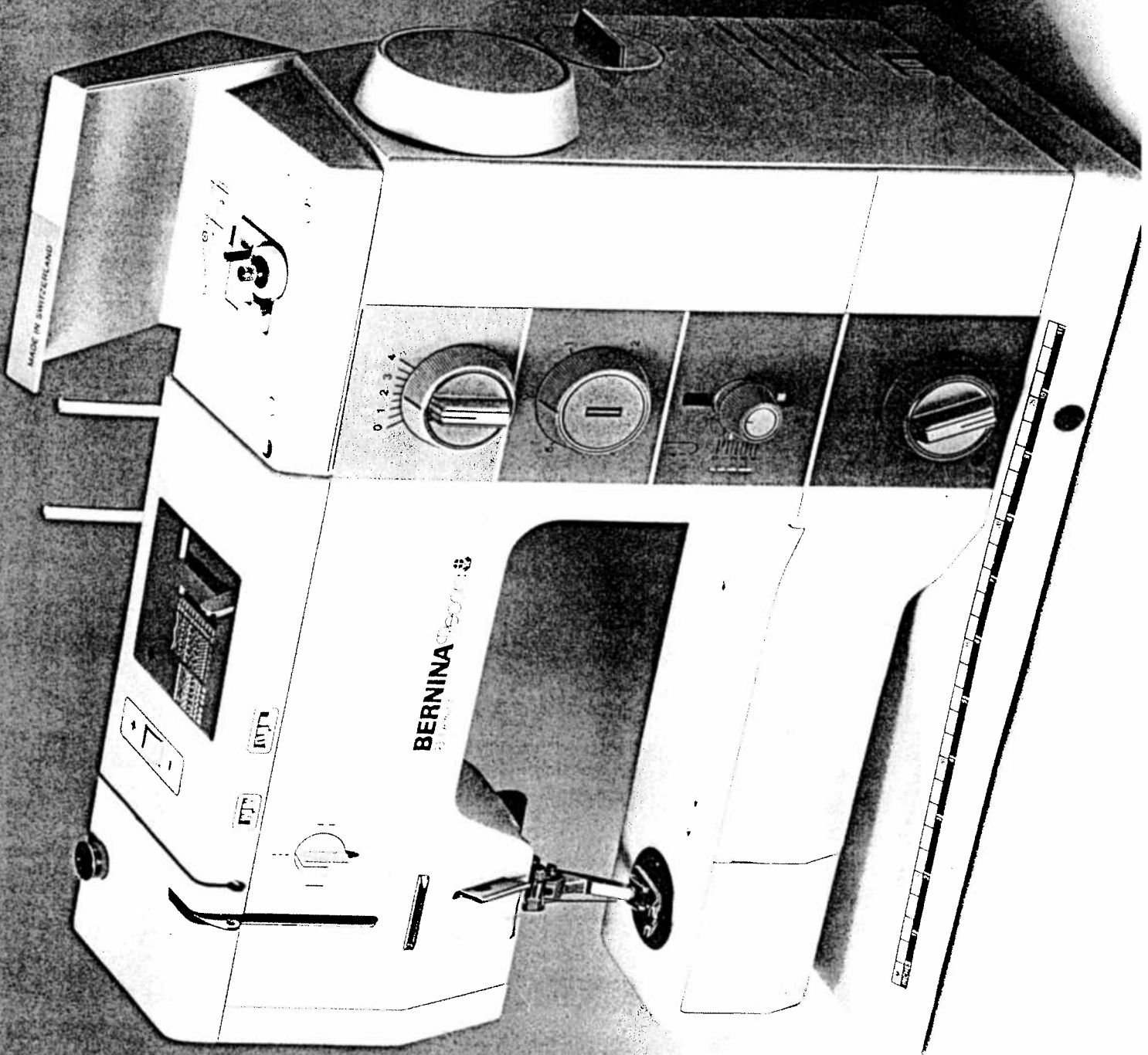


My **BERNINA** Guide

937



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| | | | | | |

Important!

Safety Regulations

BEAB, OSHA

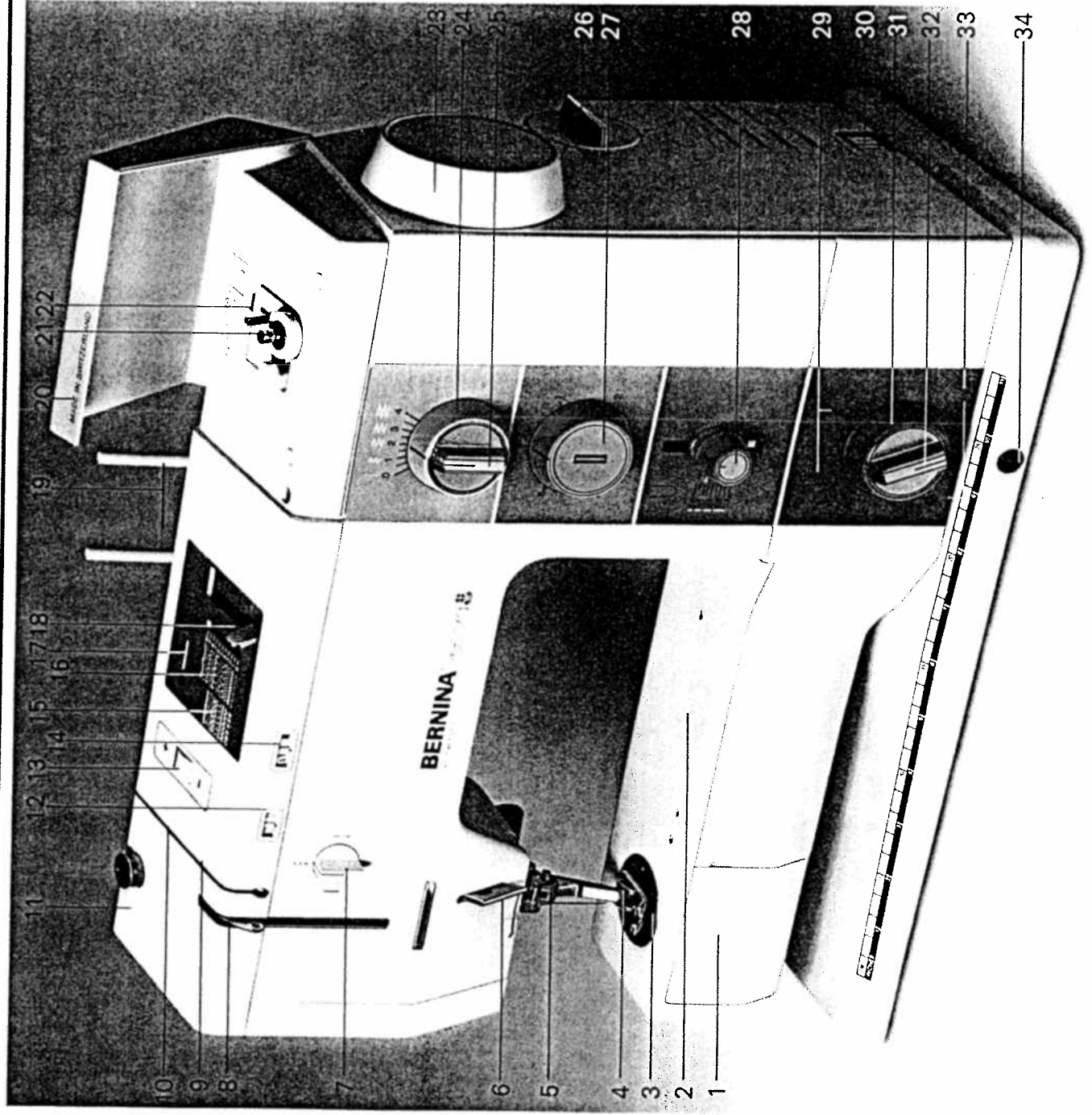
The following safety regulations must be observed without fail:

- 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 (main switch set to position). 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.**

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View of Machine



- 1 Hinged cover on free-arm
- 2 Free-arm cover
- 3 Needle plate
- 4 Presser foot
- 5 Needle holder clamp
- 6 Thread regulator
- 7 Automatic long stitch & basting device switch
- 8 Thread take-up lever
- 9 Thread tension slot
- 10 Thread tension disc
- 11 Top frame cover
- 12 Thread tension indicator
- 13 Adjusting wheel for thread tension
- 14 Pattern indicator
- 15 Red stitches
- 16 Green stitches
- 17 Colour markings
- 18 Selector lever
- 19 Reel holder pins
- 20 Cover of bobbin winding device
- 21 Bobbin spindle
- 22 Thread cutter
- 23 Hand-wheel
- 24 Stitch width knob
- 25 Needle position knob
- 26 Power switch
- 27 Buttonhole knob
- 28 Stitch length knob
- 29 Symbol for sewing/darning
- 30 Connection for foot control unit
- 31 Sewing/darning knob
- 32 Red/green stitch knob
- 33 Colour markings
- 34 Opening for knee lifter

Dear Bernina Customer,

We would like to congratulate you on the purchase of your new Bernina sewing machine and thank you for the confidence shown in our product.

You have acquired a top-quality Swiss product, manufactured with the utmost skill and care at our Bernina factory in Steckborn / Switzerland.

«My Bernina Guide» provides you with all the necessary information about your Bernina and its countless applications for sewing work.

If you should require further details or advice about your sewing machine or sewing problems, please contact your Bernina dealer.

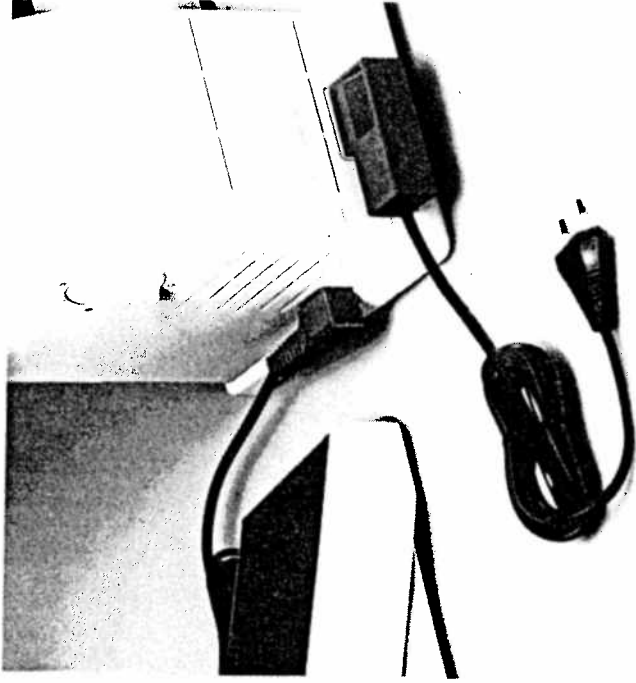
We hope you are successful and happy with your sewing and dressmaking work.

With kind regards

Odette Ueltschi

Odette Ueltschi-Gegauf, Chairman of the Board
FRITZ GEGAUF CO. LTD.
Bernina Sewing Machine Works, CH-8266 Steckborn TG Switzerland

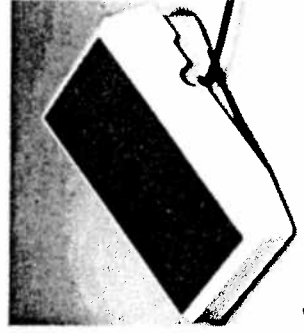
Electrical Section



1

Connecting power cable and foot control unit

The terminals on the machine for power cable and foot control unit can be seen in Fig. 1.

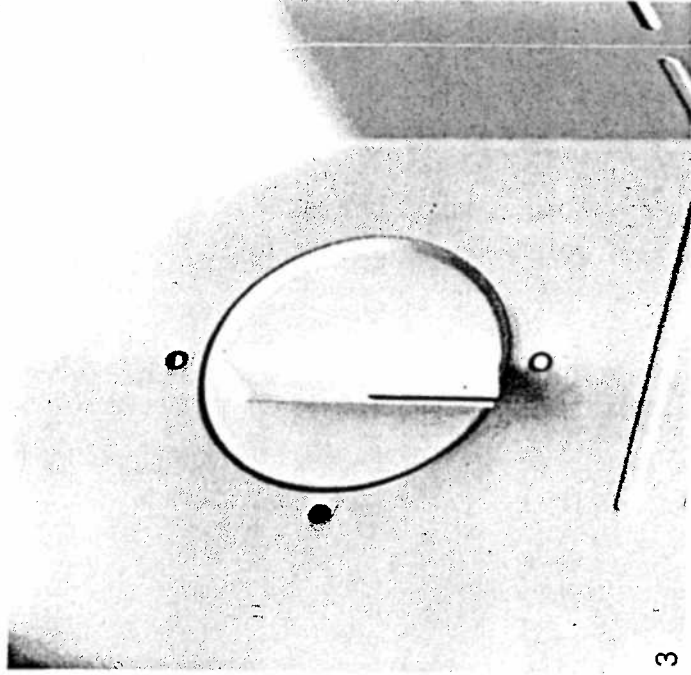


2

Foot control unit (Fig. 2)

For controlling the sewing speed.

4

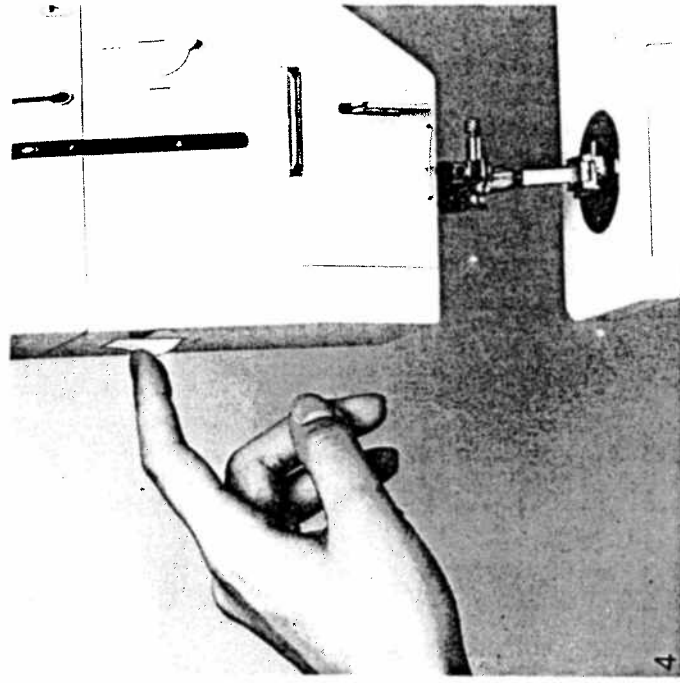


3

Power switch

The power switch on the right below the hand-wheel (Fig. 3) has 3 positions:

- Off — the machine is switched off
- On — the machine is switched on for maximum sewing speed. The sewing speed can be regulated up to maximum speed by pressing the foot plate of the foot control unit.
- ◐ On — the machine is switched on for reduced sewing speed. At this switch position the maximum speed is reduced to approximately half. When switched to «reduced sewing speed» sewing is made much easier for more difficult work as well as for those less used to electric sewing machines.



4

Sewing light

The sewing light is switched on and off with the switch fitted in the front cover (Fig. 4). The sewing light is also switched off when the main switch is at ○ = off.

Motor

The d.c. motor and electronic speed control ensure exceptional penetrating power even when sewing slowly.

The high penetrating power considerably simplifies the sewing of very heavy materials, very dense fabrics and thick seams.

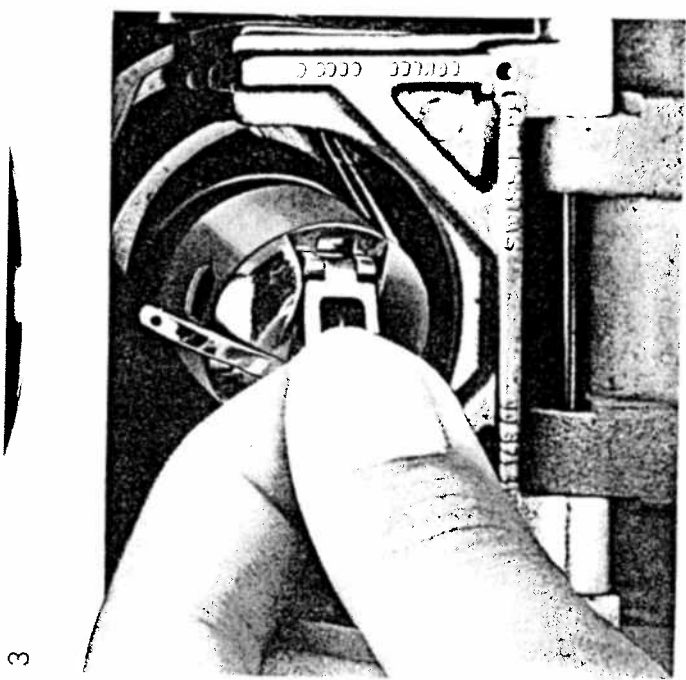
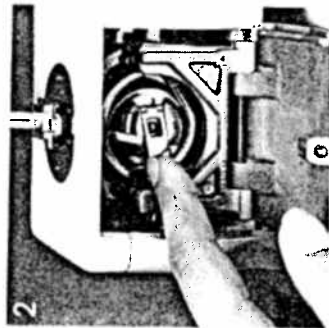
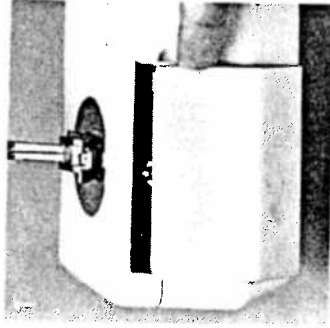
Electronic needle stop
Every time you stop sewing, an electronic system returns the needle to its highest position for easy removal of the work.

Removing Bobbin Case

- Set main switch to O.
- Check whether needle is up. If not, raise needle with handwheel.

- Open hinged cover on free-arm (Fig. 1).

- Lift the latch of the bobbin case with the index finger of the left hand (Fig. 2) and remove bobbin case (Fig. 3).

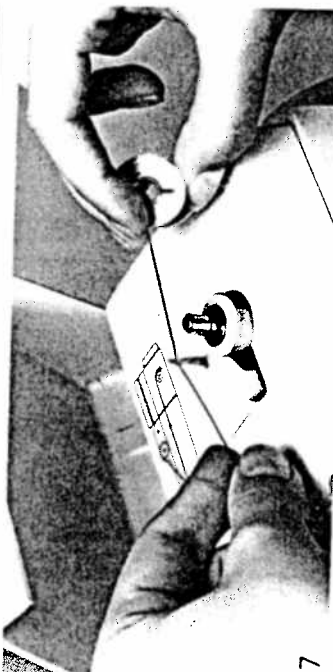


winding Lower Thread

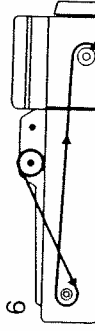


- Open cover of bobbin winding device (Fig. 4). This disengages the machine.

- Place empty bobbin on spindle (Fig. 5). This switches on the winding device.



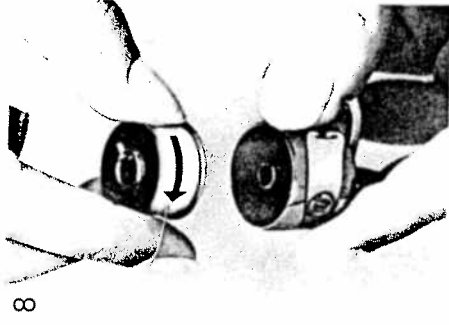
- Place thread on a reel holder pin and take it clockwise around the pretension stud to the empty bobbin (Fig. 6). Wind



- round empty bobbin several times, also in a clockwise direction.

- Set main switch to ●
- Start bobbin winding device by operating foot control unit. When the bobbin is fully wound, the winding device switches off automatically.

Inserting Bobbin

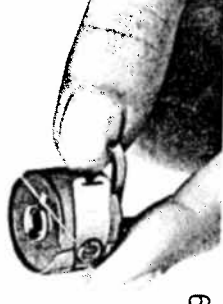


- Cut thread when removing bobbin by drawing over the small blade (Fig. 7).

- Do **not** yet close cover of winding device!
- Hold bobbin case in one hand, insert bobbin so that the thread is wound in the clockwise direction, see arrow (Fig. 8).

- Draw thread through the slot and below the spring until it lies in a T-shaped slot at the end of the spring, do **not** hold bobbin for this purpose, (Figs. 9+10).

- The bobbin must turn in the clockwise direction of the arrow when pulling the thread.



Inserting bobbin case into hook

- Hold 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 and fits in the notch of the hook race cover.

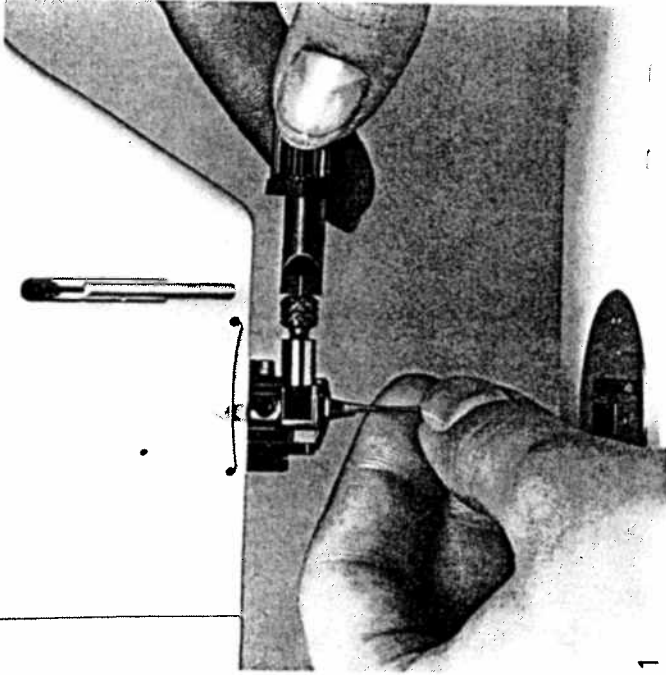
- Check: pull end of thread

- Close hinged cover
- Close cover of winding



10

Inserting Needle



1

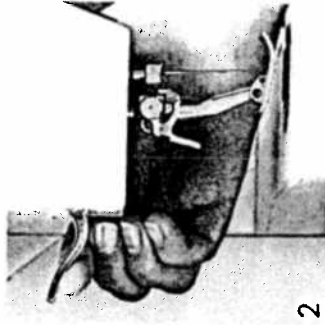
See page 10 for suitable needle sizes.

- Set main switch to .
- Check whether needle is up
- The accessories box contains a small black screwdriver for loosening or tightening the needle clamp.
- Loosening the needle clamp: half a turn to left, anticlockwise (Fig. 1)
- Inserting needle: **flat shank side** of needle always at **rear**

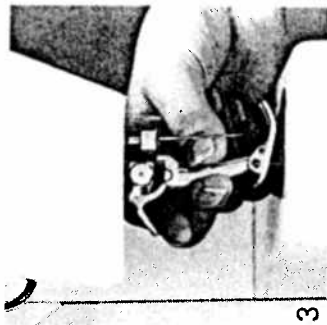
- Insert needle **fully** until it **reaches the top**. If the needle does not contact the top, i.e. is set too low, faulty stitches are produced.
- Tighten needle clamp firmly.

Changing Presser Foot

Refer to page 9 concerning presser feet and their range of application. The success or otherwise of a piece of sewing largely depends on the correct choice of presser foot. It must therefore be simple and quick to change the presser foot.



2



3



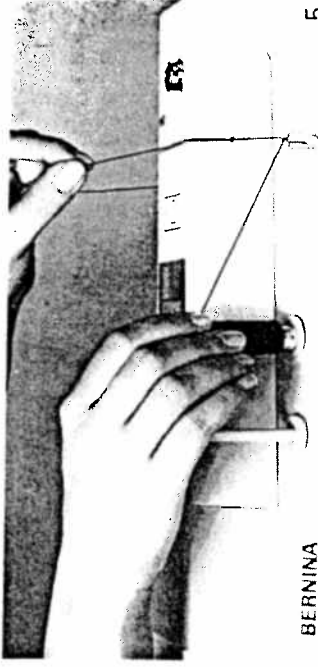
4

- Set main switch to
- Check whether needle is up
- Raise presser foot (Fig. 2)

- Raise clamping lever with the index finger of the right hand and re-move the presser foot using the middle fingers and thumb (Fig. 3).

- Securing the presser foot: same procedure, but press clamping lever downwards with index finger (Fig. 4).

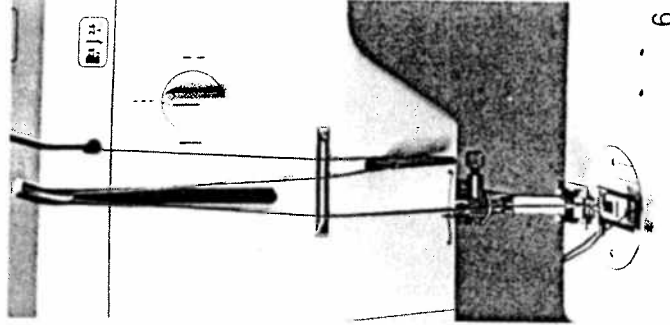
Threading Upper Thread



BERNINA

5

- Hold reel of thread firmly while threading (Fig. 5).
- First clip the thread into the thread guide at the rear of the machine, then bring it through the slot in the thread tension (Fig. 5).
- At the front of the machine take thread downwards under the thread regulator, up again to the take-up lever and then downwards to the needle holder thread guide (Fig. 6).



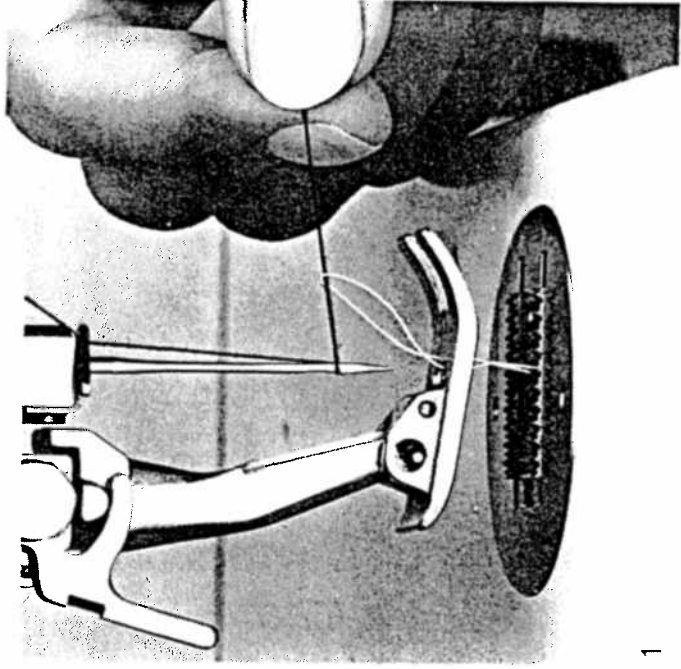
6

- Always thread needle from front
- The small white plate at the front on the presser foot shaft makes it easier to thread the eye of the needle.
- Pull thread approx. 10 cm through eye of needle.

Bringing up Lower Thread

- Hold end of upper thread with the right hand
- Sew 1 stitch by tapping the foot control unit. The electronic needle stop unit ensures that the needle will be in the raised position.
- Pull upper thread so that the lower thread is brought up through the needle plate hole (Fig. 1).
- Take both threads down through the slot of the presser foot and place to the side.

Instead of using the electronic needle stop, the lower thread can be brought up by turning the hand-wheel forward with



Lowering Feed-dog

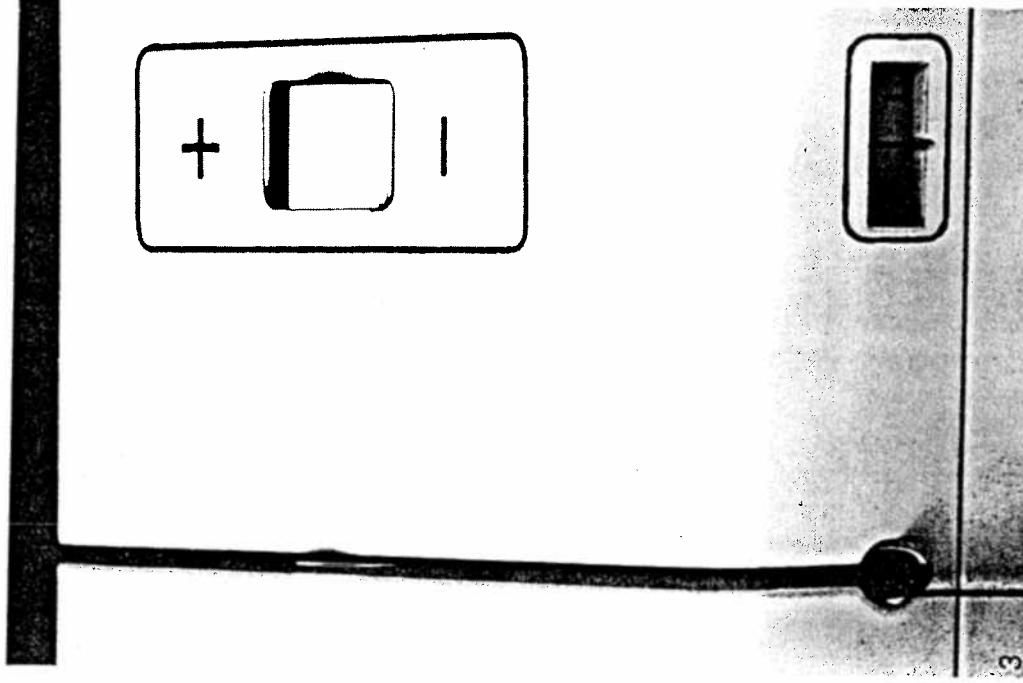
For certain types of sewing, e.g. darning, the material should not be moved by the feed. For this purpose, the feed-dog must be lowered by turning the outside, bottom circular knob to the right, until the mark is below the # symbol (Fig. 2)



For all normal sewing work the mark must be on the left below the # symbol.

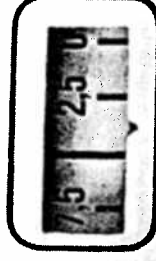
Thread Tension

One of the most important Bernina advantages is that the thread tension does not have to be altered for normal sewing work. The normal tension is set when the red line on the scale is at the middle of the window (Fig. 3).



For special sewing work, e.g. for sewing tailor tacking stitch, the thread tension can be adjusted with the adjusting wheel. Turning this wheel backwards, towards the «+» sign, produces a tighter upper thread tension. The figures 7, 5 and 10 appear in the window. Turning the adjusting wheel forwards, towards the «-» sign, produces a looser upper thread tension. The figures 2, 5 and 0 appear in the window (Fig. 4).

Do not forget: reset thread tension to normal, red line in the middle, when a special piece of sewing requiring tension alteration has been completed.



Presser Foot Lifter

Many sewing operations are considerably simplified if both hands can be used for guiding the work.

The presser foot lifter is used for raising and lowering the presser foot with the right knee, leaving the hands free.

Attaching

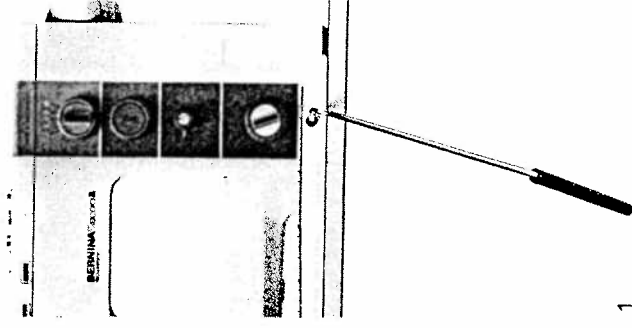
the presser foot lifter:

The presser foot lifter is contained in the carrying case. The opening for the presser foot lifter is located at the right on the front in the base-plate below the lower knob.

- Insert presser foot lifter so that it hangs to the left (Fig. 1).

If the presser foot lifter is pressed to the right, the presser foot is raised. It should be possible to operate the presser foot lifter comfortably with the right knee, without altering your customary sitting position.

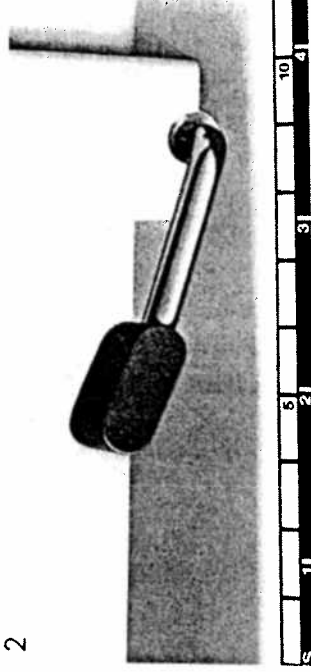
If the inclination of the presser foot lifter provided is inconvenient, it can be adjusted using a screw underneath the machine. Your Bernina dealer will gladly make this adjustment for you.



1

Sewing Table

2



The sewing table is used to enlarge the working surface. It simplifies all sewing work for which the free-arm is not required.

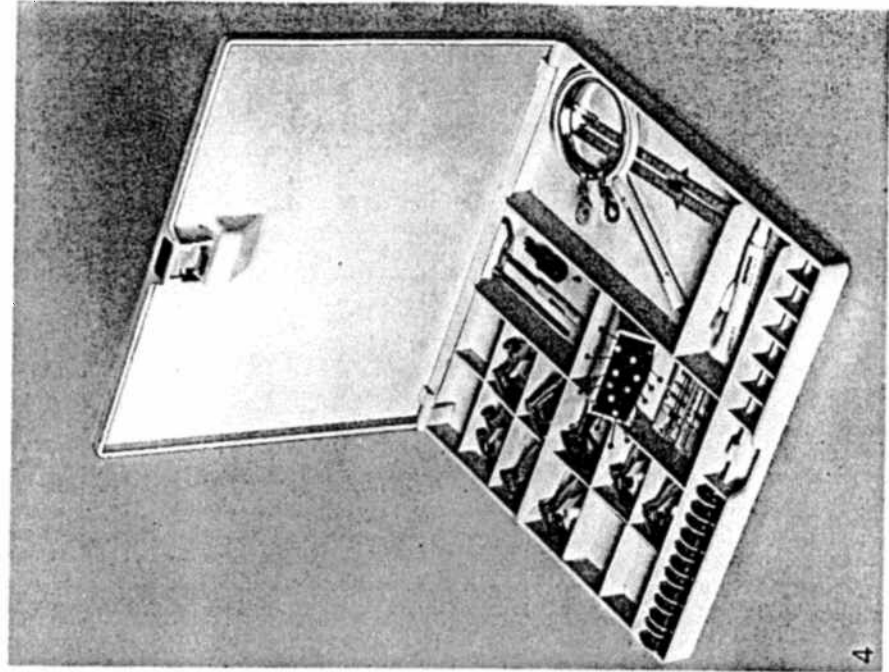
Attaching the sewing table: The locking lever (Fig. 2) must point to the left

before it can be attached.

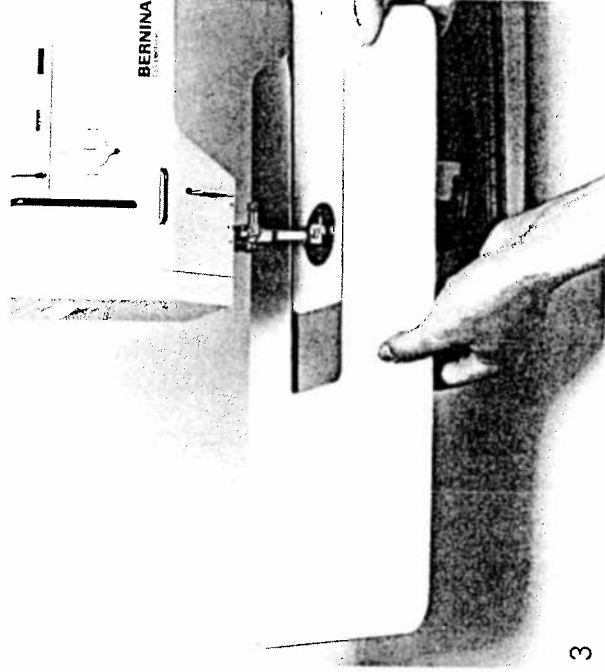
- Hold sewing table with both hands and slide on horizontally (Fig. 3).
- Press locking lever to the right.

Accessories Box

The accessories are clearly accommodated in the flat accessories box. A summary of the most important basic settings of your sewing machine can be found inside the cover.



4



3

Presser Foot

Presser feet are an important aid to sewing. They are provided with grooves and guides. The success or failure of a piece of sewing therefore also depends on the correct choice of presser foot.

The presser feet are not therefore only suitable for one specific operation. They are also used for simplifying other types of work.

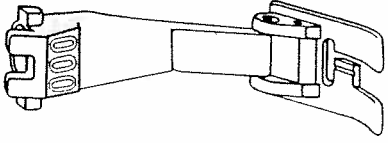
For example the buttonhole foot:

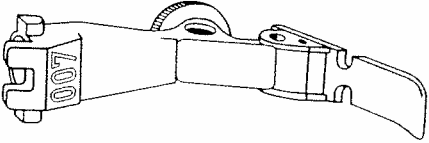
- Buttonhole** = main application
- Gathering
- = further application

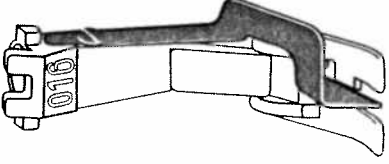
Several presser feet look very similar at first glance. They are provided with numbers to avoid confusion.

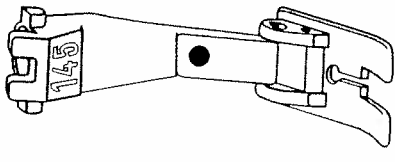
The presser feet illustrated on this page belong to the standard accessories in most countries. In other countries with different sewing practices, however, the range of presser feet may be different.

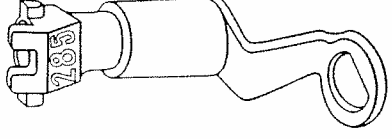
Special presser feet can be obtained for more specialised sewing work. Ask your Bernina dealer for advice.

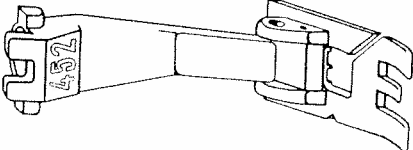
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|  | <p>000</p> |
| <p>presser foot for green stitches straight stitch zig-zag green practical stitches</p> | |

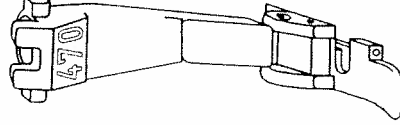
| | |
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|  | <p>007</p> |
| <p>zipper foot sewing in zips sewing piping close along stitching line raised seam</p> | |

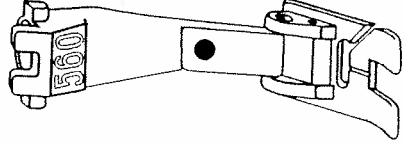
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|---|-------------------|
|  | <p>016</p> |
| <p>blind stitch foot blind hemming edge stitching</p> | |

| | |
|--|-------------------|
|  | <p>145</p> |
| <p>blue spot Jeans foot straight stitch sewing in thick, hard materials and over thick seams</p> | |

| | |
|--|-------------------|
|  | <p>285</p> |
| <p>Darning foot Darning Monograms by free hand Free hand embroidery</p> | |

| | |
|--|-------------------|
|  | <p>452</p> |
| <p>Buttonhole foot Buttonholes Gathering</p> | |

| | |
|---|-------------------|
|  | <p>470</p> |
| <p>Overlock foot Vari-overlock seam Vari-overlock hem Overcasting seams</p> | |

| | |
|---|-------------------|
|  | <p>560</p> |
| <p>red spot Presser foot for red stitches Red stitches</p> | |

Needle and Thread

Please note: Your Bernina is provided with **Needle System 130/705H**

Make sure when purchasing new needles that you receive needles of the 130/705H system.

The needle size to be used depends on the thread selected, **the needle must match the thread.**

The adjoining table indicates which needle is suitable for which thread.

Needle sizes no. 70 to no. 120 are usual in the trade. The finer the needle, the lower the number. It is the opposite for the thread. The finer the thread, the higher the number.

The thread lies in the long groove of the needle during sewing. If the needle is too fine, there is no room for the thread in the groove. The result is faulty stitches.

Special Needles

Special needles make it easier to sew difficult materials.

Ball-point needles help to prevent damage to knitted fabric.

System 130/705 H-SES = fine round tip for fine knitted fabrics, particularly synthetics.

System 130/705 H-SUK = medium round tip for medium to coarse knitted fabric, particularly synthetics.

System 130/705 H-S = stretch (only Nm90!) specially for elastic synthetic knitted fabrics.

Jeans needles penetrate easier through hard fabrics.

System 130/705 H-J = slender tipped form for jeans fabrics and other compact, hard fabrics.

Leather needles penetrate leather more easily.

System 130/705 H-LR = cutting tip for hard leather particularly.

| Needle | 70 | 80 | 90 | 100 | 110-120 |
|---|----|----|----|-----|---------|
| Darning thread | * | * | | | |
| Embroidery thread No. 30 | | * | | | |
| Sewing thread Mercerised cotton | | * | * | | |
| Sewing thread synthetic | | * | * | | |
| Sewing thread coarse Mercerised cotton, synthetic | | | * | * | |
| Buttonhole thread for decorative seams (cordonnnet) | | | | * | * |

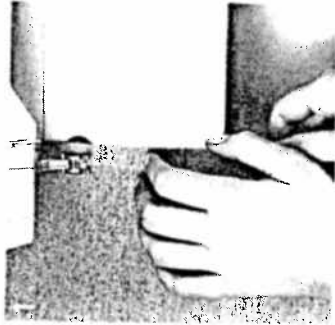
Some Sewing Tips

Sewing is made much easier if the correct sitting position is adopted and the work is guided properly.

Some advice

Place your Bernina far enough in from the edge of the table, so that the attached presser foot lifter hangs just in front of the table edge. Sit right in front of the needle, i.e. in front of the work area, and not at the centre of the machine. This will enable you to watch the working area more closely without strain. Ensure that the height of your seat permits comfortable working. Sitting too low makes the work more tiring.

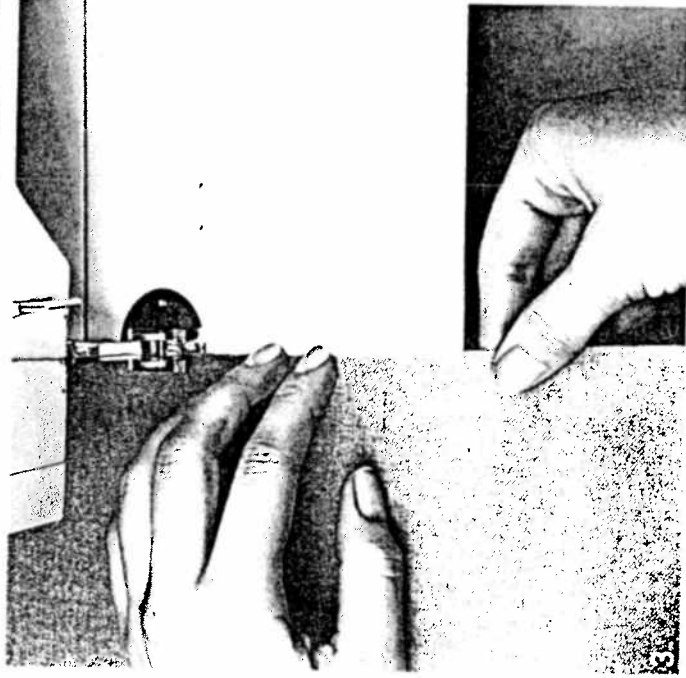
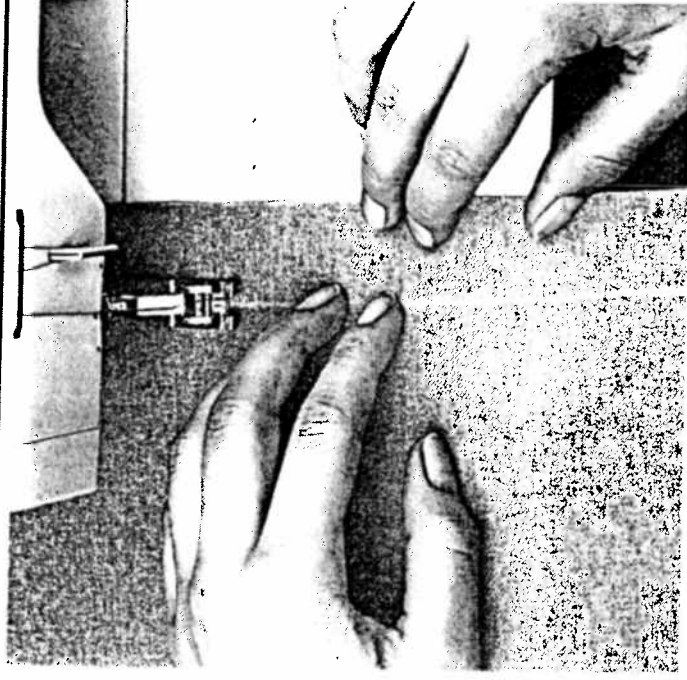
Guiding from the front is not satisfactory, since the material can be involuntarily held back (Fig. 1). Nor should the material be pulled from behind the presser foot.



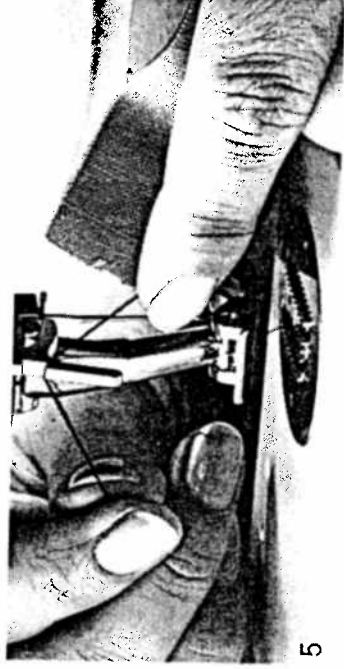
It is best to guide the material from the side with the fingers of the left hand close to the presser foot (Fig. 2).

For difficult work, particularly with thin materials, it is preferable to stop and guide it a little at a time rather than let work slide beneath the hand.

Sewing of edges, overcasting, top stitching, edge finishing, sewing on lace, etc. are more successful if guided on the edge (Fig. 3).



Before removing the material with the left hand to the rear left — the needle and presser foot must be raised (Fig. 4).



For cutting the thread use the cutting edge on the clamping lever of the presser foot (Fig. 5).

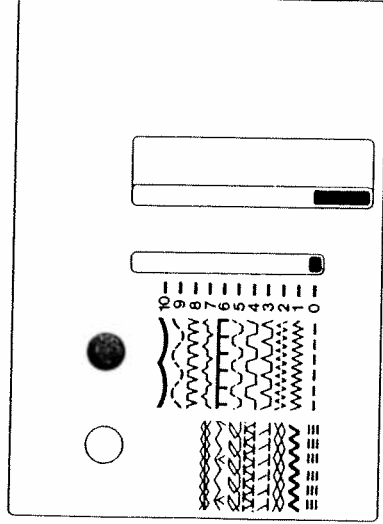
Straight Stitch

Presser foot: 000

Thread: to suit material

Needle: to suit the thread

see Needle and thread table page 10



Stitch selection: 0

Stitch width: 0

Needle position: centre

Buttonhole: 0

Stitch length: 1-4
as required
normal stitch
length is
1½-2

Feed-dog: sewing

Colour mark: ●

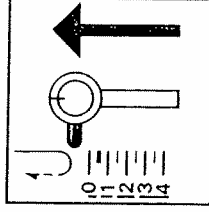
Green stitch 0

Forwards sewing

With the settings specified, the machine sews forwards with the stitch length selected. The stitch length is selected according to the sewing work and material to be sewn.

Reverse sewing

Move and hold stitch length knob upwards above 0 until reverse sewing is completed. When the knob is released, the machine sews forwards again with the previously selected stitch length.

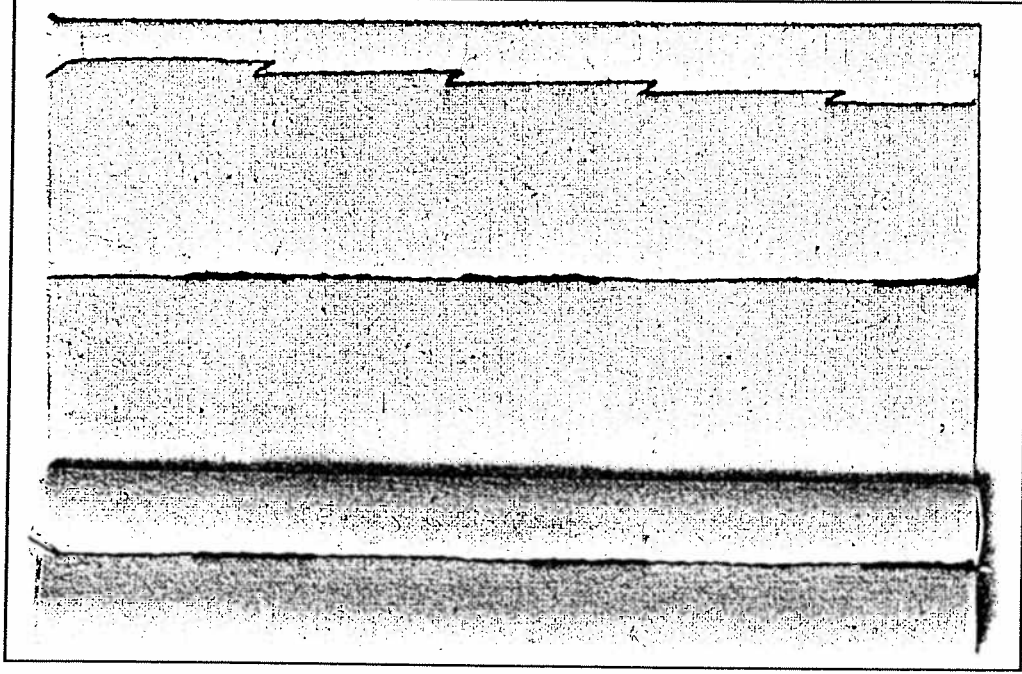


Securing the ends

Sew approx. 1 cm reverse and then forwards again at beginning and end of seam.

Securing thick seams

Stop machine when changing from forward to reverse sewing and vice-versa! The electronic needle stop ensures that the needle is in its highest position and cannot therefore be bent by thick materials.



Five needle positions
The position of the stitch can be set to five different places with the knob for setting the needle position.

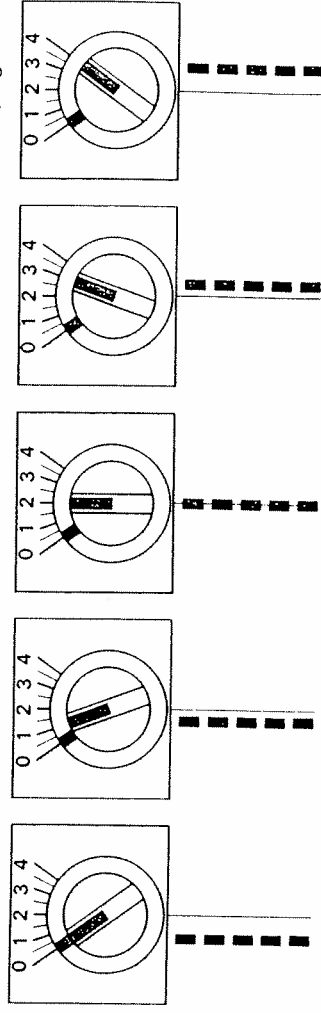
The needle is at the centre for normal sewing

Application examples:

Blind hem page 24

Edge stitching page 25


Sewing in zips page 22



Zig-zag

Setting zig-zag

Press selector lever to right to disengage and set to stitch 1

| | |
|-------------------|---|
| Presser foot: | 000 |
| Thread: | to suit material |
| Needle: | to suit thread |
| Stitch selection: | 1 |
| Stitch width: | 1-4 |
| Stitch length: | 1-4 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: |  |

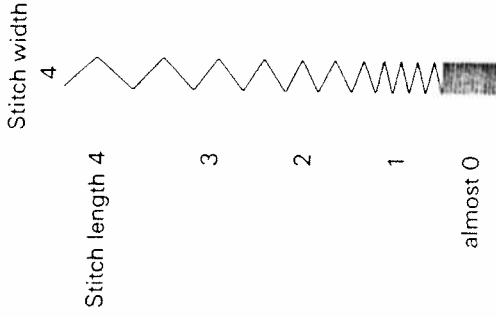
Zig-zag

Setting the width :

The width of the zig-zag stitch is set with the stitch width knob. It can be fully variable up to 4 mm.

The stitch width can be altered while sewing or with the machine stationary.

But the needle must not be in the material when the machine is stationary!

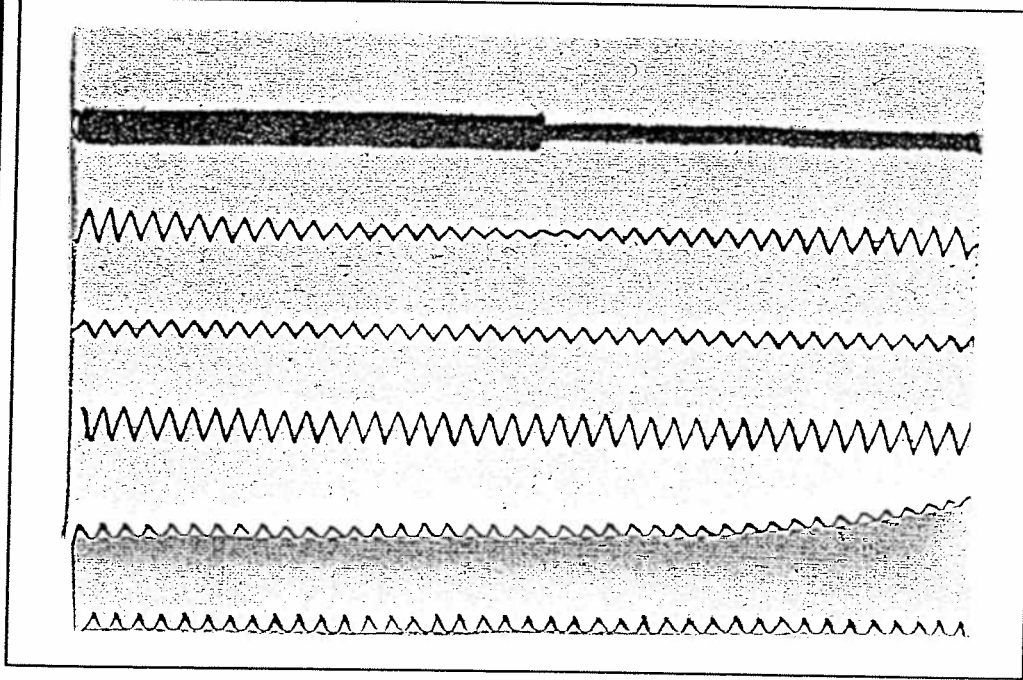


Overcasting edges

| | |
|----------------|--|
| Presser foot: | 000 |
| Thread: | darning thread, possibly sewing thread |
| Needle: | 80-70 |
| Stitch width: | 2½-4 |
| Stitch length: | 1-4 |

In general: zig-zag should not be too wide and stitch length not too long, cut edge neatly first. Use

Green stitch 1



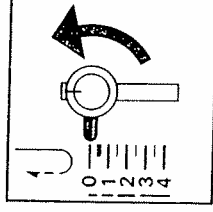
Satin stitch = close zig-zag

| | |
|----------------|----------------------|
| Presser foot: | 000 |
| Thread: | embroidery thread 30 |
| Needle: | 80 |
| Stitch width: | 1½-4 |
| Stitch length: | almost 0 |

Set stitch length for very close zig-zag:

Turn stitch length knob to the right until it locks.

Mark on knob is on top. Stitch length is then 0.

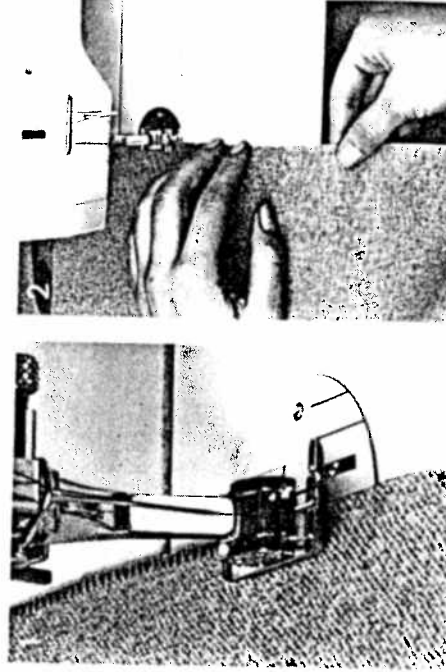


By turning half a revolution to the **left** — mark is underneath — the **basic setting** of stitch length is obtained.

Adjust stitch density from basic setting to suit material. Turn a little to the left for thicker material, a little to the right for finer material. Sew a sample.

darning thread if possible, particularly for fine material. If sewing on the edge, then guide on the edge (Fig. 2).

Guide edge of material in **centre** of presser foot, so that the needle penetrates alternately in the material and then outside (Fig. 1).



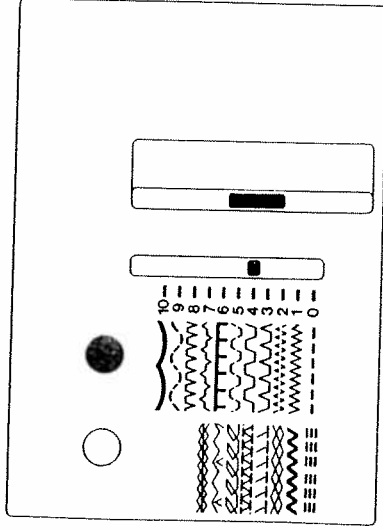
Selecting the Green Stitches

Stitches 0 ... 10

Presser foot: 000

Thread: to suit the material

Needle: to suit the thread

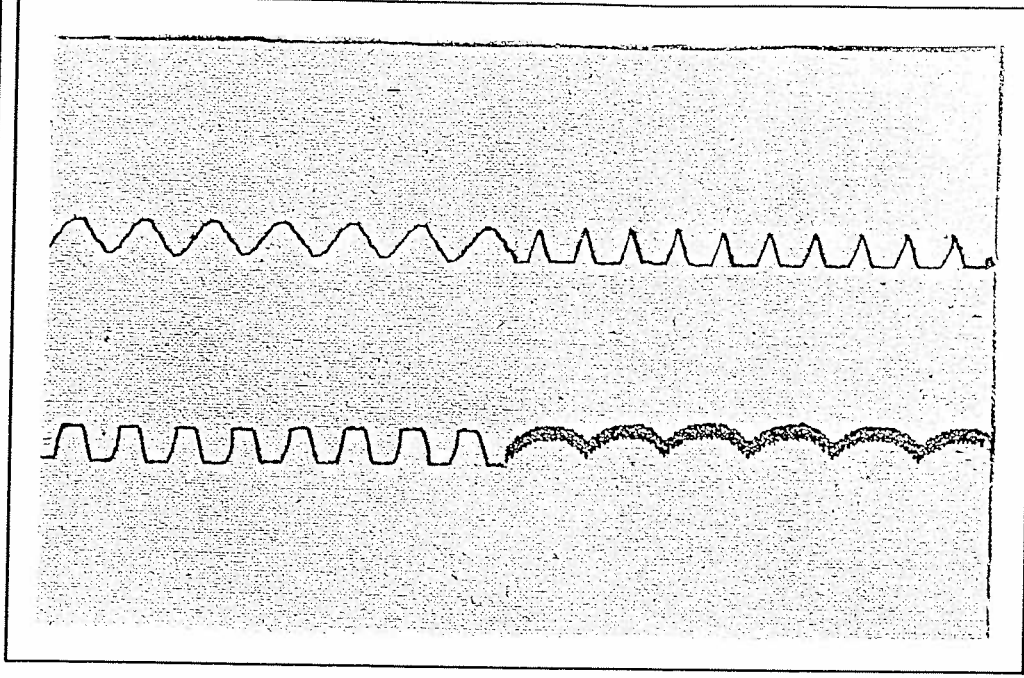


Stitch selection: 0...10

- Press selector lever to right to disengage and set to desired stitch 0 ... 10.

- Set knob for colour mark to green.

See page 17 for application examples of green stitches 1 ... 10.



Stitch width: 1-4

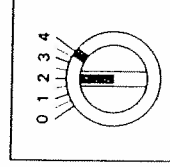
Needle position: centre

Buttonhole: 0

Stitch length: 1 1/4-4

Feed-dog: sewing

Colour mark: ●

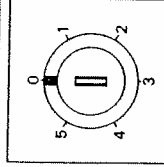


Universal stitch 4

Stitch selection: 4

Stitch width: 4

Stitch length: 2

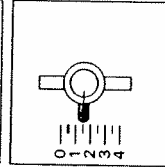


Scallop stitch 10

Stitch selection: 10

Stitch width: 4

Stitch length: 1/4

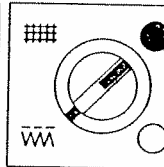


Running stitch 9

Stitch selection: 9

Stitch width: 4

Stitch length: 1 1/2



Vari-overlock 8

Stitch selection: 8

Stitch width: 4

Stitch length: 1-1 1/2

Needle position: right

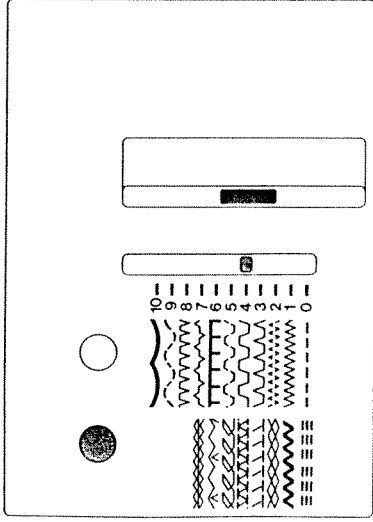
Selecting the Red Stitches

Stitches 0 ... 7

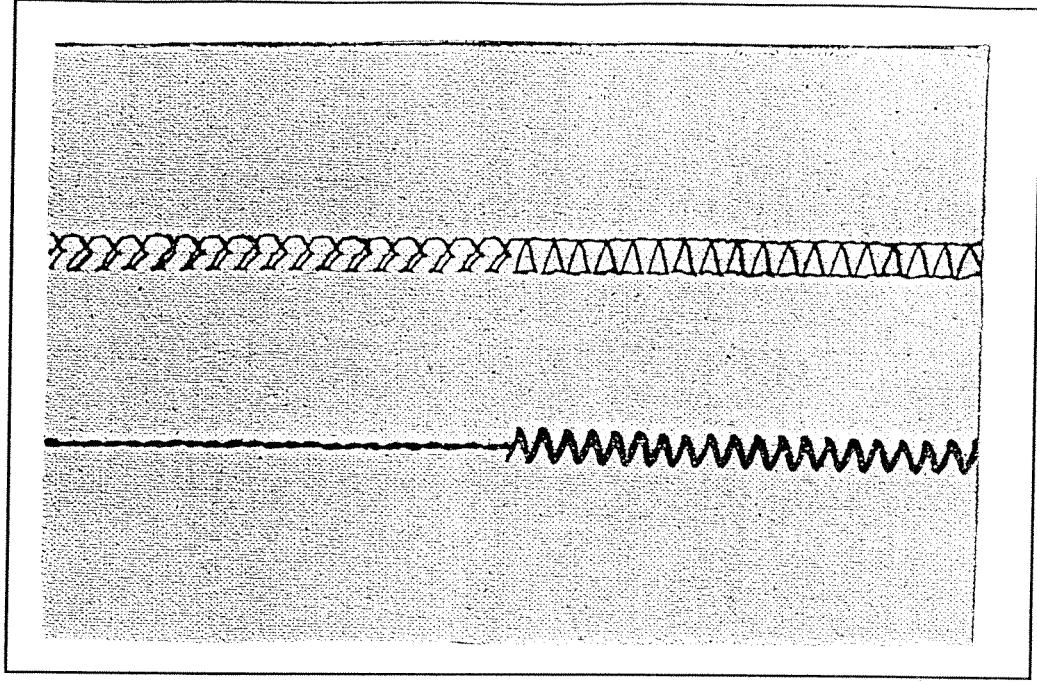
Presser foot: 560

Thread: to suit the material

Needle: to suit the thread



- Press selector lever to right to disengage and set to desired stitch.
 - Set knob for colour mark to red.
- See page 16 for application examples of red stitches.



Stitch selection: 0 ... 7

Stitch width: 0-4

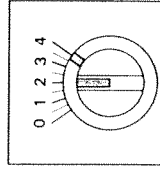
Needle position: centre

Buttonhole: 0

Stitch length: 2-3

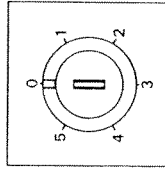
Feed-dog: sewing

Colour mark: ●



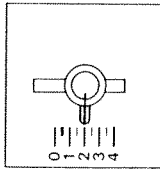
Triple straight stitch 0

Stitch selection: 0
 Stitch width: 0
 Stitch length: 2-4



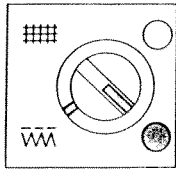
Triple zig-zag 1

Stitch selection: 1
 Stitch width: 4
 Stitch length: 2-4



Jersey stitch 5

Stitch selection: 5
 Stitch width: 4
 Stitch length: 2

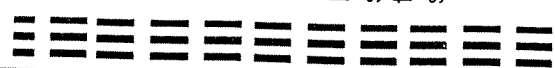


Double overlock 4

Stitch selection: 4
 Stitch width: 4
 Stitch length: 2


of Red Practical Stitches

0 Triple straightstitch




For:
 corduroy materials, jeans materials, outerwear materials, deckchair covers, carpet borders, rucksacks, sleeping bags, etc.
 hard-wearing seams for joining fabric pieces or stitching seams

1 Triple zig-zag



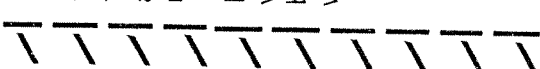
For:
 jeans materials, corduroy, leather, decorative fabrics, light curtains, etc.
 decorative seams and hems, sewing on tape, repairs etc. for sportswear, woollen blankets, sleeping bags, rucksacks, deckchair covers, etc.

2 Honeycomb stitch




For:
 many types of jersey and generally smooth fabrics
 Visible seams and hems on T-shirts, sweaters, underwear, serviettes, tablecloths, craft work, etc.

3 Towelling stitch



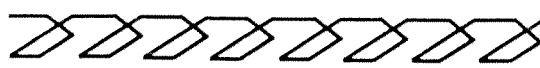
Primarily for towelling materials, jeans fabrics, leather and other heavier materials
 Flat joining seam, visible hem for beachwear, craft work

4 Double overlock



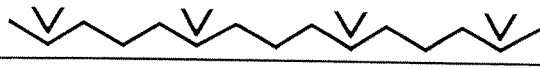
For:
 knitted materials of all kinds and hand and machine-knitted items
 Overlock seam = sewing and overcasting in one operation (hand and machine knitted goods)

5 Jersey stitch



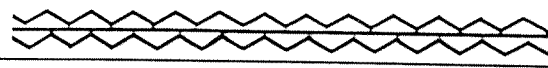
For:
 Cotton Jersey, blended and synthetic fibres
 Decorative seams and hems, particularly in underwear and cotton sweaters, mending jersey, sewing on elastics, etc.

6 Edge stitch



For:
 various kinds of material
 Visible hems, sewing on lace and tapes of all kinds, decorative edging, craft work

7 Combi zig-zag



For:
 knitted materials and textiles
 Visible hems, covering seams, etc.


Applications of Green Practical Stitches

Pattern indicator (repeat)

1 Zig-zag

For most types of material

All simple zig-zag work for instance over casting edges — above all on fine materials —, sewing on elastic bands and lace, etc.




2 Sewn-out zig-zag

For most types of material

Overcasting loosely woven fabrics

Reinforcing and repairing edges

Decorative seams




3 Blind stitch

For most types of material

Blind hemstitch, shell edging on soft jerseys and fine materials

Decorative seams




4 Universal stitch

For firmer knitted materials and fabrics, felt, leather, etc.

Flat joining seam, visible hems, patchwork, mending jersey, sewing on elastics

Decorative seams




5 Lycra stitch

Specially for lycra material

Flat joining seams and hems

Finishing of seams in foundation garments



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

a) « The red line indicates beginning and end of a pattern


b) « The black line indicates the centre of the pattern

c) « The broken stroke (vertical black line) is a preliminary indication that the pattern will soon be complete.

6 Stretch stitch

For highly-elastic materials


Highly-elastic, open seam for ski, riding-, climbing, hiking- and activity wear



7 Gathering stitch

For most types of material


Gathering with cord, joining seam = cut edges pressed over and pushed together



8 Vari-overlock

Particularly for fine synthetic and silk jerseys, helanca and cotton and woollen jerseys


Highly-elastic overlock seam and highly-elastic hem, particularly for sports underwear, pyjamas, T-shirts, sweaters, track-suits, etc.



9 Running stitch

For most types of material


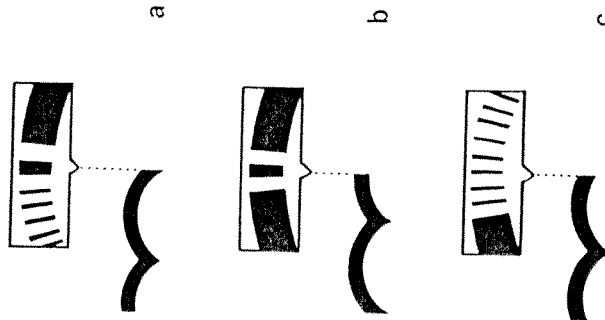
Darning with running stitch, mending material, reinforcing edges, etc.



10 Scallop stitch

Particularly for woven fabrics

Edgings for tablecloths, serviettes, collars, cuffs, etc.

Sewing Knitted Fabrics

e.g. jersey

The following generally applies when sewing knitted materials:

1. Use a perfect needle! Even a slightly blunt needle damages the knit and holes appear after a short time.
2. Use fine sewing thread, particularly for the fine jerseys. Coarse thread can also damage the knit.
3. Use darning thread for basting. Darning thread, when sewn over, can be more easily removed than the much thicker and shorter-fibre basting thread.
4. Press seams immediately after sewing. This simplifies subsequent work considerably.
5. Sew a sample to test the stretchiness of the stitch. The chosen stitch should be as elastic as the material since the elasticity of modern textiles varies considerably, the basic settings of the practical stitches can be altered if necessary.

For highly-elastic materials try making the stitch length slightly shorter and stitch width slightly wider. This provides the seam with more thread and it is made more elastic.

Rib-trim with decorative seam

Particularly for cotton jersey. (Pyjamas, T-shirts, sports underwear, lingerie)

| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 2 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Press cut strip in half lengthwise. **Pin** or baste on **right side** of neckline (basting device, stitch length approx. 1).

Then sew on with honey-comb stitch. Guide work so that needle stitches exactly to the edge of trim. Cut off surplus material on back.

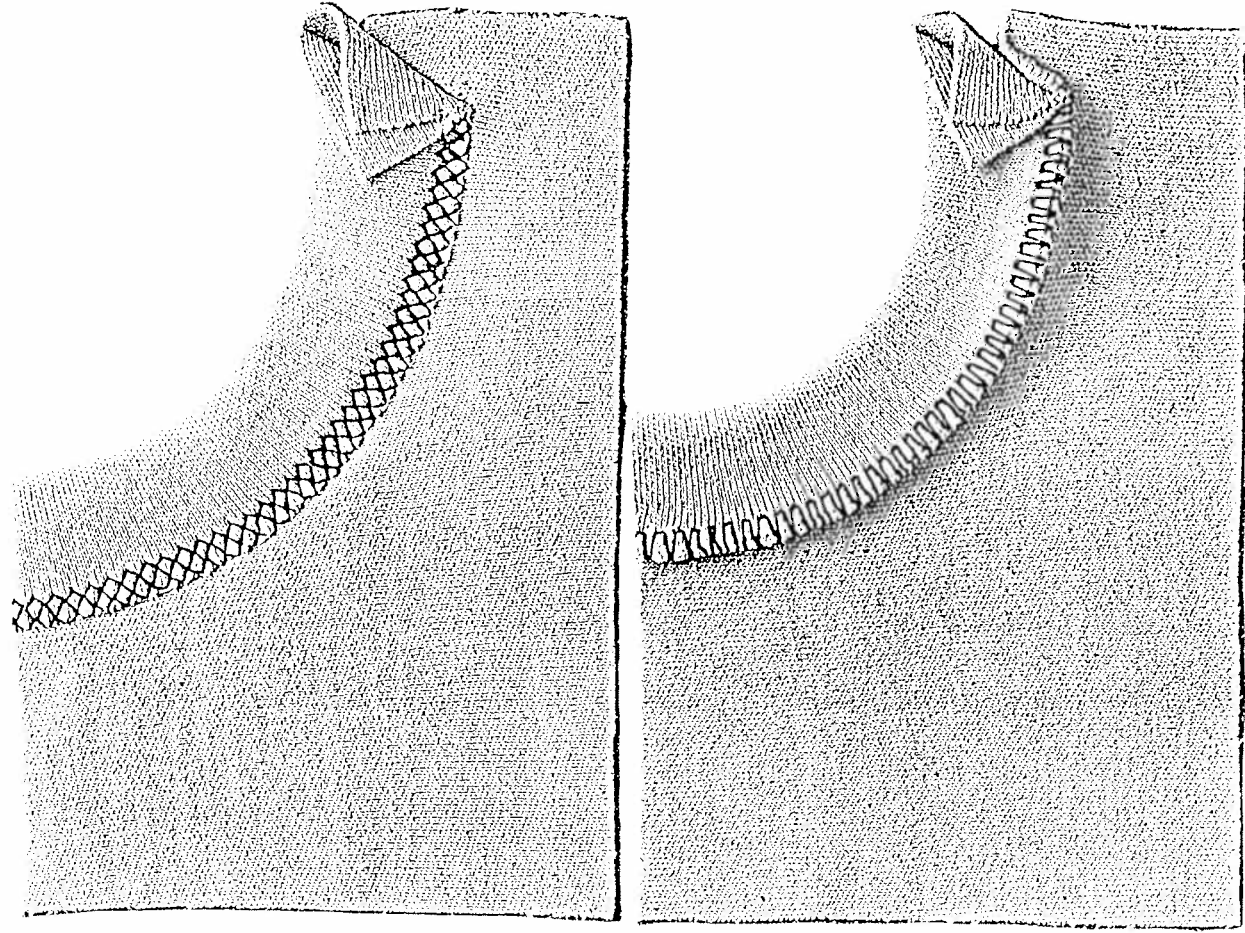
Rib-trim with overlock seam

For all kinds of jersey.

| | |
|-------------------|---------------|
| Presser foot: | 470 |
| Thread: | sewing thread |
| Needle: | 80-70 |
| Stitch selection: | 8 |
| Stitch width: | 4 |
| Stitch length: | 1 approx. |
| Needle position: | right |
| Feed-dog: | sewing |
| Colour mark: | ● |

Press cut strip in half lengthwise. **Pin** to neckline on **right side**, cut edges of trim level with

edge of neckline. Guide cut edge along pin of overlock foot when sewing.



Hems with Practical Stitches

In general:

baste hem — mark desired width — sew — trim off surplus material.

The «Hints for working with knitted materials» page 18 applies to all types of jersey

Visible hem with jersey stitch

Elastic visible hem for cotton jersey, fine wool, synthetics and blended fibres.

Pyjamas, T-shirts, lingerie, sports underwear.

Pin or baste hem with basting device. Cut edge can also be sewn directly over the edge.

Visible hem with jersey stitch

| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 5 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Visible hem with vari-overlock

| | |
|-------------------|---------------|
| Presser foot: | 470 |
| Thread: | sewing thread |
| Needle: | 80–70 |
| Stitch selection: | 8 |
| Stitch width: | 4 |
| Stitch length: | 1 approx. |
| Needle position: | right |
| Feed-dog: | sewing |
| Colour mark: | ● |

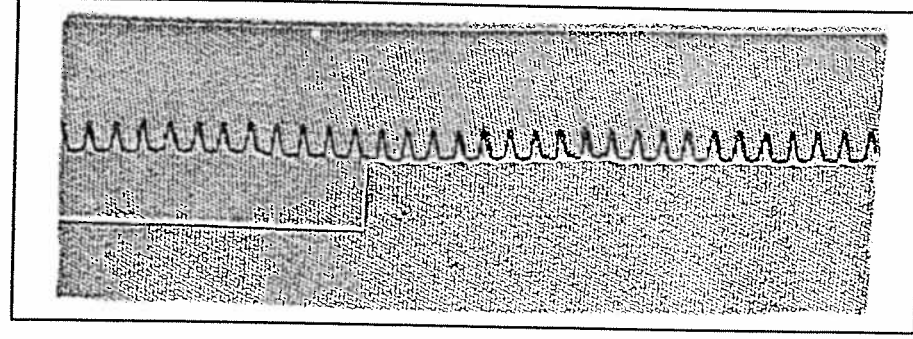
Visible hem with triple zig-zag

| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 1 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Visible hem with vari-overlock

Highly-elastic visible hem for all highly-elastic jerseys: terry cloth stretch / helanca / very soft cotton and woollen jerseys.

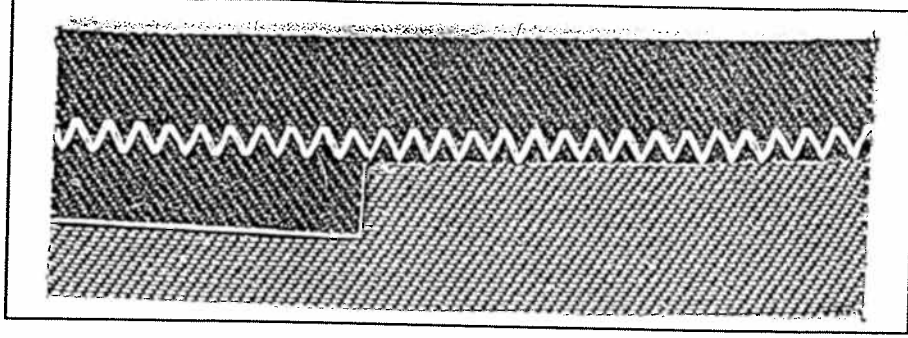
Pin or baste hem with basting device. Sew hem approx. 1 cm from raw edge. Cut off surplus material.



Visible hem with triple zig-zag

Hard wearing visible hem for firm fabrics, jeans, etc.

Pin or baste hem with basting device. Sew hem approx. 1 cm from raw edge. Cut off surplus material.



Seams with Practical Stitches

The choice of type of seam depends entirely on the article. The choice of practical stitch on the material used. We distinguish between three types of seam:

- they lie flat
- they are narrow and cannot be let out
- they do not roll up, edges are neat

Range of application: beachwear, leisure-wear, foundation garments, home-dressmaking articles.

Triple straightstitch seam

Hard-wearing seam for firm fabrics.

Open seams:

- are seams which are pressed open
- they lie flat and do not roll
- they allow the garment to be let out

Range of application: dresses, pants, skirts, jackets, coats, etc.

Triple straightstitch seam open seam

| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80-90 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 2-3 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Zig-zag seam open seam

| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 1 |
| Stitch width: | 1 |
| Stitch length: | 1-1½ |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Overlock seams:

- are seams which are sewn and overcast in one operation
- they are quickly made
- they are narrow, but do not allow the garment to be let out

Range of application: particularly knitted fabrics for sweaters, jackets, jersey blouses, linen, hand and machine-knitted garments.

Stretch seam open seam

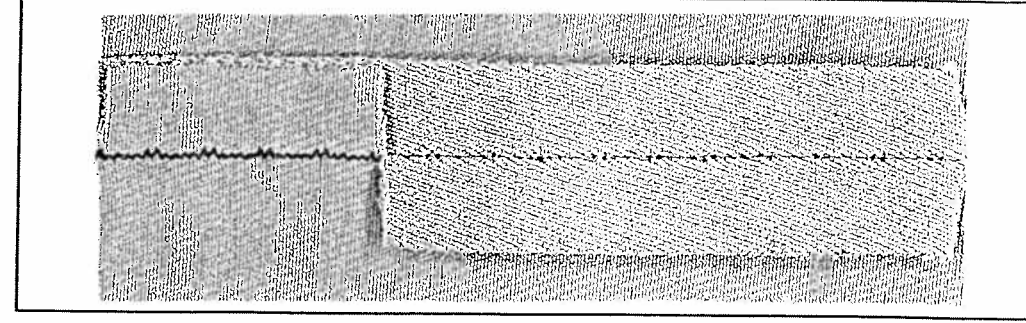
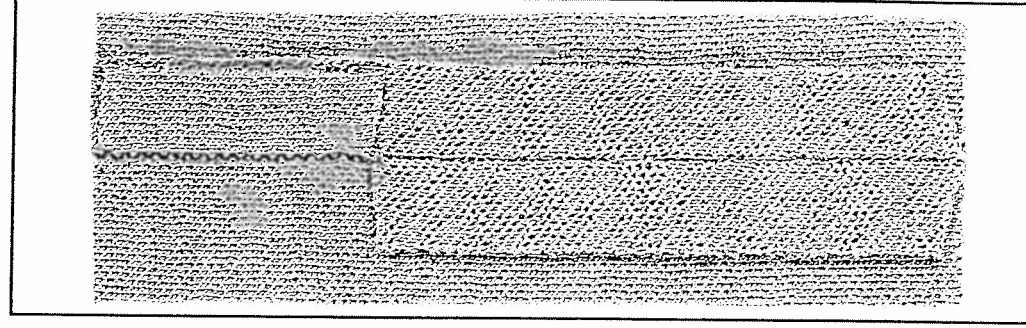
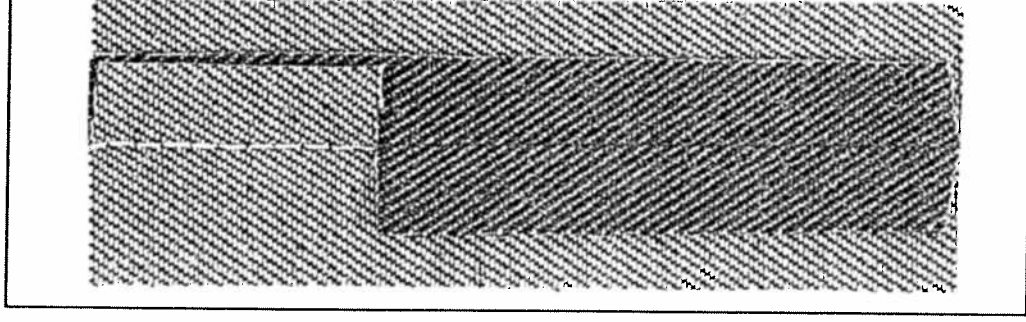
| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 6 |
| Stitch width: | 1-1½ |
| Stitch length: | ½-1 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Flat joining seams:

- are seams where the cut edges are lapped and then sewn over

Stretch seam

Highly-elastic seam for stretch materials, particularly for all kinds of sports-wear.



Zig-zag seam

Seam for normal elastic jersey in wool, synthetics or blended fibres, as well as for silk-, cotton- and woollen jersey.

Triple straightstitch seam

Hard-wearing seam for firm fabrics.

Seams with Practical Stitches

Vari-overlock seam

| | |
|-------------------|---------------|
| Presser foot: | 470 |
| Thread: | sewing thread |
| Needle: | 80-70 |
| Stitch selection: | 8 |
| Stitch width: | 4 |
| Stitch length: | approx. 1 |
| Needle position: | right |
| Feed-dog: | sewing |
| Colour mark: | ● |

Vari-overlock seam

Highly-elastic overlock seam for all **fine** jersey dresses, blouses, linen, sports underwear.

Double overlock stitch seam

Elastic overlock seam for all coarse and large-meshed knitted goods and heavy jersey.

Flat joining seam with towelling stitch

Visible seam for towelling, felt, leather, jeans fabric, leisure-wear, craftwork.

Flat joining seam with lycra stitch

Elastic seam for lycra

Double-overlock stitch seam

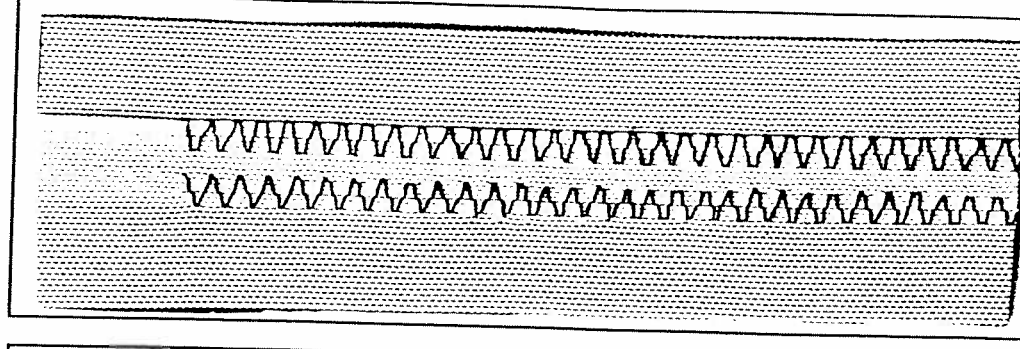
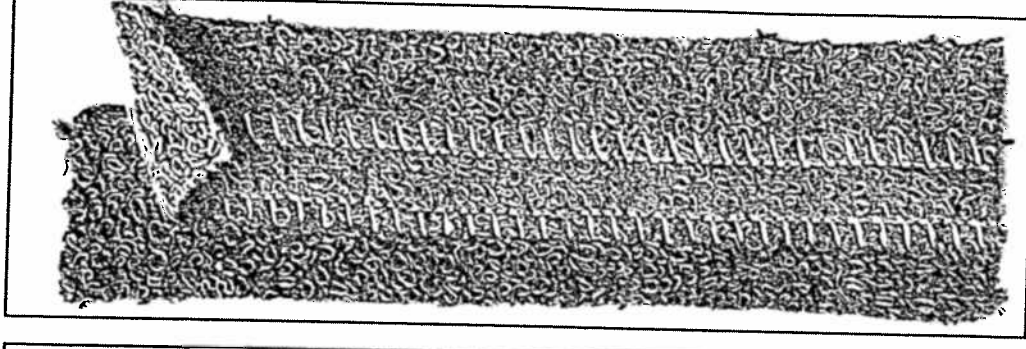
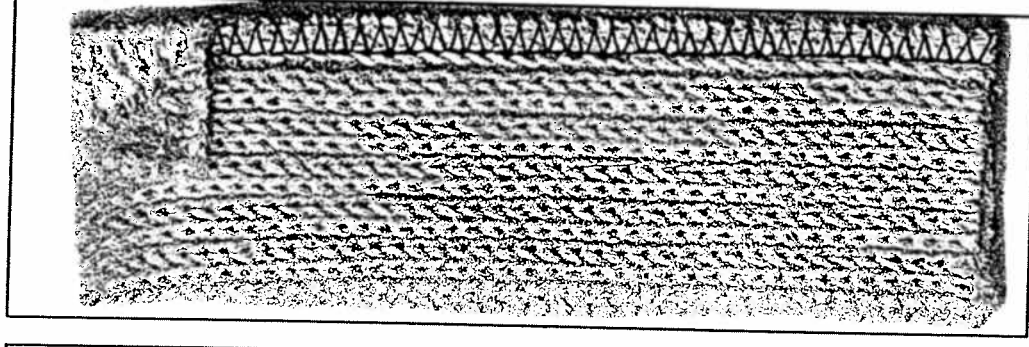
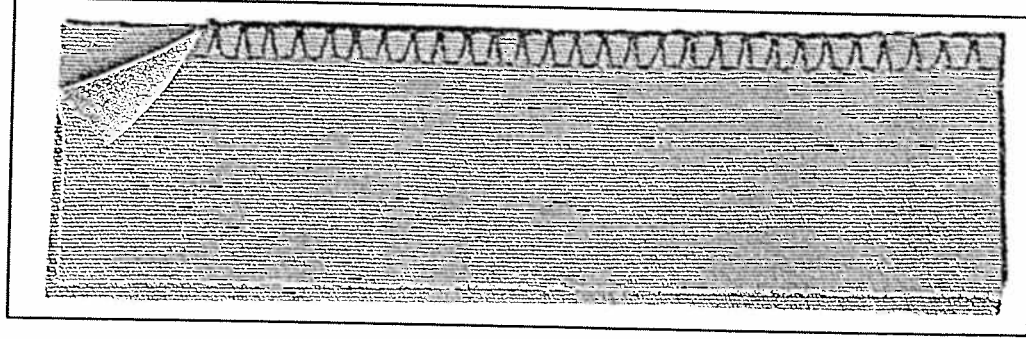
| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 4 |
| Stitch width: | 4 |
| Stitch length: | 2-3 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Flat joining seam with towelling stitch

| | |
|-------------------|---------------|
| Presser foot: | 560 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 3 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Flat joining seam with lycra stitch

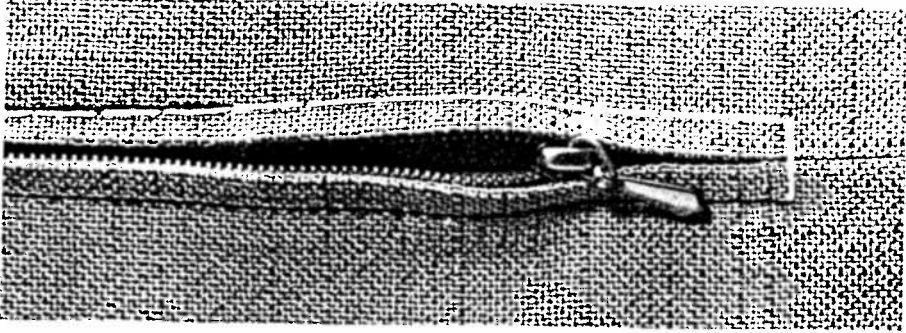
| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 5 |
| Stitch width: | 4 |
| Stitch length: | 3/4-1 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |



Zip Fastener

Zip fastener
inserted flat

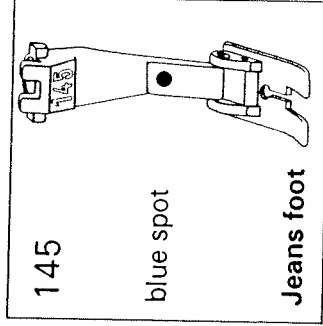
| | |
|-------------------|---------------|
| Presser foot: | 007 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 2 approx. |
| Needle position: | left/right |
| Feed-dog: | sewing |
| Colour mark: | ● |



Preparation:

Baste entire seam with basting device. Mark length of zip and sew seam as far as zip opening. Remove basting thread — **except along zip section**. Press entire seam, trim evenly and overcast. Remove remaining basting thread. Baste-in zip so that the teeth are covered by the material. Sew-in zip, both sides from bottom to top, once with the needle position right and once with needle position left.

Jeans Foot



Unusually thick or hard seams can be sewn without difficulty with the jeans foot.

Select stitch length as required between 2 and 3½ mm.

Please ensure that **needle position «centre» and stitch width «0»** are set.

Needle No. 100

Plastic / Leather

Plastic

Like synthetic fibres, plastic must be treated differently according to surface and graining. If the work does not slide properly it is often sufficient to lubricate the sewing area slightly with sewing machine oil (using a small cotton wad wrapped in absorbent material). Alternatively use presser foot with sliding rollers or Teflon base.
Always sew plastic with long stitch length to prevent cutting.

Leather and imitation leather

It is, of course, also possible to sew leather. It may be necessary to use leather needles for hard leather.
Sew a test piece first. Stitch length not too short.
Try using the presser foot with sliding rollers or Teflon base.

Automatic Long Stitch / Basting Device

The switch for automatic long stitch has 3 positions.

⊖ Automatic long stitch and basting device are disconnected. Machine sews normally.

⊕ Automatic long stitch is switched on

⊕ Basting device is switched on

Automatic long stitch

With the automatic long stitch switched on, the machine sews every alternate stitch. This produces long stitches for decorative seams, longest stitch: 8 mm. The long stitches can be sewn at all 5 needle positions.

| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 2-4 |
| Needle position: | all positions |
| Feed-dog: | sewing |
| Colour mark: | ● |

Decorative seams with buttonhole thread (cordonnnet)

a) Buttonhole thread as upper thread

General rule:
Needle No. 110 or 120

It is perfectly possible that a needle No. 100 will be satisfactory for certain types of material. Do a test piece of sewing.

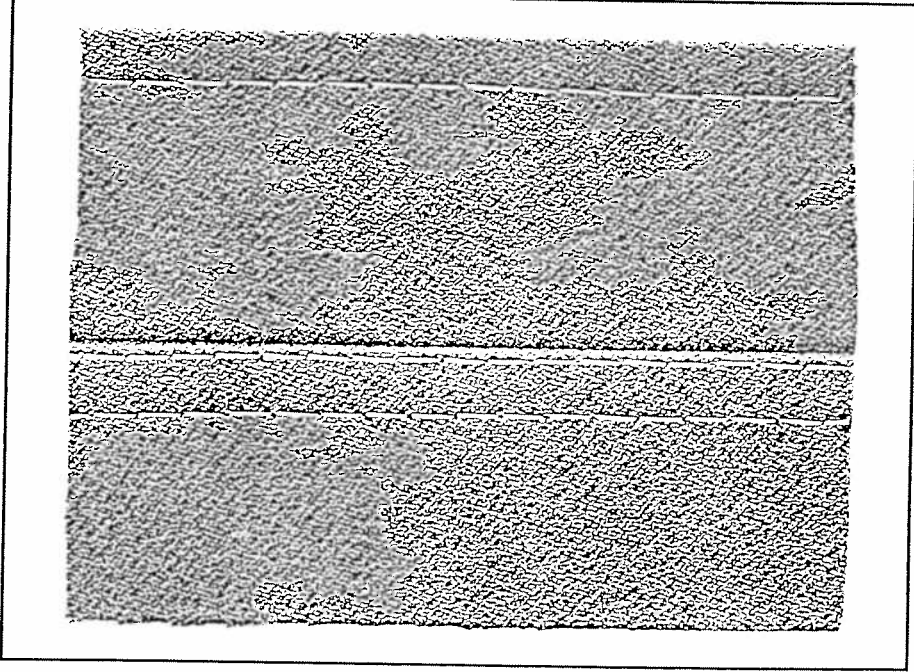
b) Buttonhole thread as lower thread.

If the thick needle is unsuitable for the material, the buttonhole thread must be sewn as lower thread. In this case, sewing must be on the back of the material. If the sewing line is not visible, e.g. when sewing on

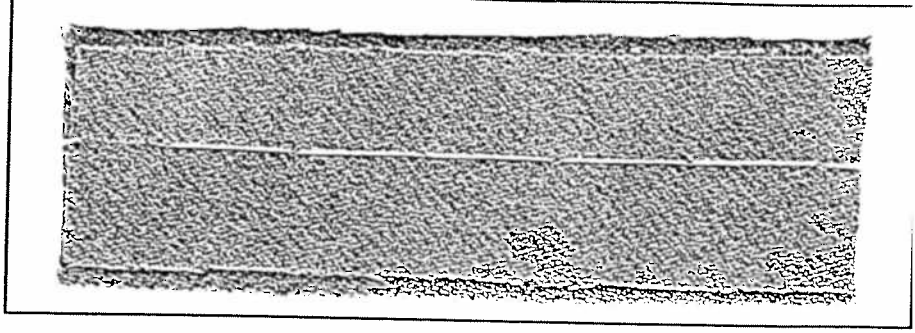
pockets, it is first basted with darning thread. Use contrasting colour. The basting seam indicates the sewing line on the back and is easily removed at the end.

Basting device

| | |
|-------------------|----------------------------|
| Presser foot: | 000 |
| Thread: | sewing thr. / basting thr. |
| Needle: | 80 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 1 1/2-4 |
| Needle position: | all positions |
| Feed-dog: | sewing |
| Colour mark: | ● |



With the basting device switched on, the machine sews every 6th stitch. This produces long basting stitches (longest stitch 2.4 cm). Select desired basting stitch length with the normal stitch length control. The basting stitches can be sewn in all needle positions. Switch off automatic long stitch or basting device to secure beginning and end of seam.



Blind-hem Stitch

| | |
|-------------------|----------------------------|
| Presser foot: | 016 |
| Thread: | sewing thr. / darning thr. |
| Needle: | 80-70 |
| Stitch selection: | 3 |
| Stitch width: | 2 1/2 approx. |
| Stitch length: | 2-2 1/2 |
| Needle position: | right |
| Feed-dog: | sewing |
| Colour mark: | ● |

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).

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 2 1/2. The different thicknesses of ma-

terial may require a small adjustment.

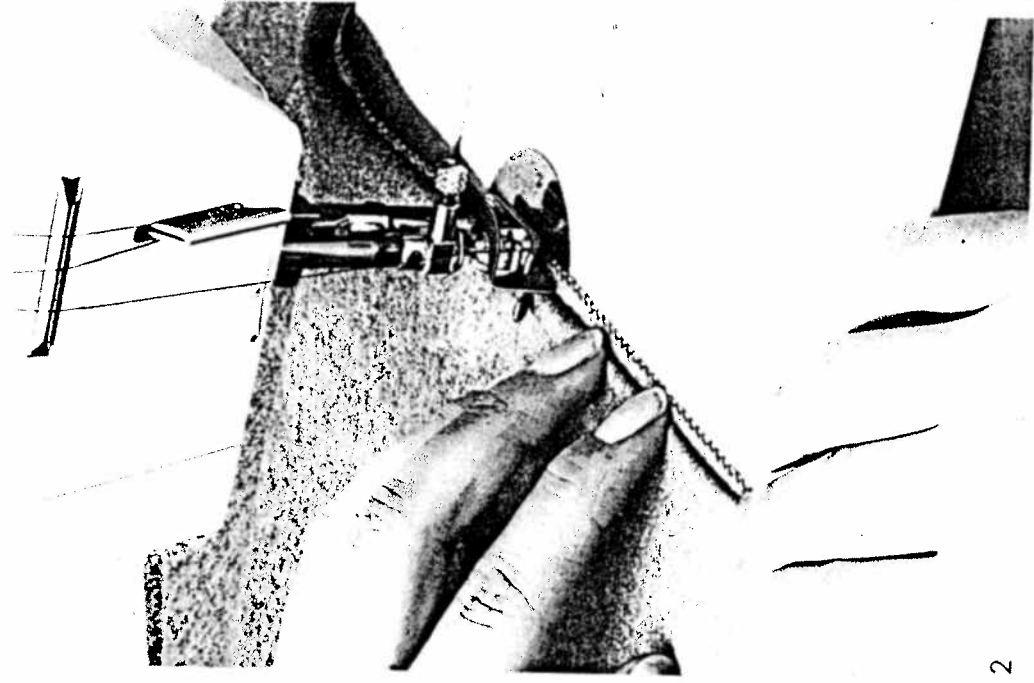
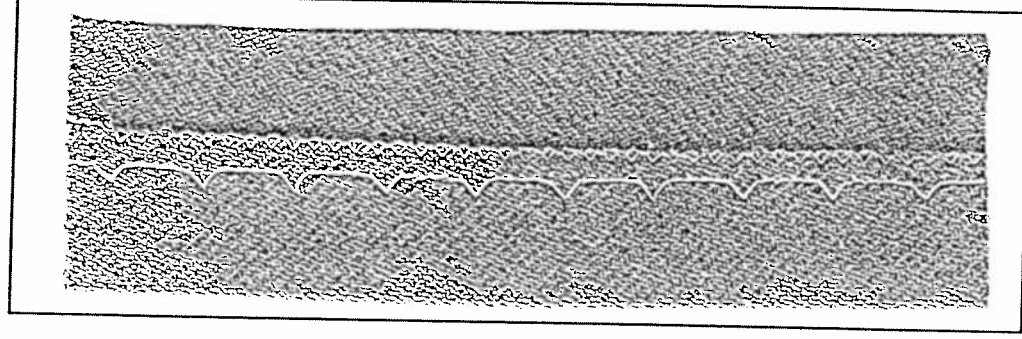
Trial:

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 slight-

ly: narrower if needle pierces too deeply, a little wider if it misses 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.



1

2

Stitching Edges using the Needle Positions

Narrow-stitched edges

on collars, cuffs, lapels, hems, etc.

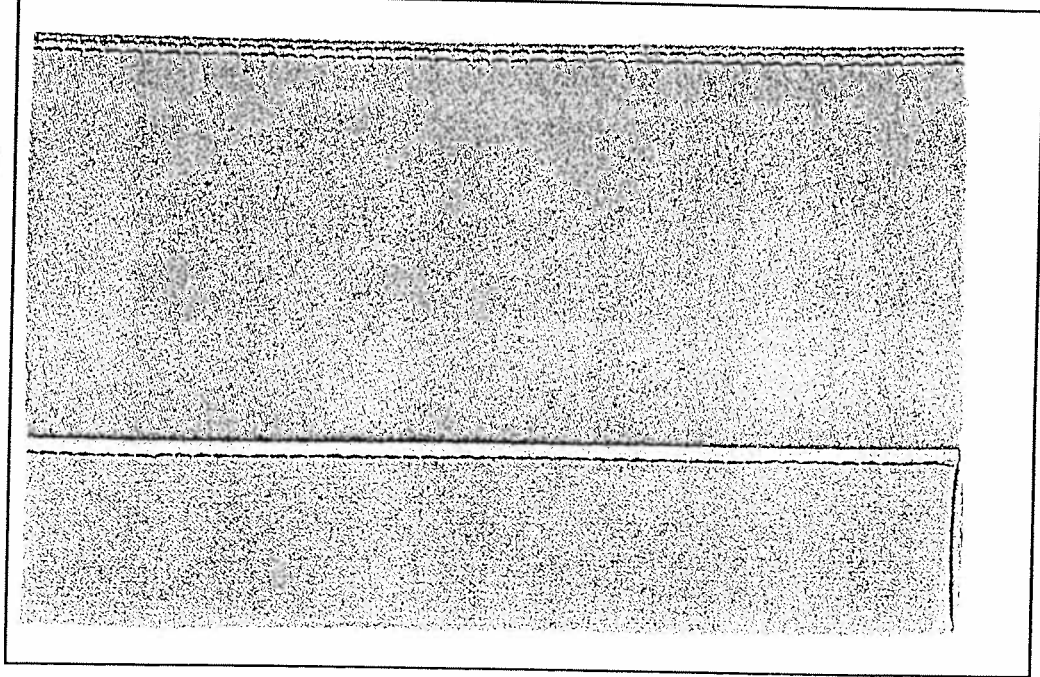
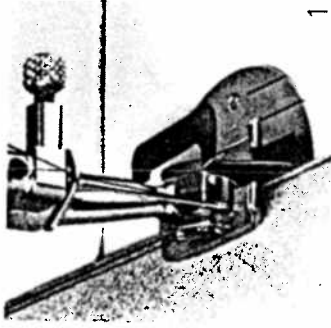
| | |
|-------------------|------------------|
| Presser foot: | 016 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 1½-4 |
| Needle position: | left / half-left |
| Feed-dog: | sewing |
| Colour mark: | ● |

Place fabric edge to left side of guide on blind-stitch foot (Fig. 1). Set needle position left or half-left. Switch on automatic long stitch for long stitches.

Wide-stitched edges

| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 1½-4 |
| Needle position: | all positions |
| Feed-dog: | sewing |
| Colour mark: | ● |

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

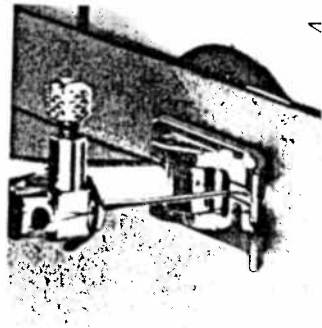
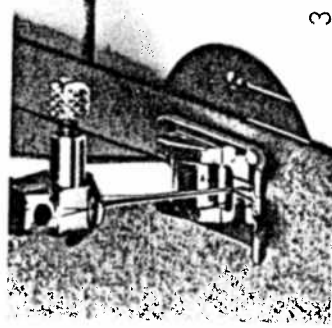
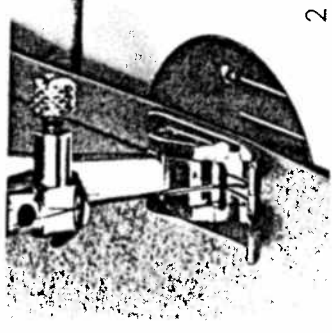


Stitching widths: :
a) Presser foot deep = 7 mm (Fig. 2)

b) Marking line 1 = 10 mm (1 cm) (Fig. 3)

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

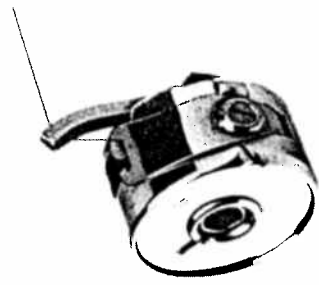
Other widths can be sewn using the needle positions left, half-left, right and half-right



Buttonholes

| | |
|-------------------|----------------------------|
| Presser foot: | 452 |
| Thread: | sewing thr. / darning thr. |
| Needle: | 80-70 |
| Stitch selection: | 1 |
| Stitch width: | connected automatically |
| Stitch length: | practically 0 |
| Needle position: | connected automatically |
| Feed-dog: | sewing |
| Colour mark: | ● |

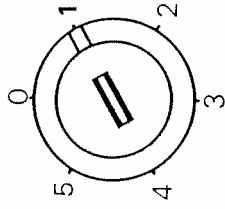
To sew buttonholes, thread lower thread in the finger of the bobbin case (Fig. 1).



1

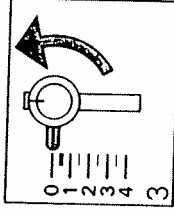
Buttonhole setting

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



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

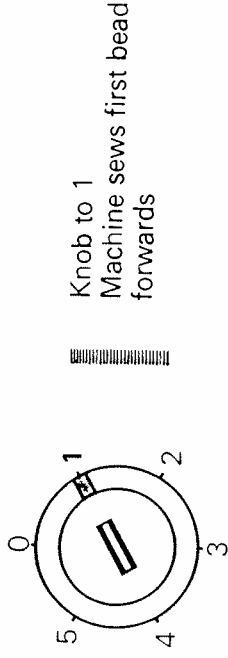


line to the bottom) and this will give the **basic setting** for the stitch length.

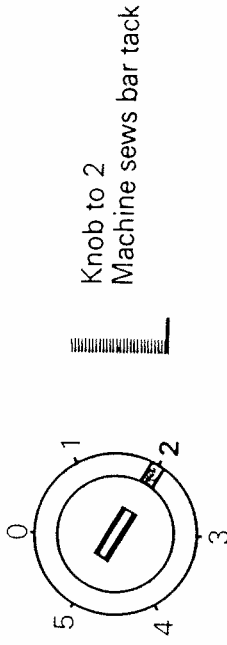
Adjust stitch density to suit material: turn a little to left for thick fabrics – to right for fine fabrics. Always sew a trial buttonhole. The stitch length varies slightly depending on the type of material.

26

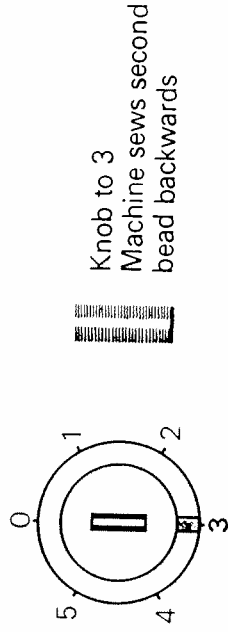
Reset knob to 1 for next buttonhole and continue sewing through to step 5 as described above. When all buttonholes are completed set knob to 0 for general sewing.



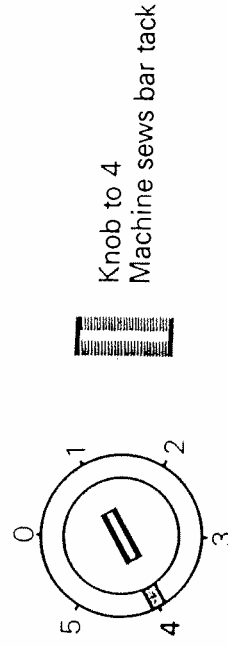
Knob to 1
Machine sews first bead forwards



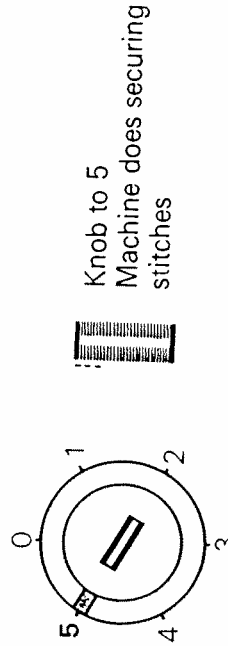
Knob to 2
Machine sews bar tack



Knob to 3
Machine sews second bead backwards



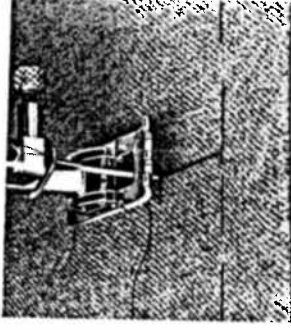
Knob to 4
Machine sews bar tack



Knob to 5
Machine does securing stitches

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 hand-

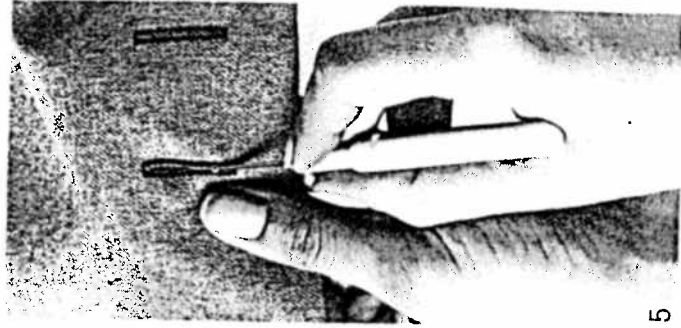


4

wheel and check whether it is at the **centre** of the presser foot. If not, operate needle stop once. Position work beneath foot and place needle exactly at start of the buttonhole. Lower presser foot and sew buttonhole.

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.



5

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, or 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).

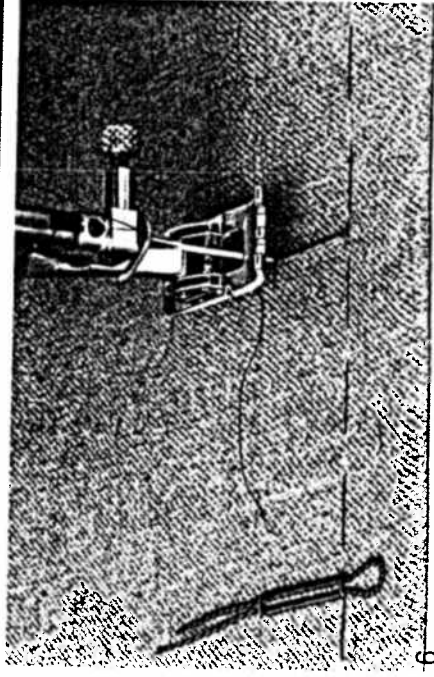
Sewing with gimp cord

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, operate needle stop once. 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.

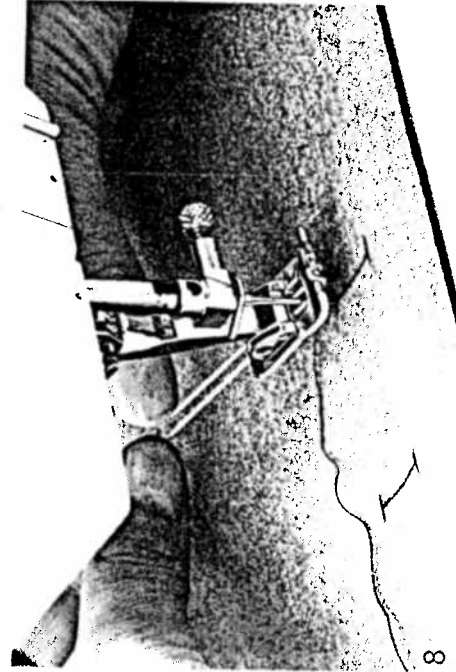
3. Sew buttonhole, do not hold cord as it must be able to move.



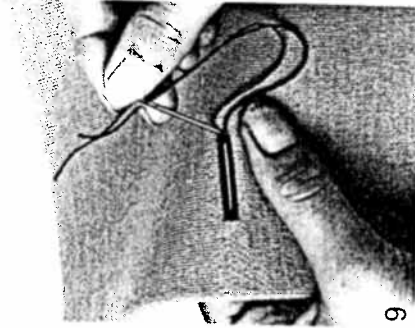
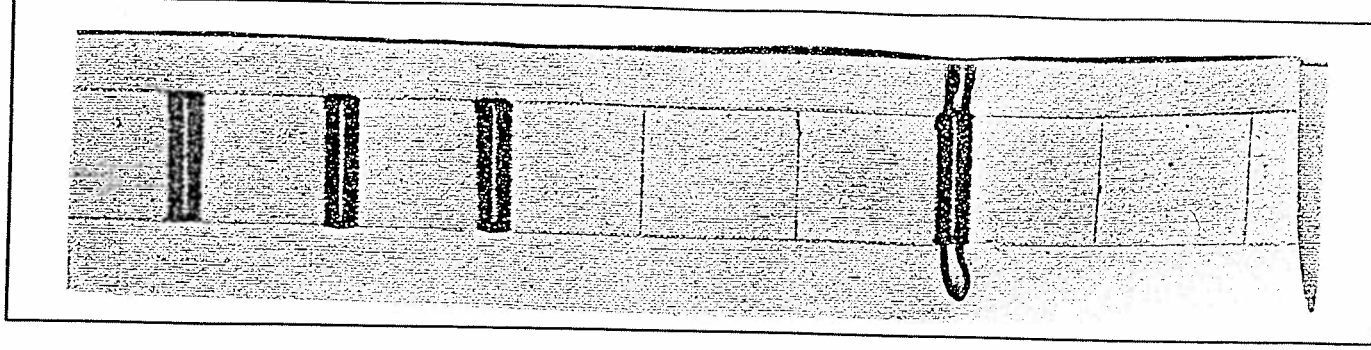
6



7



8



9

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.

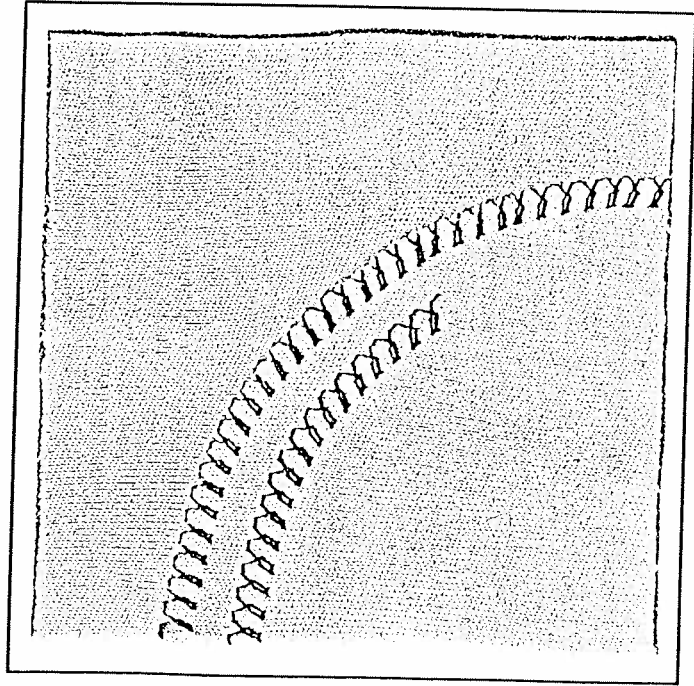
Mending Jersey

Patching with jersey stitch
Mainly for mending jersey underwear.

| | |
|-------------------|----------------|
| Presser foot: | 560 |
| Thread: | darning thread |
| Needle: | 80-70 |
| Stitch selection: | 5 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

It is best to darn minor tears. See page 30. For larger thin or damaged areas, it is preferable to

fit a replacement piece, since this retains the elasticity.



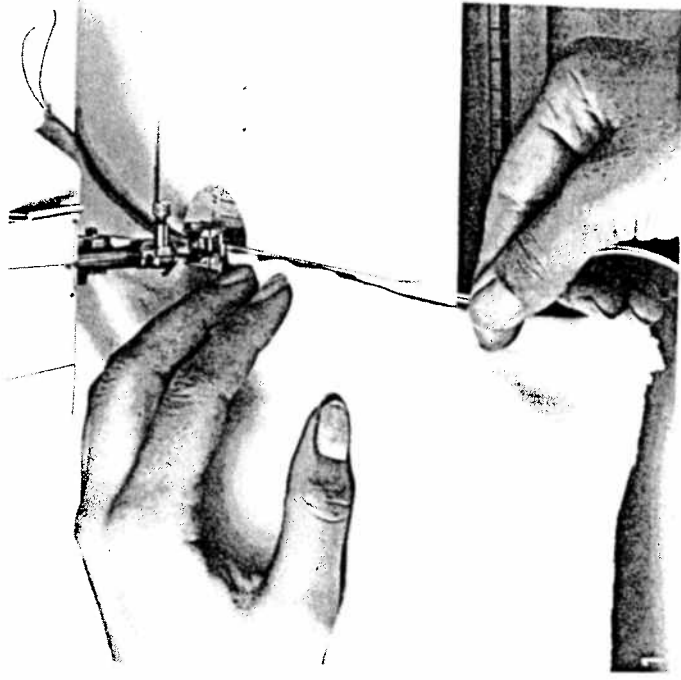
Cut out a replacement piece from the good part of a no longer worn, similar garment, rounding off the corners, to preserve the elasticity in all directions. Pin on the replacement piece and baste with small basting stitches along the edge if possible. Then sew on with jersey stitch, 1-2 rows. Finally,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

Edging with elastic thread

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

| | |
|-------------------|----------------|
| Presser foot: | 000 |
| Thread: | darning thread |
| Needle: | 80 |
| Stitch selection: | 1 |
| Stitch width: | 3 |
| Stitch length: | 1-1 1/2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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



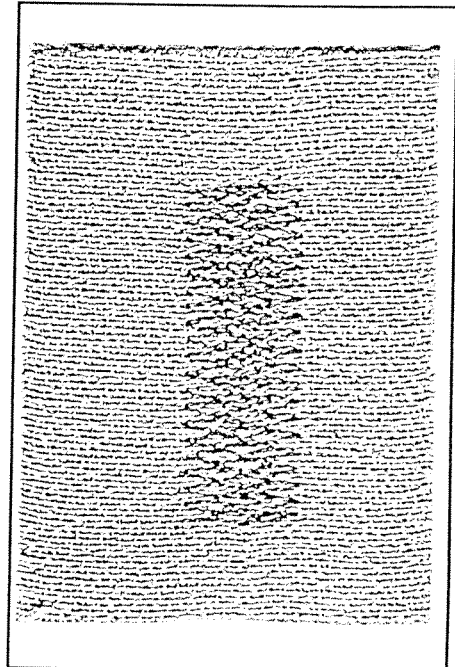
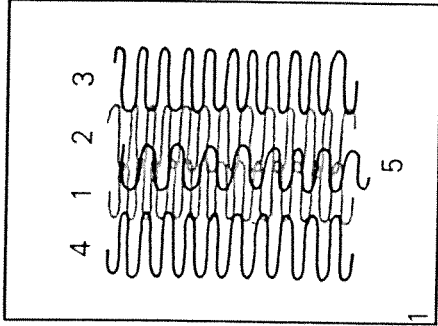
Mending Woven Fabrics

Mending tears with running stitch

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

| | |
|-------------------|----------------|
| Presser foot: | 000 |
| Thread: | darning thread |
| Needle: | 80-70 |
| Stitch selection: | 9 |
| Stitch width: | 4 |
| Stitch length: | almost 0-1/4 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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 honeycomb stitch

For outer-wear and children's jeans

| | |
|------------------|----------------|
| Presser foot: | 560 |
| Thread: | darning thread |
| Needle: | 80 |
| Needle position: | centre |
| Feed-dog: | sewing |

1st operation

| | |
|--------------------------|-----------|
| Switch on basting device | |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 1 approx. |
| Colour mark: | ● |

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

2nd operation

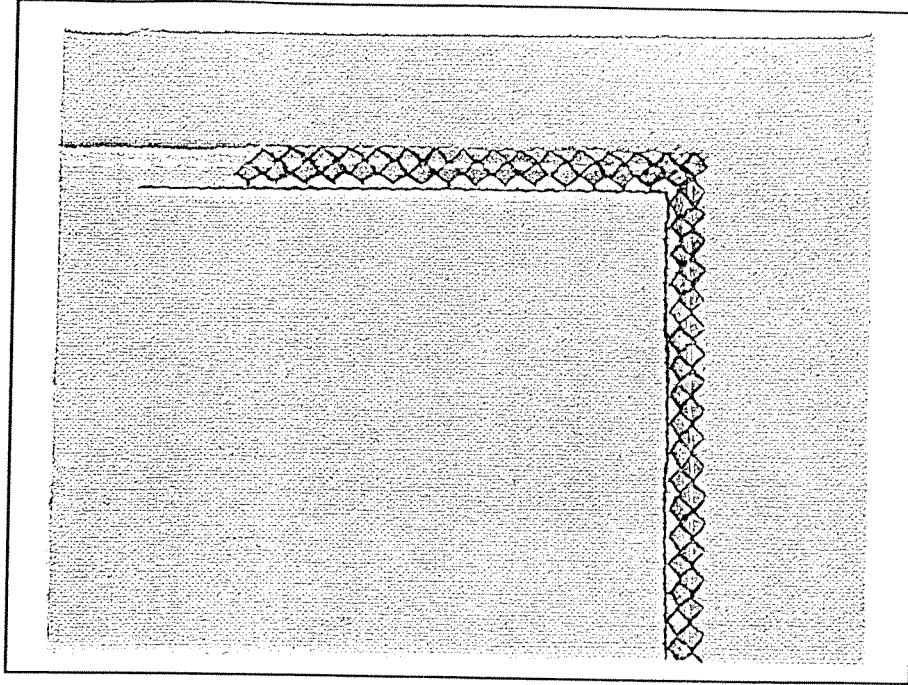
| | |
|---------------------------|---|
| Switch off basting device | |
| Stitch selection: | 2 |
| Stitch width: | 4 |
| Stitch length: | 2 |
| Colour mark: | ● |

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

3rd operation

| | |
|-------------------|-------------|
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 1/2 approx. |
| Colour mark: | ● |

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



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.

Darning technique

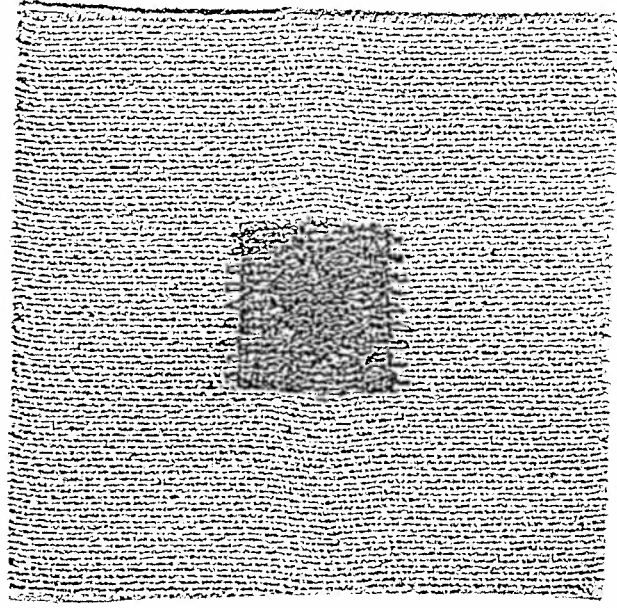
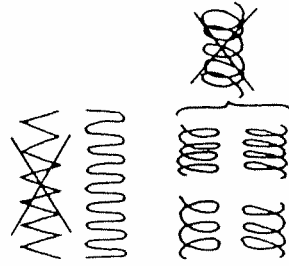
There are various methods of darning. The following is one which can be learnt easily:

| | |
|-------------------|----------------|
| Presser foot: | 285 |
| Thread: | darning thread |
| Needle: | 80–70 |
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | 0 |
| Needle position: | centre |
| Feed-dog: | lowered |
| Colour mark: | ● |

The Three Steps

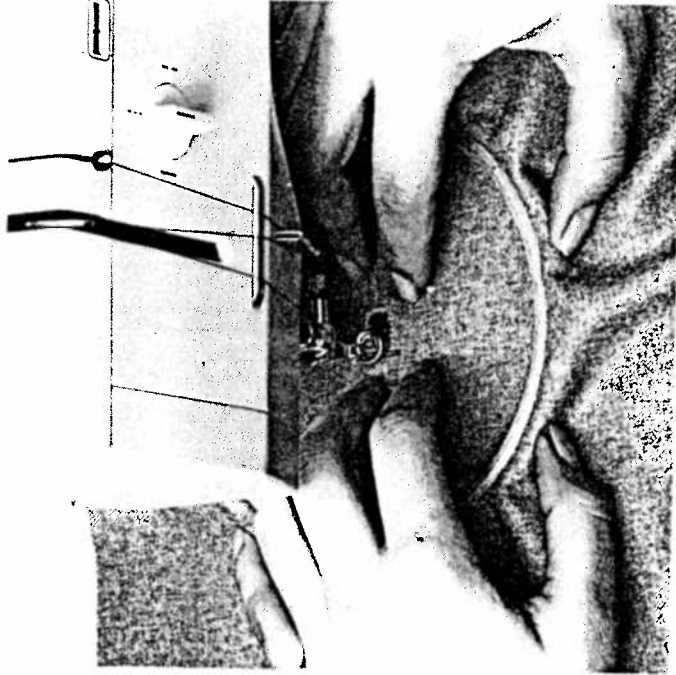
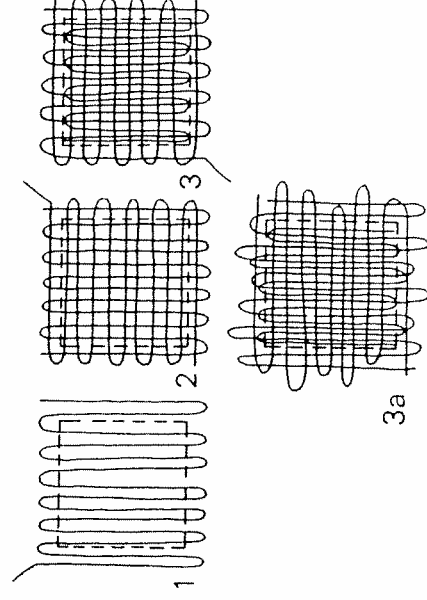
1. Stretch work in darning ring. Bring up bottom thread at top left corner of hole. Moving ring up and down cover hole with first rows of stitches (not too many stitches or the darn will be «hard»).
2. Turn work and repeat from left to right so that 2nd rows of stitches are at right angle to first rows.
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.

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



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.

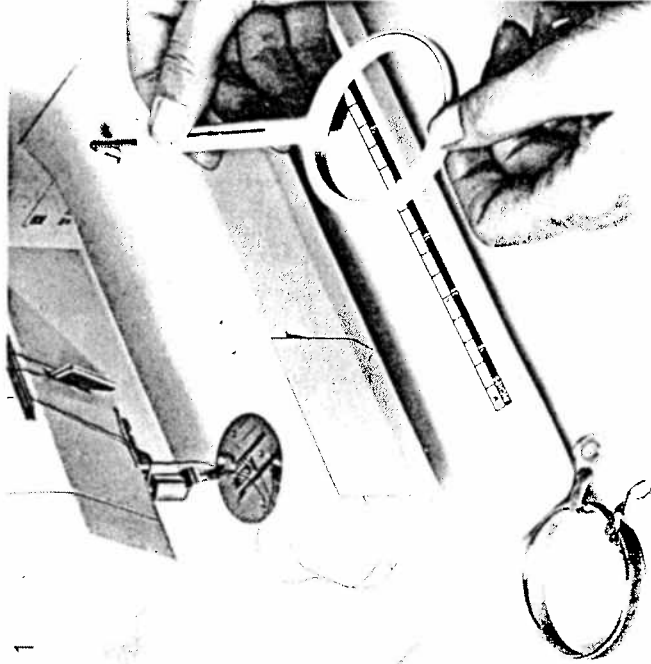


The small darning ring

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.

Stretching the work

- Place darning ring without spring clip on free-arm (Fig. 1)
- Pull material evenly over free-arm and darning ring (Fig. 2)



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.

3



- 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.

Darning technique

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.

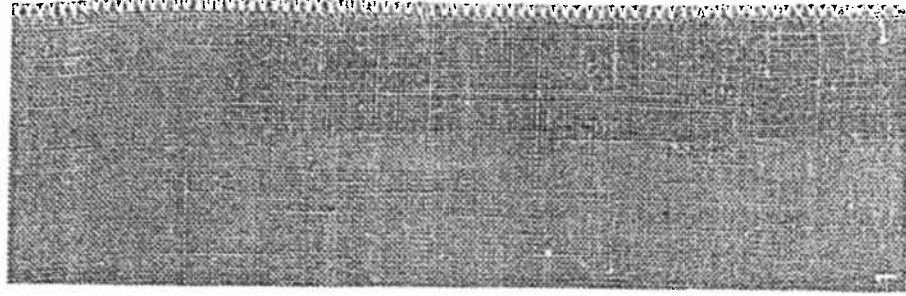
Edgings on Material

Fine edge finishing

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

| | |
|-------------------|----------------|
| Presser foot: | 000 |
| Thread: | darning thread |
| Needle: | 80-70 |
| Stitch selection: | 1 |
| Stitch width: | 1 1/2 - 2 |
| Stitch length: | 1/2 approx. |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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 |
| Colour mark: | ● |

1st operation

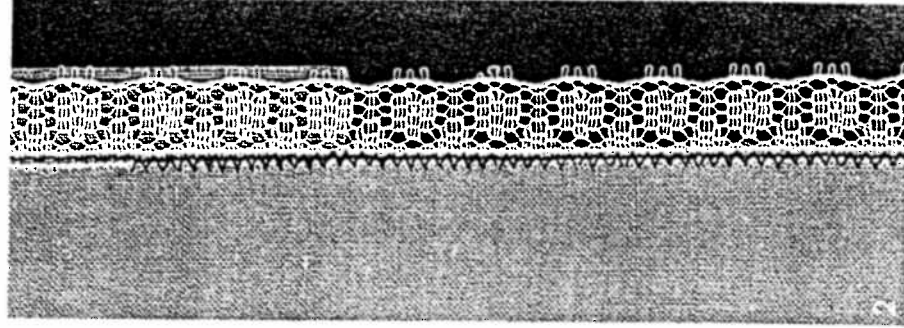
| | |
|-------------------|-----------|
| Stitch selection: | 0 |
| Stitch width: | 0 |
| Stitch length: | approx. 1 |

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

2nd operation

| | |
|-------------------|--------------------------------------|
| Stitch selection: | 1 |
| Stitch width: | 1 1/2 - 2 1/2 (depending on lace) |
| Stitch length: | 1/4 - 1/2 (depending on face) |

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).

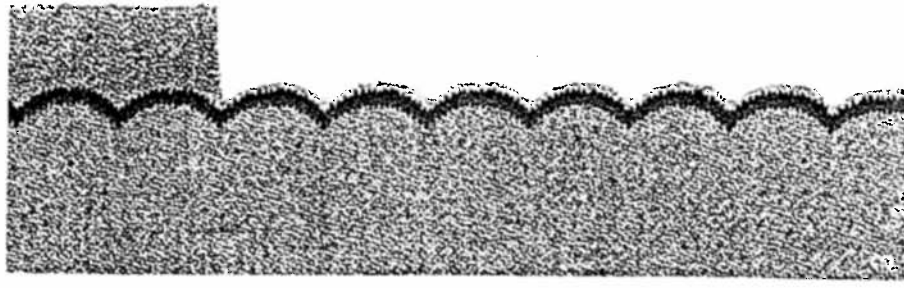


Scalloped edging

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

| | |
|-------------------|--------------------------|
| Presser foot: | 000 |
| Thread: | embroidery thread No. 30 |
| Needle: | 80-70 |
| Stitch selection: | 10 |
| Stitch width: | 4 |
| Stitch length: | almost 0 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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

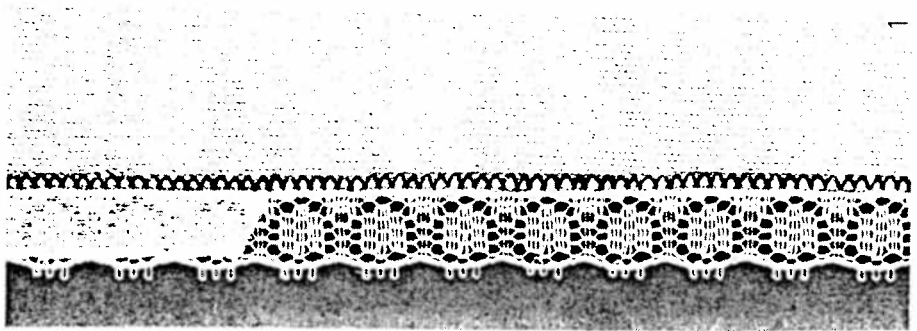


Edgings on Jersey

Lace on jersey

| | |
|-------------------|----------------|
| Presser foot: | 000 |
| Thread: | darning thread |
| Needle: | 80-70 |
| Stitch selection: | 1 |
| Stitch width: | 1½-2 |
| Stitch length: | ½ approx. |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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



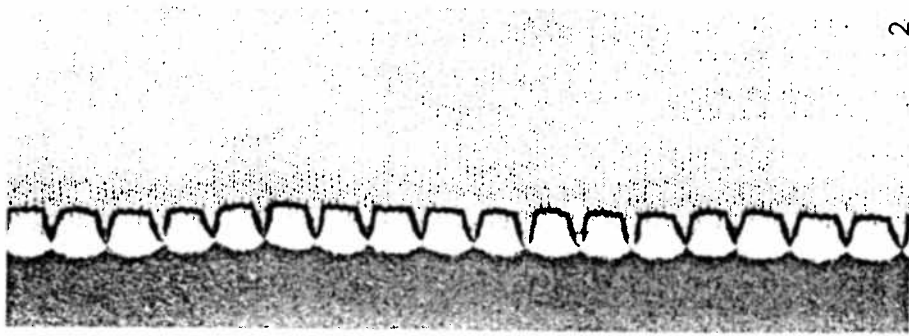
1

Shell edging

Specially for fine materials and jerseys

| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 3 |
| Stitch width: | 4 |
| Stitch length: | 1 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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).



2

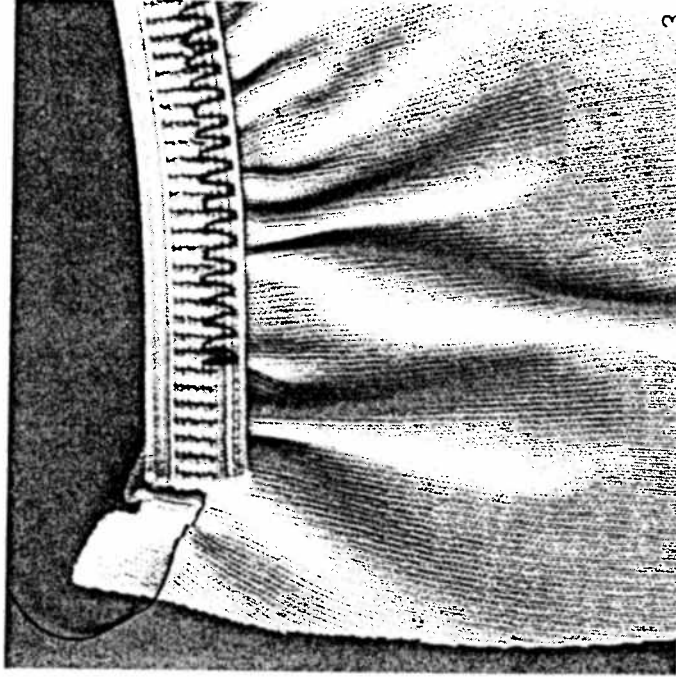
Elastic

Specially for sports- and other underwear

| | |
|-------------------|---------------|
| Presser foot: | 000 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 4 |
| Stitch width: | 3 |
| Stitch length: | 1 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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.



3

Gathering

Gathering with cord Long pieces of material

| | |
|-------------------|---------------|
| Presser foot: | 452 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 7 |
| Stitch width: | 4 |
| Stitch length: | 1-2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

Both gathering rows can be sewn in one operation.

Procedure:

Check whether needle comes to the centre of presser foot. Place material, wrong side up, under the foot, lower the needle, but do not lower foot yet.

Take cord (2 X length of fabric piece + 20 cm) in the middle, place over middle stem of buttonhole foot and hold to the back as for buttonhole.

Lower presser foot. Lift thread loop from presser foot (Fig. 1) and pull thread forwards until the ends of the thread only project about 10 cm at rear. Then sew. The thread runs in the two grooves of the buttonhole foot and is oversewn.

Finally, hold both threads and gather the material (Fig. 2).

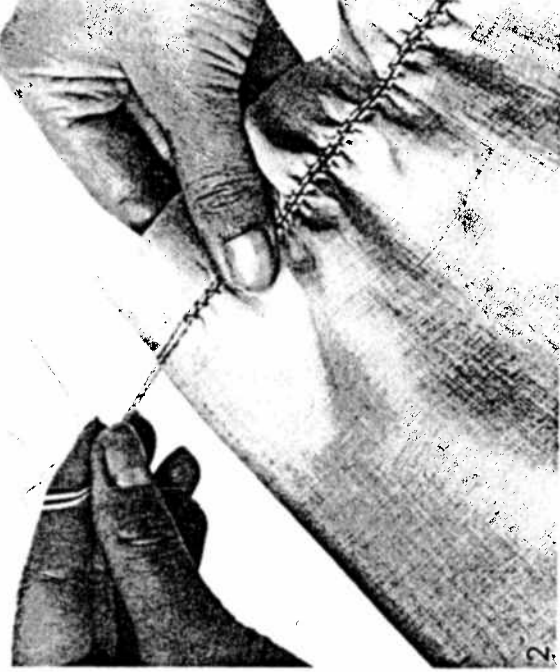


Normal gathering

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

| | |
|----------------|---|
| Stitch width: | 0 |
| Stitch length: | 4 |

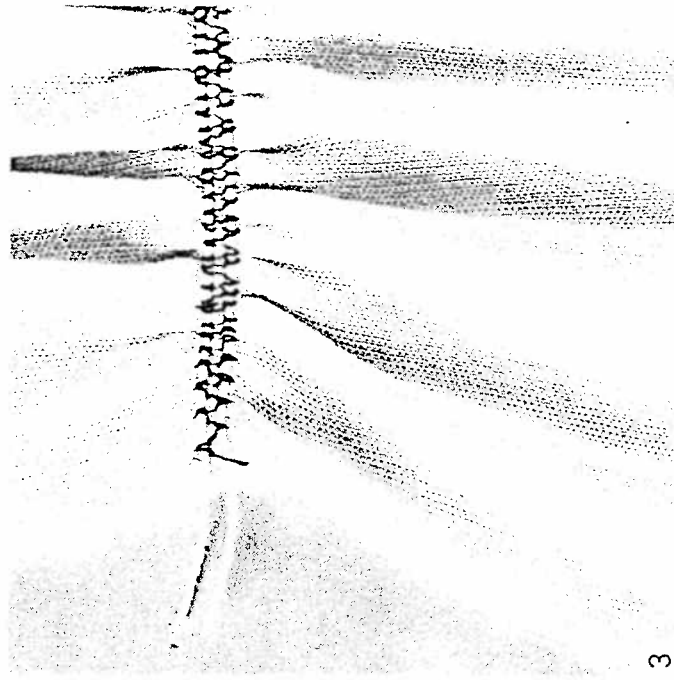
Sew two parallel lines of straight stitches. Then hold the two lower threads and gather the material to the desired width.



Gathering with elastic thread

| | |
|-------------------|---------------|
| Presser foot: | 452 |
| Thread: | sewing thread |
| Needle: | 80 |
| Stitch selection: | 7 |
| Stitch width: | 4 |
| Stitch length: | 1 1/2-2 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

The procedure with elastic thread is the same as with cord, except that the elastic thread is pulled tight **during sewing**. The amount it is pulled depends on the desired amount of gather (Fig. 3).



Monograms

The following data applies to «freehand» monograms

| | |
|-------------------|--------------------------|
| Presser foot: | — (possibly 285) |
| Thread: | darning- / embroidery 30 |
| Needle: | 80 |
| Stitch selection: | 1 |
| Stitch width: | 4-2 |
| Stitch length: | 0 |
| Needle position: | centre |
| Feed-dog: | lowered |
| Colour mark: | ● |

Monograms can be embroidered in various ways. Full details can be found in Bernina Sewing Manual No. 16, which also contains patterns for alphabets of various sizes and scripts.

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 30 is used. Embroidery thread is also suitable for large monograms, e.g. on towels.

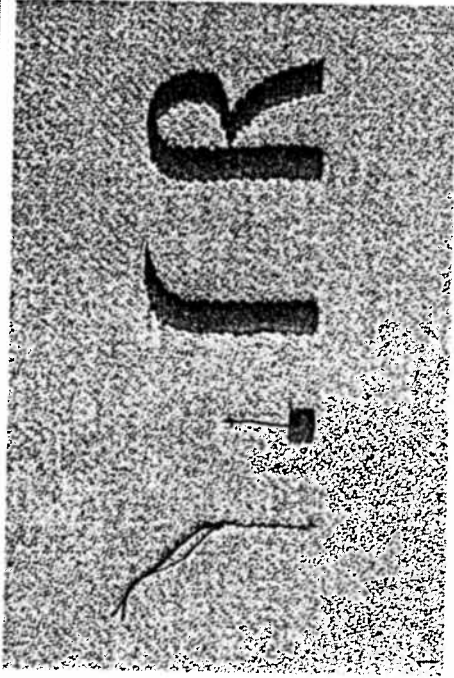
Practice makes perfect

— 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!



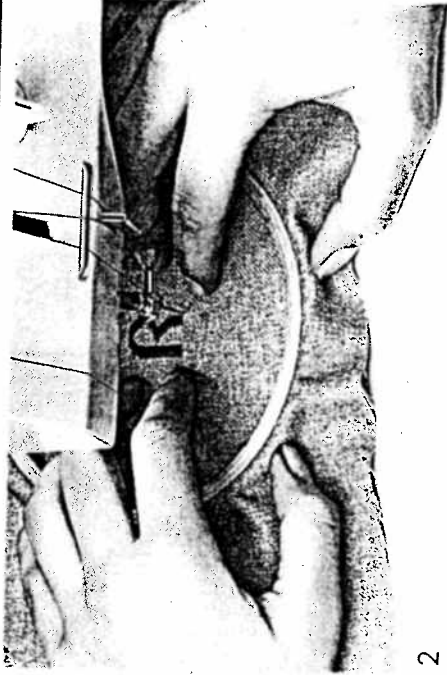
Procedure: (Fig. 1)

a) Bring up the lower thread through the material. Secure with a few straight stitches. Cut both thread ends.

b) Set zig-zag, sew 1–2 control stitches with the aid of the hand-wheel, ensuring that straight stitches are covered by the zig-zag stitches.

c) 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 section begins, guide the frame along the curve without twisting it.

d) Finally secure with a few straight stitches.



2

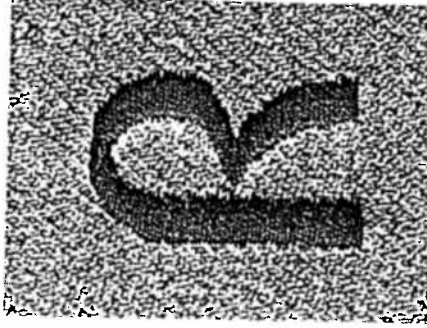
Guiding the embroidery frame

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 larger 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.

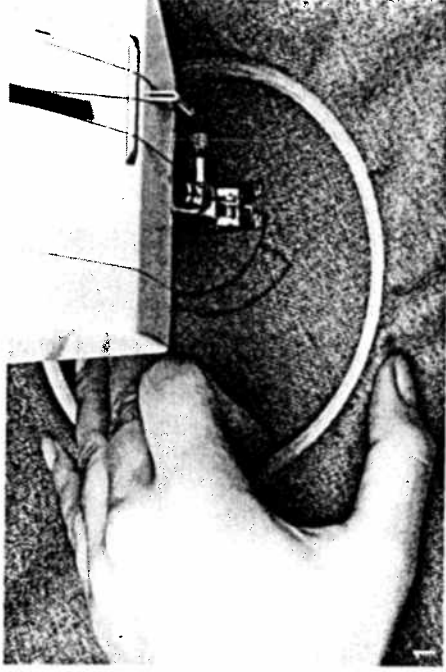
The most important basic principles:

- 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.

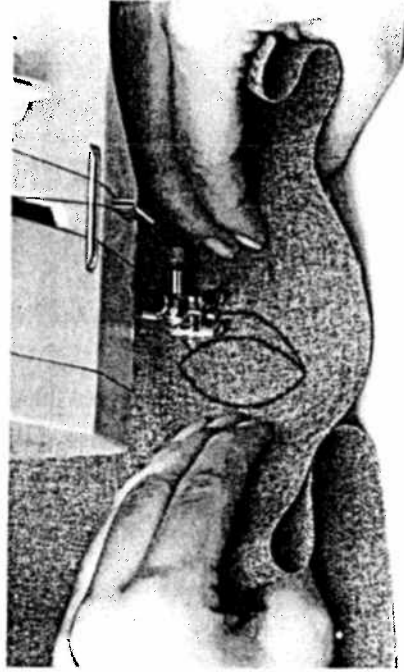
Guiding with frame

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.

36



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:

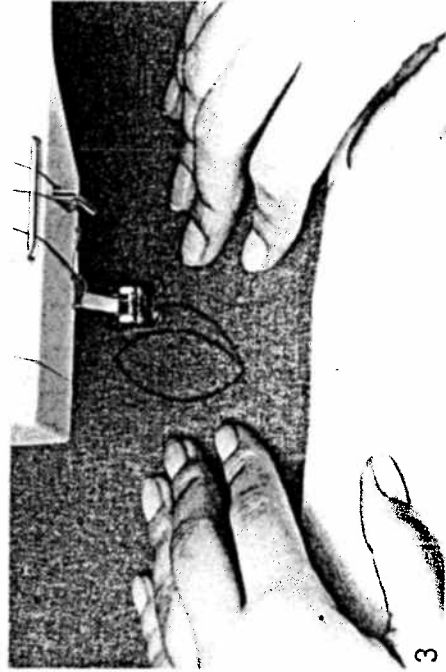
Do not place index finger parallel to the thumb, otherwise movement of the hand is restricted

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

* The embroidery foot 030 is not included in standard accessories.

| | |
|-------------------|------------------------|
| Presser foot: | * 030 |
| Thread: | darning-/embroidery 30 |
| Needle: | 80 |
| Stitch selection: | 1 |
| Needle position: | centre |
| Feed-dog: | sewing |
| Colour mark: | ● |

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 Vilene* and pressed onto the back of the material. This is recommended for coarse and irregular fabrics on which it is difficult to trace.

Stitch width: 1/2-1
Stitch length: 1/4 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: 1 1/2
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.

Stiffen appliqué material with Vilene* and baste onto the right side of background material.

If Vilene* is not used, paper must be used underneath all satin stitches. This is taken away afterwards.

* Vilene = fine iron-on interfacing

Corners and small curves (Fig. 4).

a) Rectangular corners:

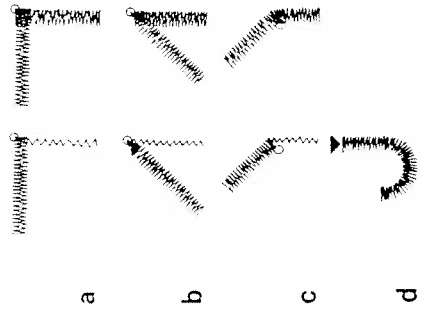
Stop with the needle at outer edge, turn the work and continue sewing. The corner will then be over-sewn.

b) Pointed corners: sew to 1/2 cm before corner.

Then turn zig-zag back to 0 while sewing. Raise presser foot, turn work, set zig-zag again to 1/2 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:

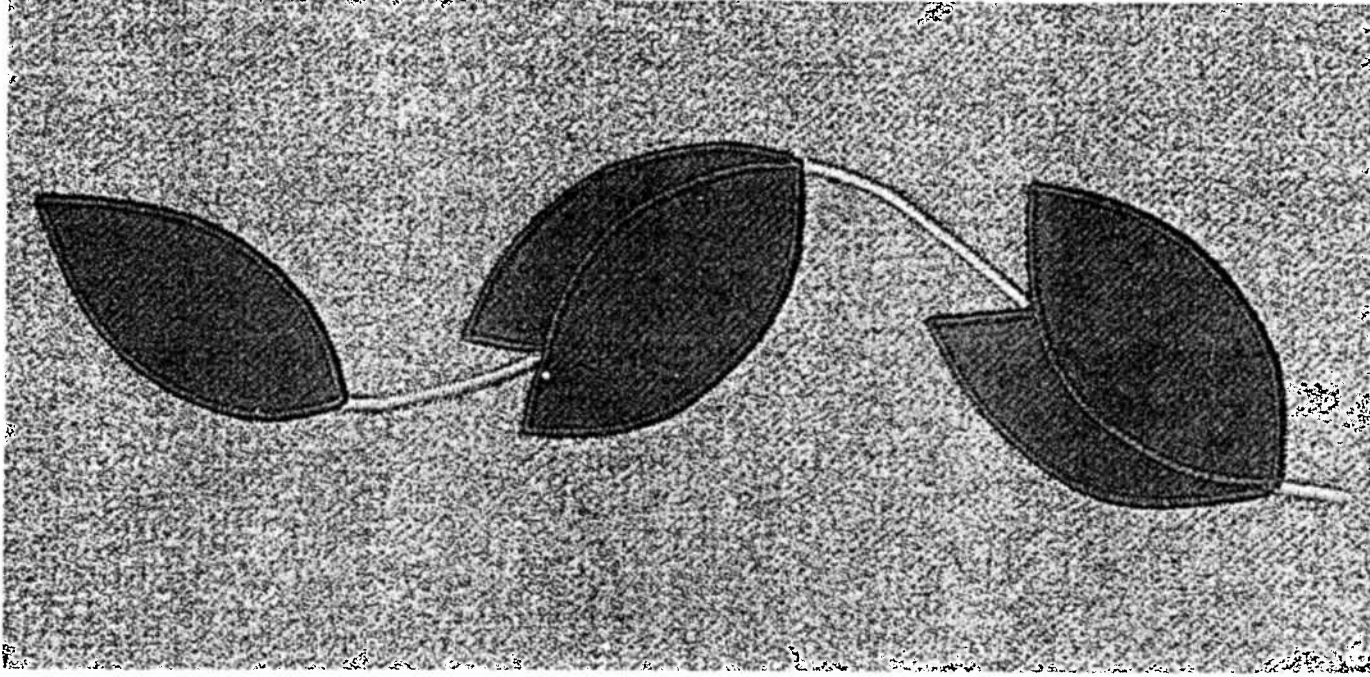
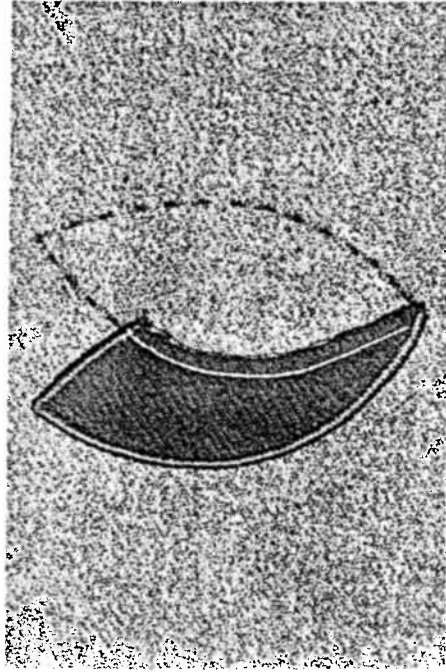
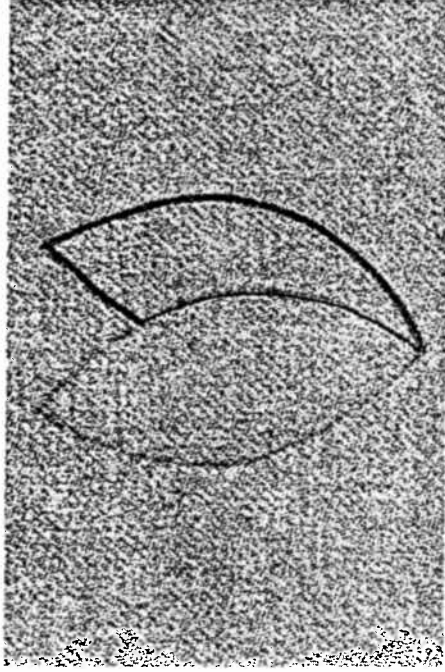
1. Baste on appliqué material. Sew first operation: where colours intersect sew only with straight stitch, the remaining lines with zig-zag (Fig. 5).

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.



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 is correctly fitted, flat side of shank at rear
- the needle size is correct, see Needle and Thread table, page 10
- 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 / 705
- 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

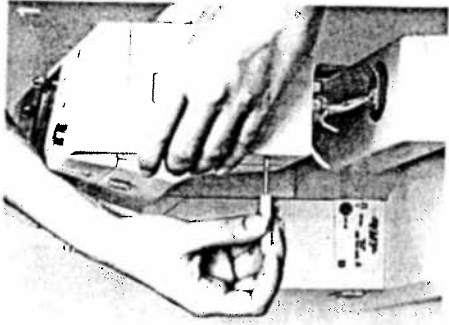
- threaded with foot lowered
- wrongly threaded, check upper and lower threads

Machine runs slowly or not at all

- plug not fully inserted
- main switch at 
- winder cover not closed
- main switch at , reduced sewing speed
- 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!

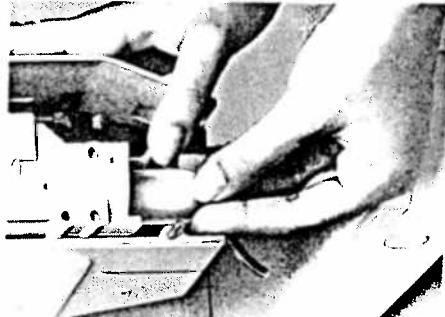
Changing the Bulb



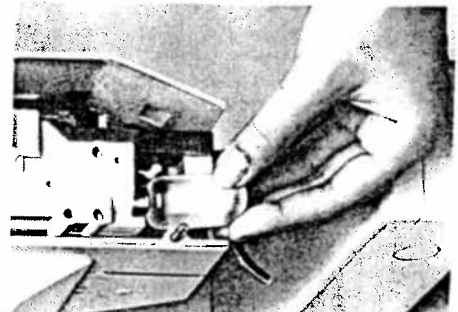
Use 15 W bulb with bayonet socket

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

- **Remove front cover:** (Fig. 1)
 - Release securing spring of cover by pressing, not turning — with screwdriver
 - Pull cover forwards steadily



- **Removing old bulb:** (Fig. 2)
 - Press bulb upwards, twist to left and withdraw



- **Inserting new bulb:** (Fig. 3)
 - Press safety strap to right with the right hand, insert new bulb with the left hand: press upwards and twist to right to the stop
- **Replace front cover:** press on, the securing spring engages automatically.

Maintenance: Cleaning and Lubricating

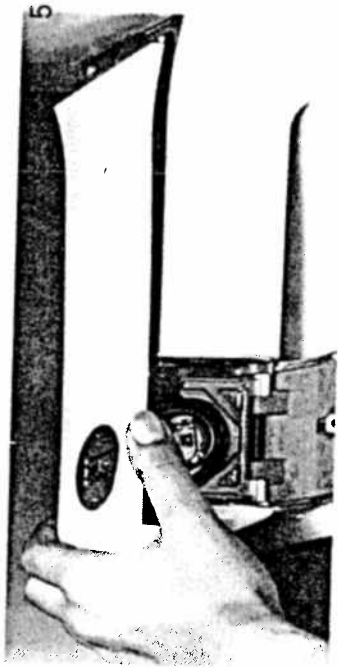
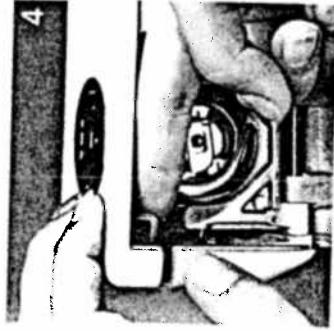
If the machine is kept in a cold room, it should be taken to a warm room about 1 hour before use to allow the oil in the bearings to become more fluid.

- Lift off free-arm cover (Fig. 5)
- Clean feed-dog, underside of stitch plate and free-arm cover.

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.

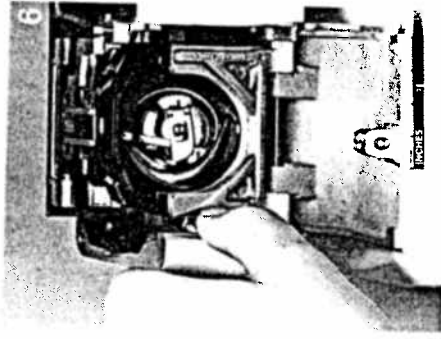
- Set main switch to
- Remove presser foot and needle
- Open hinged cover on free-arm
- Press with right index finger on the upper releasing lever (Fig. 4)



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

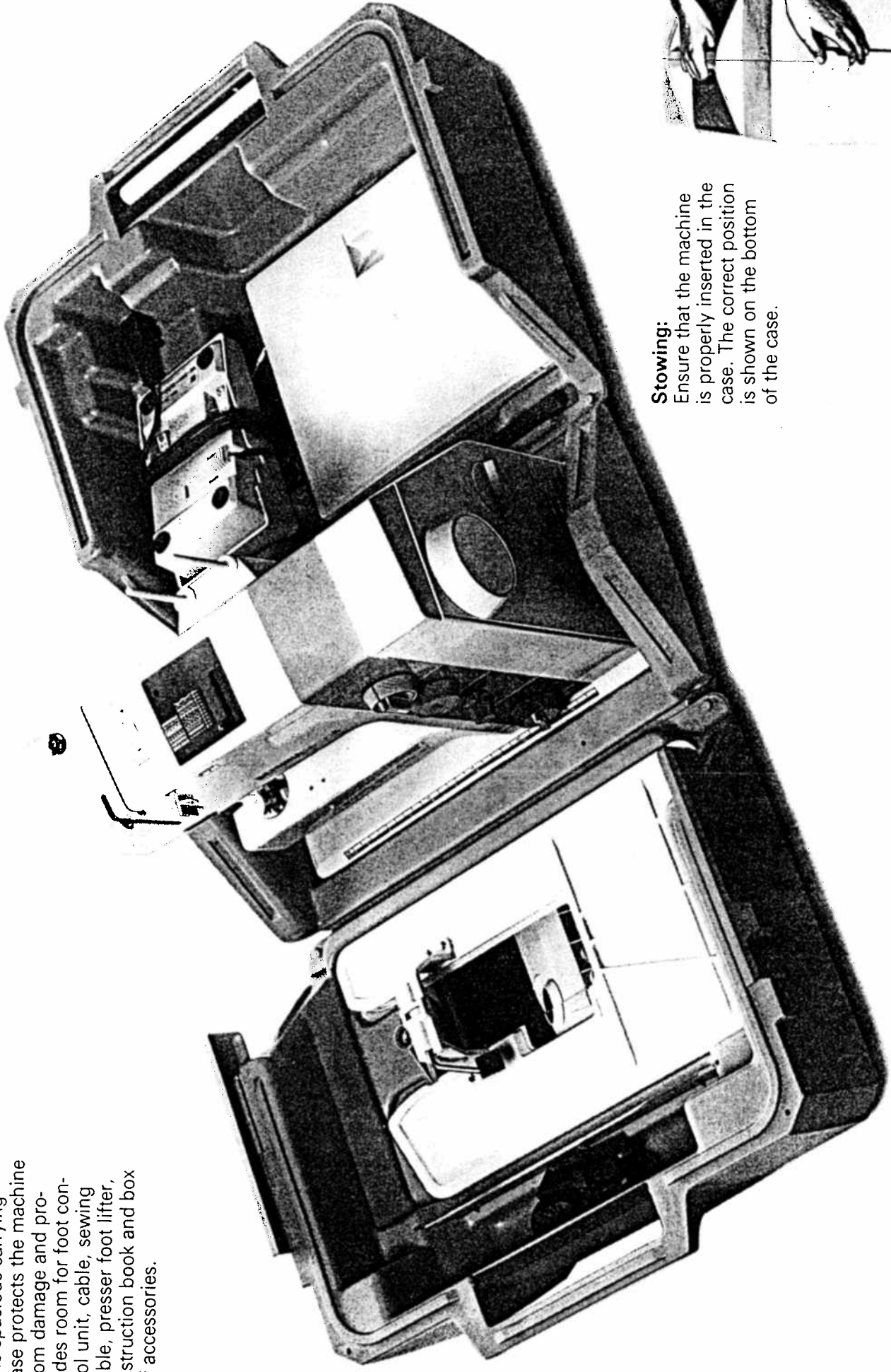
Cleaning the hook

- Set main switch to
- Remove bobbin case (see page 5)
- Press lower releasing lever to left with the left thumb (Fig. 6). The half-round locking strap with the black hook race cover can now be swung down.
- Remove hook (Fig. 7)
- 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. 8)
- Turn hand-wheel if necessary until hook driver is on left and replace hook.
- Close black hook race cover and locking strap. The latch must engage.
- Check by turning hand-wheel
- Insert bobbin case

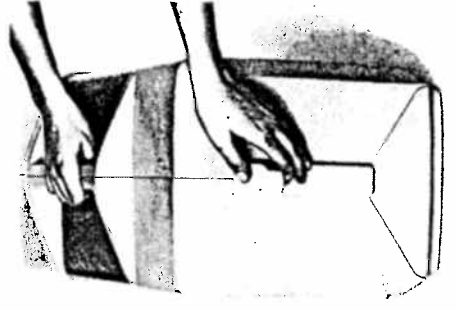


Stowing III Carrying Case

The spacious carrying case protects the machine from damage and provides room for foot control unit, cable, sewing table, presser foot lifter, instruction book and box of accessories.



Stowing:
Ensure that the machine is properly inserted in the case. The correct position is shown on the bottom of the case.



Notes

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

Date

Notes

Date

Notes

Important !

Safety Regulations

BEAB, OSHA

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 (main switch set to position). 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.**

Fritz Gegauf Ltd.
Manufacturer of Bernina
Sewing Machines
Steckborn / Switzerland

BERNINA 

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