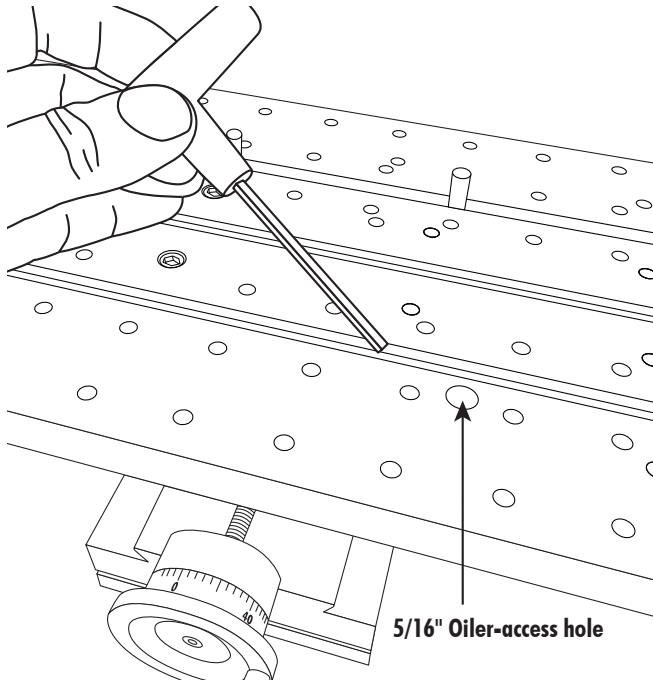


Figure 2—Oiler-access hole. Please note that the hex key is used for demonstration purposes only. It is not included with the tooling plate.

2. Move the X-axis until the access hole lines up with the oiler (See Figure 3).

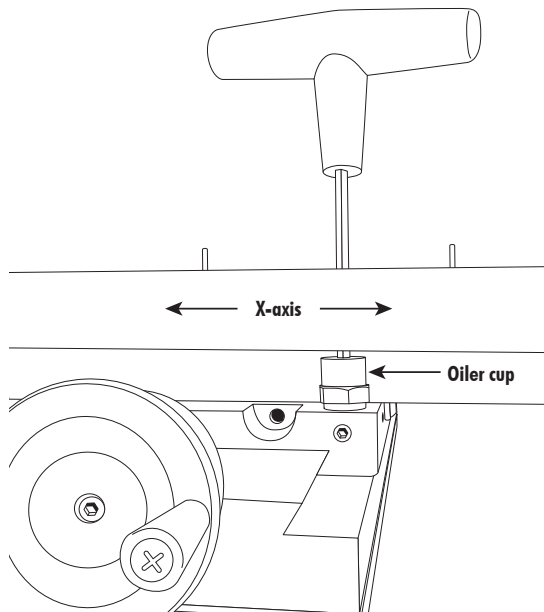


Figure 3—Aligning the access hole with the oiler cup.

**Note:** You must remove the Oiler Cup “Cap” to add oil. The cap is just on finger tight and it is only one revolution to remove it.

3. Add a light oil such as 3-in-1 oil. Fill the cup a few times to start and then fill it once a week from then on (See Figure 4).

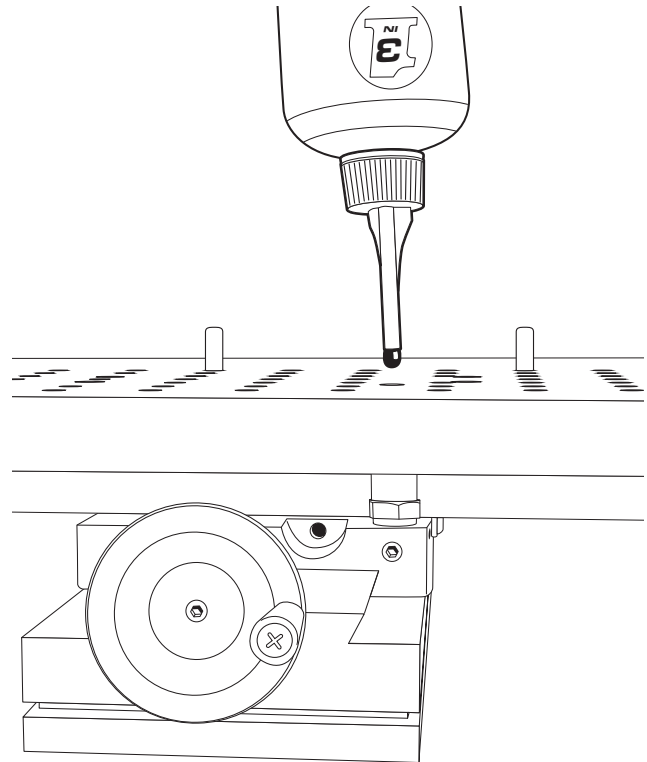


Figure 4—Adding oil through the Oiler-access hole.

**Note:** You should see oil on the ways and some will run down the side of the base. This is a gravity feed system.

### Rotary Table Tooling Plate

A round tooling plate P/N 3725 is now available for use on the Sherline rotary table P/N 3700 or P/N 8700. It functions on the rotary table in much the same way P/N 3560, P/N 3562, and P/N 3563 tooling plates work on the mill table.

Thank you,  
Sherline Products Inc.

### Parts List

NO. REQ.	PART NO.	DESCRIPTION
1	35613	7" x 13" x 3/4" Tooling Plate
1	58601	7" x 18" x 3/4" Tooling Plate
6	40330	10-32 x 5/8" Socket Head Cap Screws
6	30561	10-32 T-Nut
4	35630	1/4" x 1" Steel Alignment Pins

The following images show how the Sherline rotary table and mill vise can be mounted on the 7" x 13" Mill Tooling Plate.

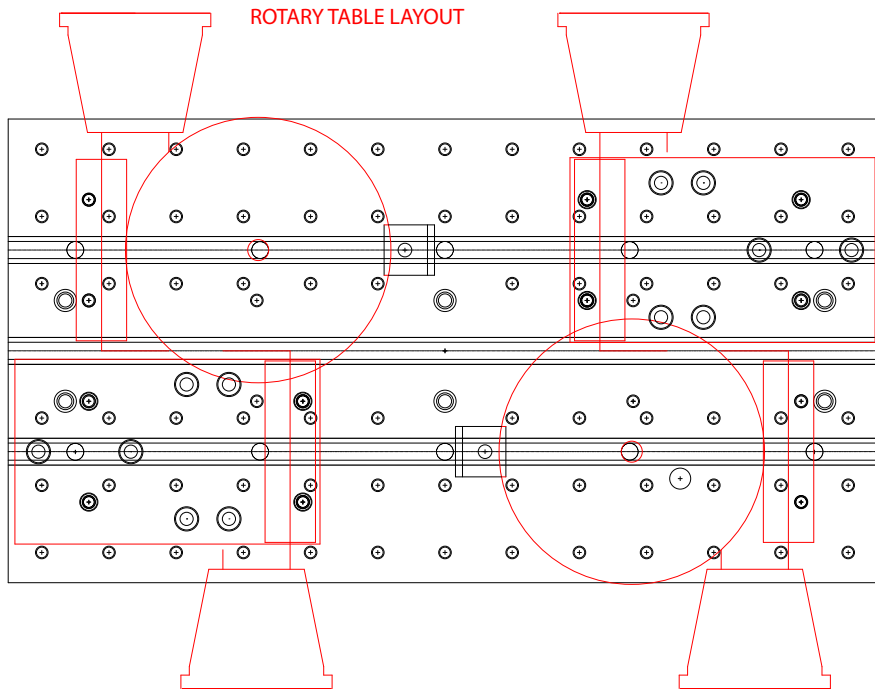


Figure 5

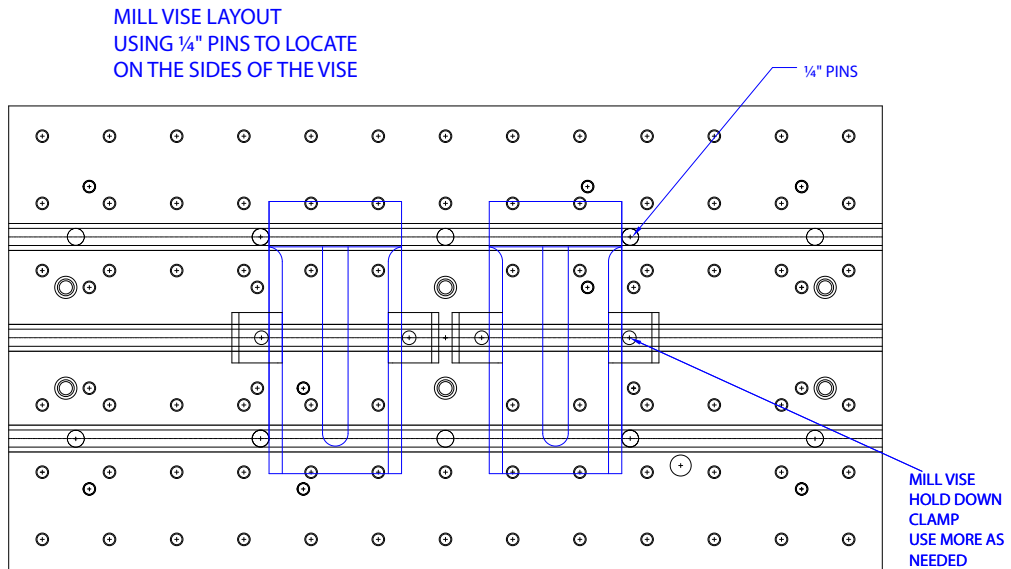


Figure 6

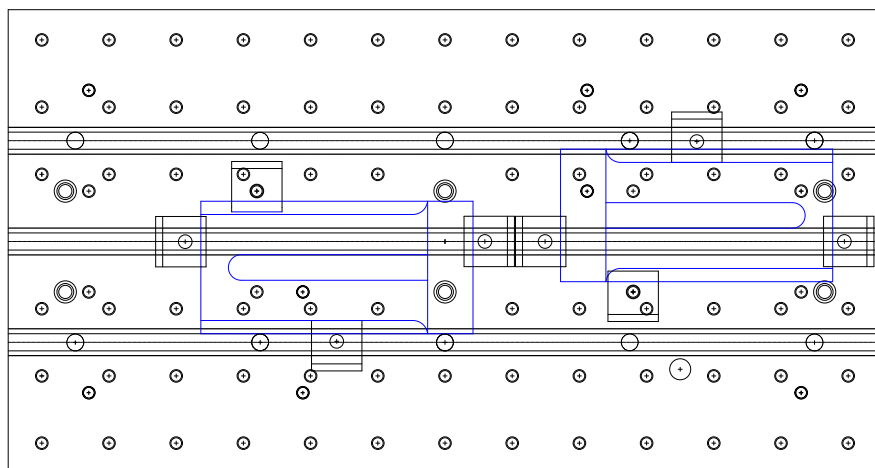


Figure 7