

Lesson 2.4 Lockstitch Machine:

Settings and Adjustments

To use an industrial sewing machine effectively, you need to understand machine settings, recognise when adjustments are required and know how to make them. You also need to know the limits of your responsibility when it comes to machine adjustments. The machines may be set by your company's mechanic to specific specifications, and must not be adjusted, find out before making any adjustments. Listed below are the adjustments most machinists are expected to be able to carry out:

Stitch length



Stitch length means the length and spacing of each stitch, product specification often indicates the stitches per cm required to meet quality standards, the stitch length may already be set. Check with your supervisor before adjusting stitch length, as if the stitch length is incorrect the product will be defective.

The stitch length can be adjusted using the stitch regulator dial on the front of the machine. There are figures from 0 to 4 mm on the graduation plate. The higher the figure, the longer the stitch.



Thread tension

Thread tension is often set on machines, but they can loosen with time, or you may have to reset the tension to suit a change in fabrics/products.

It is important to adjust the tension settings to best suit the material being sewn, the balance of the needle and bobbin threads is key, and this is dependent on the tension of both, if either is too loose or too tight the stitch will be affected. If you do need to adjust

tensions always test the stitch on scrap before sewing the product. See how to adjust top and bottom tension below:



To adjust top tension

If the needle thread tension is too loose, turn the tension discs clockwise

If the needle thread tension is too tight, turn the tension discs anti-clockwise



To adjust the bobbin tension

If the lower thread tension is too loose, use a small screwdriver and turn the small screw on the bobbin case to the right

If the lower thread tension is too tight, use a small screwdriver and turn the small screw on the bobbin case to the left

Pressure of the presser foot

The pressure of the presser foot is important as if it is too tight the material will not go through or will leave presser foot trails on the fabric if it is too loose there will be insufficient grip on the fabric to pull it through correctly. So, it may be necessary to adjust the pressure of the presser foot depending on the thickness of the material being sewn, but again this is



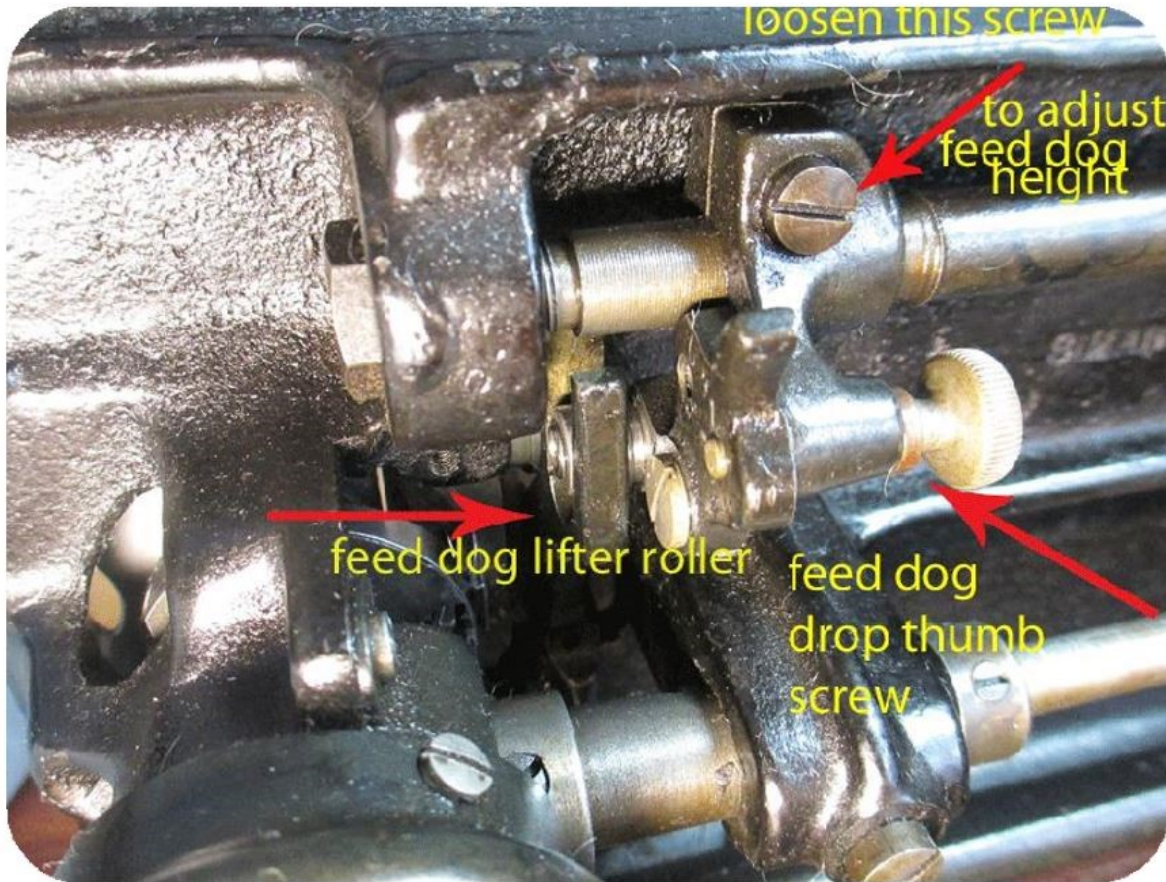
often preset. To make this adjustment, locate the pressure nub/screw. This is the presser spring regulator (usually on top of the machine, on left above/ behind the thread guide)

- To increase pressure, turn the
- presser spring regulator clockwise
- To decrease the pressure,

loosen the presser spring regulator by turning anticlockwise

Note: The standard value of the pressure regulating thumb screw is 29 to 32 mm

Adjusting the feed dog



During sewing, the material is advanced continuously by the feed dog, located under the presser foot. If the feed dog is too low, the feed becomes defective when sewing thick material. If the position of the feed dog is too high, puckering will occur when sewing light- weight material.

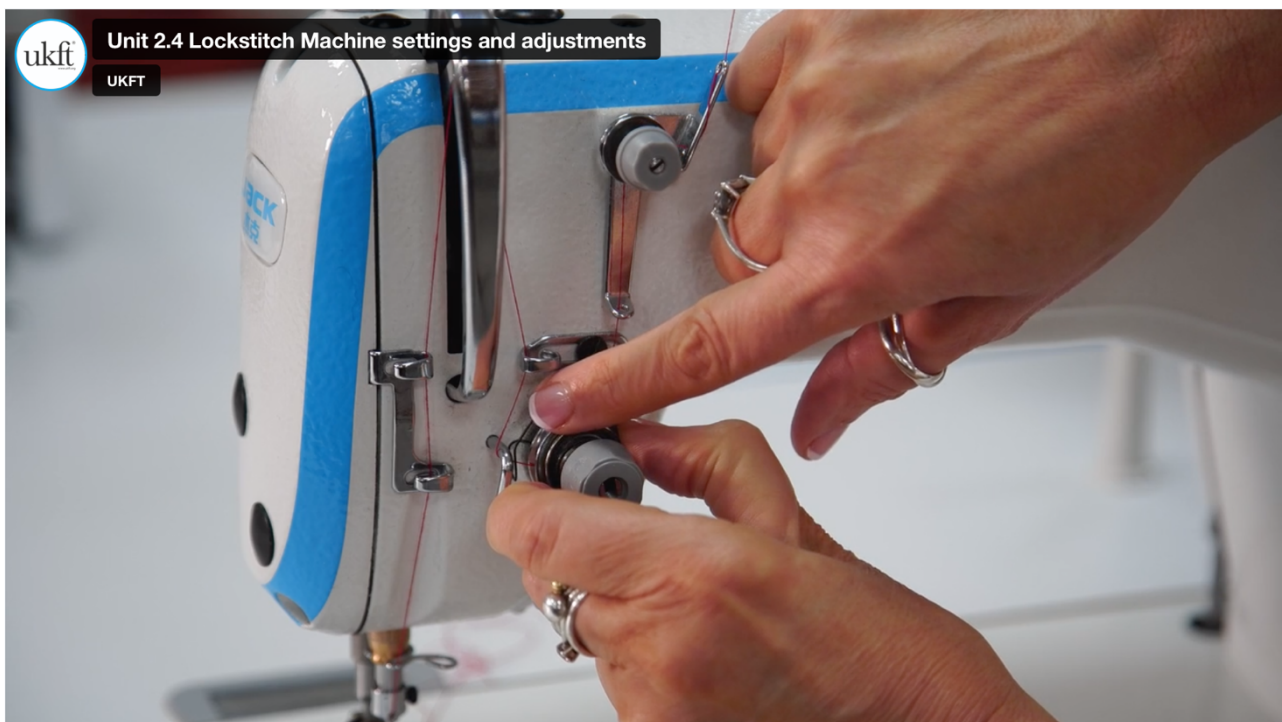
Therefore, the feed dog can be adjusted in accordance with the thickness of the materials. However, **this is often preset by the mechanic, so please ask before making this adjustment**

The standard height of the feed dog for general materials is 0.8mm from the throat plate surface, and the standard height for thin materials is 0.6mm from the throat plate surfaces.

To adjust the height of the feed dog follow the instructions below:

- Ensure machine is off and needle guard is attached
 - Remove the throat plate, clean up any thread around the feed dog
 - and replace the throat plate
 - Tilt the machine to allow access to under bed and turn the balance wheel towards you, bringing the feed dog to its highest point.
 - Loosen the screw of the feed bar fork, slide the feed bar up or down to adjust pressure, and firmly tighten the screw once adjusted.
- Be very careful not to let the bottom part of the feed dog hit the sewing hook

Watch the video below for more on machine settings and adjustments



Unit 2.4 Lockstitch Machine settings and adjustments

<https://vimeo.com/580208923>

Knowledge Challenge 2.10

1. What two things do you need to do to ensure a 3mm balanced even stitch?
 - Set the stitch regulator dial to 1mm
 - Loosen the top tension
 - Adjust both tensions and test sew
 - Tighten the bottom tension
 - Set the stitch regulator dial the right stitch length

Knowledge Challenge 2.11

1. In what two circumstances might the feed dog height or presser foot pressure most likely need adjusting?
 - When having to increase sewing speed
 - When switching from light weight fabric to heavy weight fabric
 - When sewing long straight seams
 - When switching from heavy weight fabric to lightweight fabric



GROUNDWORK: Completing this groundwork is an option, it will help you to gain a better understanding of the machine functions. For those undertaking an apprenticeship these activities will help you gather information relevant to the End

Point Assessment.

Your limit of responsibility

You should know what your limits of responsibility are regarding machine adjustments. Some companies **do not allow** machinists to make machine adjustment others do. To complete this groundwork, find out your companies' rules/guidance on this. They may be within the companies' procedures, in your handbook or communicated verbally (if so record them).

Whatever way your responsibilities are communicated, keep a document in your file that identifies your own responsibilities in this area. This will ensure you know what is expected of you and what not to do. If you are an independent learner research fashion and textiles standard machine maintenance policies, these will give you an idea of industry practice.

Now let's look at how to change needle on your machine in Lesson 2.5