

The Stein Mini CASSETTE LOCK

The Stein Mini CASSETTE LOCK is designed to remove or install Shimano Cassette Lockrings without the need for a wrench or a cog holding wrench (Stein Hyperhandle or chain whip) It is generally a tool used for emergency use while touring away from a bicycle shop. Because many bicycle frames do not have a conventional chainstay against which the tool can rest, the Stein tool reacts against the back of the frame dropout when removing the lockring. **DO NOT LET THE MINI LOCK REACT AGAINST THE DERAILLEUR HANGER DURING INSTALLATION OR REMOVAL OR FRAME DAMAGE MAY OCCUR!**

LOCKRING REMOVAL

Step 1. Shift to the inner front Chainwheel. Remove the rear wheel and the quick release skewer. Unscrew the 4mm allen screw to remove the outer plate and spacer and screw from the Mini LOCK assembly. Install the driver plate into the cassette locking splines

Step 2. Install the wheel into the rear dropouts and position the chain over the cassette teeth, preferably shifted to one of the larger cogs of the cassette. Rotate the driver until it is in approximately in the position shown in Figure 1.

Step 3. Install the outer plate and the spacer and secure with the socket head screw. For thicker dropouts, move one or more washers next to the aluminum spacer. Tighten only slightly at this point. See Figure 2.

Step 4. Rotate the outer plate so the hole lines up with the center of the hub axle. Install the quick release skewer into the hub and slide it through the hole in the outer plate. Next install the skewer nut and tighten the skewer **ONLY SNUG, NOT AS TIGHT AS USUAL**. Now, tighten the allen head screw fully with a 3mm allen wrench. See Figure 3.

Step 5 Very slowly, turn the cranks forward. This will turn the Mini LOCK slightly until the spacer contacts the back of the dropout. Carefully, continue to turn the cranks and the lockring will begin to unscrew from the cassette body. Stop crank movement once the lockring has turned enough to break it free, about one quarter revolution of the wheel. Remove the socket screw of the mini LOCK and remove the outer plate and the spacer. Remove the rear wheel and you can use the driver plate to remove the lockring the rest of the way

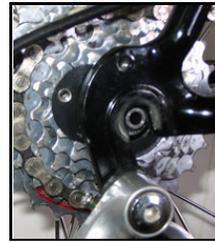


Figure 1



Figure 2



Figure 3



Figure 4

LOCKRING INSTALLATION

Because the derailleur hangers of many frames are quite weak, **DO NOT LET THE MINI LOCK REACT AGAINST THE DERAILLEUR HANGER DURING INSTALLATION OR REMOVAL OR FRAME DAMAGE MAY OCCUR!** Instead, assemble the Mini LOCK in the position shown in Figure 5. Assemble the outer plate and the skewer as shown in Figure 6 and then grab the wheel and slowly turn the wheel backwards (counter clockwise from the chain side) to secure the lockring. Do not overtighten!! Disassemble the Mini LOCK and skewer and reinstall the wheel and you are all set to go.

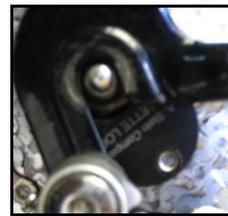


Figure 5

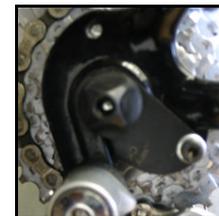


Figure 6

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