# Tailstock Cam Lock Kit

To install the LittleMachineShop.com Tailstock Cam Lock Kit you disassemble your tailstock, drill one hole, and reassemble it with the new parts.

The Tailstock Cam Lock Kit includes the following parts.

From left to right:

- Cam lock socket
- Cam lock sleeve
- Cam lock shaft
- Lever
- Knob
- Two 1/2" external retaining rings

You will need the following tools:

- 3/8” flat washer (approximately 1" in diameter)
- Fine felt tip pen
- 1/2" transfer punch
- Center punch
- Hammer
- #2 or #3 Center drill
- 1/8”, 1/4”, 3/8” and 1/2” drill bits and drill motor
- Retaining ring pliers

Expect to spend about an hour on this project.

## A Word to the Wise

If you don't own retaining ring pliers, now is the time to get them. Installing and removing retaining rings takes seconds with the proper tool. It is a frustrating experience without.


## Teardown

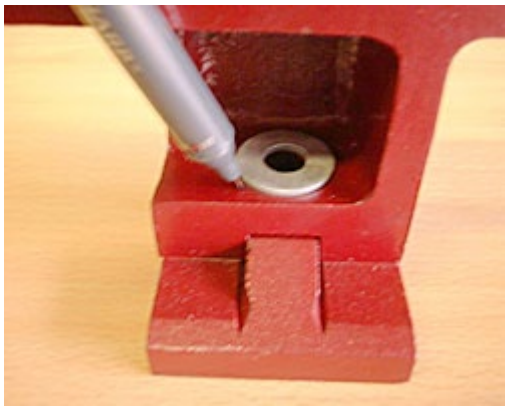
Follow this procedure to remove your tailstock.

1. Loosen the clamping nut and slide the tailstock off the right end of the lathe.
2. Remove the clamping foot from the tailstock.

## Drilling the Tailstock

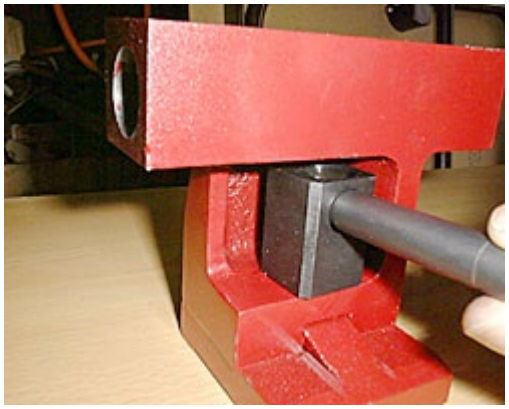
The cam lock requires one new hole in the tailstock casting. It is a clearance hole, so the location is not real critical.

1. Place the 3/8" flat washer on top of the hole in the base of the tailstock. Center the washer on the hole and use a fine felt tip pen to draw around the sides of the washer.



2. Using the markings made in step 1, center the cam lock sleeve sideways over the hole in the base of the tailstock.

3. With the ½” transfer punch, mark the back of the casting at the center of the hole through the cam lock sleeve.



4. Remove the cam lock sleeve from the tailstock.
5. Use the center punch to enlarge the mark on the back of the tailstock so you can start a hole at that location.
6. Starting with the center drill, and working up in size, drill a ½” hole through the back of the tailstock casting.

## *Reassembly*

Follow this procedure to reassemble your tailstock.

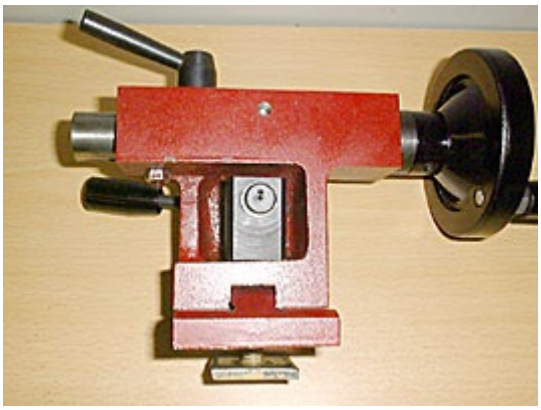
1. Assemble the cam lock shaft, lever and knob.

2. Put the cam lock shaft through the hole in the back of the tailstock with the handle on the back of the tailstock.
3. Put a ½" external retaining ring on the cam lock shaft in the rear retaining ring groove.

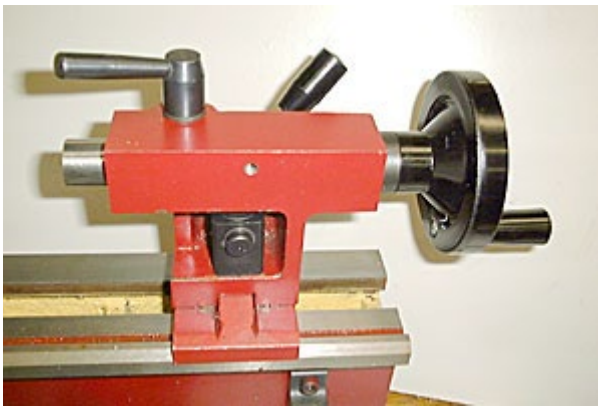
4. Assemble the cam lock socket and cam lock sleeve.

5. Put the cam lock socket and cam lock sleeve assembly on the cam lock shaft. Rotate the cam lock shaft as you slide the socket and sleeve on.
6. Put a ½" external retaining ring on the cam lock shaft in the front retaining ring groove.

7. Screw the clamping foot into the cam lock sleeve.



8. Put the tailstock back on the lathe and adjust the position of the clamping foot.



## *Troubleshooting*

In some cases, the cam lock does not clamp correctly no matter how you adjust the clamping foot. One position is too loose, but with the clamping foot screwed in one more turn, it is too tight.

In this case, partially disassemble the cam lock assembly and rotate the cam lock socket 180°. This will change the relationship between the socket and the clamping foot by half a thread and allow you to make the proper adjustment.