

## 8" x 18" Laser Engraving Plate

P/N 3560-LAZ

Shortly after Sherline purchased a new engraving laser from Jimani we decided to manufacture a laser engraving tooling plate. Jimani was already using our rotary table, and since we make our own X/Y tables we believed that we could build a custom X/Y table with a tooling plate that would enhance the operation of the laser while adding ease and versatility to set-ups.

The tooling plate is 8" x 18" x 3/4" black anodized 6061 aluminum. Some of the features of the tooling plate are:

1. (115) Dual purpose 1/4" holes, on 1" centers. These holes are threaded 1/4-20 on the bottom and reamed to 1/4" deep on the top. This allows each hole to be used as a "part locating" hole when you insert a 1/4" dowel pin. Each hole can also be used as a clamping hole using the 1/4-20 thread.
2. In addition to the 1/4-20 holes, the plate also has 10-32 holes which are positioned to mount our Sherline rotary table (P/N 8730) and tilting angle plate (P/N 3750).

3. There are (5) 1/4" through holes for locating the tooling plate square to the table using the pins.
4. There is one 5/16" oiler access hole so you can fill the mill saddle oiler without removing the tooling plate.
5. There are (10) T-nut mounting holes to assemble the plate to a Sherline mill XY base.

**NOTE:** We designed this tooling plate to be mounted to our 18" Mill Table or P/N 6540LAZ/6541LAZ 18" XY Industrial Slide. If you decide to mount it to a different table or plate you can use the existing mounting holes that are machined to accept 10-32 Socket Head Cap Screws.

See Figure 5 on page 3 for hole locations and description. We at Sherline Products believe that our 8" x 18" laser engraving tooling plate will be a great addition to any engraving laser. Custom tooling plate hole patterns can be quoted upon request.

To make set-ups quicker and easier we have added a set-up sheet. You can record the pin locations and handwheel settings for your fixtures. This will make switching from one job to the next more efficient and accurate. A sample sheet is included on page 4. You can make copies of this sheet or download a PDF file of the set-up sheet at <http://sherline.com/WordPress/wp-content/uploads/2015/12/3560lazinst.pdf> if you need more copies.

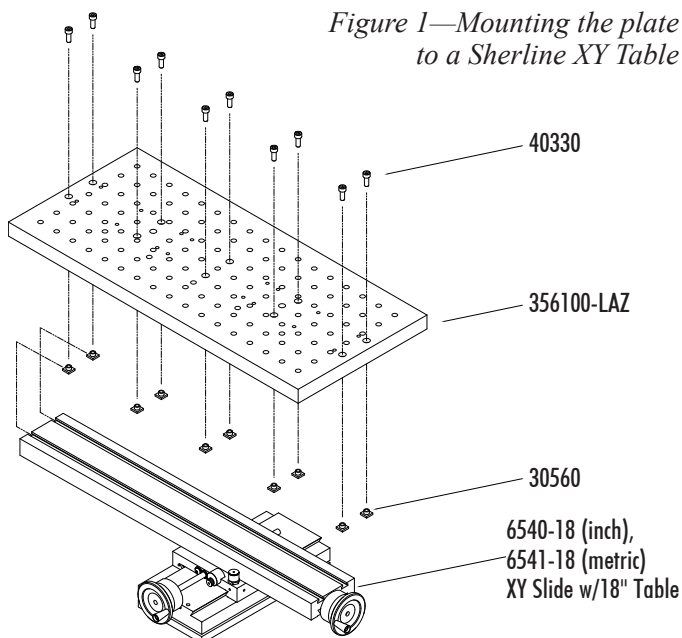
### Lubrication and Cleaning of the XY Base

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. The leadscrews and sliding surfaces should be kept free of residue powder, which is a result of laser engraving parts.

### 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 on the following page).

Figure 1—Mounting the plate to a Sherline XY Table



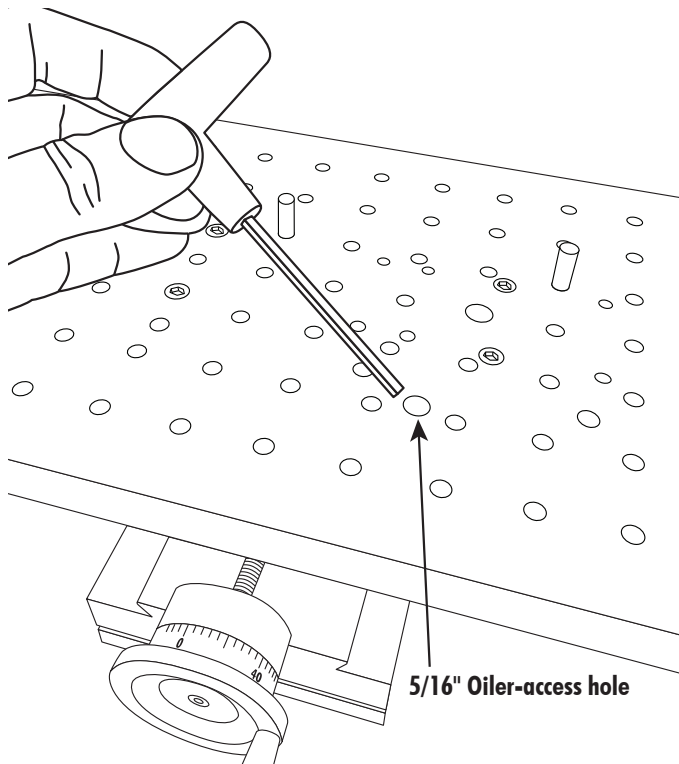


Figure 2—Oiler-access hole. Please note that the hex key is used for demonstration purposes only. It is not included with either the engraving plate or the XY base.

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

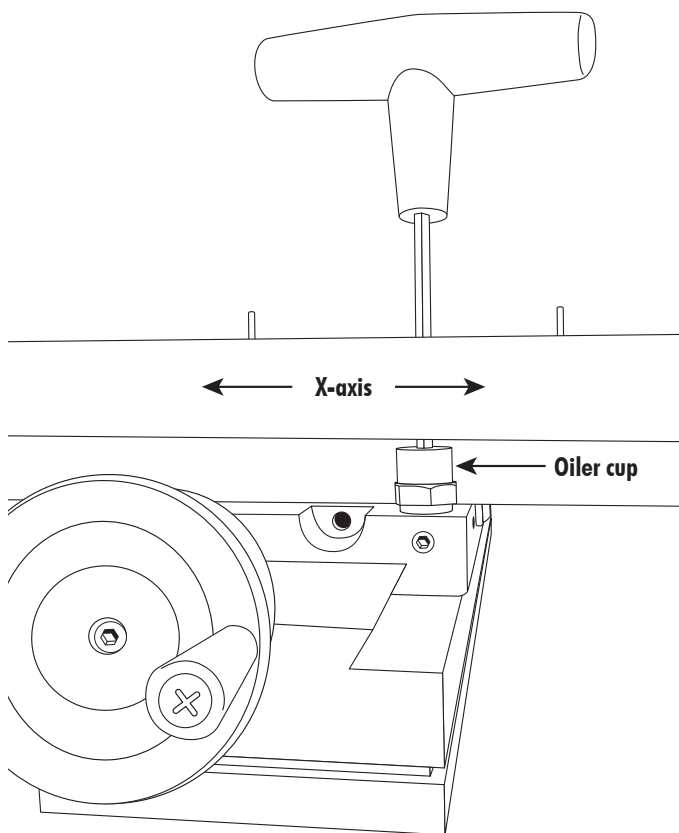


Figure 3—Aligning the access hole with the oiler cup.

**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).

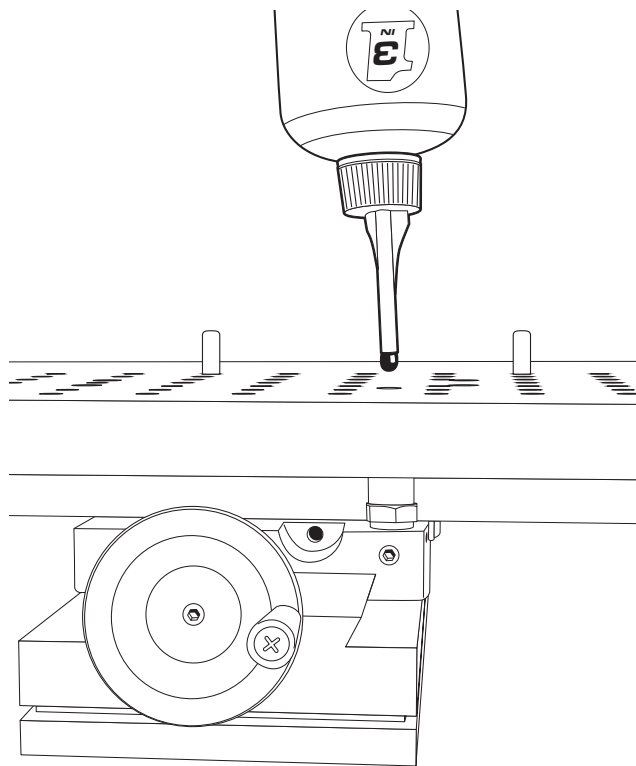


Figure 4—Adding oil through the Oiler-access hole.

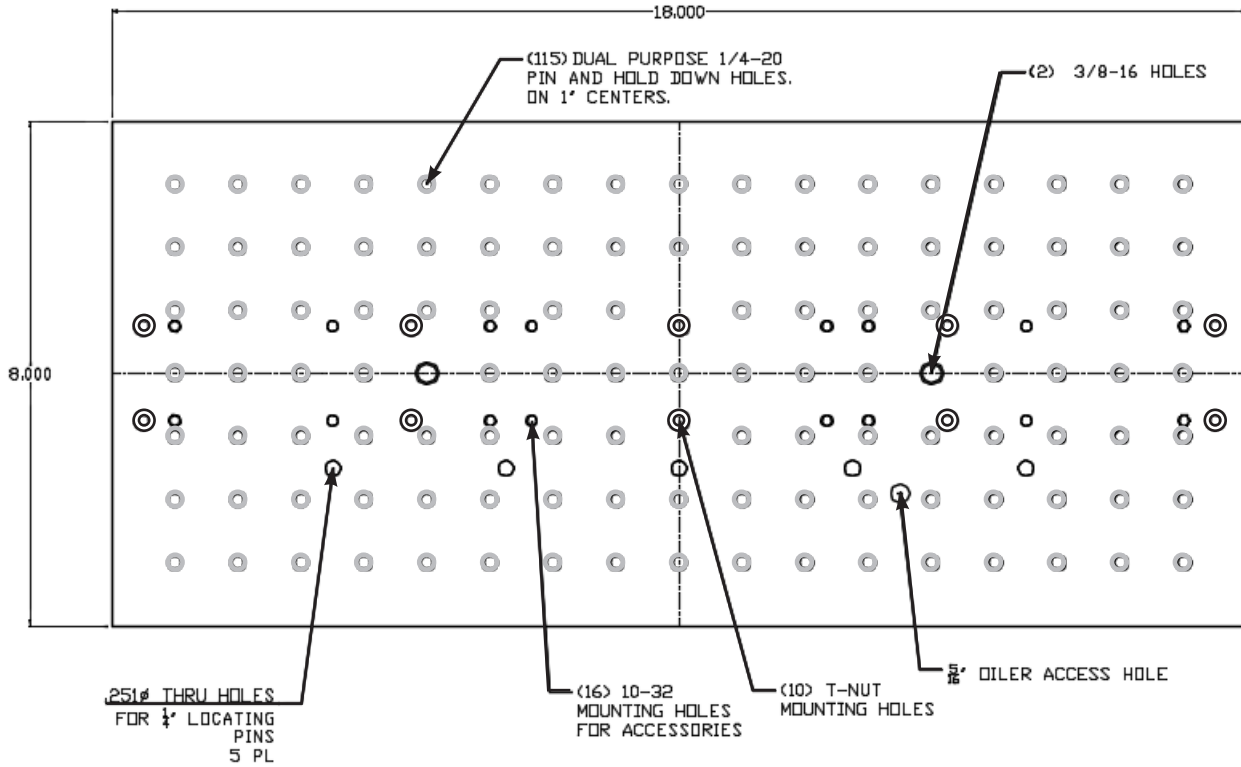
**Note:** You should see oil on the ways and some will run down the side of the base. This is a gravity feed system.

#### Cleaning the XY Base

If you notice a build-up of powder it is a byproduct of the material that is being removed from the parts that you are engraving. If the parts are anodized aluminum, then the dust is aluminum oxide. If the parts are ceramic, then the dust is ceramic (glass) dust. The dust can settle on the screw and ways and act as an abrasive. Aluminum oxide is one of the abrasives that is used for sandpaper. If you are lubricating the screw and ways by adding oil to the oiler on the saddle, the screw and the ways will be lubricated and oil will flush out the powder.

Thank you,  
Sherline Products Inc.

### 356100LAZ Tooling Plate Dimensions and Hole Pattern



*Figure 5—The pattern of mounting holes shown in gray are used for either 1/4-20 hold down screws or alignment pins. Other hole patterns are identified above for other uses.*

#### Parts List

NO. REQ.	PART NO.	DESCRIPTION
1	356100LAZ	8" x 18" Laser engraving tooling plate
10	40330	10-32 x 5/8" SHC Screw
10	3056	10-32 T-nuts
6	35630	1/4" x 1" Steel dowel pins (not shown)

# Sherline Laser Tooling Plate Setup Sheet

Record pin locations and handwheel settings for each individual job.  
 (Before using, make copies as needed for future use. Download additional copies at  
<http://sherline.com/WordPress/wp-content/uploads/2015/12/3560lazinst.pdf>)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
A	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
B	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
D	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
G	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

COMPANY: \_\_\_\_\_

PART NAME: \_\_\_\_\_

PART NUMBER: \_\_\_\_\_

PIN POSITIONS: \_\_\_\_\_

HAND WHEEL X: \_\_\_\_\_ HAND WHEEL Y: \_\_\_\_\_