

Does my machine need to be timed?

Visual Timing Check

Before making any timing adjustments to the machine, perform a visual timing check as described below:

1. Make sure the machine is turned off and unplugged before starting to work on the machine. (Remove the cord at back of machine.)
2. Make sure the needle is the correct needle system (system 134), is a size 100, and is tested for straightness.
3. Install the needle, ensuring that the eye is straight out to the front of the machine and the end of the needle (butt) is touching the top of the needle stop/sight hole in the needle clamp above the needle clamp screw.
4. With the needle bar in the lowest position check for needle bar play.
5. With the needle point lowered into the needle plate check needle position – it should be relatively centered but does not have to be perfectly centered.
6. Check the hook shaft for excessive play by pushing it to the back and the front of the machine.
7. Check the needle plate for needle impact marks and damage. Then remove the needle plate by removing the two screws.
8. Put the needle at its bottom dead center (BDC), or its lowest position. The hook point should look like this:



9. Slightly turn the handwheel in the direction of motion to raise the needle bar 2.2 mm. The hook point should reach the far edge of the needle. *This shows the loop lift.*



10. The hook point should be lightly brushing or touching the needle inside the scarf. *This is the needle distance.*

 **NOTE:** In this case, there is a gap between the hook point and the needle scarf. The hook point should lightly touch the inside of the needle scarf.



11. When the hook point reaches the far edge of the needle, the hook point should look like this relative to the needle eye. *This is the needle bar height.*

There should be 1 mm from the bottom of the hook point to the top of the eye.



If steps 8 through 11 above all look good, then the timing is probably set properly and may not need to be adjusted.

 **CAUTION:** If you adjust machine timing when it isn't necessary, it will usually make things worse instead of better.

If timing does not appear to be out but the machine has sewing issues, the cause is probably something else. For example improper machine threading or tension settings can cause significant stitching issues.

 **IMPORTANT:** It is possible, by misadjusting the machine, to get the hook point and needle eye to look correct without turning the handwheel to raise the needle 2.2 mm. However, in this case the hook will attempt to pick up the loop before it is formed. Without a loop the machine cannot make a stitch. *“No loop – no stitch.”*

If all of the general check and adjustments have been performed and you have determined that the timing needs adjustment, then proceed with the timing adjustments.