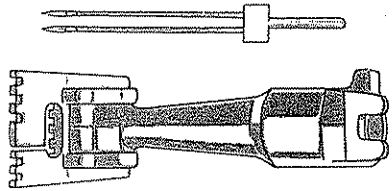


Pintuck foot 028  
Double needle  
Thread: 50



## Sewing Pintucks

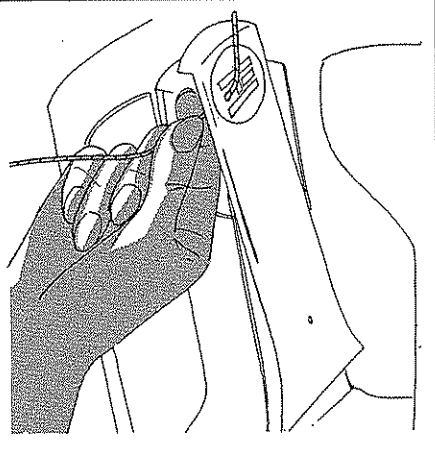
Sitch width: 0  
Sitch length: about 1/2  
Automatic: 0 WWW and WW  
Needle position: center  
Feed control: WW

To sew pintucks, 2 top threads are needed (for double needle). When threading the machine take care that the two threads are not twisted together, but bring them singly from take-up lever to the needles.

## The quickest way to set up the machine for pintucking

Insert bobbin case. (Do not bring up lower thread yet.) Insert and thread the twin needle.

Thread the gimp through the hole in the needle plate (the free arm cover can be removed for this) and finally bring up the bottom thread and clip on the Pintuck foot.



## The gimp is threaded like this

The regular spacing between the tucks is controlled automatically by the grooves on the underside of the foot. (When embroidery is eventually to be sewn between tucks, then a width of exactly 1 presser foot is required.)

## Sewing Pintuck Corners

Because of the double needle, corners cannot be turned at right angles in one sitch, as with a single needle. You should therefore proceed thus:

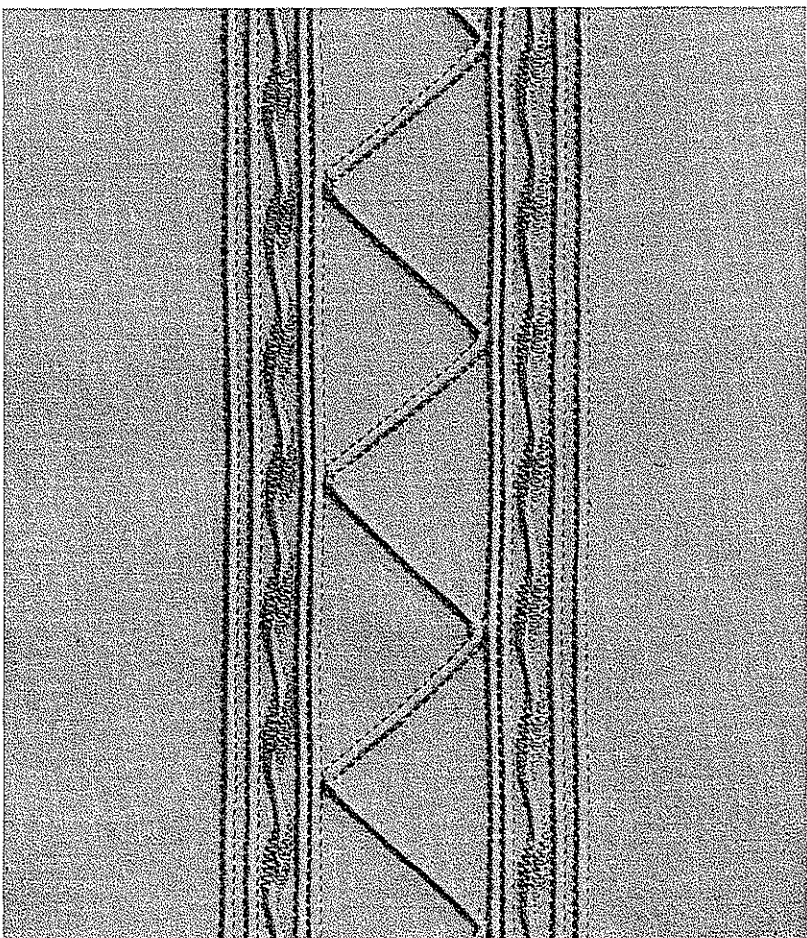
Bring the points of the needles into the work. Lift presser foot. Half turn work. Lower presser foot. Turn balance wheel by hand to do one sitch leaving needle points in work. Lift presser foot. Complete the turn. Lower presser foot and continue.

## Fancy patterns with double needle

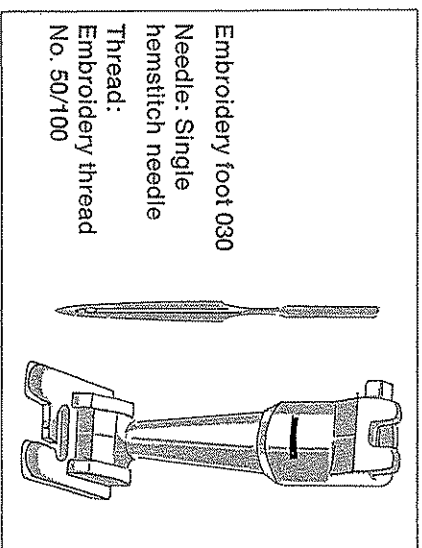
(Remove the cord)

Sitch width: 0—2 1/2  
Sitch length: about 1/4  
Needle position: center  
Automatic: as desired  
Feed control: WW  
Thread: 30 or 50

When designs are sewn in between or close to the tucks, use the **pintuck foot** for automatic guiding. For twin needle embroidery without pintucks, use the embroidery foot.

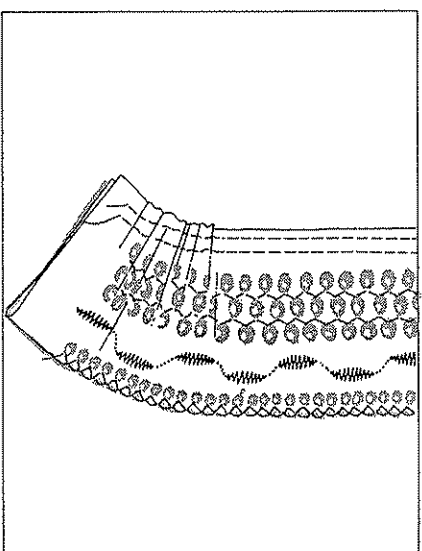


# Hemstitching (for fine fabrics)



## Single hemstitch needle

Stitch width: 2  
 Stitch length: 1  
 Needle position: center  
 Automatic: 0 WWWW and WW  
 Feed control: mm



## Ruche

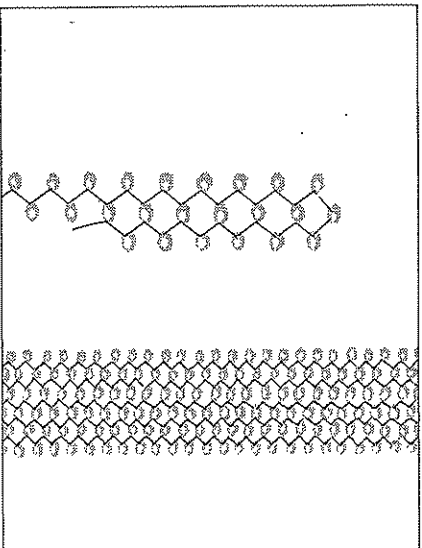
Iron bias strip of organdy in two. Sew hem stitches at the desired distance over the folded edge. Sew the ornamental stitch in between with a normal needle.  
 An Entre-deux (insertions) is worked in the same way.

## Applique with Pre-Embroidered Material (use Organdie double)

Hem stitch a piece of fine material in the manner described until you get a trellis effect. With this trellis make a normal applique. Finish by cutting away background material from under trellis.

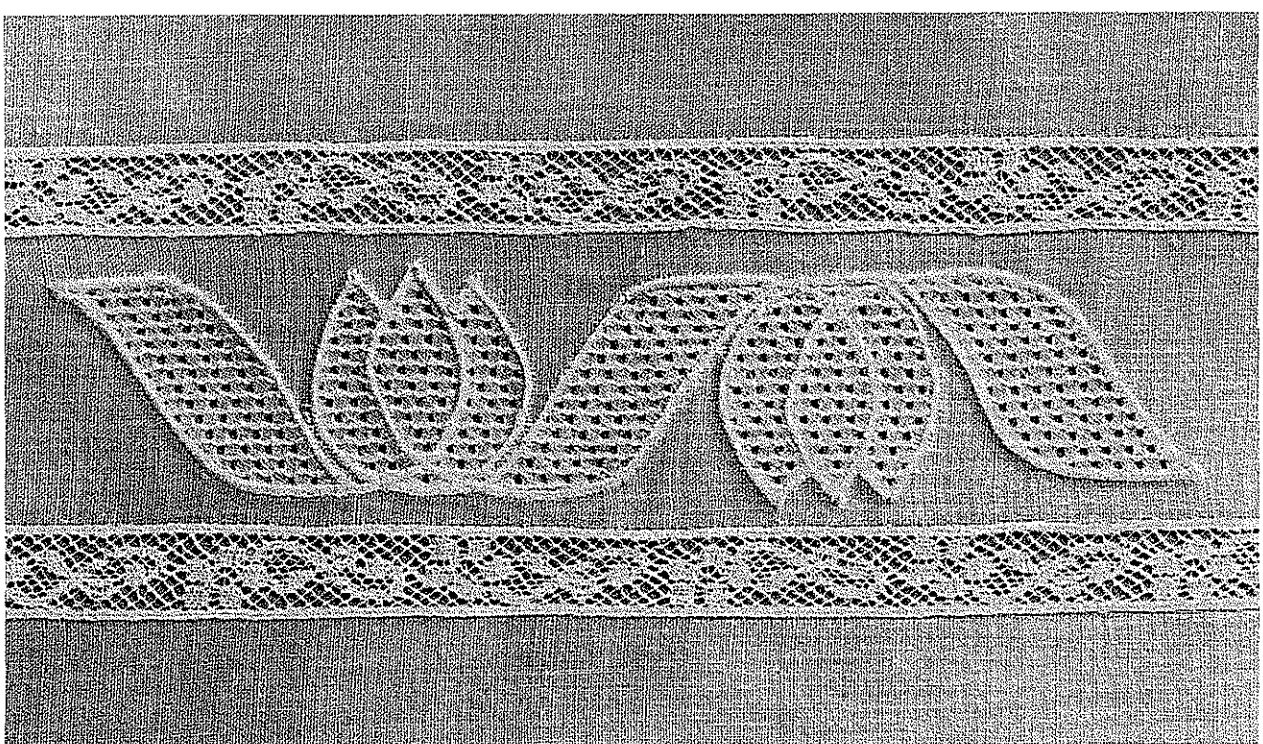
## Trellis work with metallic thread (Lurex)

Can be used as a border (e.g. for a stole). A very attractive effect is brought about if a double metallic thread is led through the hole in the embroidery foot.



## Method

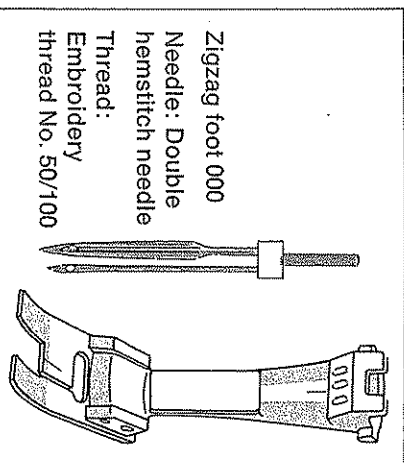
Sew first row of stitching. Leave tip of needle in work, turn and sew second row (the needle will then pierce holes of first row on one side).



## Ordinary Hem-stitching

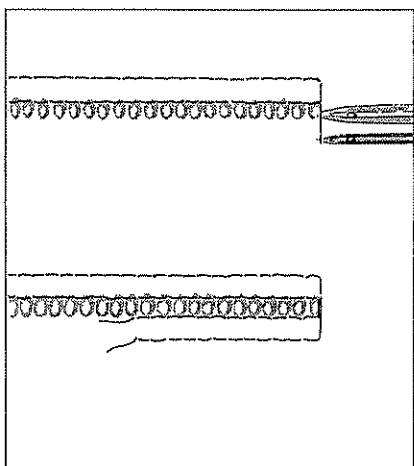
Stitch width: 0  
Stitch length:  $1\frac{3}{4}$

Sew first hemstitch row of embroidery, raise needle and foot, turn work. Put wide needle in the first hole of the previously sewn row and resume sewing. In order that the hemstitch needle can sew exactly into the holes of the first seam. Do not hold back work.



## Double hemstitch needle

Automatic: 0  
Needle position: center  
Feed control: mm



## Zigzag-Hem-stitching

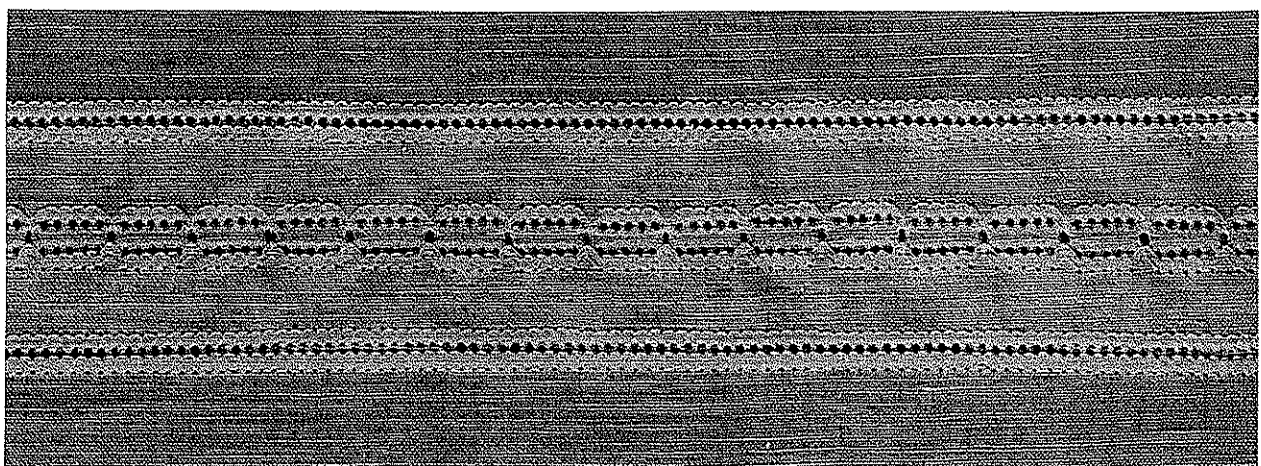
Stitch width:  $1\frac{3}{4}$   
Stitch length:  $1\frac{3}{4}$

Sew the first side of the hemstitch row of embroidery. Just pierce the last left stitch, then turn back the hand wheel again and raise the presser foot. Turn work. With the wide needle stitch through the previously pierced hole and continue sewing. Do not hold the work back.

## Fancy Hem-stitching

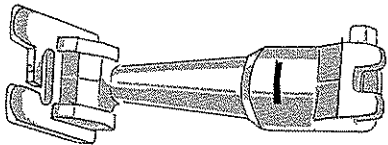
Stitch width:  $1\frac{3}{4}$   
Stitch length:  $1\frac{3}{4}$   
Automatic: (No. 1) and 1-20

Worked in the same way as the zigzag hem-stitching.



# Circular embroidery

Embroidery foot 030  
Needle: 80  
Thread:  
Embroidery  
thread No. 30/60



Stitch width: 4-2  
Stitch length: almost 0  
Automatic: As desired and 1-20  
Needle position: center  
Feed control: MM

For circular embroidery the material should be stiffened (with Vilene) or preferably worked in an embroidery hoop. To prevent large pieces from pulling fold in the corners and fasten with safety pins.

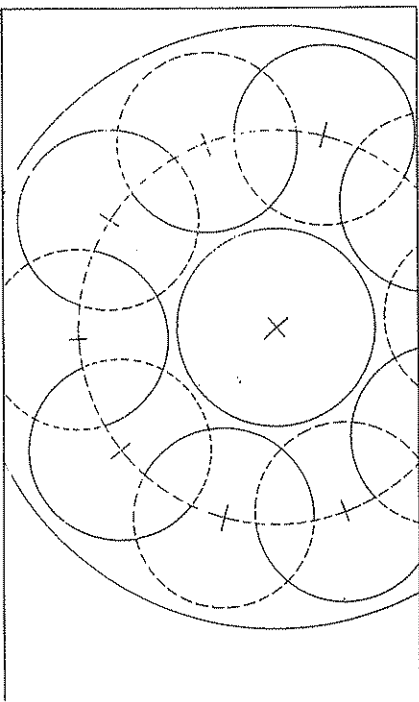
## Easy Circular Embroidery

(Circles with the same center point)

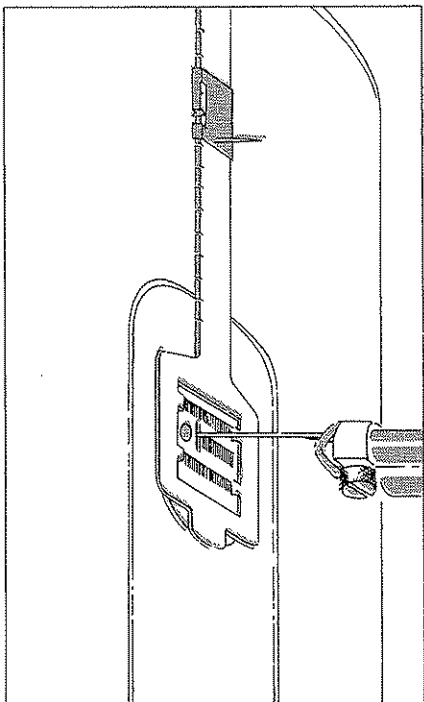
Place the embroidery work onto the prong (arrange distance from needle accordingly) and embroider. If further circles are to be embroidered the work must be moved accordingly.

## Combinations of circles

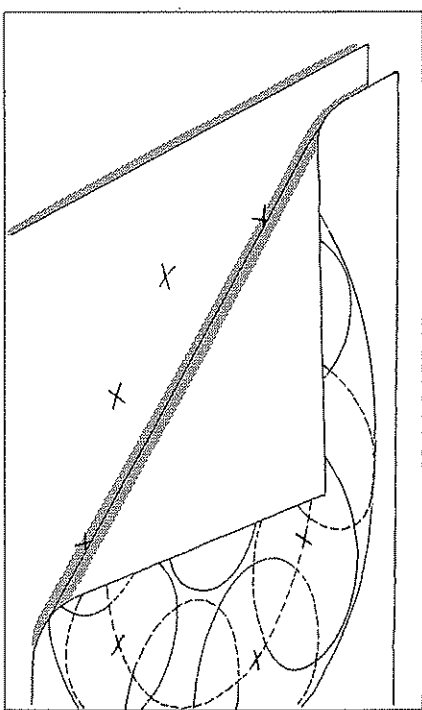
Distinctly marking the center make a design on paper with a pair of compasses.



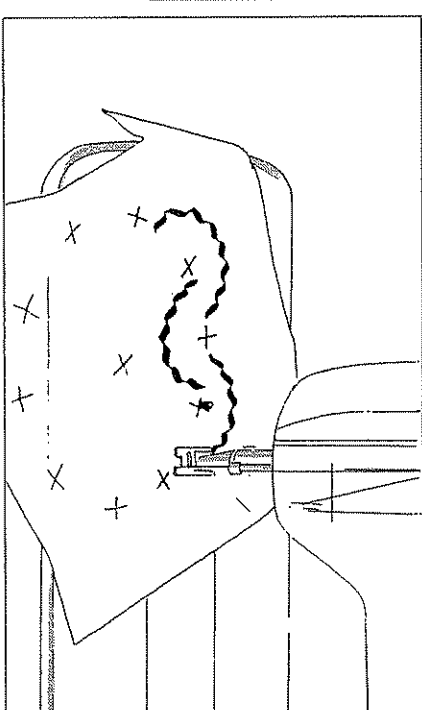
Secure the circle embroidery attachment this way.



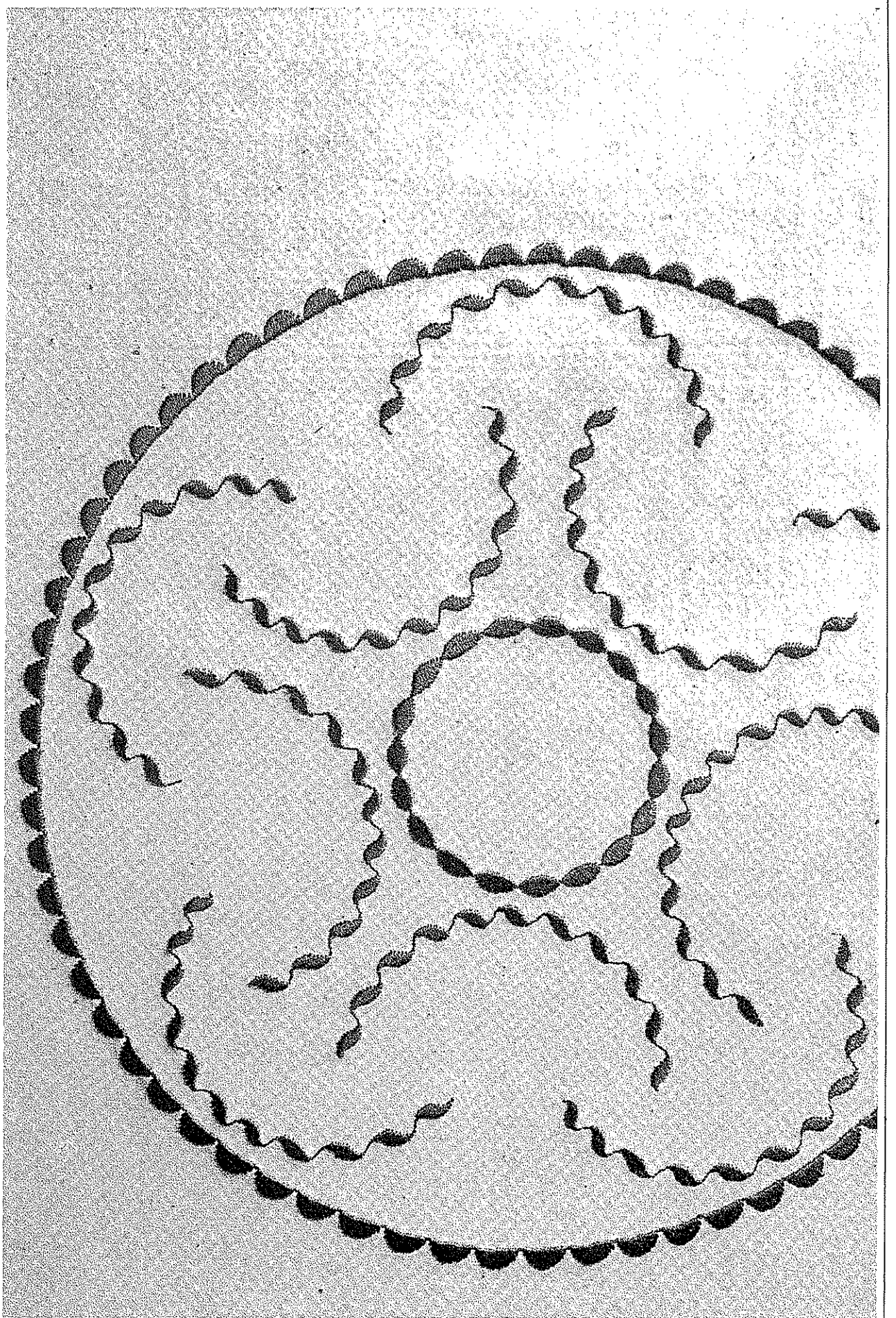
Transfer the center point of all the circles onto the material with tracing paper.



Secure a center point onto the prong and embroider the required parts of the circle.

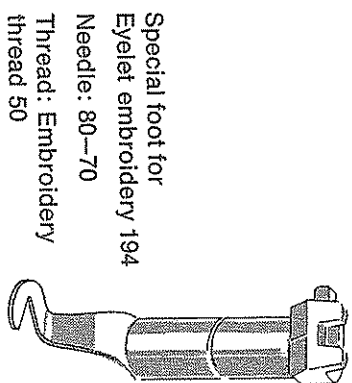




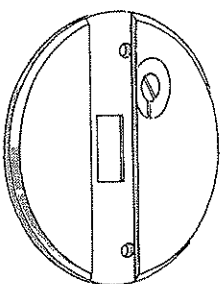


Circular embroidery

# Eyelet or English embroidery



Special foot for  
Eyelet embroidery 194  
Needle: 80-70  
Thread: Embroidery  
thread 50



Special needle plate



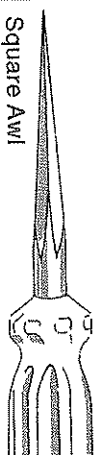
Slide



Slide

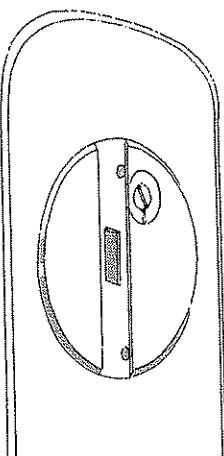


Round Awl



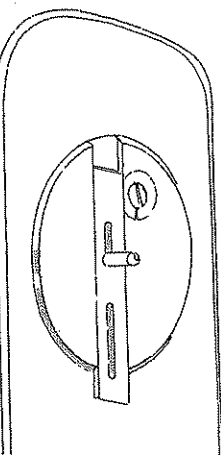
Square Awl

Stitch width: 1 1/2 small / 2 1/2 large  
Stitch length: 0  
Automatic: 0 WWW and WW  
Needle position: left  
Feed control: lowered

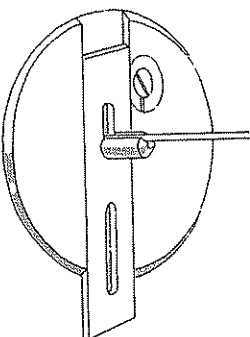


## Preparation

1. Set machine, change needle plate, placing the screw at top left.



2. Loosen screw, secure required slide with the prong slot on the left, but do not tighten screw yet.



3. Place the needle (swinging to right) into the opening, then slide the plate along until the needle is just inside the prong. Carefully tighten screw.

Thread bottom cotton through hole in finger of bobbin case (as with button holes).

## Method

1. Always use frame. Stretch material.
2. Punch holes with hand awl, pushing halfway through for small and right through for large eyelets. (Square awl for felt and leather.)

3. Secure work onto the prong and sew eyelet embroidery. Sew twice around the small holes and three times around the large.

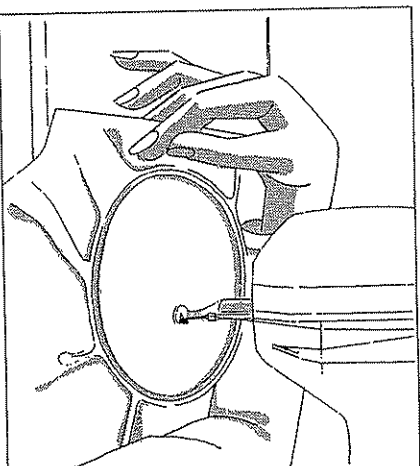
**Important:** Turn the frame faster for the first round (a), then for the following rounds (b) and **do not change the sewing speed.**

4. Set zigzag to 0. Turn work again and fasten with a few stitches.



## Guiding the work

(When sewing with large pieces of material, fold back the corners and secure them with safety pins to prevent pulling when turning.)




Hold the work in such a manner that it can be turned around in one go without stopping the machine and renewing one's hold. **Turn without varying movement.**

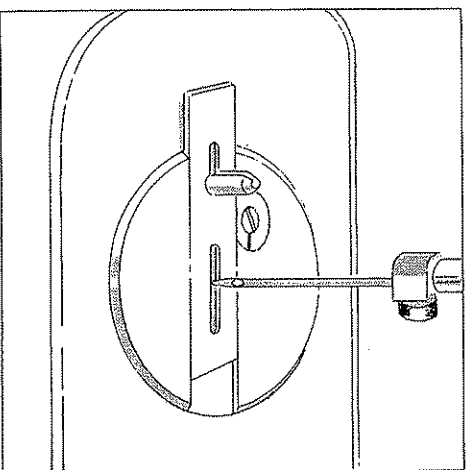
Allow machine to run at a medium and constant speed.

**Important:** Start turning as soon as machine is in motion. Stop machine as soon as one has finished turning; otherwise uneven thickness will occur.

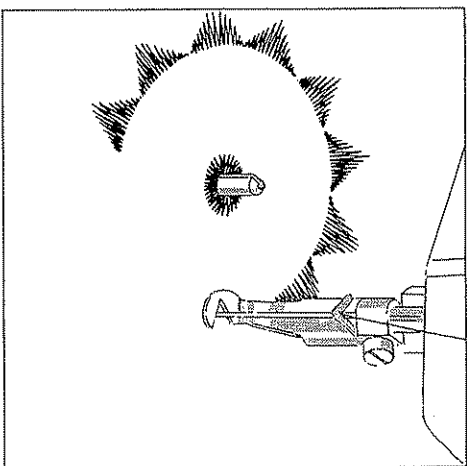
## Ornamental stitching around the eyelet embroidery

(work with frame)

Stitch width: 4  
Stitch length: 0  
Automatic: As desired and 1-20  
Feed control: lowered 

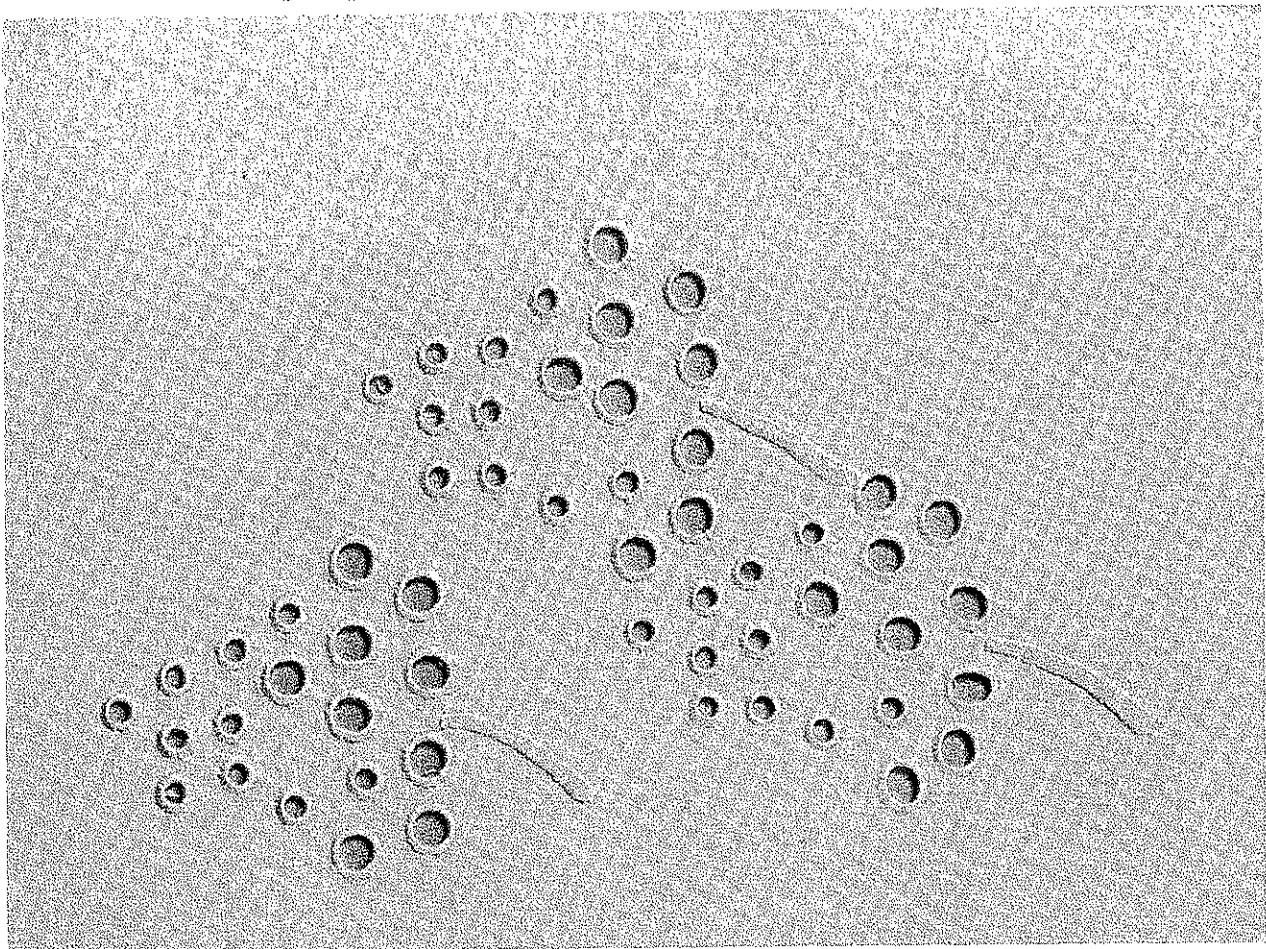


Put needle into its highest position. Loosen screw and move slide towards the left according to size of circle required. The opening in the plate underneath should be clear and not covered by the slide.




Secure embroidered hole onto the prong, set pattern indicator to center and embroider circle. As the drop feed control is lowered, the embroidery frame must be turned by hand too. Naturally the circle cannot be sewn in one go as with punch embroidery.

Interrupt the work after a few motifs and renew hold on embroidery frame. One must sew slowly and **unvaryingly** if the embroidery is to appear neat and even. It is recommended to use the slow speed of the machine.



# Monograms

Without foot  
Needle: 80—70  
Thread:  
Embroidery  
thread 50

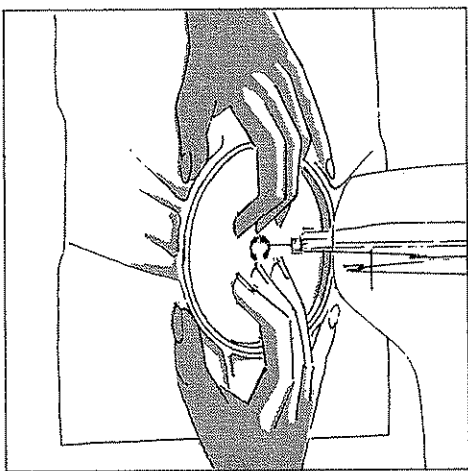
Stitch width: 4—2  
Stitch length: 0  
Automatic: 0 VMMW and MW  
Needle position: center  
Feed control: lowered 

Stretch the material tightly in the frame as the work is to be carried out without a foot. **Important:** Lower the foot lever just the same as usual, otherwise the top thread tension will remain open and unattractive work will result. If the bottom thread is draw through the finger of the bobbin case the work will run more smoothly (as with button-hole sewing).

## Method

Bring up the bottom thread through the material, sew a few straight stitches and cut the thread ends. Set zigzag. Place needle ready to begin and make a test stitch. The drawn line must be in the middle of the zigzag.

Move the frame as though wanting to write with it. **Do not stop moving frame until the monogram is complete.**

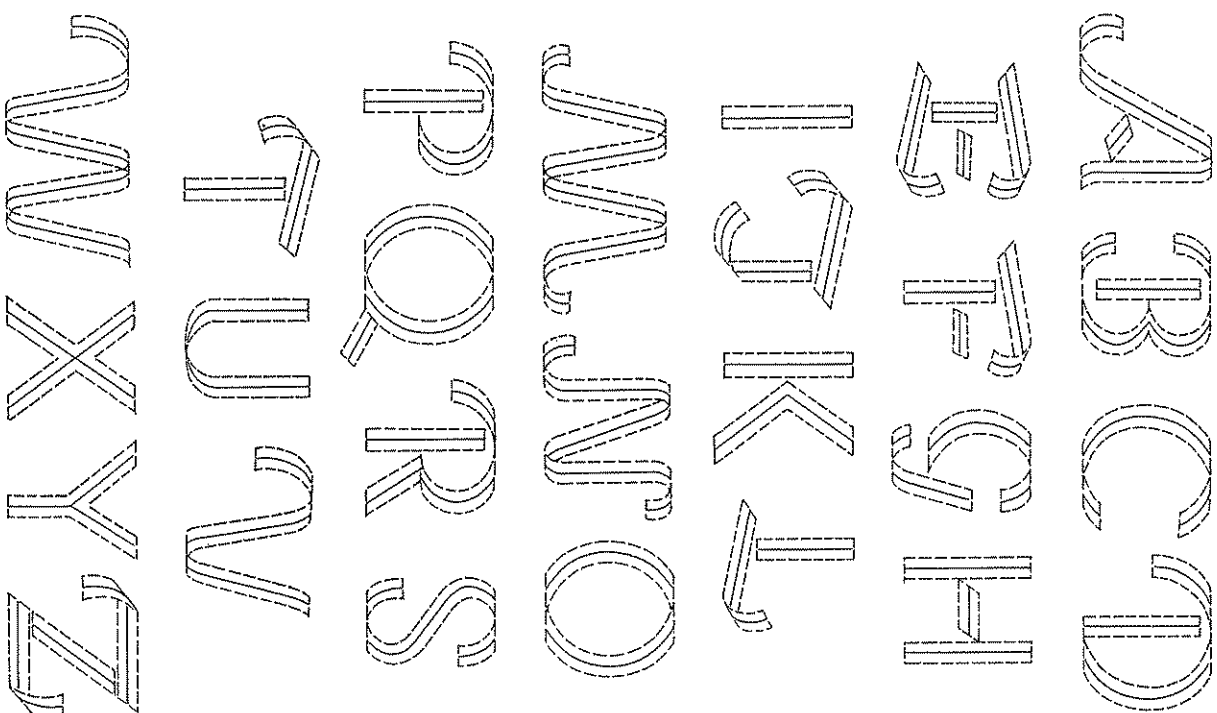


## Guiding the work

Hold frame as when darning. Do not move fingers while working, as jerky movements produce uneven monograms.

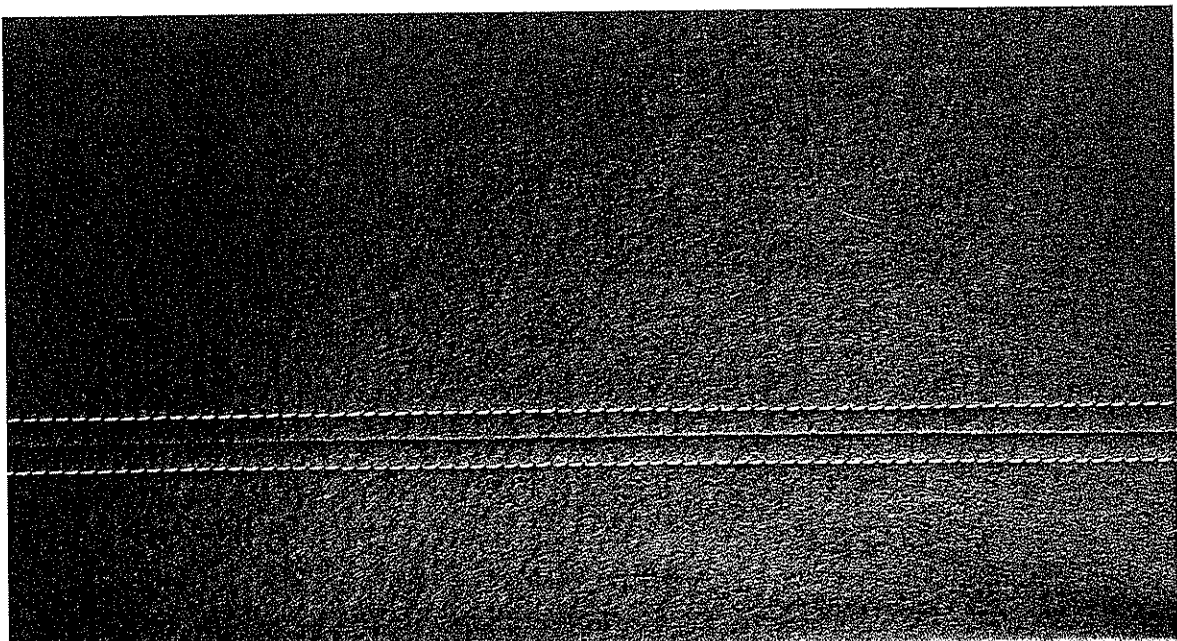
To produce a perfect monogram a great deal depends on how the frame is held. The more securely the work is held the better the result.

**Important:** Allow the machine to run rather quickly; however, the frame should be guided slowly and steadily.





Standard straight stitch: stitch length 4



## A. Cordonnet as upper thread

Needle No. 110

Presser foot 000, if necessary cording foot 499

Lower thread normal sewing thread or synth. thread

Stitch with: 0

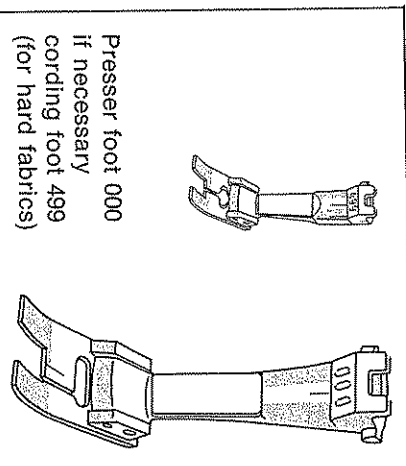
Stitch length: 4

Needle position: center

Automatic: 0 WMMW and MW

Feed-dog: to sewing

**Sew a trial sample.**



Cordonnet can be worked in two ways:

A – as upper thread

B – in the bobbin case

### Important:

The sewing machine needle has a long groove at the front. It must be possible for the thread to lie completely in this groove while sewing, otherwise wrong stitches and broken threads result, in addition to an unsightly stitch pattern. The thickness of the needle must therefore correspond as always to the thread thickness. In addition, synthetic cordonnet is being used increasingly.

Hence the golden rule is:  
When cordonnet as upper thread  
Needle No. 110

It is quite possible that for certain kinds of fabric even a needle No. 100 (possibly No. 90) produces a perfect result.

**Sew a trial sample**

## B. Cordonnet in the bobbin case

If the work cannot take the thick no. 110 needle, the cordonnet thread must be sewn as lower thread. In this case, work is done on the back of the material if the sewing line is not visible, e.g. when sewing on pockets, they are first sewn on from the right side with darning thread (contrasting colour), stitch length 4. This basting seam provides the sewing line on the back and is easily removed at the end.

There are two possibilities of sewing cordonnet from the bobbin case.

### 1. Normal backstitch

Needle No. 80

Presser foot No. 000

Upper thread normal sewing thread or synth. thread, colour as cordonnet

Stitch with: 0

Stitch length: 4

Needle position: center

Automatic: 0 WMMW and MW

Feed-dog: to sewing

Place bobbin with cordonnet in case (use cordonnet case, it is identified by a black flap). **Sew a trial sample.**

**2. Saddle stitch**  
(Only for Bernina machines with CB-bobbin hook)

If a particularly long stitch is required (over 4 mm), this can be obtained using the Magic needle and **zigzag stitch** (not blindstitch).

Saddle stitch ►

Thread upper eye of Magic needle  
Presser foot No. 000

Upper thread normal sewing thread or synth.  
thread colour as cordonnet

Stitch width: 4

Stitch length: 2-4

Needle position: center

Automatic: 0 WWWW and MW

Feed-dog: to sewing

Place cordonnet in bobbin case as in 1.

Work is again performed on the back of the material.

**Sew a trial sample.**

**Warning:** the decorative seam is formed (as with basting) at the left-hand needle penetration.

The Magic needle is only available as No. 80. Therefore cordonnet **cannot** be sewn as upper thread with this needle. See introductory comments.

### 3. Fancy saddle stitch

The Bernina universal stitch produces an attractive fancy saddle stitch.

Thread upper eye of Magic needle

Presser foot No. 000

Upper thread normal sewing thread or synth. thread

Colour: contrasting with cordonnet

Stitch width: 4

Stitch length: 2-3

Needle position: center

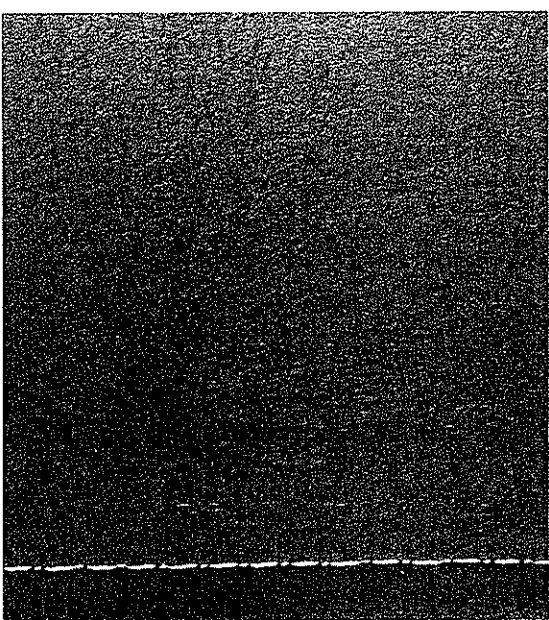
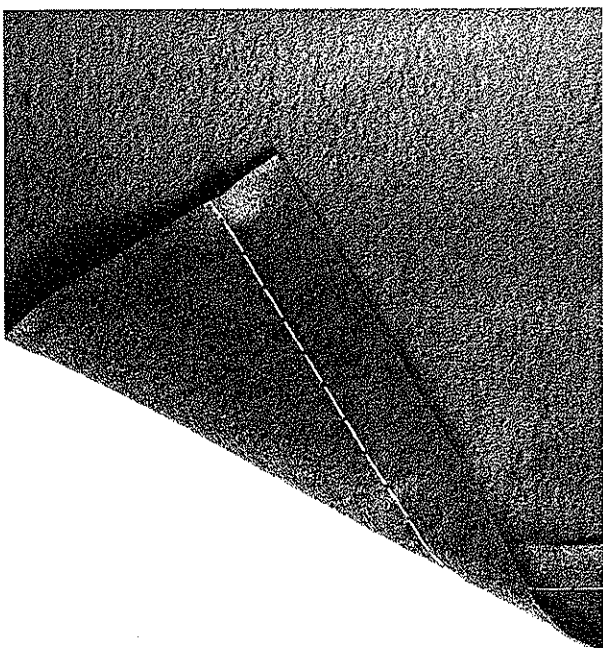
Automatic No. 3  $\text{N}^{\text{N}}\text{N}$

Feed-dog: to sewing

**Sew a trial sample.**

Saddle stitch and fancy saddle stitch are suitable for soft materials.

Fancy saddle stitch ►



# How to avoid breakdowns

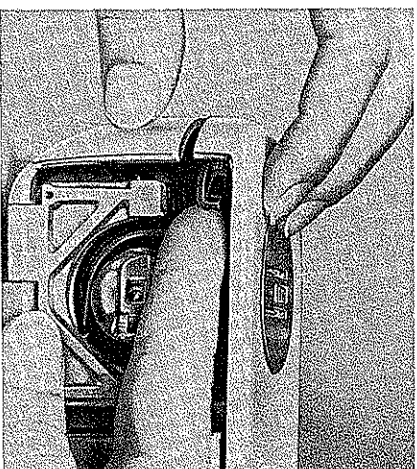
1. **Generally**, most breakdowns are caused by incorrect handling of the machine. If breakdowns do occur then examine whether:
  - a) the needle is inserted properly (the **flat side** of the needle must be at the back);
  - b) the correct needle is being used (see needle and thread table);
  - c) the machine is cleaned properly. Lift free arm cover plate and remove sewing lint;
  - d) the hook race is clean and oiled;
  - e) there are pieces of thread caught between the thread tension discs or under the bobbin case spring;
  - f) handwheel is secured properly;
  - g) before starting to sew please always ensure that the marker of the button-hole knob (21) is at position «0».
2. **If the upper thread breaks**. Can have the following causes:
  - a) the thread is too tight;
  - b) use of inferior needles (buy them preferably at a Bernina dealer);
  - c) needle inserted wrongly. Flat side must be at the **back**;
  - d) the needle is blunt or crooked;
  - e) poor quality or knotted thread. Thread has dried out due to long storage;
  - f) the needle plate hole is pitted by needle and needs repolishing (bring the free arm cover plate to authorized Bernina dealer);
  - g) hook point is damaged (call authorized Bernina dealer).
3. **If bottom thread breaks**. Can have the following causes:
  - a) the bottom thread tension is too tight;
  - b) bobbin is crushed and jammed in the bobbin case;
  - c) needle hole in throat plate is damaged by the needle and needs repolishing (call authorized Bernina dealer to change needle plate).
4. **Faulty stitches**. Can have the following causes:
  - a) wrong needle. Use system 705 B only;
  - b) needle is crooked or not inserted correctly (push needle right up in the needle bar!);
  - c) low quality needle, roughly polished.
5. **Needle breaks**. Can have the following causes:
  - a) needle clamp screw is not sufficiently tightened;
  - b) the material was withdrawn towards the operator and needle bent (material should always be withdrawn to the rear);
  - c) when sewing over **thick part** material was pushed whilst the needle was still in, therefore it bent, touched the throat plate and broke;
  - d) when cheap cotton, irregularly twisted or even containing knots is used.
6. **Seam irregularities**. A bad uneven seam results:
  - a) if thread remnants are between the thread tension discs;
  - b) if thread remnants are under the bobbin case tension spring.
7. **Machine runs slowly**
  - a) Motor does not function properly (call authorized Bernina dealer);
  - b) foot starter does not function properly (call authorized Bernina dealer);
  - c) tension of driving belt is either too tight or too loose;
  - d) use of low quality oil can block the movement. The machine must be dismantled and cleaned. Call Bernina dealer;
  - e) machine has been standing in a cold room.

**When you bring your machine to an expert, please take along accessories and foot starter.**

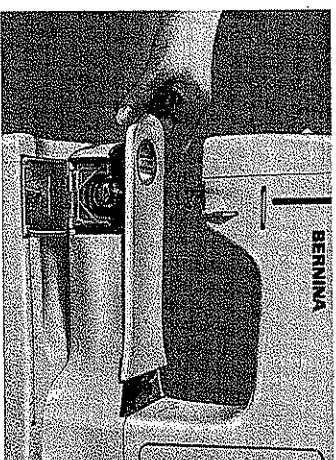
# Cleaning and oiling

If the machine has been standing in a cold room, it should be brought into a warm room about an hour before use, so that it can warm up to room temperature and the oil in the bearings will again become fluid.

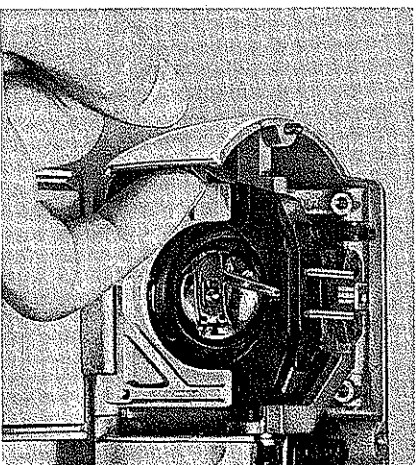
**Cleaning the machine.** During sewing pieces of thread and fluff collect under the needle plate and around the hook. The cover plate of the free arm should be removed from time to time so that the sewing fluff can be cleaned away.



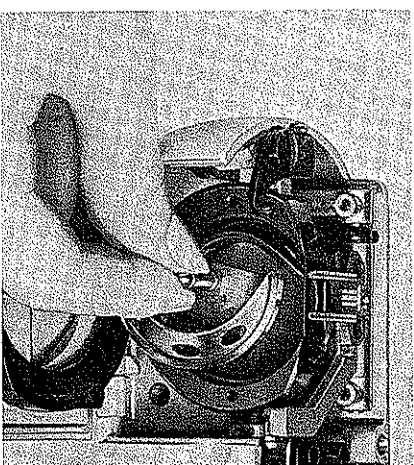
**Take off cover plate from free arm.** Remove presser foot and needle. Open hook cover. Hold cover plate with the left hand and at the same time with the forefinger of the right hand press the releasing lever.



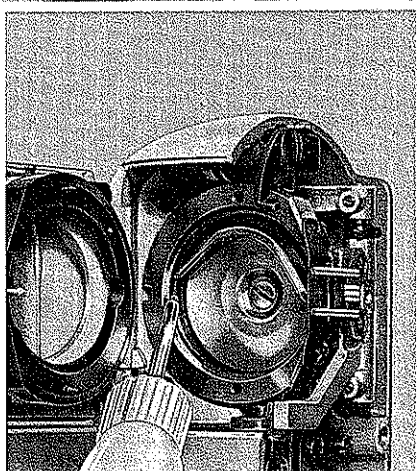
After removal of the cover the feed dog is exposed and can be easily cleaned. The under side of the needle plate can be cleaned at the same time.



**Cleaning and oiling the hook.** After 3-4 hours of sewing 1-2 drops of oil. Remove bobbins case. With the forefinger of the right hand press latch to the left. The locking bridge together with the hook race cover can now be turned down.



Now the hook can be taken out and the hook race cleaned with small brush and cotton duster. Never use hard tools such as screwdrivers and scissors for removing thread particles.



Oil a little after cleaning the hook race. Insert the hook again with the left hand and lock the bridge. Latch must snap in. Check by turning handwheel. Replace the free arm cover by sliding it on toward the vertical arm until the small metal projection fits into the groove provided for it. Press the arm cover down. The latch is self-locking. After inserting the bobbin case the hinged hook cover can be closed.

