Safety Spindle Lock

Phenom Engineering, LLC

8/15/14

General Information:

The Safe Spindle Lock from Phenom Engineering, LLC is a spindle lock specifically designed for the Sieg X2 milling machines. The spindle lock is spring loaded to immediately pop out of the spindle when you release pressure on it. This helps to keep you from starting the motor with the spindle lock still inserted, thereby saving your gear train. It is made from US sourced aluminum and is made in the US. It will come with a mild satin finish (refer to pictures). The lock comes assembled and includes mounting hardware

Installation of the lock is very easy; simply remove the Z-axis fine feed cover, drill two #7 holes matching the spindle lock, bolt the lock to the cover and reinstall the cover.

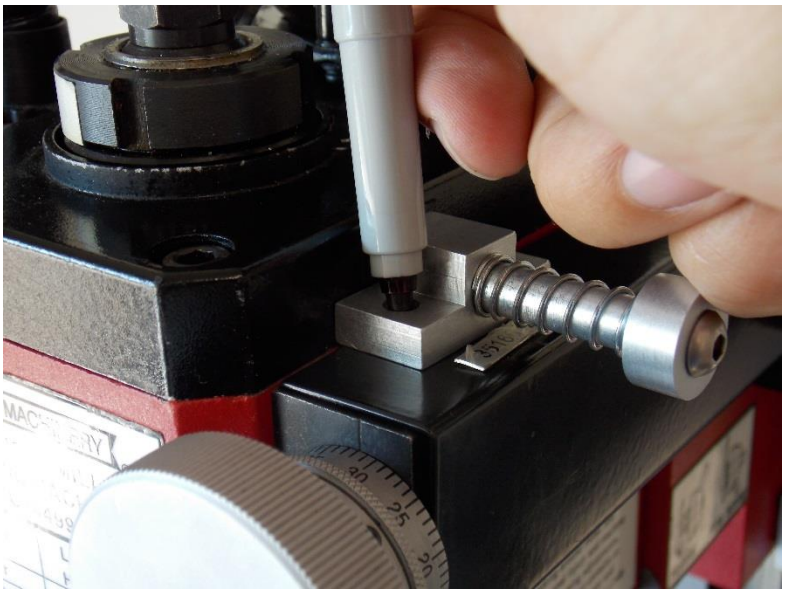
Unlike similar products, our spindle lock does not require you to remove the motor mount to install it or use a power drill to run a couple of holes into your motor mount. This also means that any mistakes are easily fixable; just buy another cheap ($1.25 - $3.50) cover. No need to worry about breaking a tap in your motor mount and having to replace it.

The lock should fill all Sieg X2 derived mini mills: Harbor Freight, Grizzly, Cummins, Homier, etc.

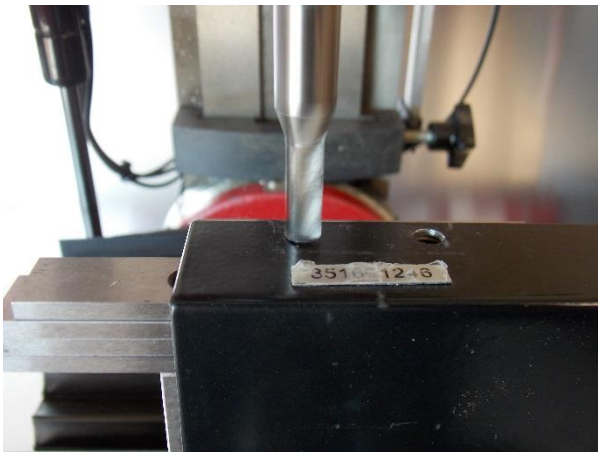
Installation Instructions (The pictures show the generation 1 spindle lock being installed. The newer version installs in exactly the same way.):

1. **Place the spindle lock on the fine feed cover and engage the spindle lock. This will center the lock in the spindle and properly position the lock bearing on the cover.**

2. **Mark the location of the two bolt holes using a pen or a center punch.**

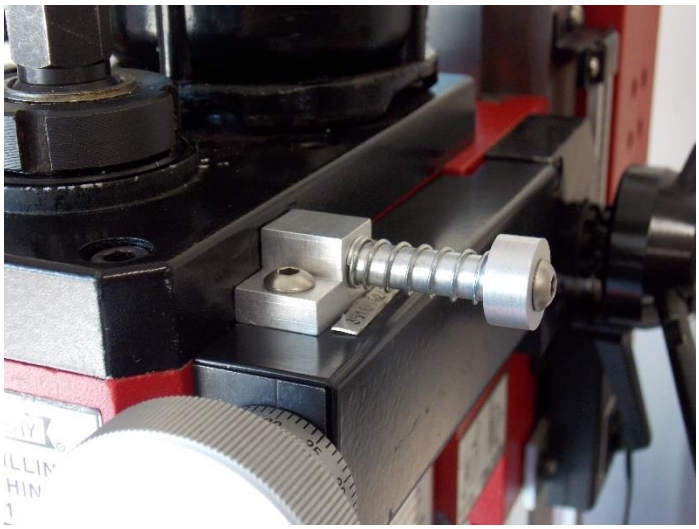


3. **Remove the fine feed cover by removing the two screws securing it to the head.**
4. **Drill two holes with a #7 bit (clearance holes for a #10 size screw).**

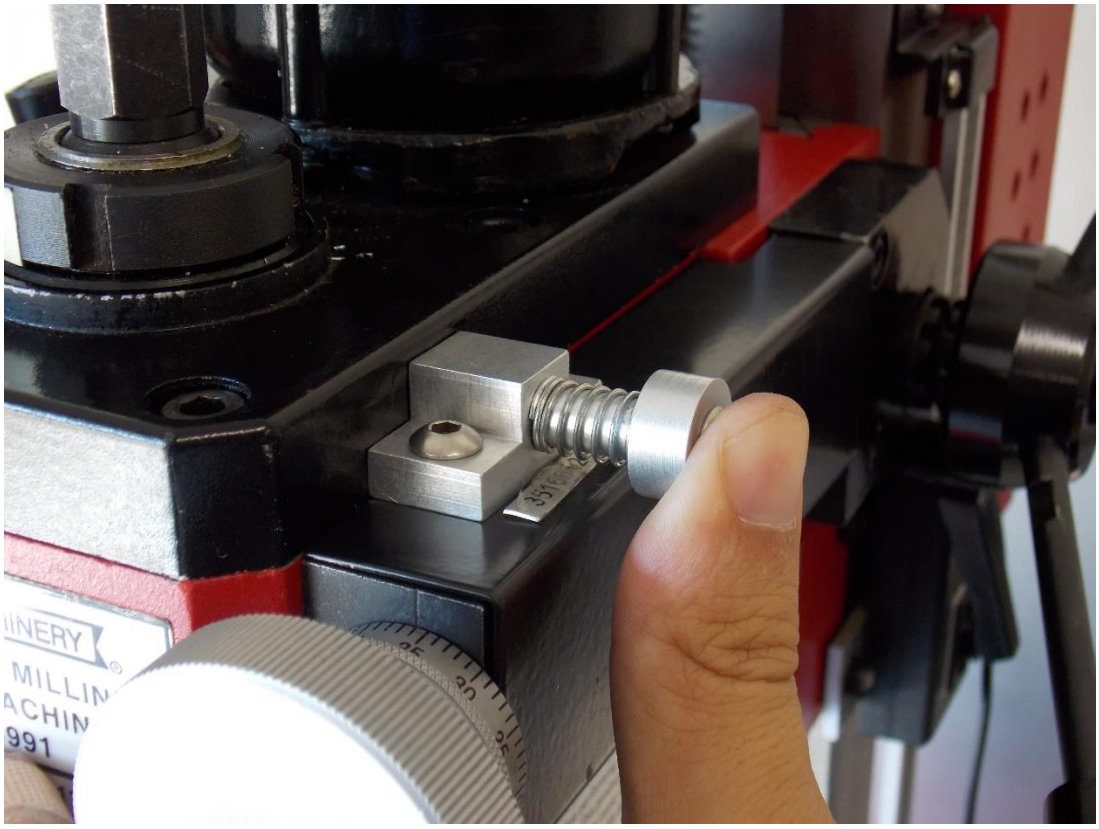


5. **Install the spindle lock with the included screws, lock washers and nuts to the feed cover.**

6. **Reinstall the feed cover to the head.**



7. **Verify that the spindle lock engages and releases smoothly with no binding.**



8. **The lock is designed to be at the nominal height to engage most every mill. There is enough variation in the Chinese mills that the nominal height won't work for everyone. If the spindle lock binds or does not release smoothly, most likely the nominal height is not correct for your mill. You can install flat washers between the cover and the spindle lock to raise it. Metal can also be removed to lower the spindle lock if necessary. Prior to making any changes, verify the spindle lock is not angled relative to the head which would cause binding.**