

**SHERLINE**  
**PRODUCTS**  
INCORPORATED 1974

## ROTATING VISE BASE

P/N 3570

### Purpose of the rotating vise base

The rotating vise base eliminates clamping and unclamping the vise to produce angles. Once mounted square to the table, the rotating base allows the vise to be positioned using the laser engraved protractor scale as a guide for setting the angle. In addition, by loosening the clamping screws, the vise can be slid forward or backward in the mounting base as another way to change the position of the part.

### Using the rotating vise base

The vise base is clamped to the mill table in the same manner as all Sherline accessories using the T-nuts in the table slots. If a high degree of accuracy is desired, the base should be squared up to the table by "indicating in" with a dial indicator. Locate the indicator arm against the front surface of the fixed jaw of the vise after clamping with the rotating base adjusted to the 90° position. Use the X-axis handwheel to move the vise jaw back and forth across the indicator. Adjust it by loosening the hold-down screws slightly and lightly tapping the base as needed until the indicator reads zero deflection (no movement) all the way across the face. (See page 29 of your Sherline *Assembly and Instruction Guide* for more on indicating in.) Once square, you have an accurate, repeatable reference against which to compare your angle settings.

When mounting the base to the mill table, make sure there are no chips on the table or stuck to the bottom of the vise base before mounting it.

### Radial shapes and hole patterns

Properly positioned, the rotating base can even be used as a simple rotary table to drill or machine small radially symmetrical patterns. Of course, a rotary table makes this job a lot easier, but if the rotary vise is all you have to work with, you can still get the job done. Because of the difficulty of indicating in the center of

the rotating base, it is suggested that you mount an oversize part and do your radial hole pattern first. Then finish the part to size based on the position of the hole pattern. If this is not possible, you will first have to indicate in the spindle in relation to the center of the rotary base with the vise removed. Install an indicator in the spindle and offset it to sweep the two sides of the rotating base where the witness marks are. (See Figure 1 on next page.) Rotate the spindle and move the vise base until you get zero deflection in the needle as you measure both sides. Once centered, install a pointer in the spindle. Mount your vise in the base and place the part in the vise jaws. Move the part sideways in the jaws to locate the left/right centerline marked on your part with the pointer. Then move your vise forward or back until the pointer aligns with the other axis centerline. Now you can advance your handwheel the amount of the desired *radius* of your pattern to achieve the proper offset. Divide 360° by the number of holes in your pattern and use the degree marks on the base to move the part to the proper position for each hole.

When holding small parts in the vise, it may not be possible to rotate the base a full 360° on a Model 5000 mill without the back end of the vise hitting the mill column. Should your job require a full 360° of rotation, it may be necessary to provide more throat distance for the spindle by using the optional P/N 1297 mill headstock spacer block. This will provide the needed clearance. (This spacer block is included with the Model 5400 deluxe mill. The design of the Model 2000 mill column makes a spacer block unnecessary.)

### Maintenance

The rotating base can be disassembled and cleaned periodically to make sure it is free from chips and debris. Before reassembling, lubricate the vise clamp ring with a light grease to assure smooth, easy rotation.

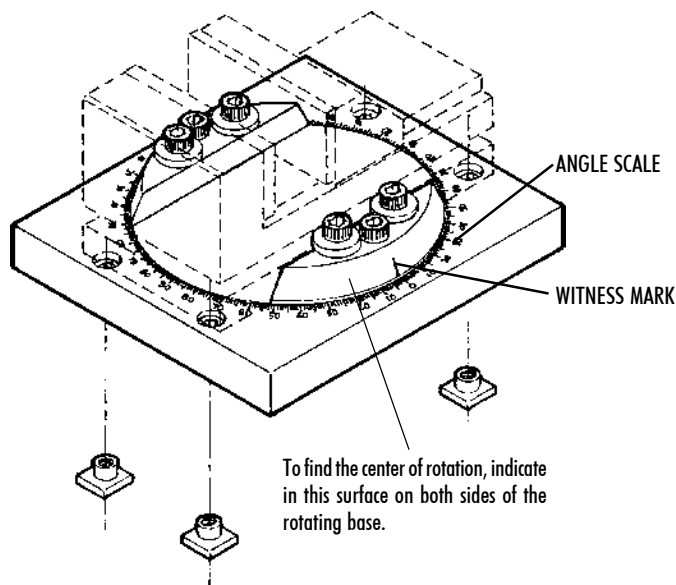


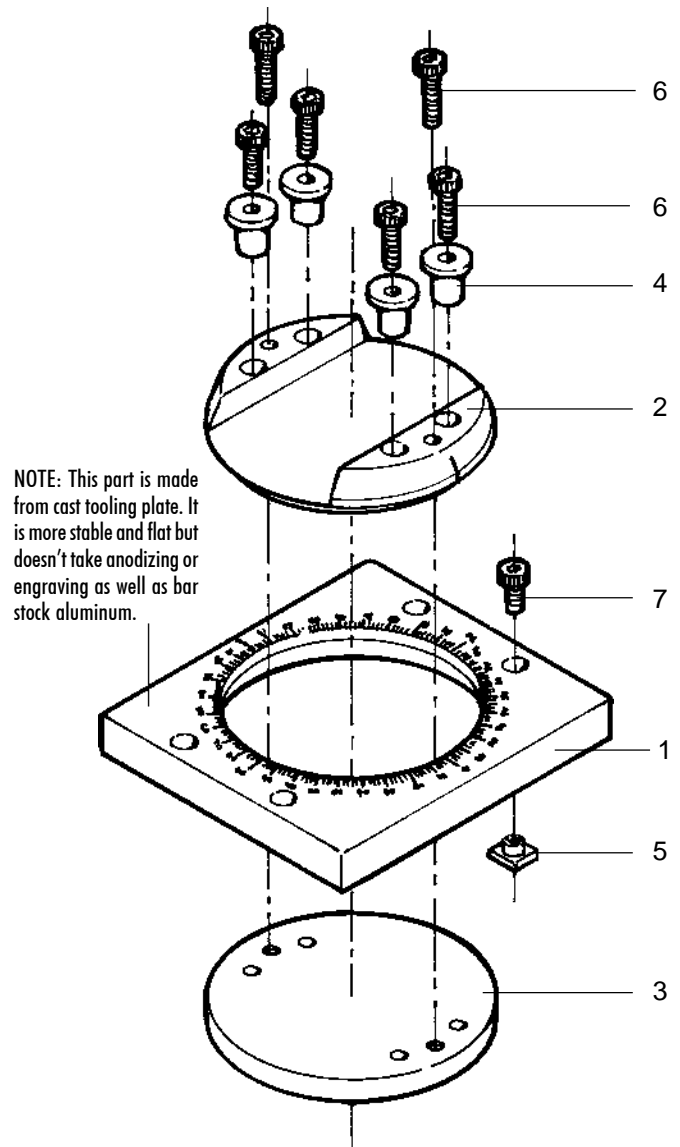
FIGURE 1—The mill vise location is shown with dotted lines.

**Precautions against overtightening**

As with all accessories that clamp to the table, be careful not to overtighten the T-nuts. You can easily exert enough pressure with a hex wrench to bend the T-slots and distort the table. This is not just a problem on miniature machine tools, as overtightening can break out the T-slots of the steel table of a full size machine as well. You will need to develop a “feel” for how tight you need to go to accomplish the job without damaging your equipment.

Joe Martin, President and owner  
Sherline Products Inc.

EXPLODED VIEW



**PART LISTING, P/N 3570**

REF	P/N	DESCRIPTION
1	3571	Vise base
2	3572	Rotating base—vise
3	3573	Clamp ring—vise
4	3574	Vise clamp (4 req.)
5	3056	10-32 T-nut (4 req.)
6	4069	10-32 x 3/4" SHCS (6 req.)
7	1211	10-32 x 5/16" SHCS (4 req.)