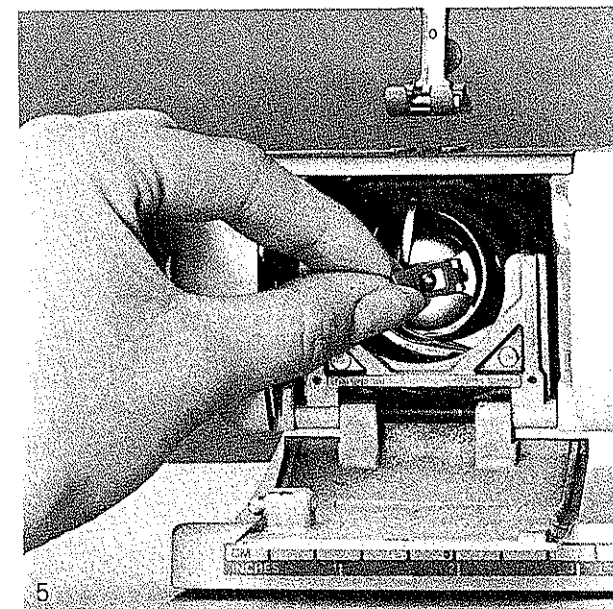
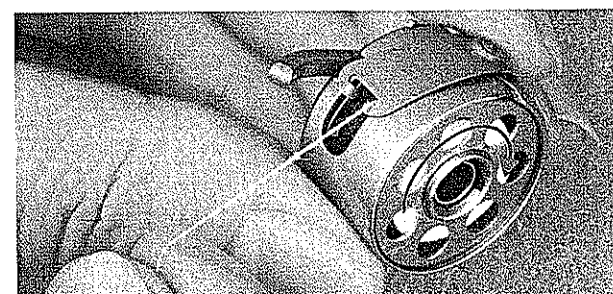
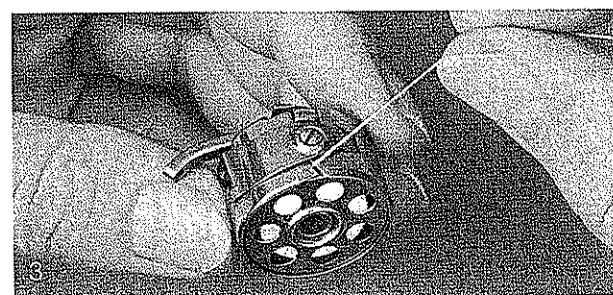
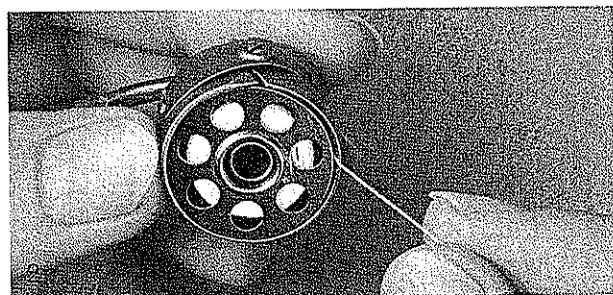
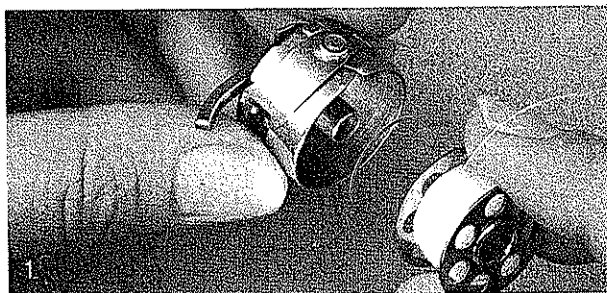


Inserting the bobbin



Inserting the bobbin

Hold the bobbin case in the left hand. Insert the bobbin with the thread running in a clockwise direction, see arrow.

Take the thread anti-clockwise to the slot.

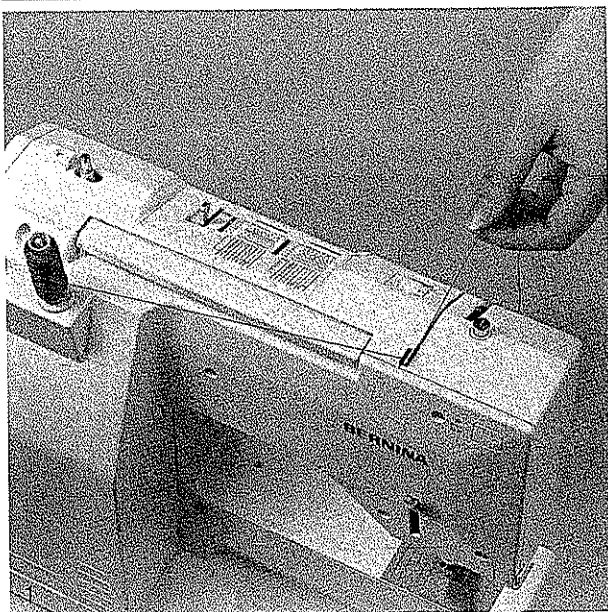
Pull the thread into the slot and under the spring, until it lies in the T-shaped slot at the end of the spring.

When the end of the thread is pulled, the bobbin should turn clockwise, in the direction of the arrow.

Inserting the bobbin case into the hook

Hold the bobbin case by the latch with the index finger and thumb of the left hand. Insert so that the finger of the bobbin case points upwards, engaging in the notch of the hook race cover. Check: Pull end of thread. Close the hinged front cover.

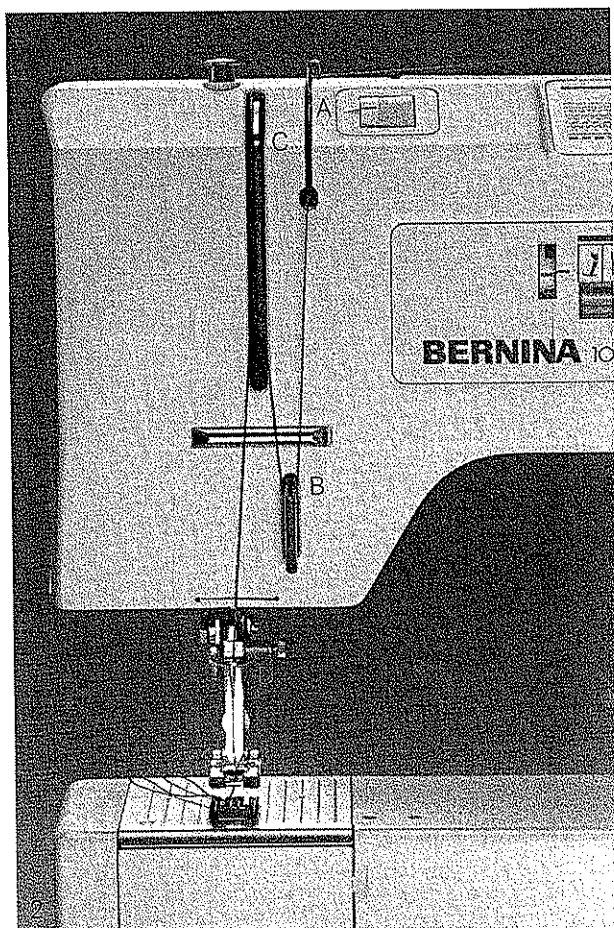
Threading the upper thread



Threading the upper thread

Set the power switch to OFF ☐ 0.
Check that the needle is in the raised position.
Raise the presser foot.
Place the reel of thread on one of the two thread holder pins. Hold the reel of thread in position while threading.

First clip the thread in the thread guide on the top of the machine. Then pull it through the long slot (A) into the thread tension (Fig. 1).



At the front of the machine, take the thread downwards under the thread regulator ©, then up to the thread take-up lever at the top ©, and down again to the needle holder thread guide © (Fig. 2).

Always thread the needle from front to back.

The small white plate on the front of presser foot shank helps when threading the needle eye. Pull the thread approx. 10 cm (4") through the needle eye.



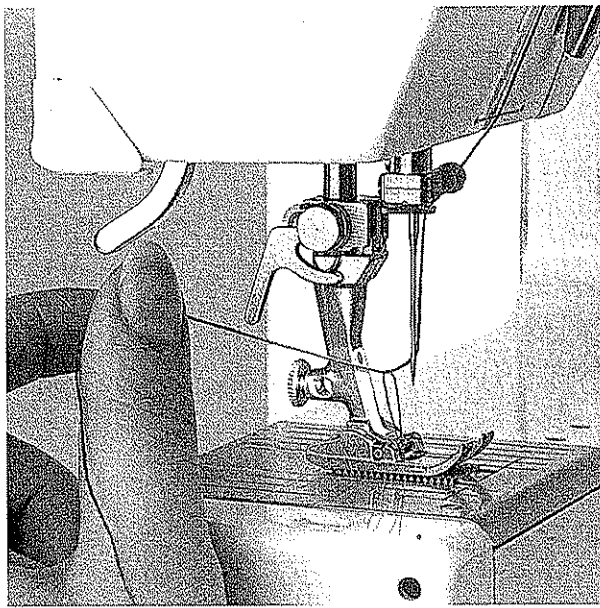
Supplementary thread guide on handle

Sewing with cross-wound reels, metal and silver threads, double or triple needles.
For perfect thread feed, take the thread through the special supplementary thread guide on the handle (Fig. 3).

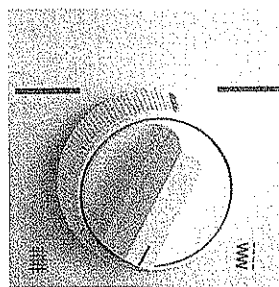
WARNING:

Please refer to the Safety Instructions.

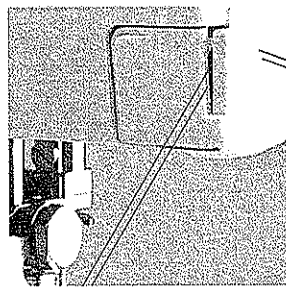
Bringing up the lower thread, thread tension, feed-dog



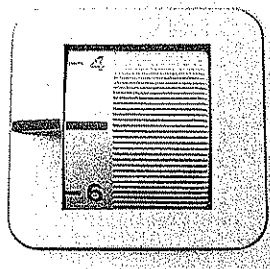
▲ 1



▲ 2

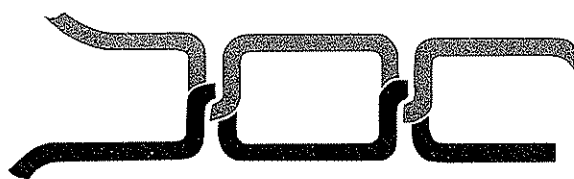


▲ 3

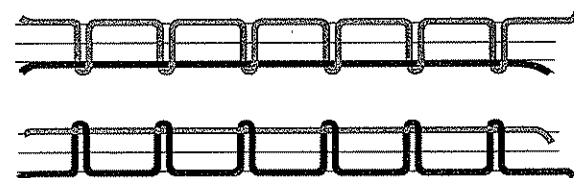


▲ 4

▼ 5



▼ 6



▲ 7

Bringing up the lower thread


Hold the upper thread loosely. Turn the handwheel towards you until the thread take-up lever is fully raised.

Pull the upper thread so that the lower thread is brought up through the stitch plate hole (fig. 1). Take both threads through the slot in the presser foot and place to the side.

Instead of using the needle stop, the lower thread can also be brought up by turning the handwheel forward until the needle returns to its highest position. In this case the upper thread has to be held with the left hand.

Lowering the feed-dog

For certain types of sewing, eg. for darning, the fabric must not be moved by the feed-dog. Therefore the feed-dog must be lowered, by turning the knob to the left until the mark points to the symbol ##### (fig. 2).

For normal sewing, the knob should face the symbol 

Thread cutter

To remove your work, raise the presser foot, take the work out to the rear left and hook both threads into the cutter. The threads ends remain secure until sewing is continued (fig. 3).

Thread tension

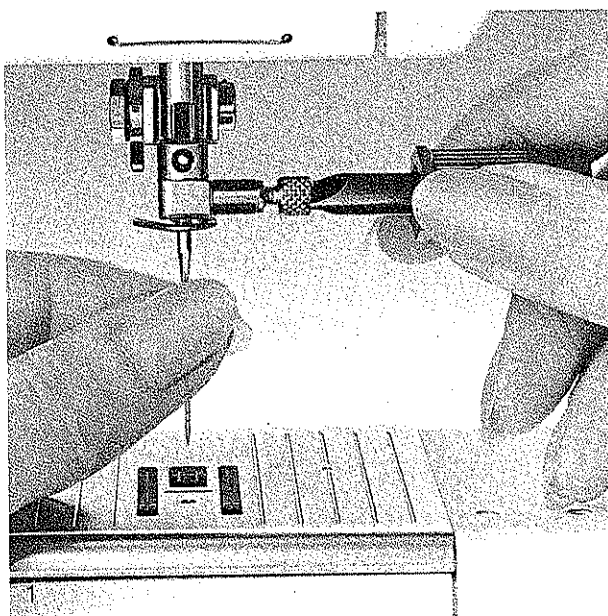
One of the main advantages of BERNINA machines is that there is very rarely any need to alter the thread tension for normal sewing. For the normal tension setting, the red mark on the tension regulating dial should match the adjacent mark on the machine (fig. 4). For special sewing, the thread tension can be adjusted with the aid of the regulating dial. Turning the tension regulating dial forwards, to number 4 or below, gives a looser upper thread tension. Turning the tension regulating dial backwards, to number 6 or above, gives a tighter upper thread tension. When the tension is **correctly** set, the upper and lower threads form loops between the two layers of fabric (fig. 5).

Incorrect upper thread tension will produce knots, loose loops or thread breakage. If tension is too loose knots will form on the underside (fig. 6). If tension is too tight knots will form on the upper side (fig. 7).

Important!


The thread tension should be reset to normal when the special sewing has been completed.

Inserting the needle, changing presser feet



Inserting the needle

A small brown screwdriver for slackening or tightening the needle clamp is provided in the accessories box.

Set the power switch to the  position. Check that the needle is in the raised position.

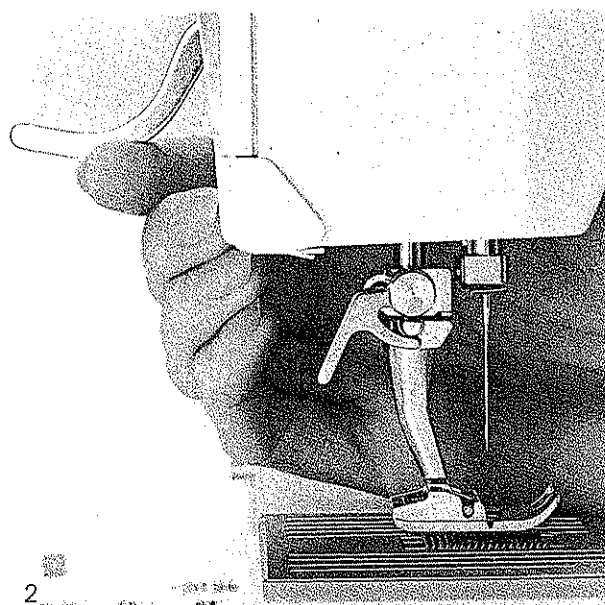
To slacken the needle clamp: half a turn forwards, anti-clockwise (Fig. 1).

To insert the needle: The flat side of the needle shank should always be to the rear. Insert the needle until it reaches the top. If the needle does not reach the top, i.e. is set too low, skipped stitches will result.

Tighten the needle clamping screw securely.

WARNING:


Please refer to the Safety Instructions.



Changing presser feet

For the various presser feet and their uses, see page 15.

The success of a piece of sewing largely depends on the correct choice of presser foot. The presser feet are easy and practical to change.

Set the power switch to the  position.

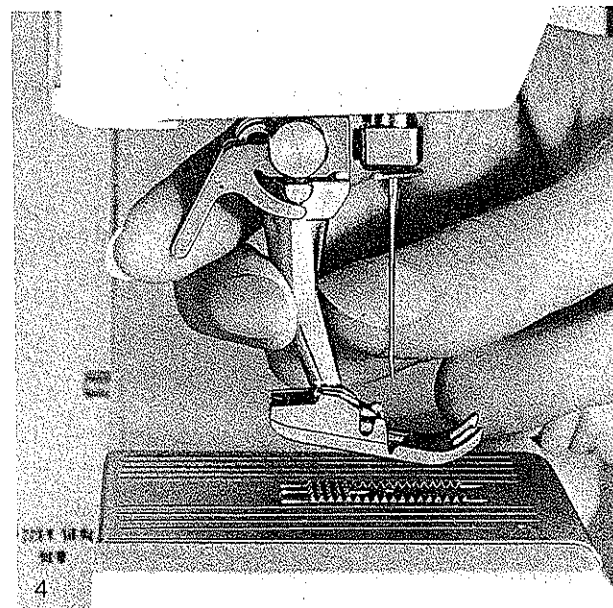
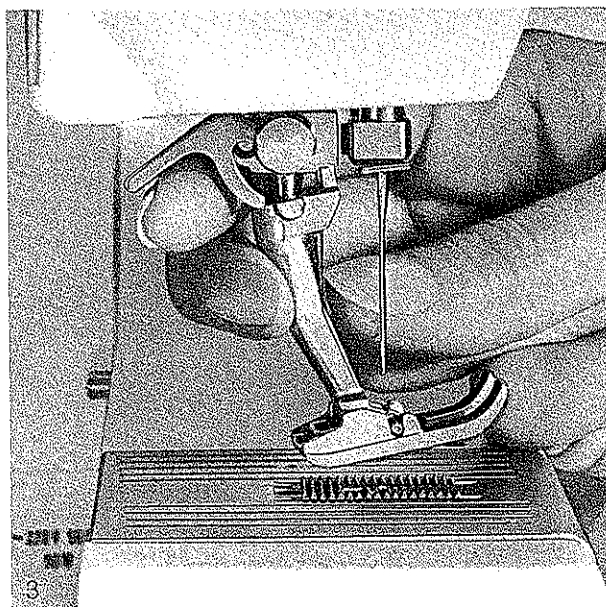
Check that the needle is in the raised position.

Raise the presser foot (Fig. 2).

Raise the clamping lever with the index finger of the right hand, and using the middle finger and thumb, remove the presser foot (Fig. 3).

To attach the presser foot:

The procedure is the same, but press the clamping lever downwards with the index finger (Fig. 4).



Threads
Needles
Presser feet
Practical stitches
Decorative stitches

Fabric feed and height compensation

1. Fabric feed and stitch length

With each stitch the feed-dog moves forward by one step. The length of this step is governed by the stitch length selected. With an extremely short stitch length, the steps are also short. The fabric moves under the foot quite slowly, even at full sewing speed. Button-holes, satin stitch and decorative stitches are all sewn with a short stitch length.

Important:

- a) Make sure that the fabric feeds evenly.



- b) Pushing will result in gaps.



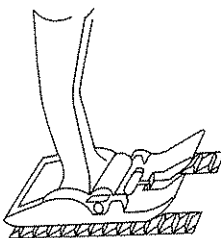
- c) Holding back will result in pile-ups.



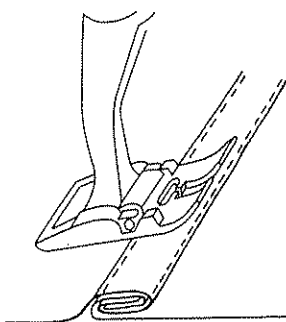
2. Fabric feed and height compensation

The height compensating plates guarantee perfect fabric feed when sewing thick areas and topstitching edges. One, two or three compensating plates can be used depending on the thickness (height).

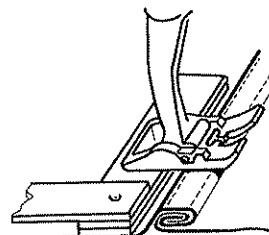
- a) The feed-dog can only work properly when the presser foot is flat.



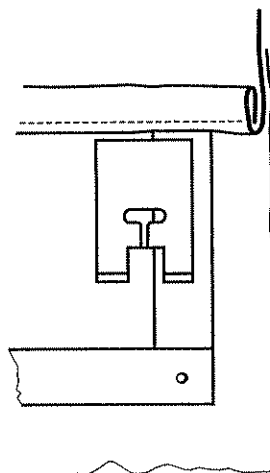
- b) When sewing thick areas, the presser foot is forced upwards which does not allow the feed-dog to grip and feed the fabric correctly.



- c) To compensate for the height (thickness), place one, two or three compensating plates behind the needle under the presser foot.



- d) To compensate in front of the presser foot, place one or more plates to the right of the foot flush with the needle. Sew over the thick area and then remove the plates.

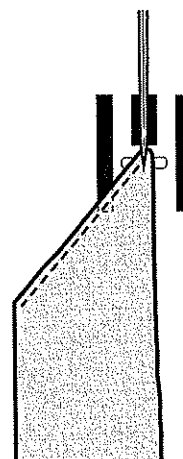


3. Fabric feed and sewing corners

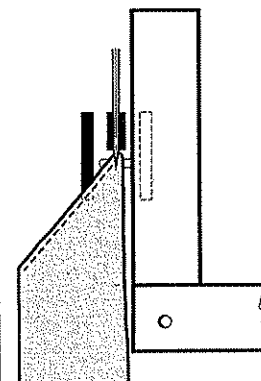
- a) The two rows of teeth of the feed-dog are quite a distance apart because of the width of the zig-zag needle hole.



- b) When sewing corners, only a small part of the fabric is actually on the feed-dog so it cannot feed the work correctly.



- c) For an even feed, place one or more plates to the right of the presser foot flush with the fabric edge.



Threads and needles

The importance of the sewing machine needle

Needles and the sewing machine

Your BERNINA has a 130/705 H needle system. Make sure, when buying new needles, that they are the 130/705 H system.

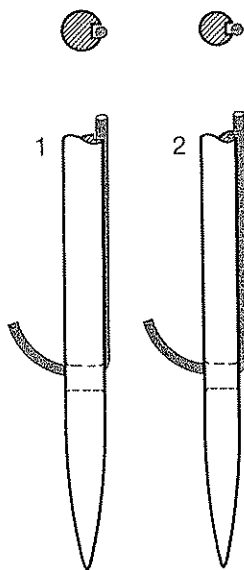
Commercially available needle sizes are nos. 70 to 120. The finer the needle, the lower the number. For thread, the opposite applies. The finer the thread, the higher the number.

The table below shows which needle should be used for which thread.

Needles and thread

The needle size required depends on the thread selected. The needle must match the thread.

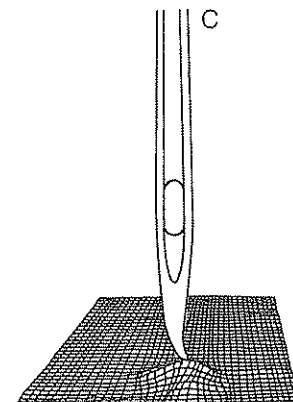
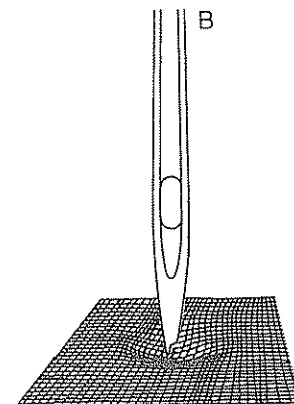
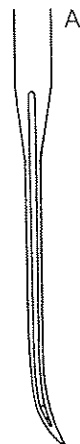
When sewing, the thread lies in the long groove to the front of the needle (Fig. 1). If the needle is too fine, the thread will not fit into the groove (Fig. 2) and skipped stitches will result.



Needle and fabric Needle condition

The needle must be in perfect condition. Sewing problems are caused by:

- Bent needles (A)
- Blunt needles (B)
- Hooked tips (C)

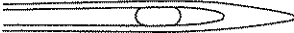
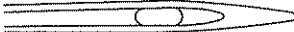

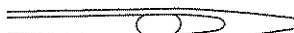




Needle/Thread Table

Needle	70	80	90	100	110-120
Darning/Embroidery thread 60	*	*			
Embroidery thread 30		*			
Mercerised cotton sewing thread		*	*		
Synthetic sewing thread		*	*		
Coarse mercerised cotton			*	*	
Mercerised synthetic					
Buttonhole thread for top stitching (Cordonnet)				*	*

Special needles

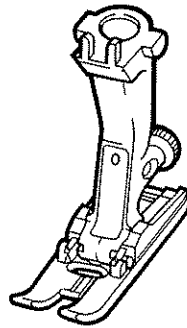
The modern domestic sewing machine is capable of handling a very wide range of fabrics. However, as with industrial machines, special needles are required for some of these tasks, i.e. needles with varying types of point.

Table of needles	Needle description	Needle point	Suitable for
Standard needles	130/705 H	Normal point, slightly rounded 	Universal needle for woven synthetic and natural fibres, e.g. chiffon, batiste, organdy, linen, wool, velvet, etc.
Special needles	130/705 SES	Fine ball point 	Fine knits in silk, synthetics, cotton and fine wool.
	130/705 H-SUK	Medium ball point 	Heavier knitted fabrics in synthetic or natural fibres.
	130/705 H-Stretch	Medium ball point 	Special stretch needle. Especially for delicate or difficult stretch fabrics.
	130/705 H-J	Extra fine point 	Twill, workwear, heavy linen, denim fabrics, canvas. Penetrates dense fabrics more easily.
	130/705 H-LL or H-LR	Cutting point 	Leather, suede, calfskin, kid, pigskin, imitation leathers and suedes, plastics.

Presser feet

Presser feet are an important aid to sewing. They are designed with grooves and guides. The success of a piece of sewing is determined by the correct choice of presser foot.

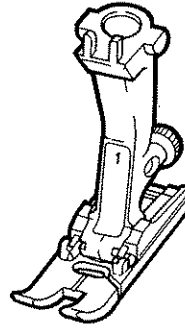
0



Zig-zag foot

Straight stitch
Zig-zag
Green practical stitches

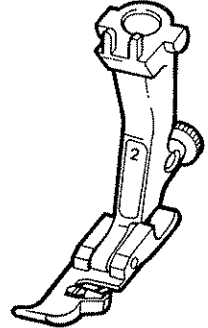
1



Reverse pattern foot

Red practical stitches
Red decorative stitches

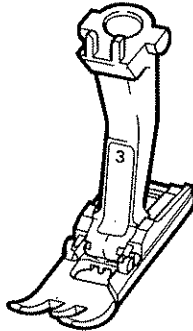
2



Overlock foot

Vari-overlock seam
Vari-overlock hem
Oversewing seam edges

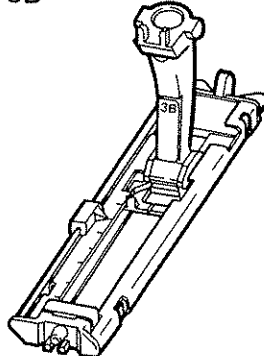
3



Buttonhole foot

Buttonholes

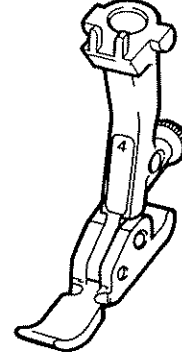
3B



Buttonhole foot with slide

Buttonholes

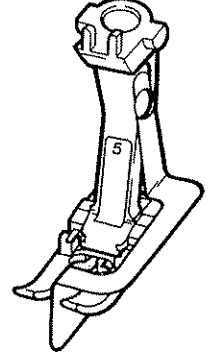
4



Zip foot

Sewing in zips
Sewing close along raised seam

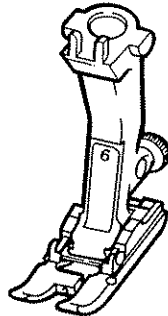
5



Blind stitch foot

Blind hemming
Edge stitching

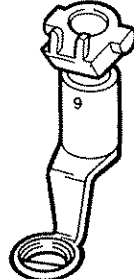
6



Embroidery foot

Decorative stitches
Satin stitching
Applique
Couching

9








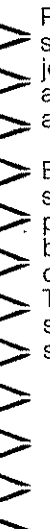







Darning foot

Darning
Free hand monograms
Free hand embroidery

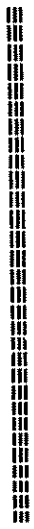







Range of applications Green practical stitches






Green decorative stitches

1 Straight stitch  All types of non-elastic fabric All straight stitch work	2 Zig-zag stitch  For most types of fabric All simple zig-zag work, eg. over-sewing, especially on fine fabrics. Sewing elastic and lace.	3 Sewn-out zig-zag  For most types of fabric Oversewing loosely woven fabrics, reinforcing and repairing edges, decorative work.	4 Blind stitch  For most types of fabric Blind hemming, shell edging on soft jersey and fine fabrics, decorative work.
5 Universal stitch  For firmer knitted fabrics, felt leather etc. Flat joining seams, visible hems, patchwork, mending interlock fabrics, sewing on elastic, decorative seams.	6 Lycra stitch  Especially for lycra fabric Flat joining seams and hems, re-sewing of seams in foundation garments.	7 Stretch stitch  For highly elastic fabrics Highly elastic open seams for ski, horse-riding, climbing and hiking wear.	8 Vari-overlock  Primarily for fine synthetic and silk jerseys, helanca and fine cotton and wool jerseys. Elastic overlock seams and hems, particularly suitable for sports underwear, pyjamas, T-shirts, sweat-shirts, jogging suits etc.
9 Running stitch  For most types of fabric Darning with running stitch, mending of woven fabric, reinforcing edges etc.	10 Scallop stitch  Primarily for woven fabrics Edging of tablecloths, place mats, collars, cuffs etc.	11-13 Decorative stitches 11  12  13 	

Range of applications Red practical stitches

Red decorative stitches

14 Triple straight stitch  For corduroy, denim, overall and deckchair fabrics, carpet borders, rucksacks, sleeping bags and similar. Hard wearing seams for joining pieces of fabric or top stitching of seams.	15 Triple zig-zag  For denims, corduroys, leathers, decorative hems, light fabrics for blinds and similar. Visible hems and seams, sewing on tape, extra strong seam for sportswear, woollen blankets, sleeping bags, rucksacks, deckchair fabrics etc.	16 Honeycomb stitch  For many types of jersey and smooth fabrics. Visible hems and seams for T-shirts, sweatshirts, underwear, place mats, table-cloths, craft work etc.	17 Towelling stitch  Primarily for towelling fabrics, denim, leather and other firmer fabrics. Flat joining seams, visible hems for beachwear, craft work.
18 Double overlock  For all types of knitted fabrics and hand and machine knitted items. Overlock seam = Sewing and over-sewing in one operation (hand and machine knitted goods).	19 Jersey stitch  For jersey in natural, blended and synthetic fibres. Visible hems and seams, particularly in underwear and sweatshirts, mending interlock fabrics, sewing on elastic etc.	20 Edge stitch  For most types of fabric. Visible hems, sewing on lace and tapes of all kinds, decorative edges, craft work.	21 Reinforced overlock stitch  For sweatshirt material, towelling, medium knits. Reinforced overlock seams, craft work.

22–26 Decorative stitches	
22	
23	
24	
25	
26	

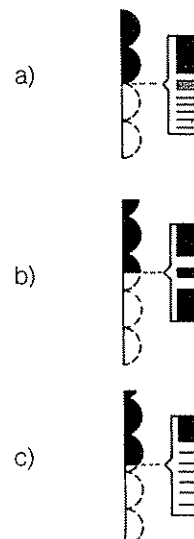
The pattern indicator

The pattern indicator shows how far a pattern has been sewn.

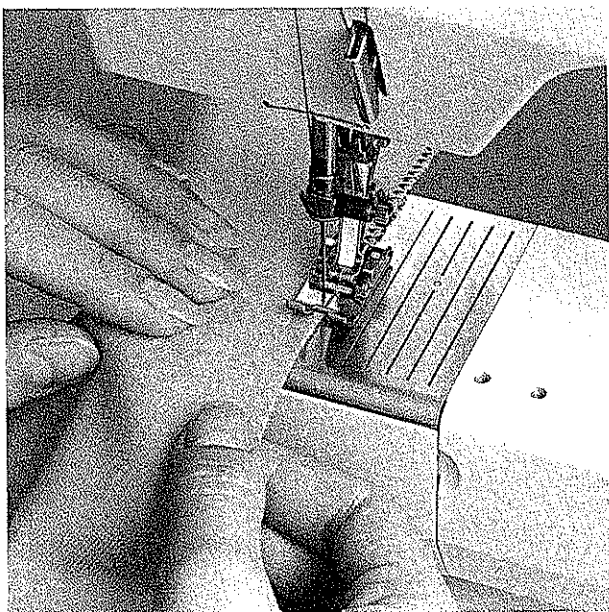
a) The red mark shows the beginning and end of a pattern.

b) The black mark shows the centre of the pattern.

c) The broken bar (horizontal black marks) warns that the pattern is nearly finished.



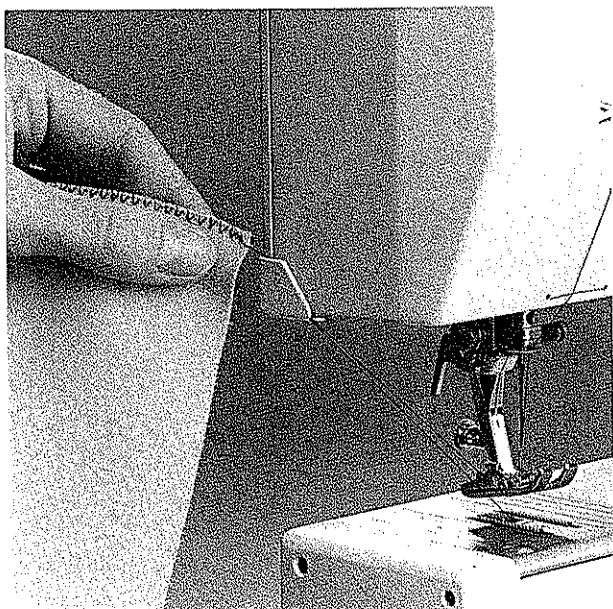
Sewing tips



A few hints

Set your Bernina far enough away from the table edge. Correct sitting position and correct guiding of the work will make sewing easier. Sit right in front of the needle, i.e. in front of the working area. This will enable you to watch the working area without strain. Ensure that the height of your chair allows you to work comfortably.

It is best to guide the work from the side with the fingers of the left hand close to the presser foot. When sewing delicate work, it is preferable to stop and guide it a little at a time rather than let the work slide beneath the fingers.



To remove the work, raise the presser foot and check that the needle is raised. If not, turn the handwheel. Take work out to the rear left and hook both threads into the cutter. The thread ends free themselves when you start sewing again.