SHERLINE PRODUCTS
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Sherline Mill Saddle with Oiler

Introduced March, 2010

About the Mill Leadscrew Oiler

Most things that wear out or go wrong with any machine are the result of insufficient lubrication. The introduction of computer control (CNC) to Sherline machines has increased demands on leadscrews and other moving surfaces because a stepper motor is a tireless worker. Stepper motors introduce a lot more motion in a given amount of time than any human operator. Whereas a machine operated manually can get by with a daily application of oil to the leadscrews, a machine run for long periods with CNC needs lubrication more often to keep from wearing out prematurely. The Sherline mill saddle oiler now maintains a reservoir of lubricating oil that bathes the X and Y leadscrews, reducing the number of times the operator must attend to oiling duties. Just keep the reservoir topped up, and the leadscrews will never run dry. What is good for a CNC machine is also good for a manual machine, so the new oiler is now standard on manual mills.

How It Works

Oil passages drilled into the mill saddle connect the oil reservoir to the space between the slide screw insert and the anti-backlash nut on the X and Y axes (see Figure 1). Set screws block the ends of the passages. Oil is retained around the leadsrews and is kept from escaping from the saddle by the slide screw insert at one end and the anti-backlash nut at the other end. It is crucial to maintain proper adjustment of the anti-backlash nut, or oil can leak out.

The mill saddle oiler system is gravity-fed. The oil level in the oiler cup must be higher than any area that is lubricating the saddle. Therefore, the top of the oiler cup is elevated above the top of the mill saddle.

When the oil cup is filled, the oil in the cup that is above the top surface of the saddle will come out of the upper bleeder hole. The oil stops coming out of the bleeder hole once the oil level in the cup reaches the same level as the top of the saddle.

A small amount of oil is pulled through the threads of the leadscrew nuts with each rotation, so monitor the oil level in the reservoir periodically to make sure the leadscrews do not run dry. Keeping the oil level high is particularly important during continuous CNC operation. The advantage of the oil reservoir is that it gives an easy access point to apply oil for both leadscrews rather than having to apply it directly to the screws. Older model mills required the operator to apply oil to the X-axis screw underneath the table by putting it on their finger and spreading it along the leadscrew. This new method is not only easier, but it is also much cleaner for the operator.

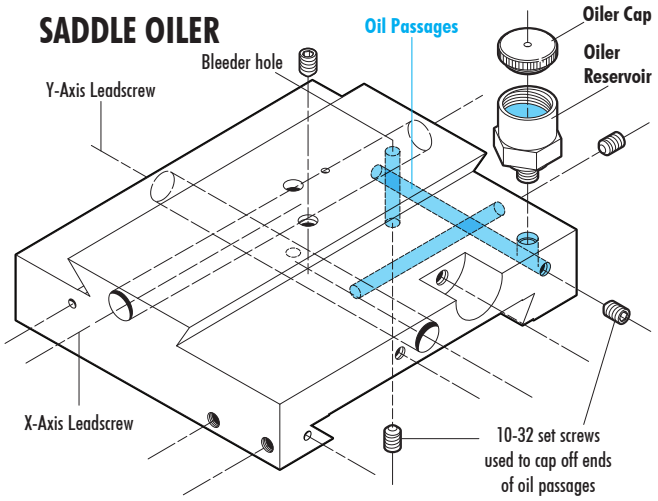

FIGURE 1—Oil passages are shown in blue.

Upgrading Existing Saddles

Sherline does not recommend replacing the saddle on an existing mill to add this feature. While the additional charge to include it on a new machine is a good investment, we feel the cost of a new saddle and oiler plus the labor to install it would be excessive for the benefit received. If, however, you do wish to install a new saddle with an oiler in place of your existing saddle, they are available as P/N 50911. If you want Sherline to do the installation for you, there will also be a charge for one hour of labor plus the cost of return shipping.

Thank you,
Sherline Products Inc.