

## **A MORE ACCURATE ALTERNATIVE TO THE "BOBBIN CASE DROP TEST"**

### **THE PROBLEM:**

If you have tried using the classic test for bobbin case tension by suspending the bobbin case by holding onto the end of the thread and jerking on it, you must admit that it is an "IFFY" test:

1) It won't work IF you don't jerk it "just right": Too lightly, and it won't budge. Too much, and you send the case hurtling to the floor.

2) It won't work IF your bobbin case doesn't "drop a little": What is a "little"? Is it 1/16 of an inch, or 1 inch, or 6 inches?

3) It certainly won't work if the bobbin drops out of its case when you jerk on it. Since the thread is being suspended away from its center of gravity, and opposite the opening of the case, simple physics says that the bobbin will always drop out of the bobbin case(unless either the bobbin or the interior of the case has imperfections that create sufficient friction to keep the bobbin from sliding out). That is why you usually need to cradle the bobbin case with the free hand so the bobbin stays in, in which case you have to be extremely careful not to impede the movement in the cradling process.

### **THE SOLUTION:**

Here is a more precise, way to test the tension. For this test, you will need 3 sets of quarters (coins), scotch-taped together, containing 4, 5, and 6 coins each.

1) Use another piece of tape to attach the end of the thread from the bobbin case onto the set of 5 coins, about an inch away from the case. Pull out exactly 2 inches of thread.

2) Hold the bobbin case between your thumb and index finger, with the finger of the bobbin case pointing downwards. Be sure you are not touching the tension spring or the bobbin. Hold the coins in the other hand. To make the test reproducible, make sure there are exactly 2 inches of thread between the bobbin case and the coins. Hold the coins next to the case, and even with the case.

3) Let go of the coins and let it drop.(This replaces the arbitrary "jerking" movement with a very reproducible force.) If the bobbin moves slowly downwards, the tension is correct. However, 3 things can happen:

a) The coins may not move: Loosen the tension screw by turning it counterclockwise about 1/8 of a turn and repeat step 3). Keep doing this until the coins drop rapidly, then retighten the screw(clockwise) about 1/8 of a turn and repeat step 3). If necessary, keep tightening until it drops slowly, and you're done.

b) The coins drop quickly to the floor: Tighten the tension screw by turning it clockwise about 1/8 of a turn and repeat step 3. If necessary, keep tightening until it drops slowly, and you're done.  
To sharpen up the setting(since the term "slowly" is subjective), repeat step 3 using 4 coins, then with 6 coins. The 4 coins will not move, whereas the 6 coins will drop rapidly to the floor.

c) The coins suddenly stop dropping: Ignore this, especially with Singer bobbin cases, since the design of the tension spring in the Singer bobbin cases makes it very temperamental. Just pull out some thread, cut it off, and repeat from step 1). If you still have problems, the bobbin may be defective