

Blind Hemming



Presser foot:	016
Thread:	sewing thread/ darning thread
Needle:	80-70
Stitch selection:	No. 2 blind stitch
Stitch width:	2½ approx.
Stitch length:	2-2½
Needle position:	right
Feed-dog:	sewing

Important

As for sewing by hand, a fine material requires a fine needle and fine thread.

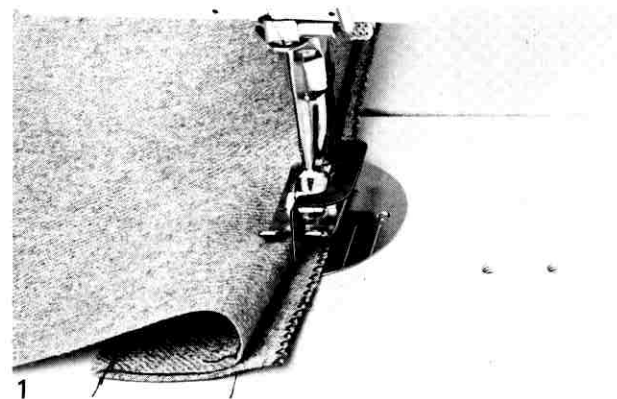
This work is best sewn at a slow speed.

Preparation

The hem should be prepared as for sewing by hand: overcast raw edge, baste and press.

Placing the hem

How the work is placed beneath the foot (see Fig. 1).



1

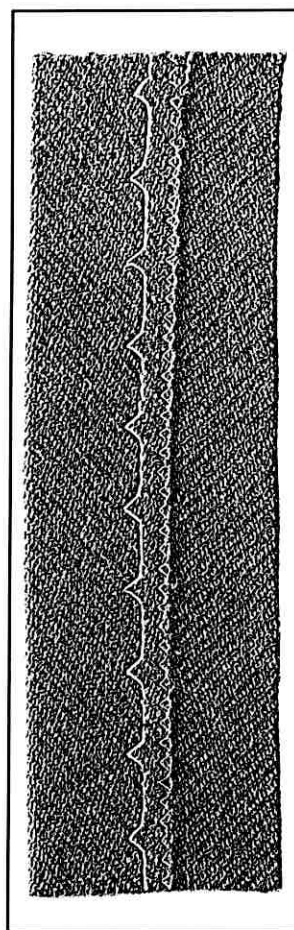
Trial sewing

It is recommended to sew a trial piece as materials can vary in thickness; the needle should prick only the edge of the material as when sewing by hand.

Basic setting is always stitch width 2½. The different thicknesses of material may require a small adjustment.

Trial:

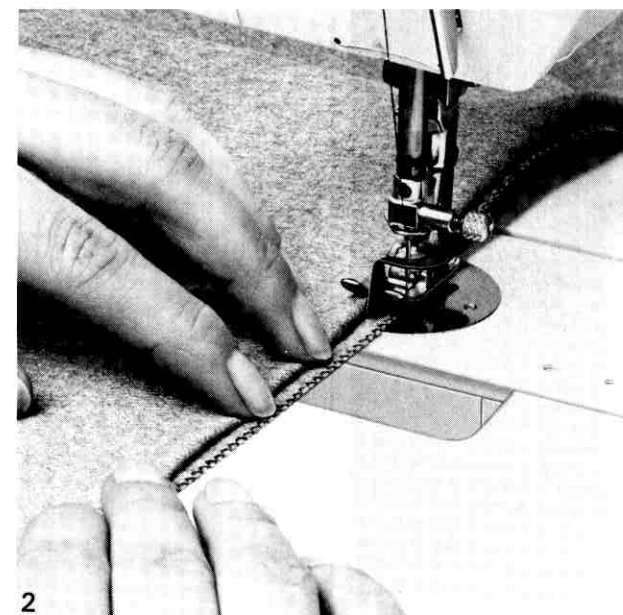
Sew slowly, until the needle swings to the left side. Using the hand-wheel guide the needle until it just touches the fold and check that it just catches it. If necessary adjust stitch width slightly: making it narrower if needle is too far over fold and wider if it is missing the fold. Check the next left swinging stitch in the same way. Then sew approx. 10 cm and check again.



Guiding the work

Guide the hem into the foot as shown in Fig. 2.

Tip: Hold the work lightly ensuring the fold is always kept against the guide.



2

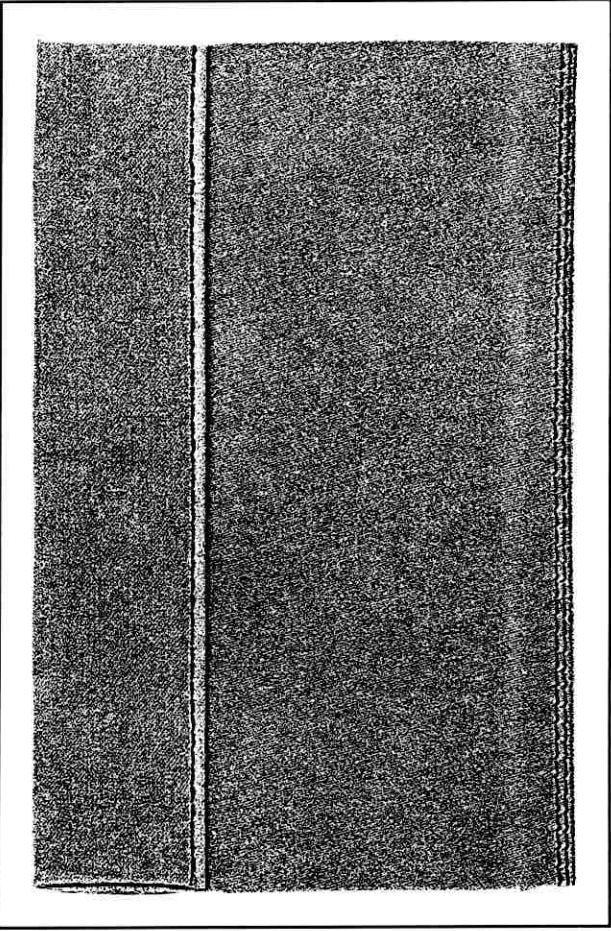
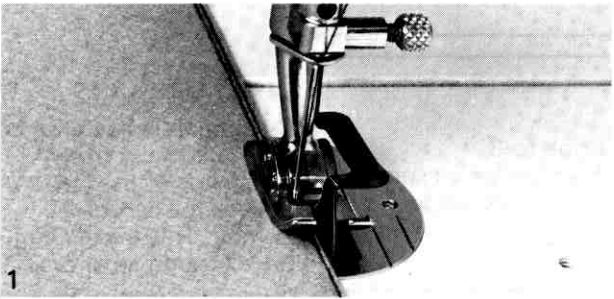
Stitching Edges using the Needle Positions

Narrow-stitched edges
on collars, cuffs, lapels, hems, etc.

Presser foot:	016 *
Thread:	sewing thread
Needle:	80
Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	1½ – 4
Needle position:	left / half-left
Feed-dog:	sewing

* Special accessory 803S

Place fabric edge to left side of guide on blindstitch foot (Fig. 1). Set needle position left or half-left.

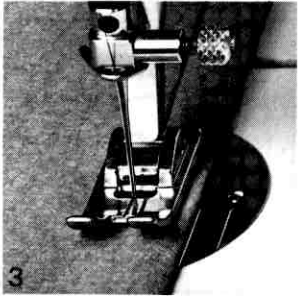
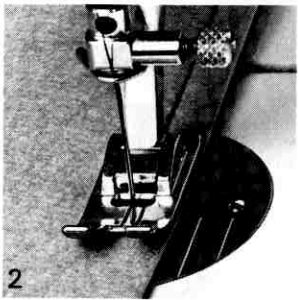


Wide-stitched edges

Presser foot:	000
Thread:	sewing thread
Needle:	80
Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	1½ – 4
Needle position:	all positions
Feed-dog:	sewing

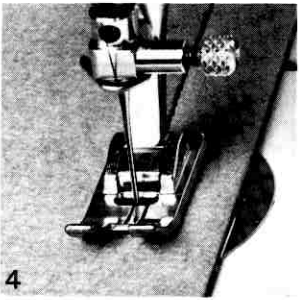
Guide material edge along the presser foot or along the markings in the stitch plate.

- Stitching widths:**
- a) Presser foot deep = 7 mm (Fig. 2)
 - b) Marking line 1 = 10 mm (1 cm) (Fig. 3)



- c) Marking line 2 = 15 mm (1,5 cm) (Fig. 4)

Other widths can be sewn using the needle positions left, half-left, right and half-right.



Buttonholes



Presser foot:	452
Thread:	sewing/darning thread
Needle:	80-70
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	connected automatically
Stitch length:	almost 0
Needle position:	connected automatically
Feed-dog:	sewing

Adjust stitch density from basic setting to suit material: turn the mark a little to right for thick fabrics – to left for fine fabrics. Always sew a trial buttonhole. The stitch length varies slightly depending on the type of material.

Sewing the buttonhole

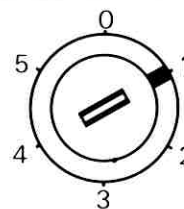
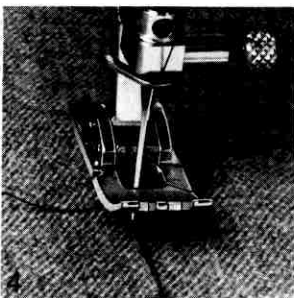
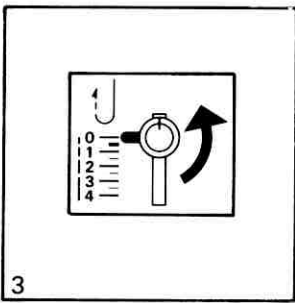
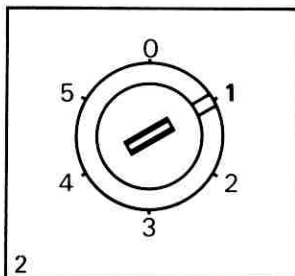
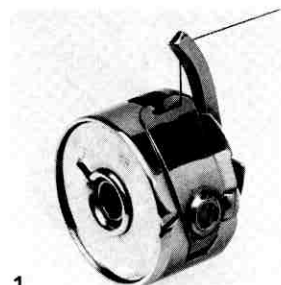
Place the material under the foot so that the edge of the material lies in **front** of the presser foot (Fig. 4). Move needle down with the handwheel and check whether it is at the **centre** of the presser foot. If not, make one stitch by hand. Position work beneath foot and place needle exactly at start of the buttonhole. Lower presser foot and sew buttonhole.

To sew buttonholes, thread lower thread in the finger of the bobbin case (Fig. 1).

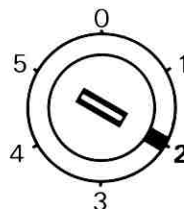
Buttonhole setting

1. Switch buttonhole knob to position 1 (Fig. 2).

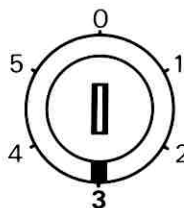
2. Set stitch length as follows. Turn knob to right until it locks. The Mark is now on top (Fig. 3) and the stitch length is 0. Now make **half** a turn to the **left** (marking line to the bottom) and this will give the **basic setting** for the stitch length.



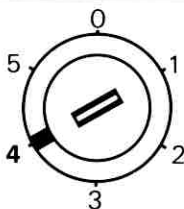
Knob to 1
Machine sews first bead forwards



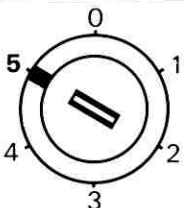
Knob to 2
Machine sews bar tack



Knob to 3
Machine sews second bead backwards



Knob to 4
Machine sews bar tack



Knob to 5
Machine does securing stitches

Reset knob to 1 for next buttonhole and continue sewing through to step 5 as described above. When all buttonholes are completed set knob to 0 for general sewing.

Cutting open buttonhole

It is best to cut from both ends of the buttonhole to the centre (Fig. 5). This avoids cutting through a bar tack.



Corded buttonholes

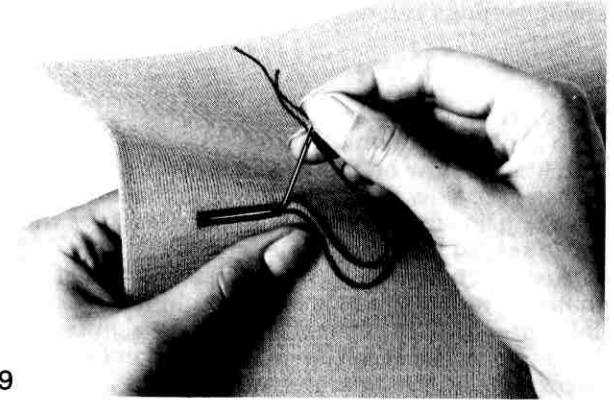
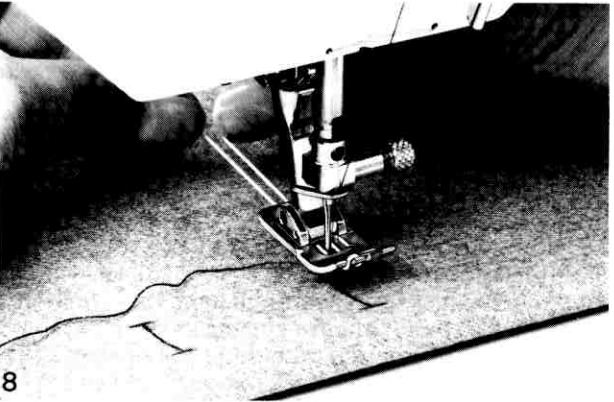
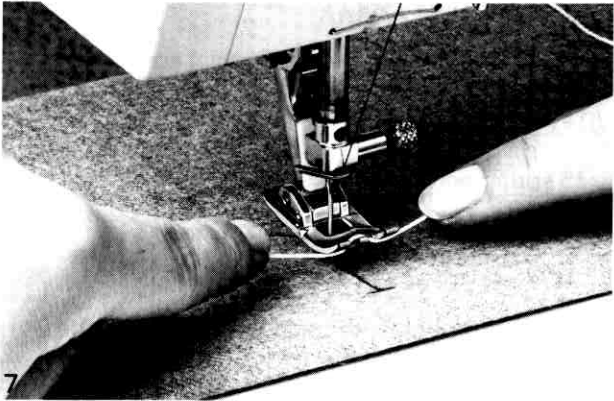
The gimp cord strengthens the buttonhole.

The gimp cord is particularly important in all knitted materials – both hand and machine-knitted – to ensure that the buttonhole does not pull out of shape. The thickness of the cord depends on the material to be sewn. The following are suitable: beading thread No. 8, buttonhole thread, thick hand sewing thread, on fine crochet cord. Sew a trial buttonhole.

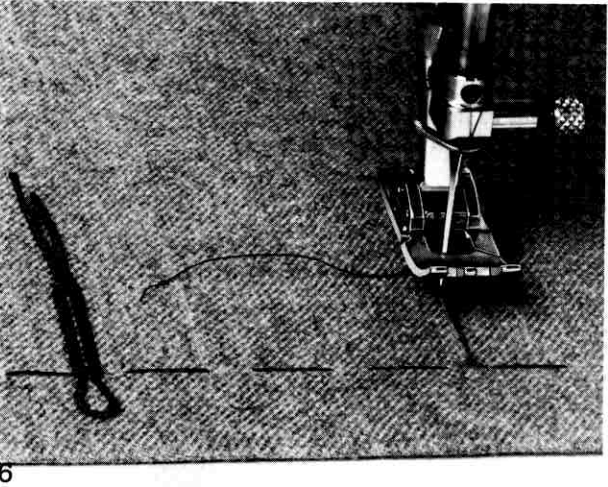
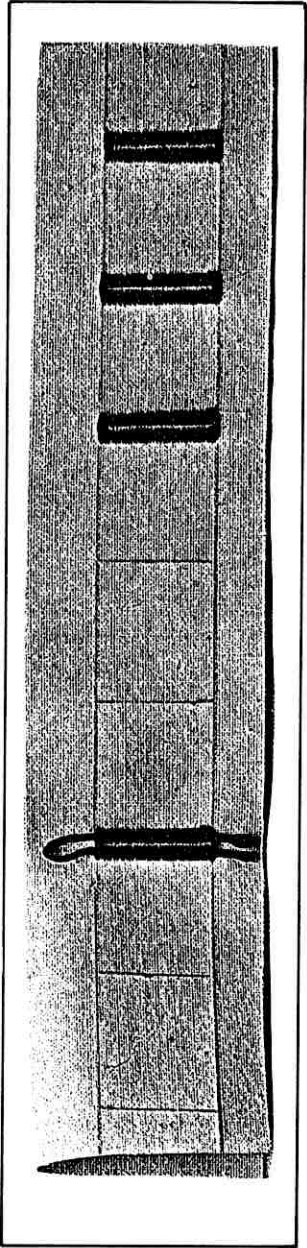
Place material under the foot so that the edge of the material lies **in front of** the presser foot. The loop of the cord then comes at the end of the buttonhole which is pulled by the button (Fig. 6).

Sewing with gimp cord
It is much easier to position the cord if the needle is already in the material:

1. Move needle down using hand-wheel and check whether it is at the centre of the presser foot. If not, make one stitch by hand. Position material beneath foot and place needle exactly at start of buttonhole. Do not lower foot yet.
2. Place cord over the centre stem of the buttonhole foot (Fig. 7) and take both ends under the foot to the rear (Fig. 8). Lower foot and **check whether cord can slide**, i.e. is not stuck.
3. Sew buttonhole, do not hold cord as it must be able to move.



Finally pull the loop of the cord into buttonhole. In knitted fabrics thread ends of cord to rear with large hand sewing needle (Fig. 9) and tie or sew in securely. The cord end can be cut off in woven material.

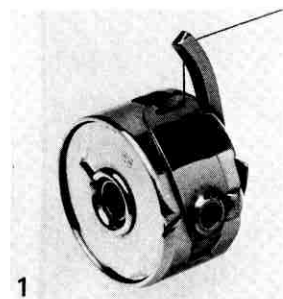


Buttonholes

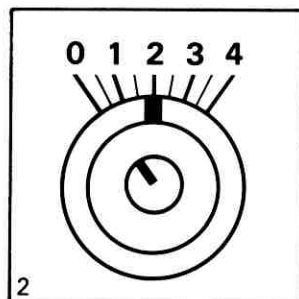


Presser foot:	033*
Thread:	sewing/darning thread
Needle:	80-70
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	1.75 spring setting
Stitch length:	almost 0
Needle position:	left
Feed-dog:	sewing

* Special accessory
802S, 803S



To sew buttonholes, thread lower thread in the finger of the bobbin case (Fig. 1).



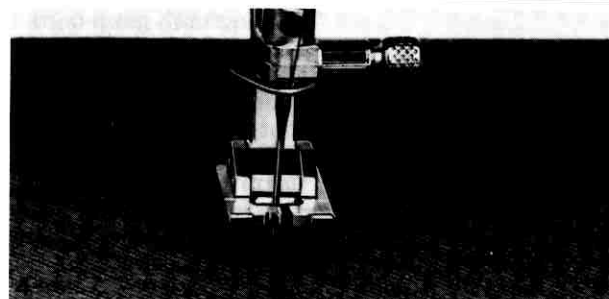
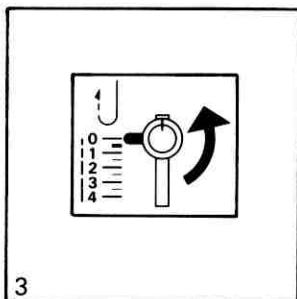
Buttonhole setting

1. Stitch width

Two mechanical spring settings have been built-in for the buttonhole: one for zigzag 1.75 for the beads of the buttonhole, the other for zig-zag 3-3.5 width for the bar tacks at each end of the buttonhole. By turning the zig-zag knob slowly the spring settings can easily be felt.

2. Stitch length

Turn knob to right until it locks. The Mark is now on top (Fig. 3) and the stitch length is 0. Now make **half** a turn to the **left** (marking line to the bottom) and this will give the **basic setting** for the stitch length. Adjust stitch density from basic setting to suit material: turn the mark a little to right for thick fabrics - to left for fine fabrics. Always sew a trial buttonhole. The stitch length varies slightly depending on the type of material.



Sewing the buttonhole

- Mark desired buttonhole length on material.
- Place the material under the foot so that the edge of the material lies **in front of** the presser foot (Fig. 4).
- Move needle down with the handwheel and check whether it is at the **centre** of the presser foot. If not do one stitch, turning hand-wheel by hand. But **never change zig-zag or needle position**. Position work beneath foot and place needle exactly at start of the buttonhole. Lower presser foot and sew buttonhole.

1. Satin Stitch:

Sew first bead of buttonhole to required length. Set needle in work in the middle of the foot. Lift foot. Turn work completely clockwise. Lower foot again.

1. Bar Tack:

Lift needle out of work. Set zig-zag to approx. 3 width (using spring setting). Hold work firmly. Sew a few stitches for bar tack.

2. Satin Stitch:

Lift needle out of work. Set zig-zag back on to 1.75 (using spring setting) and sew satin stitch for second bead.

2. Bar Tack:

Lift needle out of work. Adjust zig-zag again to width approx. 3 (using spring setting). Hold work firmly. Sew a few stitches for bar tack.

Finishing off: Set zig-zag on 0 and sew a few stitches, still holding work firmly.

Cutting open buttonhole

It is best to cut from both ends of the buttonhole to the centre (Fig. 5). This avoids cutting through a bar tack.



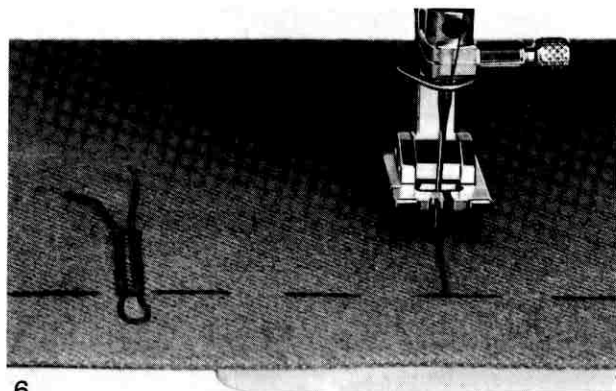
Corded buttonholes

The gimp cord strengthens the buttonhole.

The gimp cord is particularly important in all knitted materials – both hand and machine-knitted – to ensure that the buttonhole does not pull out of shape.

The thickness of the cord depends on the material to be sewn. The following are suitable: beading thread No. 8, buttonhole thread, thick hand sewing thread, on fine crochet cord. Sew a trial buttonhole.

Place material under the foot so that the edge of the material lies **in front of** the presser foot. The loop of the cord then comes at the end of the buttonhole which is pulled by the button (Fig. 6).



6

Sewing with gimp cord

It is much easier to position the cord if the needle is already in the material:

1. Move needle down using hand-wheel and check whether it is at the centre of the presser foot. If not do one stitch by turning the hand-wheel towards you, bringing the needle to the centre. Under no circumstances should the zig-zag or needle position be changed.

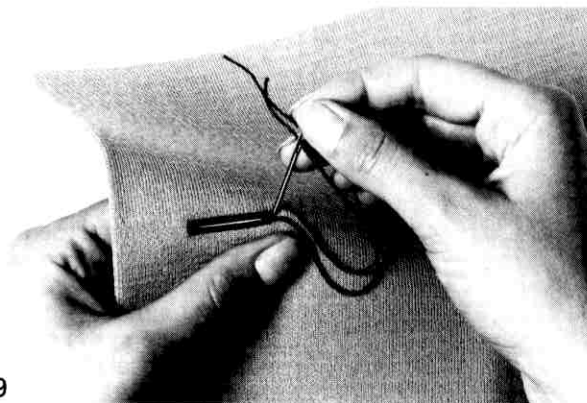
Position material beneath foot and place needle exactly at start of buttonhole. Do not lower foot yet.

2. Lay the cord to be inserted to the left of the needle, so that when the sewing foot is lowered it will be in the left hand groove of the foot (Fig. 7).

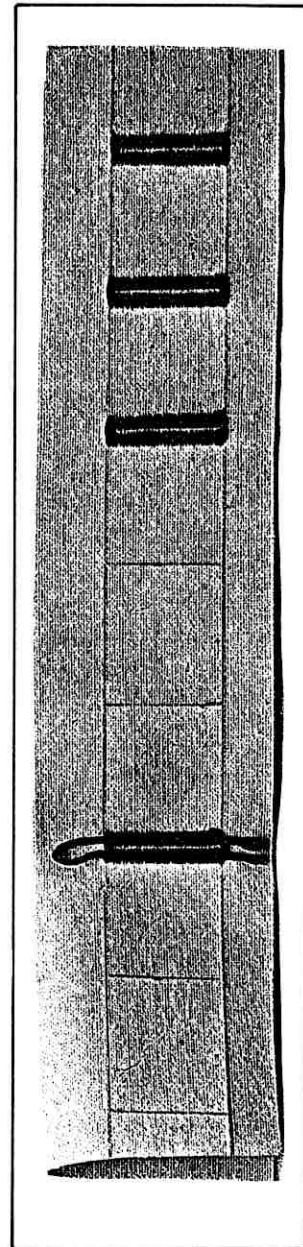
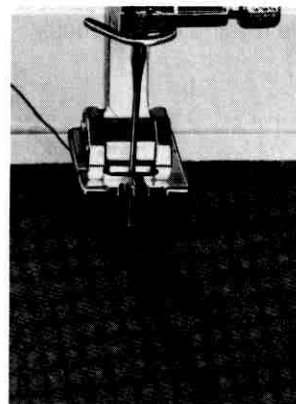
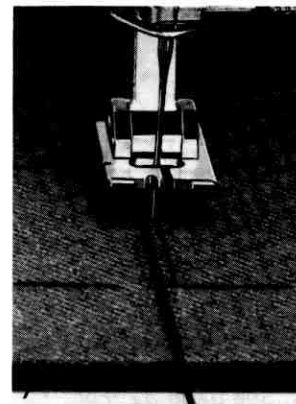
3. Sew satin stitch for the first bead. Finish first bead with needle in work and to right of the cord and lift foot.

Hold cord in left hand and turn work clockwise with right hand until cords are parallel (Fig. 8). Lower foot so that first bead now lies under right hand groove of foot. Continue sewing as described.

In knitted fabrics thread ends of cord to rear with large hand sewing needle (Fig. 9) and tie or sew in securely. The cord end can be cut off in woven material.



9



Mending Jersey

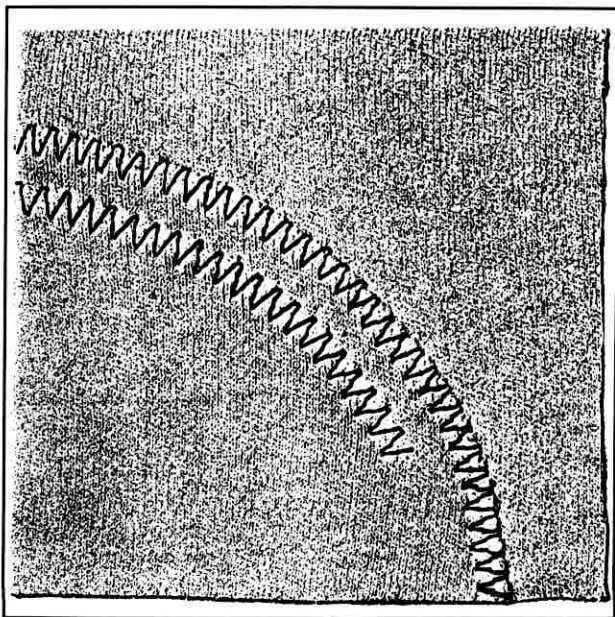
Patching with universal stitch

Mainly for mending jersey underwear



Presser foot:	000
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 4 universal stitch
Stitch width:	4
Stitch length:	1
Needle position:	centre
Feed-dog:	sewing

It is best to darn small holes. See page 32. For larger thin or damaged areas, it is preferable to fit a replacement piece, since this retains the elasticity.



Cut out a replacement piece from the good part of a no longer worn, similar garment, rounding off the corners, to preserve the elasticity in all directions. Pin on the replacement piece and baste with small stitches along the edge if possible. Then sew on with universal stitch, 1-2 rows. Finally, cut out damaged portion.

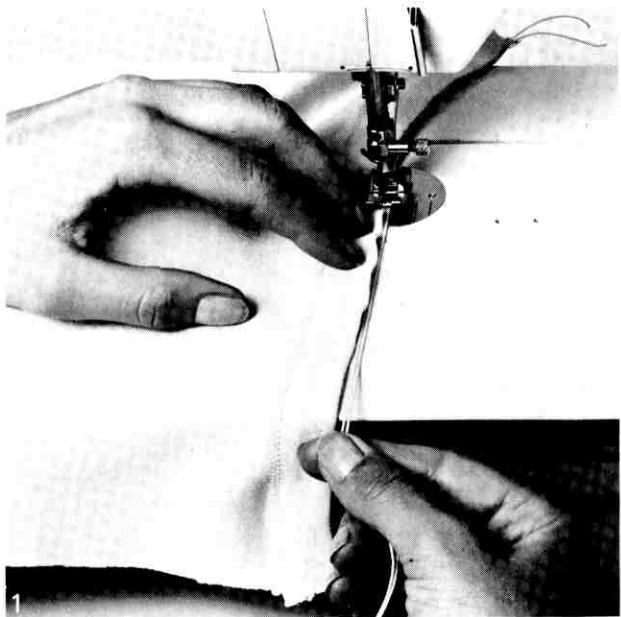
Edging with elastic thread



Presser foot:	000
Thread:	darning thread
Needle:	80
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	3
Stitch length:	1-1½
Needle position:	centre
Feed-dog:	sewing

Elastic thread is used to restore distorted edges to their original shape.

Guide two elastic threads along the edge and sew on with zig-zag stitches, pulling threads slightly (Fig. 1).



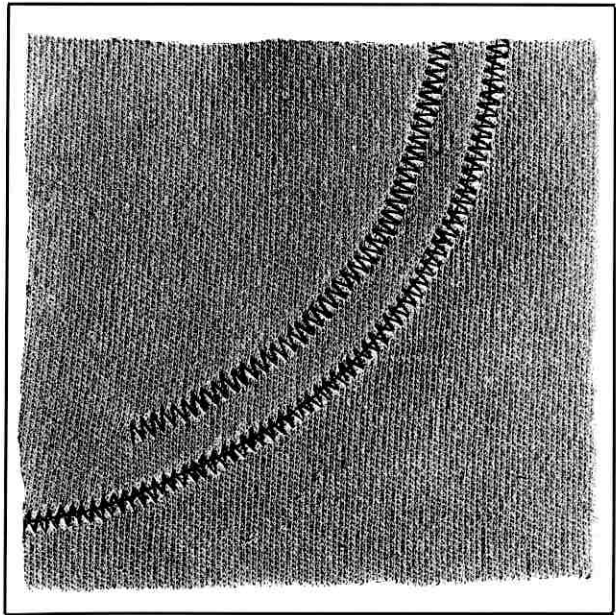
Mending Jersey

Patching with zig-zag stitch
Mainly for mending jersey underwear



Presser foot:	000
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	3-4
Stitch length:	1-1.5 approx.
Needle position:	centre
Feed-dog:	sewing

It is best to darn small holes. See page 32. For larger thin or damaged areas, it is preferable to fit a replacement piece, since this retains the elasticity.



Cut out a replacement piece from the good part of a no longer worn, similar garment, rounding off the corners, to preserve the elasticity in all directions. Pin on the replacement piece and baste with small stitches along the edge if possible. Then sew on with zig-zag stitch, 1-2 rows. Finally, cut out damaged portion.

Mending Woven Fabrics

Mending tears with running stitch

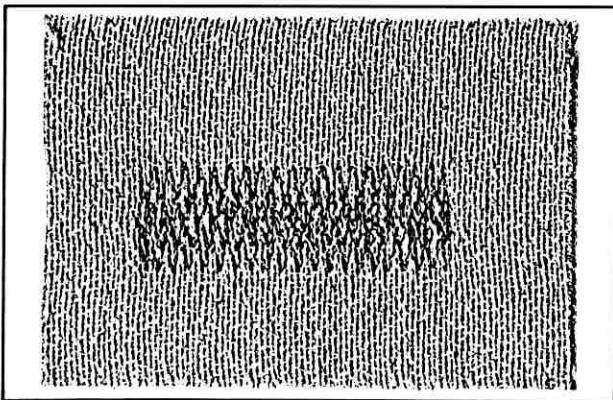
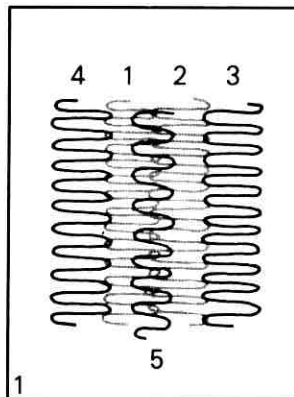


Presser foot:	000
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 3 running stitch
Stitch width:	4
Stitch length:	almost 0-1/4
Needle position:	centre
Feed-dog:	sewing

(modern darning) For tears and thin places in practically all materials

Always place a fine backing fabric underneath. Sew 3-5 rows of running stitch for tears, depending on the type of fabric and damage (Fig. 1).

On thin areas sew a sufficient number of parallel rows to cover. Overlapping each row slightly.



Patching with running stitch

For outer-wear and children's jeans

Presser foot:	000
Thread:	darning thread
Needle:	80
Needle position:	centre
Feed-dog:	sewing

1st operation



Stitch selection:	No. 1 zig-zag stitch
Stitch width:	2
Stitch length:	1-1 1/2

Do not cut out damaged areas. Pin patch on right side and baste along edge with small stitches in darning thread.

2nd operation



Stitch selection:	No. 3 running stitch
Stitch width:	4
Stitch length:	1/4 approx.

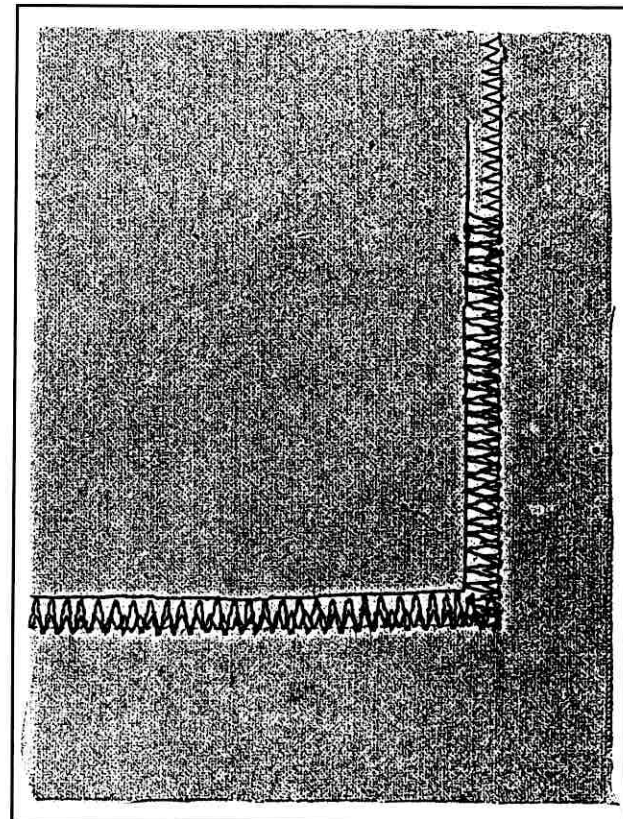
Oversew edges with running stitch. Guide the edge of patch to right of zig-zag slot in foot to ensure all running stitches are on the patch.

3rd operation



Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	1/2 approx.

Sew straight stitch on the inside edge - along the running stitch, then cut out the damaged piece. The straight stitch makes it easier to cut out.



Mending Woven Fabrics

Patching with zig-zag stitch
For outer-wear and children's jeans

Presser foot:	000
Thread:	darning thread
Needle:	80
Needle position:	centre
Feed-dog:	sewing

1st operation - - - - -

Stitch selection:	No. 0 straight stitch
Stitch width:	2
Stitch length:	1-1½

Do not cut out damaged areas. Pin patch on right side and baste along edge with small stitches in darning thread.

2nd operation ~~~~~

Stitch selection:	No. 1 zig-zag stitch
Stitch width:	4
Stitch length:	¼ approx.

Oversew edges with zig-zag stitch. Guide the edge of patch to right of zig-zag slot in foot to ensure all zig-zag stitches are on the patch.

3rd operation - - - - -

Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	½ approx.

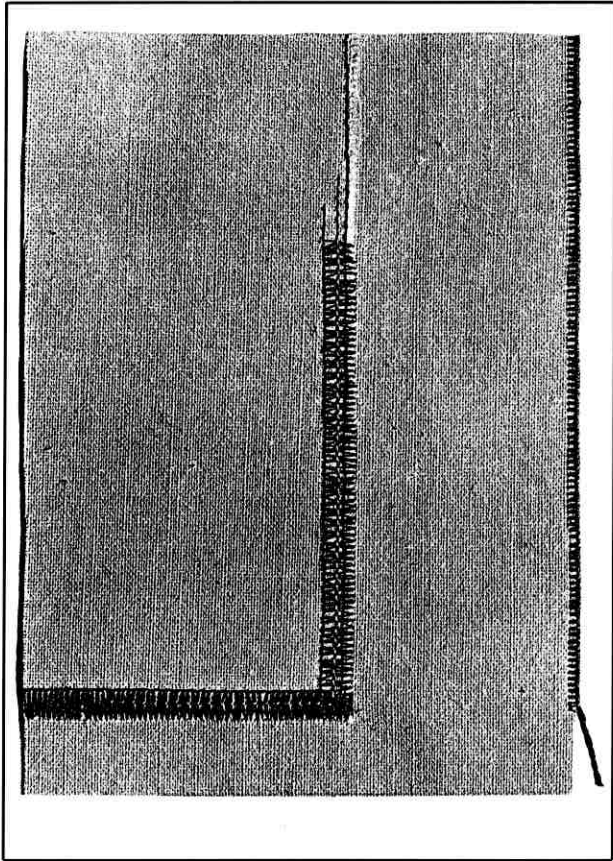
Sew straight stitch on the inside edge – along the zig-zag stitch, then cut out the damaged piece. The straight stitch makes it easier to cut out.

Reinforcing edges
for cuffs, collar edges facings on all types of overalls.
Overalls, laboratory aprons

Presser foot:	000
Thread:	darning thread
Needle:	80
Stitch type:	No. 1 zig-zag stitch
Stitch width:	2½ – 3
Stitch length:	¼ – ½ (dep. on fabric)

To reinforce the edges a perle cord should be used to the edge.

When sewing with perle cord guide it slightly away from the edge so that it is not pulled under or over the edge.



Darning

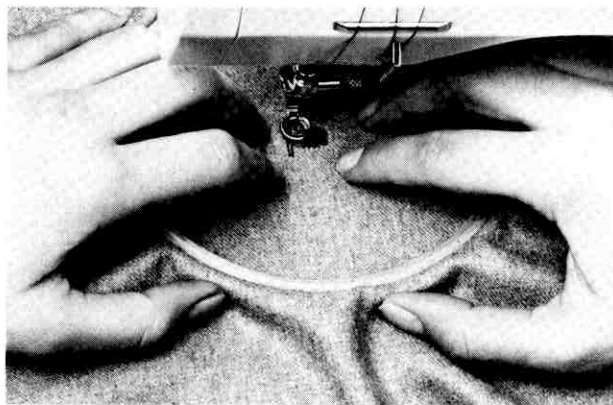
Principle of darning

The feed-dog must be lowered for darning to ensure that the material will not be moved by the feed-dog. The material is moved to-and-fro by hand. It is important to guide evenly when darning and this requires a little practice.

Recommendation

- Use a darning ring if possible, to keep the darning area taut.
- Move ring to-and-fro **without pressure**, otherwise jerky movements and torn threads occur.
- Starting from the left side of the hole work up and down gradually across the hole towards the right. Finish with needle in work on the right and pivot the work 90 degrees. Sew second run at right angle to the first rows. Still working up and down fill in any gaps.
- Suitable method of holding ring: the 4 outer fingers hold it fairly tightly to keep it securely in the hand (Fig. 1). This also helps to guide the work regularly.
- Use sewing table,* support elbows if possible. Set up machine a sufficient distance from edge of table.

* Special accessory

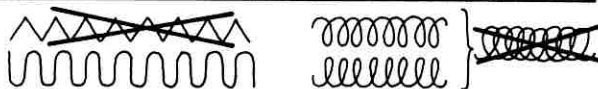


Darning technique

There are various methods of darning. The following is one which can be learnt easily:

Presser foot:	285
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	0
Needle position:	centre
Feed-dog:	lowered

Important: do not darn too sharply, but in curves, otherwise there is a danger of tearing. The l- or m-motion is particularly popular with beginners. Ensure that these do not result in a circular motion.

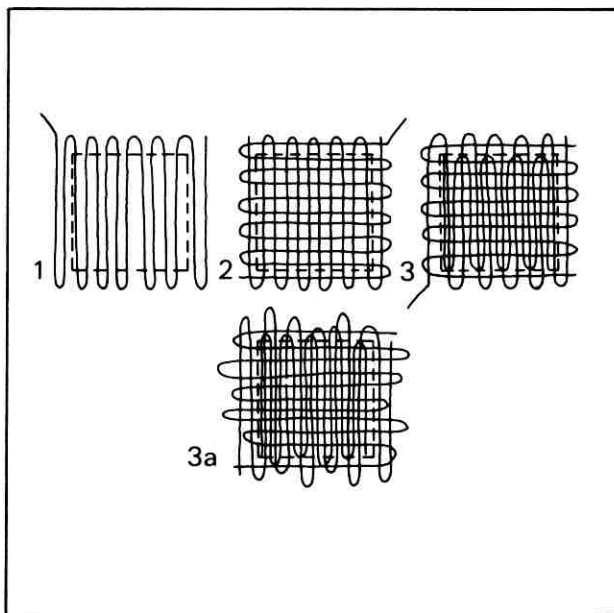
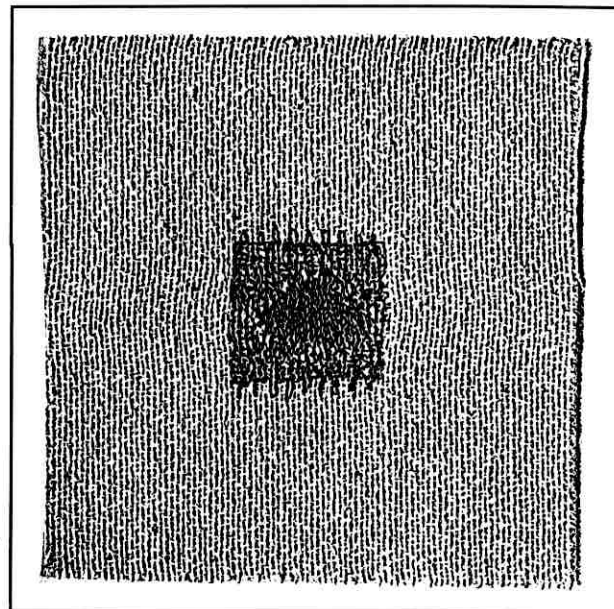


The Three Steps

1. Stretch work in darning ring. Bring up bottom thread at top left corner of hole. Moving ring up and down cover hole with first rows of stitches (not too many stitches or the darn will be "hard"). Finish at top right.
2. Turn work and repeat from left to right so that 2nd rows of stitches are at right angle to first rows.
3. Fill in any gaps, stitching in the same direction as 2nd rows so that the stitches sink in. Always follow the grain and if the material surrounding the hole is worn thin vary the length of the rows to avoid strain.

Main faults:

- Thread breaks frequently:
work guided **irregularly** or too **quickly**.
- Small knots form on the underside:
work moved **too slowly** or machine running too fast.



The small darning ring *

* Special accessory for all models

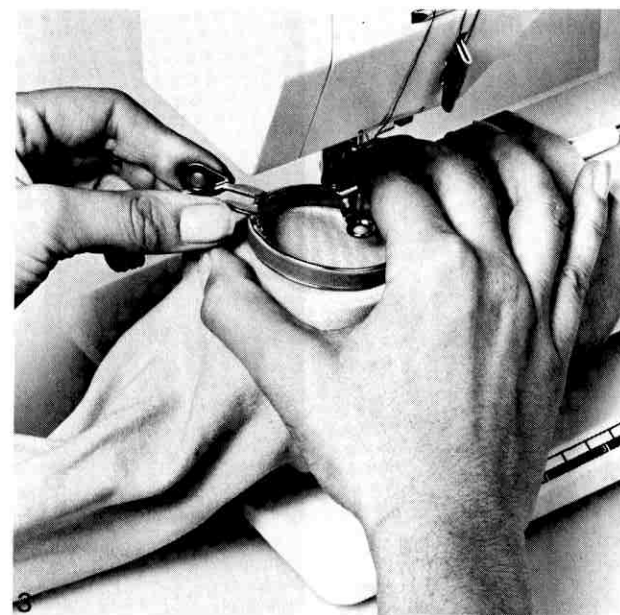
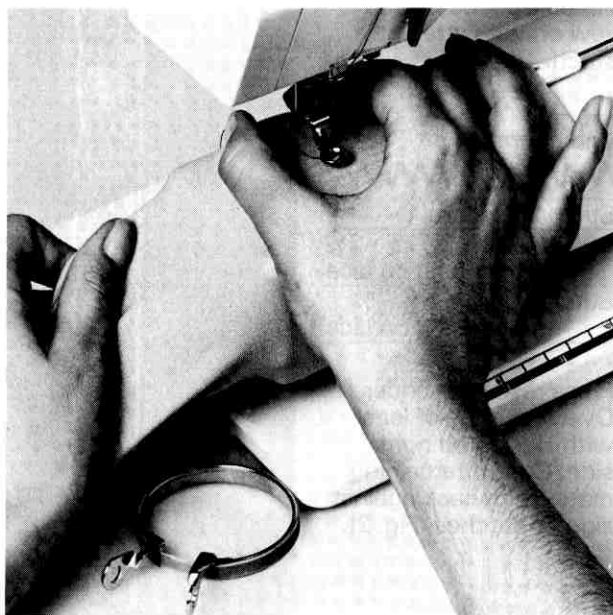
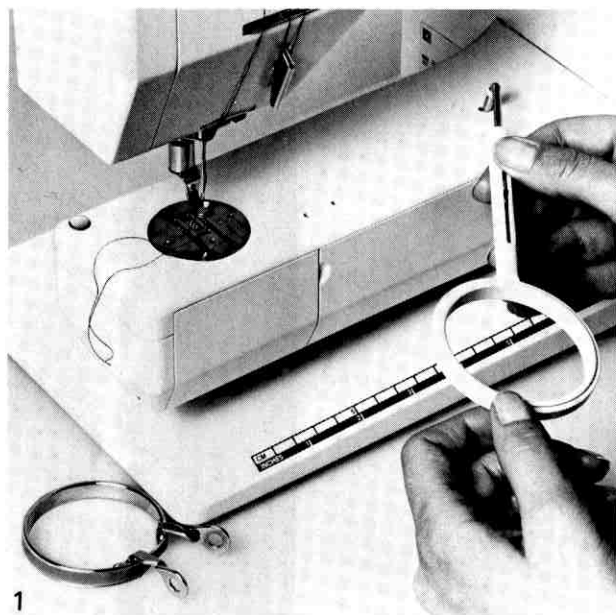
Darning technique

The small darning ring is particularly useful for darning small holes in work that will not easily fit into a large ring, such as socks, sleeves, trouser legs, etc., or where you wish to use the free-arm.

When the work is stretched in the small darning ring over the free-arm sew the 1st run lengthwise and the 2nd run widthwise, since the work cannot be turned.

Stretching the work

- Place darning ring without spring clip on free-arm (Fig. 1).
- Pull material evenly over free-arm and darning ring.
- Stretch darning ring fully to left
- Place index finger and thumb of right hand around the small darning ring (Fig. 2).
- With the left hand stretch darning material to extreme point of free-arm. The tension produced in this way is held with the thumb of the right hand (Fig. 2).
- Insert the spring clip as follows with the left hand: close spring clip, insert under the index finger of the right hand and **hold firmly** (Fig. 3). Only then press spring clip fully into darning ring.



Edgings on Woven Material

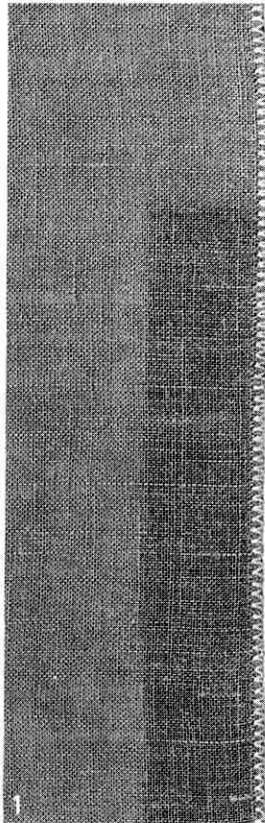
Fine edge finishing

For frills, scarves (neckerchiefs), serviettes, etc.



Presser foot:	000
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	1½ – 2
Stitch length:	½ approx.
Needle position:	centre
Feed-dog:	sewing

Press turnings of approx. 1 cm to wrong side. Sew zig-zag over this pressed edge. Guide pressed edge to centre of foot as for oversewing. Then cut off remaining material on back against zig-zag stitches (Fig. 1).



Lace and insertions on woven material

Presser foot:	000
Thread:	darning thread
Needle:	80-70
Needle position:	centre
Feed-dog:	sewing

1st operation

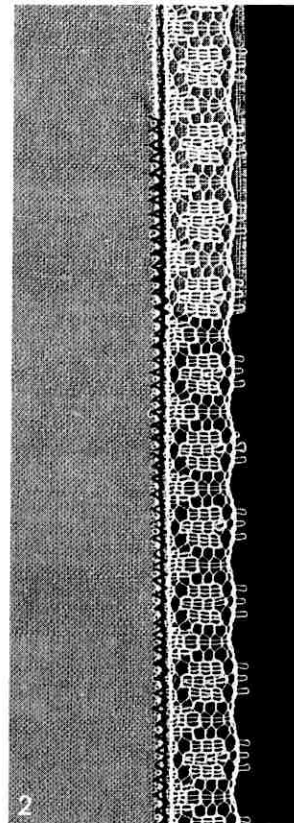
Stitch selection:	0
Stitch width:	0
Stitch length:	approx. 1

Pin on lace, baste and sew on with straight stitch.

2nd operation

Stitch selection:	1
Stitch width:	1½ – 2½ (depending on lace)
Stitch length:	¼ – ½ (depending on lace)

Press raw edge under. Oversew edge of lace with zig-zag on right side. Cut off remaining material on back against zig-zag stitches (Fig. 2).



Scallop edging

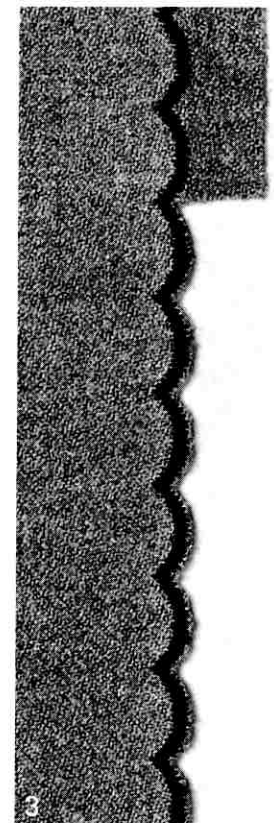
For collars, cuffs, neckerchiefs, frills, tablecloths, serviettes, lining hems, etc.



Presser foot:	030 *
Thread:	embroidery thread
Needle:	80-70
Stitch selection:	No. 7 scallop stitch
Stitch width:	4
Stitch length:	almost 0
Needle position:	centre
Feed-dog:	sewing


* Special accessory 801S, 802S

Mark desired line and place paper underneath. Sew scallop, remove paper and cut round scallop (Fig. 3).

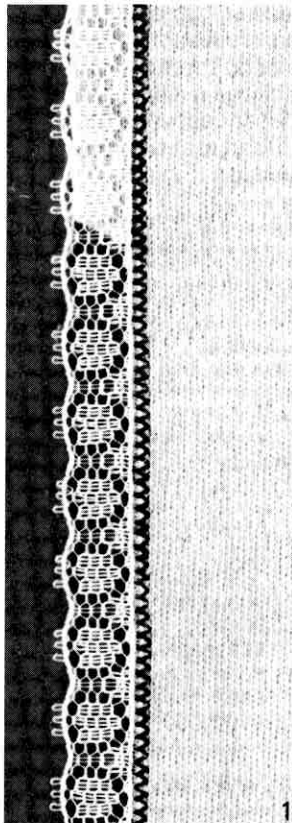


Edgings on Jersey

Lace on jersey


	
Presser foot:	000
Thread:	darning thread
Needle:	80-70
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	1½ - 2
Stitch length:	½ approx.
Needle position:	centre
Feed-dog:	sewing

Pin on lace, baste with short stitches, sew on with zig-zag over edge of lace. Cut off remaining jersey on back against zig-zag stitches (Fig. 1).

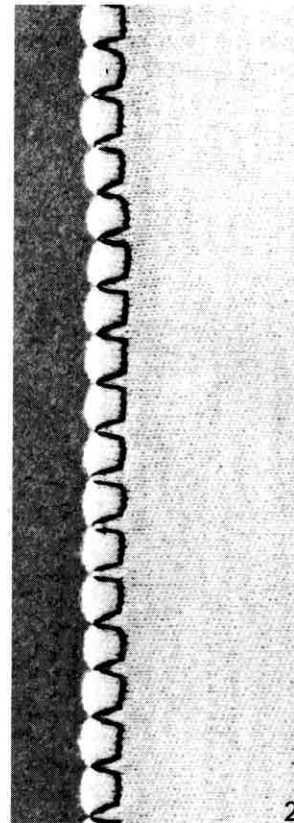


Shell edging

Specially for fine materials and jerseys


	
Presser foot:	000
Thread:	sewing thread
Needle:	80
Stitch selection:	No. 2 blind stitch
Stitch width:	4
Stitch length:	1
Needle position:	centre
Feed-dog:	sewing

Place material under presser foot so that the edge for the shell edging is on the **left**. The needle on its left swing should just go over the edge (Fig. 2).



Elastic

Specially for sports- and other underwear

	
Presser foot:	000
Thread:	sewing thread
Needle:	80
Stitch selection:	No. 4 universal stitch
Stitch width:	3
Stitch length:	1
Needle position:	centre
Feed-dog:	sewing

It is easier to gather jersey first: sew long straight stitches – then pull lower thread and gather jersey to the necessary width. Pin on elastic and sew in place. Cut off surplus on back (Fig. 3). Remove gathering thread. Elastic must **not** be stretched during sewing.



Gathering

Gathering with cord

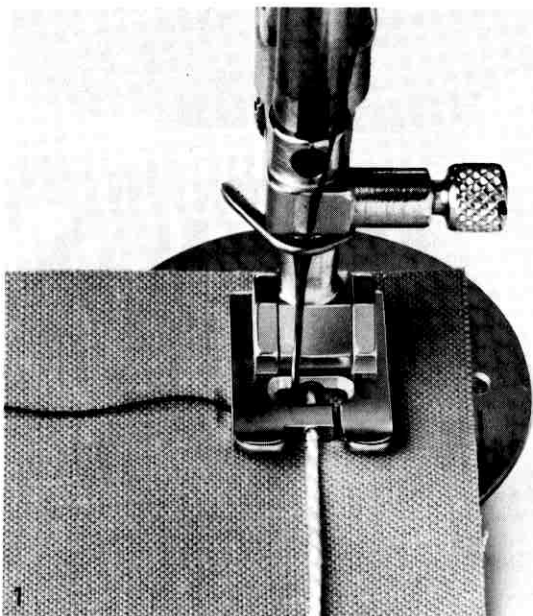
Long pieces of material



Presser foot:	030 *
Thread:	sewing thread
Needle:	80
Stitch selection	No. 1 zig-zag stitch
Stitch width:	2
Stitch length:	2-4
Needle position:	centre
Feed-dog:	sewing

* Special accessory 801S, 802S, 803S

Thread the pearl cord through the hole in the embroidery foot and oversew with zig-zag (Fig. 1). Always sew 2 rows at a distance of about 2 mm. Hold both cords and gather material (Fig. 2).



1

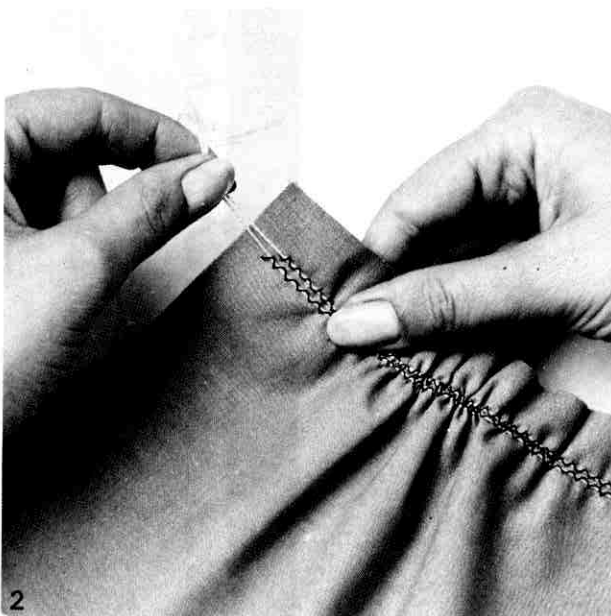
Normal gathering

Use presser foot 000. Small pieces or very thin fabrics can be gathered as follows:



Stitch selection:	No. 0 straight stitch
Stitch width:	0
Stitch length:	4

Sew two parallel lines of straight stitches. Then hold the two lower threads and gather the material to the desired width.



2

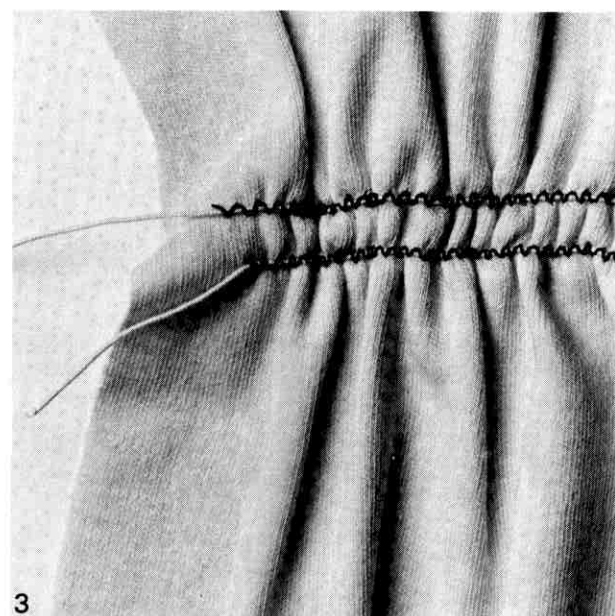
Gathering with elastic thread



Presser foot:	030 *
Thread:	sewing thread
Needle:	80
Stitch selection:	No. 1 zig-zag stitch
Stitch width:	2
Stitch length:	2
Needle position:	centre
Feed-dog:	sewing

* Special accessory 801S, 802S, 803S

Thread the elastic thread through the hole in the embroidery foot and oversew with zig-zag. Pull the elastic thread slightly whilst sewing. The more you pull the more it gathers. For each subsequent row – distance the width of the foot – pull the elastic thread and **the material already sewn with equal tension** (Fig. 3).



3

Monograms

The following data apply to “freehand” monograms



Presser foot:	– (possibly 285)
Thread:	darning thread / embroidery thread
Needle:	80
Stitch selection:	No.1 zig-zag stitch
Stitch width:	4–2
Stitch length:	0
Needle position:	centre
Feed-dog:	lowered

Monograms can be embroidered in various ways.

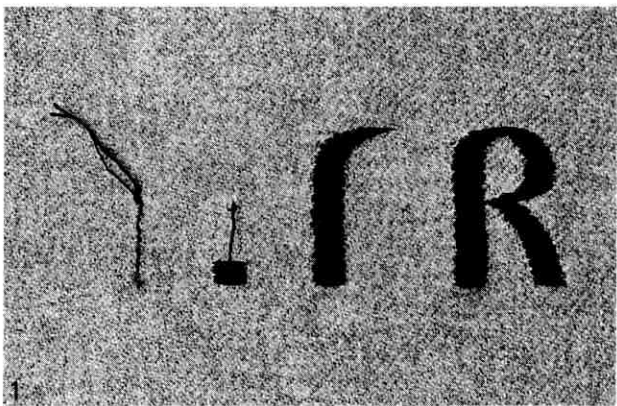
Work **without presser foot**.

But: **still lower lever for lowering presser foot**, otherwise loose stitches will be produced. Always stretch material in the loop. Lay paper under thin materials.

Those who are afraid at first to embroider without a presser foot can use the darning foot 285. In most cases darning thread 60 is used. Embroidery thread is also suitable for large monograms, e.g. on towels.

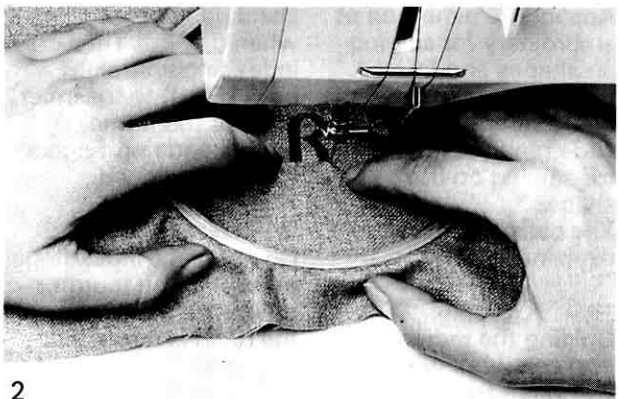
Practice makes perfect

- Monograms are easier worked “freely” rather than trying to follow a marked line.
- Select stitch width 4 and do not sew letters larger than 2–3 cm. Large monograms are more difficult as you must hold the hoop steady for longer.
- The letters R and B are particularly suitable for practising.
- Practice some pre-traced monograms later. The line traced should lie in the middle of the zig-zag stitch.
- Run machine at about three-quarters speed, but guide the frame **slowly**, regularly and smoothly!



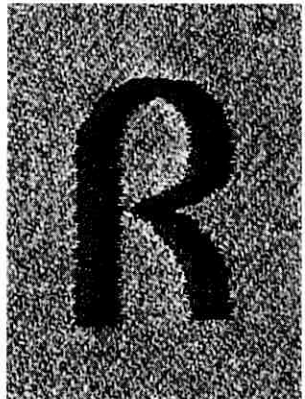
Procedure: (Fig. 1)

- Bring up the lower thread through the material. Secure with a few straight stitches. Cut both thread ends.
- Set zig-zag, sew 1–2 test stitches with the aid of the hand-wheel, ensuring that straight stitches are covered by the zig-zag stitches.
- Move frame outwards as though writing with it. **But do not twist it under any circumstances**, the narrow and wide sections are produced automatically. When the curved sections begins, guide the frame along the curve without twisting it.
- Finally secure with a few straight stitches.



Guiding the embroidery frame

The stitching of an even monogram largely depends on the correct holding of the frame. Hold frame as when darning (Fig. 2). Too much pressure by the fingers on the material produces irregular, jerky movements and therefore uneven monograms.



Important: Work as closely to the centre of the frame as possible, otherwise regular guiding is very difficult.
Note: Small, thin letters are more difficult to embroider. Practice with wide letters at first until you have become proficient.

Appliqué

Appliqué is a method of embroidery for sewing on shapes and figures. It allows free reign to the imagination. There is a wide range of methods for sewing on the shapes.

The basic technique is explained below.

Guiding the material

You can work with or without a frame, but stretched material can be guided more easily.

The most important basic principles:

- Guide the work by watching the needle in the slot of the presser foot.
 - Stop machine when altering position of hands.
 - To obtain a smooth curve guide material whilst sewing, stopping and turning will give a “ragged” effect.
- Exception: very small curves and corners.

Guiding with frame

The frame is mainly guided by the left hand. It must be held firmly and be able to turn easily. The right hand must be able to operate the hand-wheel at all times.

Hand position initially as when darning. Then draw index finger straight back (Fig. 1) to the inner edge of the frame. Middle and ring-fingers remain stretched.

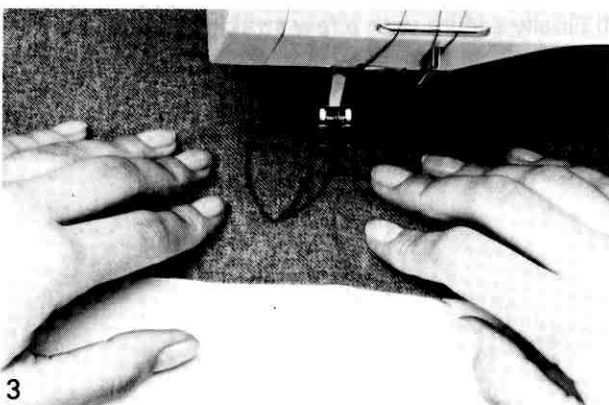
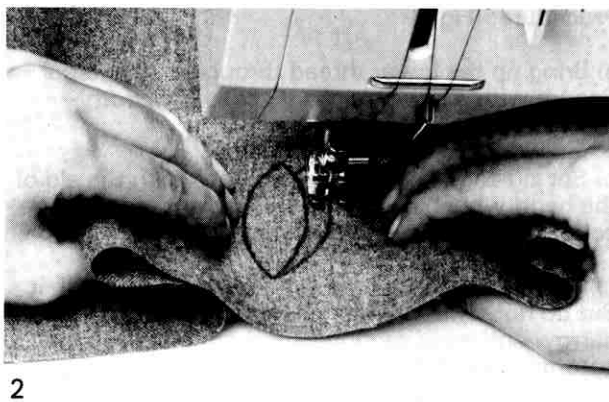
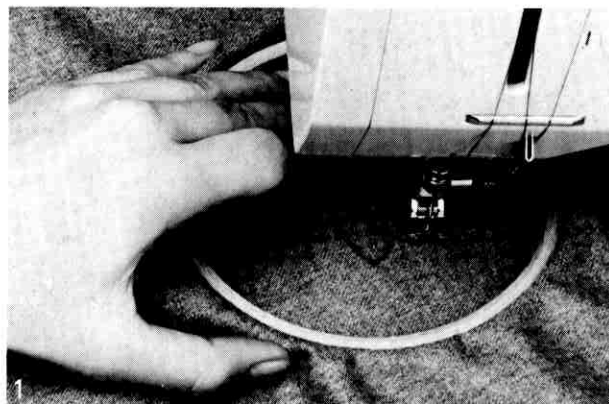
Important note:

Do not place index finger parallel to the thumb, otherwise movement of the hand is restricted.

Guiding without frame

Some textiles, e.g. velvet, cannot be stretched in the frame. Nevertheless, they should be guided in as stretched a condition as possible. Place thumbs under the material. Make a fold if the workpiece is large. Guide near presser foot. In this way, the material can be stretched a little and turned easily (Fig. 2).

This method of guiding is unsatisfactory, slight pressure is exerted on the material and guiding is difficult (Fig. 3).



Single-colour appliqué



Presser foot:	030 *
Thread:	darning- / embroidery 30
Needle:	80
Stitch selection:	No. 1 zig-zag stitch
Needle position:	centre
Feed-dog:	sewing

* Special accessory 801S, 802S, 803S

Procedure

Trace the design onto the wrong side of the background material with tracing paper. N.B. This will be reversed on the right side.

The design can also be traced on thin Vilene¹ and ironed onto the back of the material. This is recommended for coarse and irregular fabrics on which it is difficult to trace.

Stiffen appliqué material with Vilene¹ and baste onto the right side of background material. If Vilene¹ is not used, paper must be used underneath all satin stitches. This is torn away afterwards.

1st operation

Stitch width:	½ – 1
Stitch length:	¼ approx.

- Sew along the traced lines on the wrong side of background.
- Trim away the surplus material of the appliqued piece against the zig-zag stitches. Take work out of the frame for this purpose.

2nd operation

Stitch width:	1½ approx.
Stitch length:	almost 0

Cover the cut edge and the zig-zag stitches working on the right side with a satin stitch. Sew corners and small curves stitch-by-stitch. Finish by tracing the lines through that were not appliqued and sew over from right side.

¹ Vilene = fine iron-on, non woven interfacing

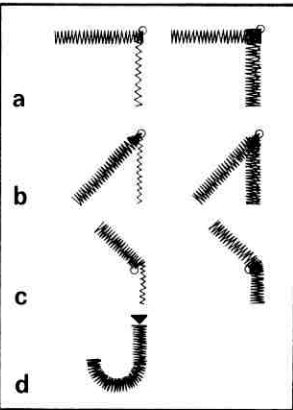
Corners and small curves (Fig. 4).

a) Rectangular corners: Stop with the needle at outer edge, turn the work and continue sewing. The corner will then be oversewn.

b) Pointed corners: sew to ½ cm before corner. Then turn zig-zag back to 0 **while sewing**. Raise presser foot, turn work, set zig-zag again to 1½ and continue sewing carefully.

c) Blunt corners: sew until the needle is exactly at the **middle of the angle**. Then sew out from centre, replacing the needle in the middle after every stitch. Raise presser foot and turn material slightly.

d) Sew small curves in the same way.

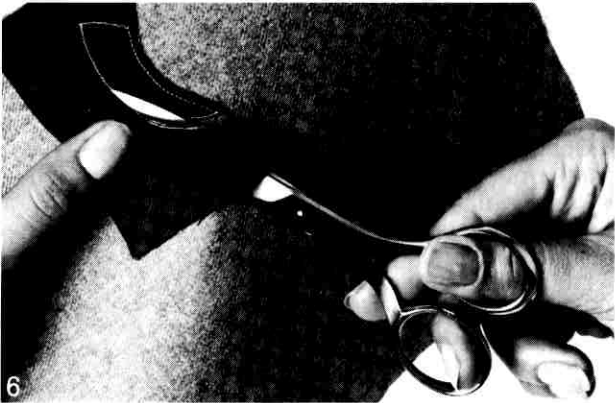
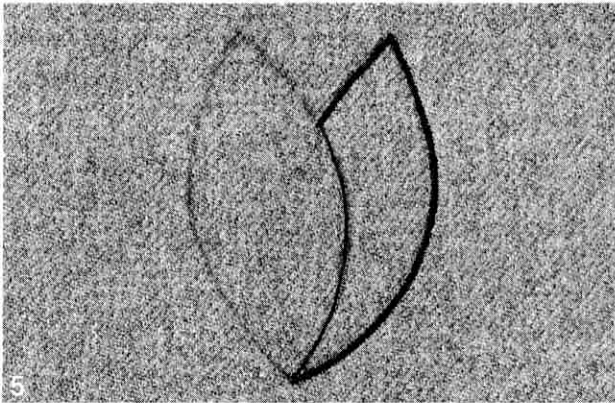


Multi-colour appliqué

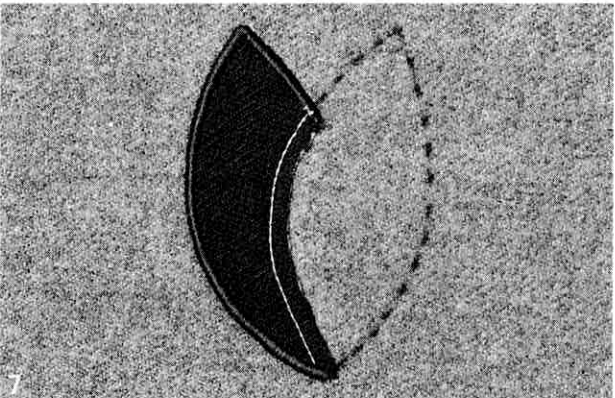
The appliqué pieces must overlap.

Lower appliqué piece:

1. Baste on appliqué material. Sew first row: where colours intersect sew only with straight stitch, the remaining lines with zig-zag (Fig. 5).

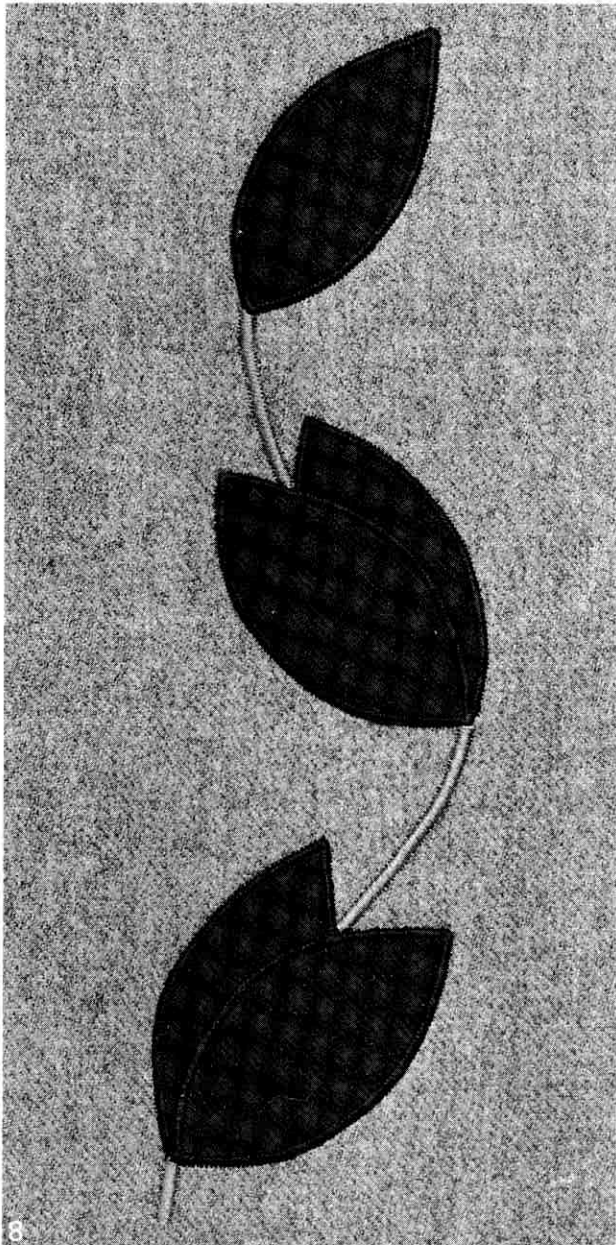


2. Cut off surplus material. **Warning:** leave 2 mm where straight stitch is sewn; cut off all material where zig-zag is sewn (Fig. 6).



3. Omit the straight stitch lines when covering the edges. These are covered by the next appliqué (Fig. 7).

Upper appliqué piece: work as for normal appliqué.



Changing the Bulb

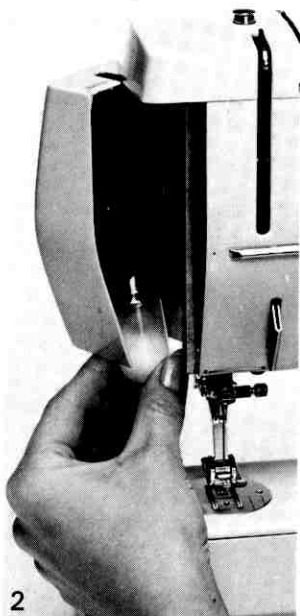
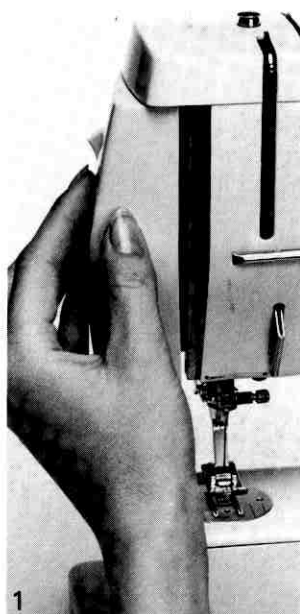
Use 15W bulb with bayonet socket.

- **Disconnect the sewing machine from the power supply by pulling out the plug from the socket.**

- Open light cover (Fig. 1).
- Press bulb upwards, turn anti-clockwise and pull downwards.

- Fit new bulb:
 - Press bulb upwards, turn clockwise till the stop position is reached (Fig. 2).

- Close light cover.



Maintenance: Cleaning and Lubricating

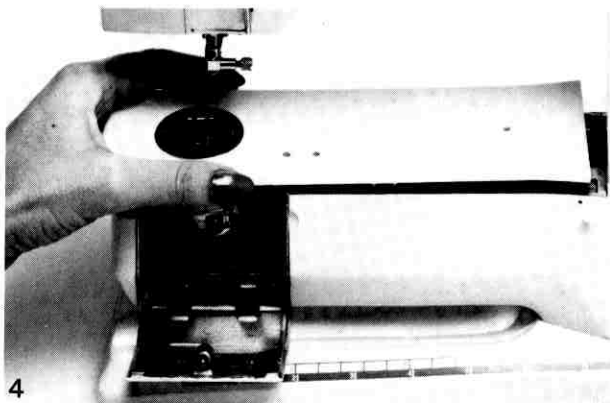
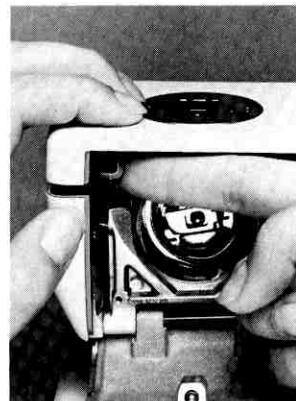
If the machine is kept in a cold room, it should be taken to a warm room about 1 hour before use to allow the oil in the bearings to become more fluid.

Cleaning

During sewing pieces of thread and fluff collect under the stitch plate and around the hook. These remnants must be removed from time to time. The free-arm cover has to be removed for this purpose.

- **Disconnect the sewing machine from the power supply by pulling out the plug from the socket.**

- Remove presser foot and needle.
- Open hinged cover on free-arm.
- Press with right index finger on the upper releasing lever (Fig. 3).
- Lift off free-arm cover (Fig. 4).
- Clean feed-dog, underside of stitch plate and free-arm cover.

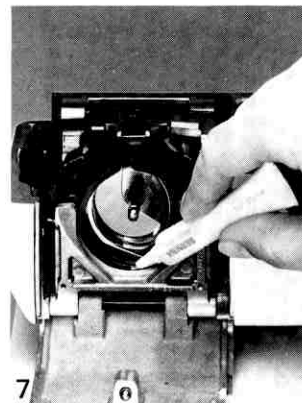
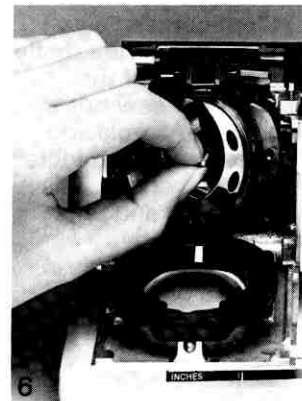
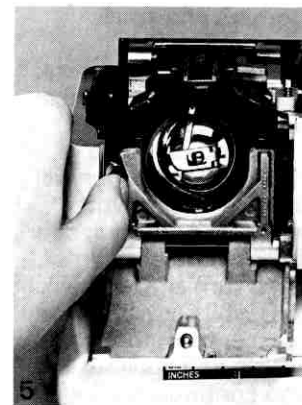


Lubricating the hook
1–2 drops of oil after 3–4 hours sewing.

Cleaning the hook

- **Disconnect the sewing machine from the power supply by pulling out the plug from the socket.**

- Remove bobbin case (see page 4).
- Press lower releasing lever to left with the left thumb (Fig. 5).
- The half-round locking strap with the black hook race cover can now be swung down.
- Remove hook (Fig. 6).
- Clean hook race top and bottom with brush and cotton cloth. Never use a screwdriver or scissors, etc. to remove pieces of thread!
- Oil hook race slightly (Fig. 7).
- Turn hand-wheel if necessary until hook driver is on left and replace hook.
- Close back hook race cover and locking strap. The latch must engage.
- Check by turning hand-wheel.
- Insert bobbin case.



Prevention of Faults

If the sewing machine does not sew satisfactorily, it is usually due to incorrect operation.

Check whether:

- upper and lower threads are correctly threaded
- the needle size is correct, see Needle and Thread table, page 12
- the machine is clean, remove free-arm cover, brush out remnants of thread
- the hook race is clean and oiled
- remnants of thread are trapped between the thread tension discs and beneath the bobbin case spring
- the buttonhole knob is set to ○.

Upper thread breaks

- upper thread tension too tight
- poor quality needles, preferably buy needles from a Bernina dealer
- needle fitted incorrectly, flat side of shank must be at rear
- needle blunt or bent
- poor quality thread, knotted thread, thread dried out due to prolonged storage
- Needle plate or hook tip damaged, take to Bernina dealer.

Lower thread breaks

- lower thread tension too tight
- bobbin jams in bobbin case, replace bobbin
- hole in stitch plate damaged by needle, must be polished by expert
- needle blunt or bent.

Faulty stitches

- wrong needles, use only needle system 130/750
- wrong size needle for thread being used
- needle blunt or bent, not fitted correctly, push right up when inserting
- poor quality, roughly polished needle
- needle tip shape does not suit material to be sewn, if necessary use ball-tip for knitted materials and cutting tip for hard leather
- lower thread is still threaded in finger of bobbin case.

Needle breaks

- needle clamping screw not sufficiently tightened
- the material was withdrawn from the front instead of the rear under presser foot
- while sewing over thick parts material was pushed while needle was still in the material, use jeans foot
- poor quality thread, irregularly twisted or knotted.

Tension errors

- thread remnants between the thread tension discs
- thread remnants under bobbin case spring
- thread threaded in finger of bobbin case as for buttonhole sewing
- threaded with foot lowered
- wrongly threaded, check upper and lower threads.

Machine runs slowly or not at all

- plug not fully inserted
- machine movement blocked by unsuitable oil, machine must be cleaned by an expert
- machine has been standing in a cold room.

If you take your machine to an expert, **please always take foot control and accessories!**

Important!

Safety Regulations

Subject to BEAB and OSHA safety regulations (official testing centres in Great Britain and the U.S.A.).

The following safety regulations must be observed without fail:

- The moving needle is a source of danger (risk of injury to fingers). The sewing position must therefore be kept under constant observation.
- Manipulations within the area of movement of the needle, such as changing the needle, the presser foot or stitch plate, must only be performed with the machine switched off. The same applies when removing and replacing the lower thread bobbin or hook.
- During maintenance work (cleaning or lubricating) or changing the light bulb and interruptions in sewing or after completion of work, the machine must be disconnected from the power supply by pulling out the mains plug.
- Repairs to the electronic section, especially the changing of the lead wire to the foot control unit, may only be carried out by one of our service agencies.

The right to make constructional changes differing from text and illustrations is reserved.

Special accessories

The contents of the present "My Bernina Guide" only cover basic sewing work, especially practical routine sewing and the basic principles of embroidery with decorative stitches.

Your BERNINA has of course many more possibilities to offer you particularly in the field of embroidery and design, for example:

- *) **Broderie anglaise**
- *) **Circular embroidery**
- *) **Cording**
- *) **2- and 3-needle work**
Free-hand embroidery
- *) **Hem stitches**
- *) **Embroidery with pearl yarn/wool**
- *) **Embroidery with metal thread**
- *) **Buttonhole stitch embroidery (Cavelier foot)**
Imitation smocking
Practical application of the decorative stitches
- *) **Sewing on buttons**
Hemmer/shell hemmer/lap hemmer etc.

***) For this type of sewing a special foot or special accessory is available.**

Your BERNINA dealer will be glad to give you information and advice on the additional possibilities your machine has to offer.

Notes

Notes by the Bernina agent concerning instructions, customer service visits and any warranty provisions.

[illegible]

Fritz Gegauf Ltd., Bernina Sewing Machine Manufacturers, CH-8266 Steckborn, Switzerland

BERNINA®