



INSTRUCTION BOOK

Your new sewing-machine is the product of many years of research and development. Quality materials have been used together with functional design techniques to achieve an operating efficiency and many years of dependable service.

Before attempting to sew, however, and to obtain the maximum benefits, please study this booklet carefully following each step on your machine. Repeat the process until you are familiar with the controls and their functions.

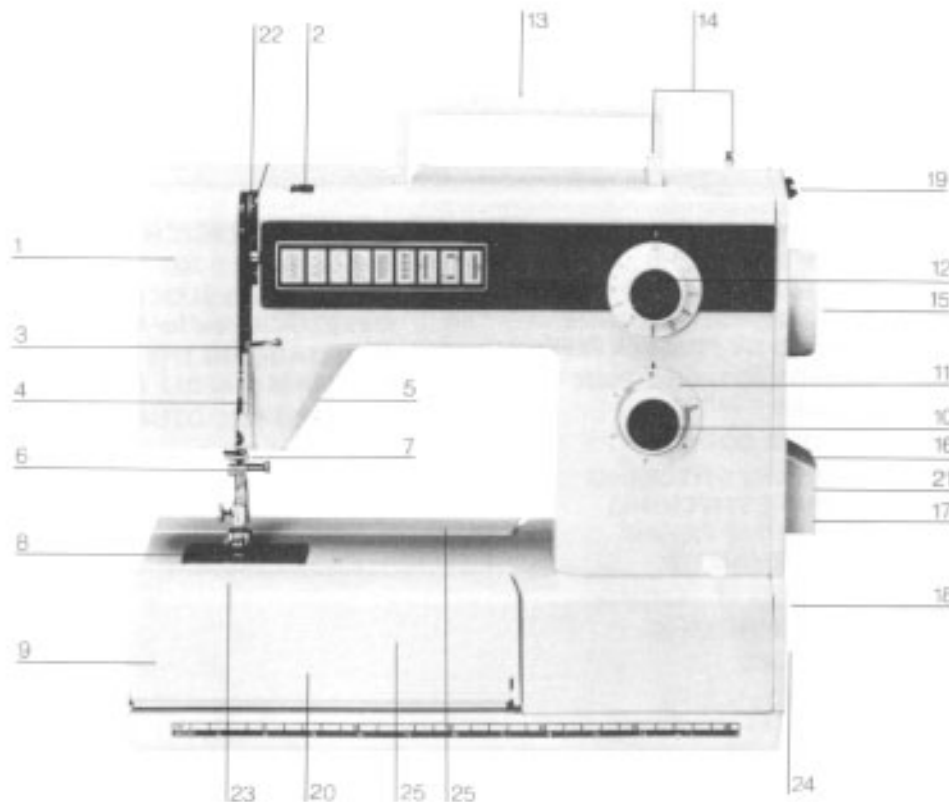
Time spent at this stage will eliminate errors and will result in your complete satisfaction and enjoyment.

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PART NAMES METAC



- 1 Face plate
- 2 Tension dial
- 3 Thread take-up lever
- 4 Thread regulator
- 5 Two-step presser foot lifter
- 6 Needle clamp screw
- 7 Presser bar thread cutter
- 8 Needle plate
- 9 Hook cover
- 10 Reverse stitching button
- 11 Stitch length dial
- 12 Pattern selector dial
- 13 Carrying handle
- 14 Spool holder pins
- 15 Hand wheel
- 16 Bobbin winder cover
- 17 Bobbin winder
- 18 Socket
- 19 Bobbin winder thread guide
- 20 Accessory box
- 21 Bobbin winder thread cutter
- 22 Presser foot pressure control (inside face plate)
- 23 Drop feed control (inside hook cover)
- 24 Power switch
- 25 Flat-bed extension table and accessory box

ACCESSORIES

All purpose foot
(No. 3)



Can be used for all usual stitches including straight and zigzag

Satin stitch foot
(No. 4)



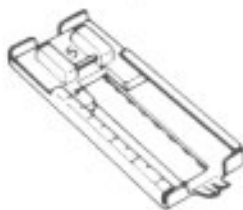
Darning foot



Overcasting foot
(No. 8)



Button hole foot
(No. 5)



Zipper foot



Blind hem foot
(No. 9)



The use of these special sewing feet will improve the quality of stitch. The design of the feet may change.



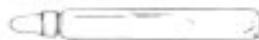
Large screw driver



Small screw driver



Seam ripper



Oiler



Brush



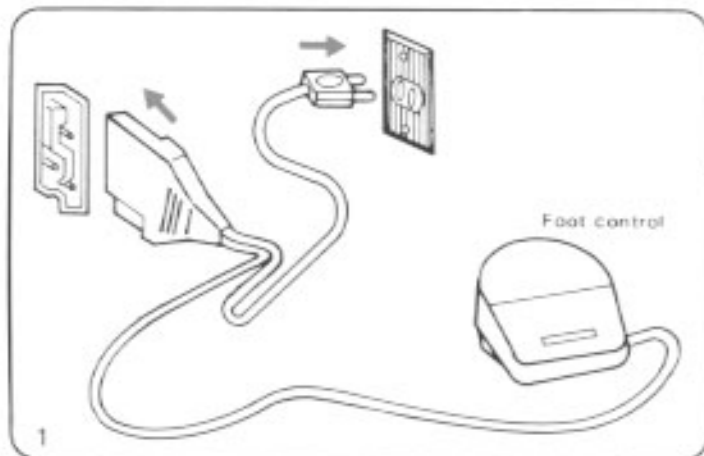
Pack of needles



Bobbin

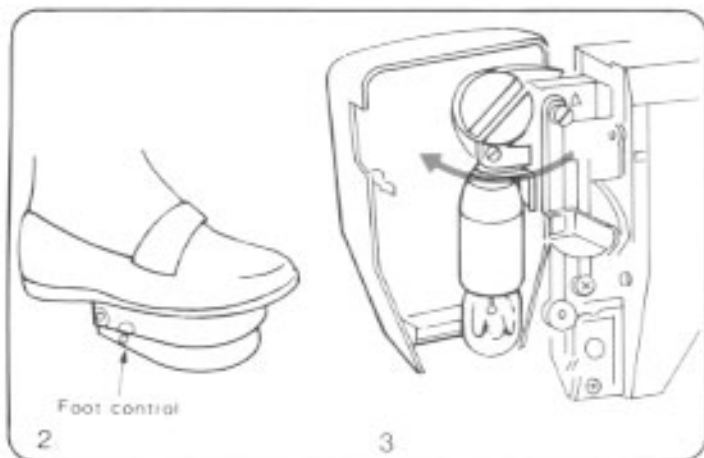


Quilter/
Seam Guide



CONNECTING MACHINE TO POWER SUPPLY

Connect the machine to a power supply as illustrated (1). Using the correct plug, and switch on the machine power switch.



FOOT CONTROL

The foot control pedal regulates the sewing speed (2).

NEEDLE LIGHT

To replace lamp, first disconnect from power supply by removing plug from socket, open face plate, unscrew lamp and replace with a suitable new one (3).

See "Notes" page 6

THIS IS ONLY APPLICABLE TO MACHINES MANUFACTURED FOR THE UNITED KINGDOM

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

BLUE – NEUTRAL
BROWN – LIVE

NOTE. As the colours of the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

Connect **BROWN** wire to terminal marked **L** or coloured **RED**.

Connect **BLUE** wire to terminal marked **N** or coloured **BLACK**.

**FIT CORRECT PLUG TO POWER CORD
WHEN USING A B.S. 1363 FUSED PLUG,
A 3 AMP. FUSE MUST BE FITTED.**

If the terminals of the plug are unmarked consult a qualified electrician before use.

When leaving the sewing machine unattended, the mains switch must be switched off or the plug must be removed from the socket outlet. When servicing the sewing machine, or when removing covers or changing lamps, the machine or the electrical set must be disconnected from the supply by removing the plug from the socket outlet.

**THE MAXIMUM INPUT OF LAMP: 240 V
15 W.**

**THIS APPLIANCE CONFORMS TO THE
STATUTORY RADIO INTERFERENCE
SUPPRESSION REGULATIONS.**

SAFETY REGULATIONS

IMPORTANT

The following safety regulations must be observed without fail:

The moving needle is a source of danger (risk of injury to fingers). The sewing area must, therefore, be kept under constant observation. Manipulations within the area of movement of the needle, such as changing the needle or threading the machine and all manipulations with open covers, must only be performed with the machine switched off (main switch set to off position).

When cleaning or lubricating the machine or changing the lamp and during interruptions in sewing or after completion of work, the machine must be disconnected from the power supply by pulling out the mains plug. Repairs to the electric section, especially the changing of the lead wire to the foot control unit, may only be carried out by one of our service agencies.



WINDING THE BOBBIN

BOBBIN WINDER COVER

Open the bobbin winder cover as illustrated. Don't forget to close the cover when you have finished winding. (1)

THREADING FOR BOBBIN WINDING

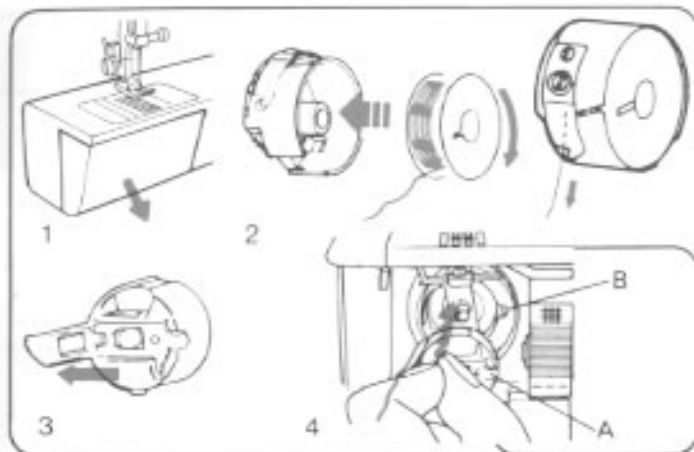
Pass the thread from the spool through the guide at the rear left, (2) then back in front of the spool through the guide at the rear right as illustrated. (3)

PLACING BOBBIN ON SPINDLE

Push the bobbin on to the bobbin winder spindle until it is firmly engaged. Needle drive will automatically be disengaged. (4)

WINDING THREAD AROUND BOBBIN

Wind the thread by hand seven or eight times round the bobbin in the direction of the arrow on the machine and holding the end of the thread between your forefinger and thumb, gently press down on the foot control pedal. The thread cutter will automatically cut the thread when the bobbin is properly filled. (5/6)

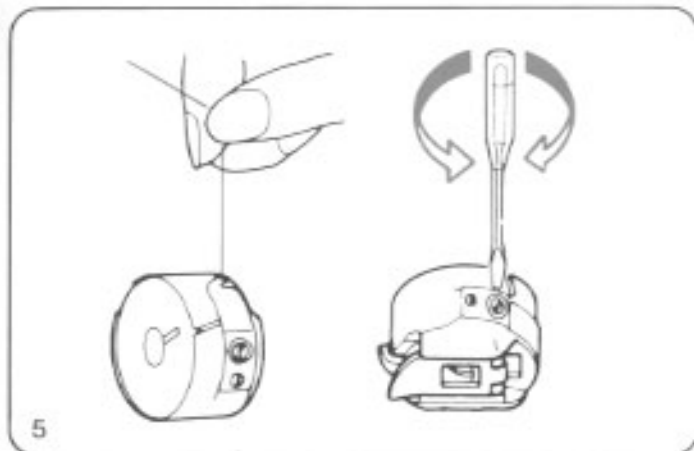


INSERTING BOBBIN AND CASE INTO MACHINE

INSERTING BOBBIN INTO CASE

Open hook cover as illustrated. (1)
 Insert filled bobbin into case as detailed. (2) Holding the hinged latch (3) insert bobbin and case into the hook making sure the finger "A" is located inside the section "B" (4)

Leave about 10 cm (4") of thread from the bobbin case and always ensure that the needle is raised to its highest position when removing or inserting the bobbin.

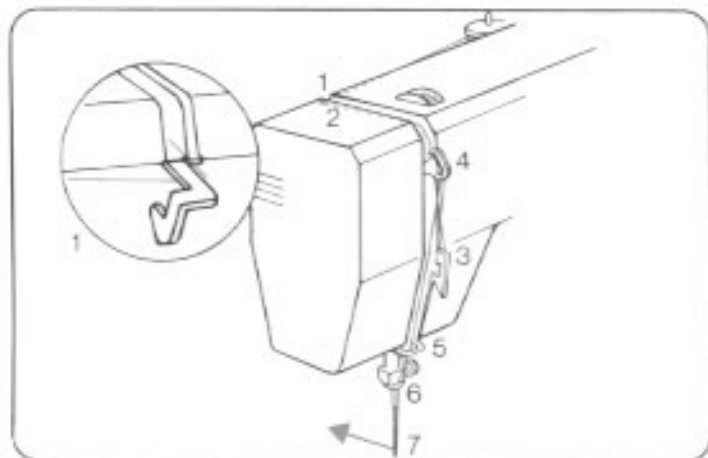


BOBBIN THREAD TENSION

Measure the bobbin thread tension by suspending the wound bobbin in its case by the end of the thread. If the bobbin does not move when it is gently swung, the tension is too tight, if it falls to the ground or moves down too freely, it is too loose.

Correct tension is obtained when it slips down a few inches (approx. 10 cm). (5)

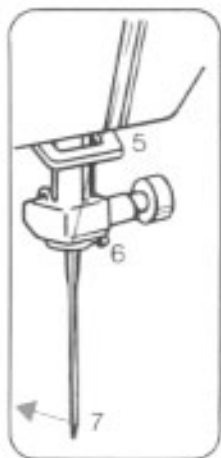
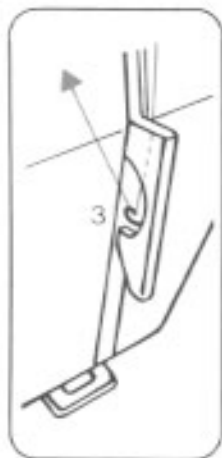
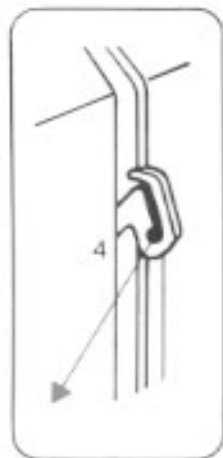
Note: It is not normally necessary to adjust bobbin thread tension. It is usually only necessary to adjust the top thread tension when some alteration is desired.
 See pages 9/10.

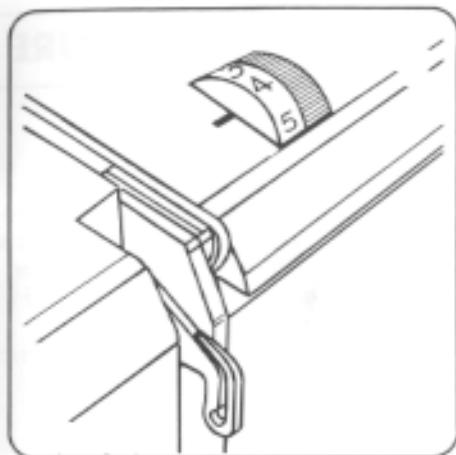


UPPER THREADING

Follow the numbered sequence exactly.

Pass the thread through the guide (1) down in between the tension discs (2) under and into the thread regulator from right to left (3) up and through the take-up lever from right to left (4) and down through the guides (5, 6) and through the eye of the needle from front to back.

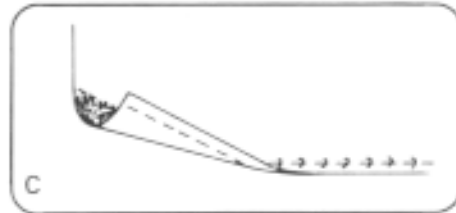
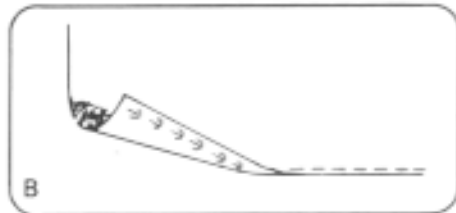


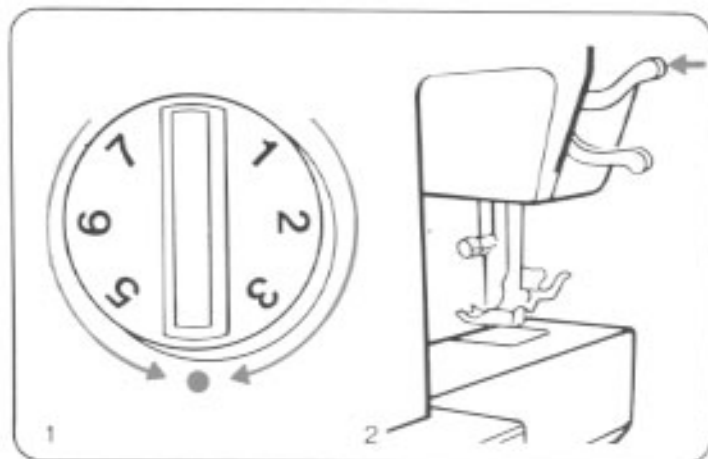


THREAD TENSION

To increase the top tension turn dial to a higher number, to decrease the tension turn to a lower number. The normal setting is 4.

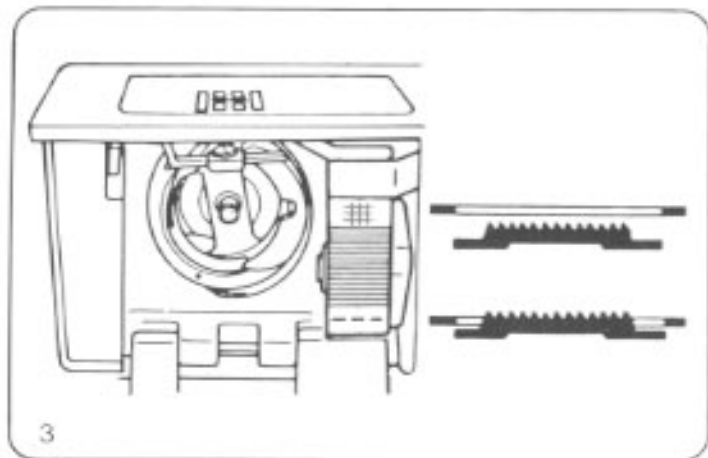
Normal thread tension is achieved when the upper and lower threads are equally set (cross in the middle of the fabric) on both sides of the fabric (A). If too much of the upper thread shows underneath the fabric (B) or too much of the lower thread shows on top of the fabric (C), the tension is too loose or too tight.





HOW TO ADJUST FOOT PRESSURE

Varying thicknesses of fabric require adjustment of the pressure of the presser foot. To regulate the pressure, open the face plate and turn the pressure control dial. (1) The larger the number on the dial, the greater the pressure. Set the dial at 4 for fabric of medium weight. Use weaker pressure (1–3) for lighter and stronger pressure (5–6) for heavier fabrics. For very thick fabric such as denim and leather, use 7.



TWO-STEP PRESSER FOOT LIFTER

For extra thick fabrics, the presser foot can be raised further by lifting the presser lever a second stage. (2)

DROP FEED CONTROL

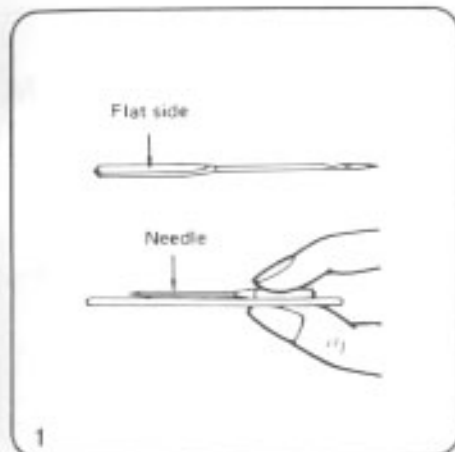
For normal sewing the feed dogs should be in the raised position. (3)

Push ---

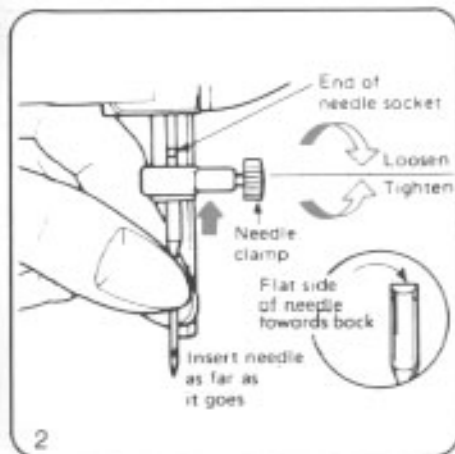
When the fabric is not required to be fed through the machine, i.e. for free hand embroidery or darning etc., the feed dog should be lowered.

Push (3) #

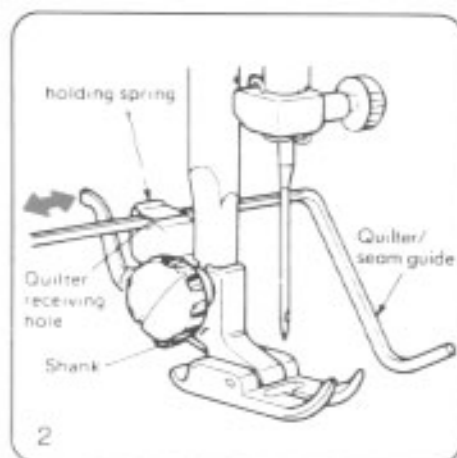
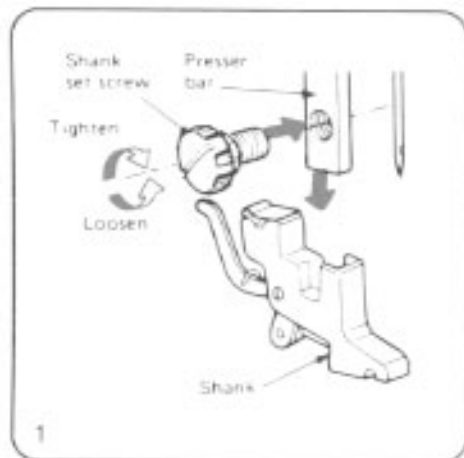
SELECTING AND FITTING OF NEEDLE



Select the correct size needle to suit the fabric and thread. Usually the heavier the fabric, the thicker the thread and larger the needle. Make sure the needle is straight and not damaged. (1)

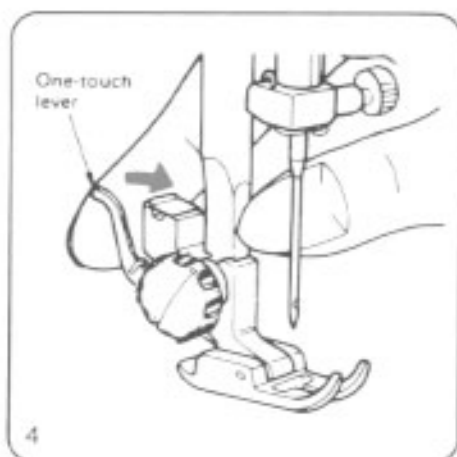
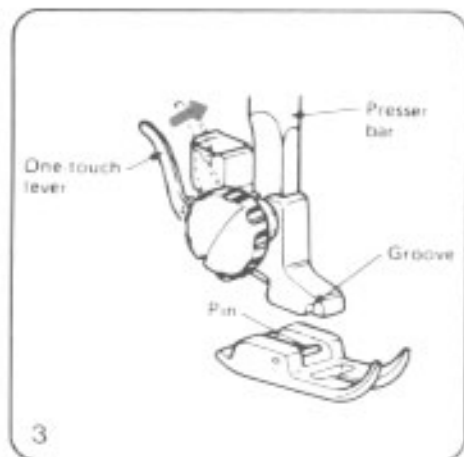


Change the needle regularly and at the first sign of sewing problems. Insert as illustrated. (2)



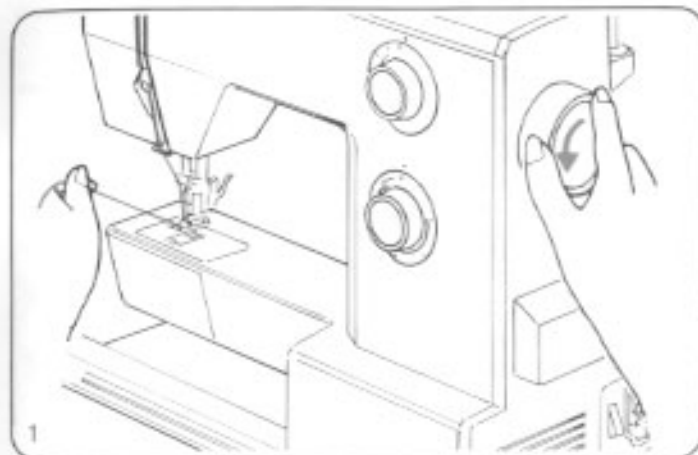
FITTING OF SHANK AND QUILTING/SEAM GUIDE

Raise the presser bar and fit shank as shown. (1) Insert quilting/seam guide carefully so as not to damage the holding spring. (2)



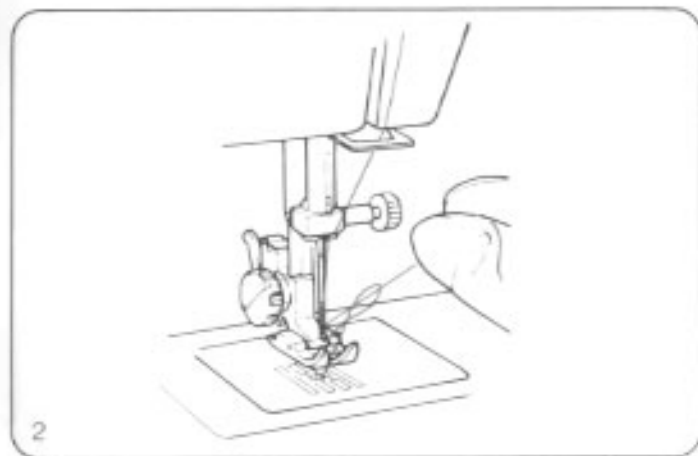
FITTING OF PRESSER FEET

Raise the presser foot. Pull the one-touch lever towards you and the foot will be released. Centre new foot under shank. Lower shank until groove is directly above and touching the pin. Pull one-touch lever towards you and the foot will become engaged. (3, 4)



BRINGING UP THE BOBBIN THREAD

Hold the upper thread in your left hand, turn the hand wheel towards you so that the needle goes down and up again. (1)



Gently pull the upper thread and the lower thread will be looped over it. (2)

Place both threads under the presser foot and to the rear.



BUTTONHOLE

0

STRAIGHT STITCH

1-5

ZIG-ZAG STITCH



BLIND STITCH



3 STEP ZIG-ZAG STITCH



STRETCH OVERLOCK STITCH



OVERLOCK STITCH



STRAIGHT STRETCH STITCH

Model
320

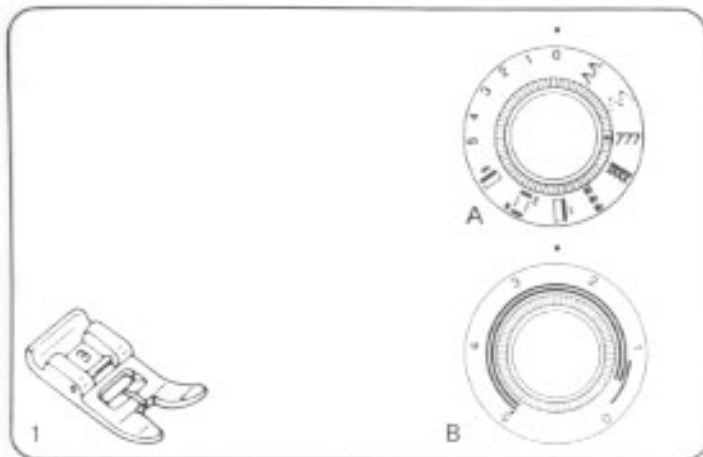
Model
330

COLOUR CODING

Simply select the stitch pattern you require by rotating the pattern selector dial to the desired position. Then match the colour code of the stitch with the same colour marking on the stitch length.

The stitch length can be varied within the colour markings on the dials. Choose the settings according to the application and effect required.



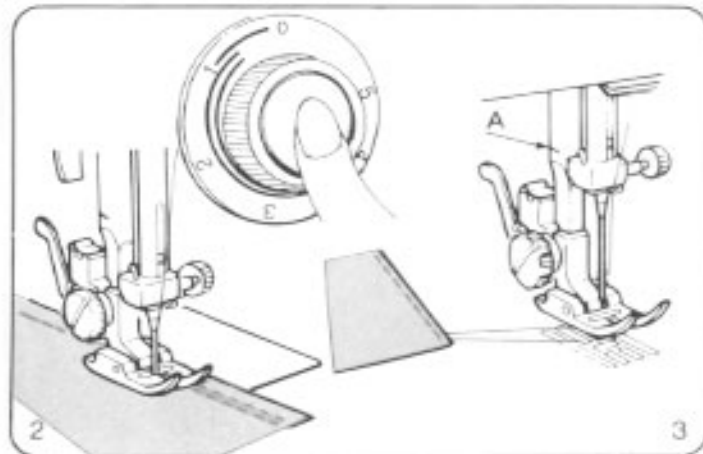


STRAIGHT STITCHING

Set the pattern selector dial (A) as illustrated.

The stitch length is controlled with the stitch length dial (B).

While "2" or "3" on the dial gives a suitable stitch length for ordinary purposes, the stitch length varies with the weight of fabric, thickness of thread and purpose of sewing. Generally speaking, the finer the fabric, the finer the thread and shorter the stitch length; the heavier the fabric, the thicker the thread and longer the stitch length. (1)



REVERSE STITCHING

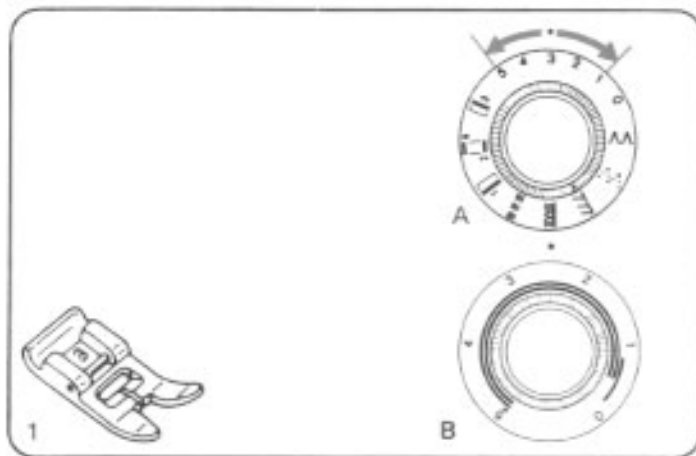
To finish a seam, push the reverse button and hold it, sewing a few stitches backwards. When the button is released the machine will sew forwards again. (2)

REMOVING FABRIC

Raise the thread take-up lever to its highest position by turning the hand wheel towards you. Slide the fabric out from under the foot to the rear of the machine. (3)

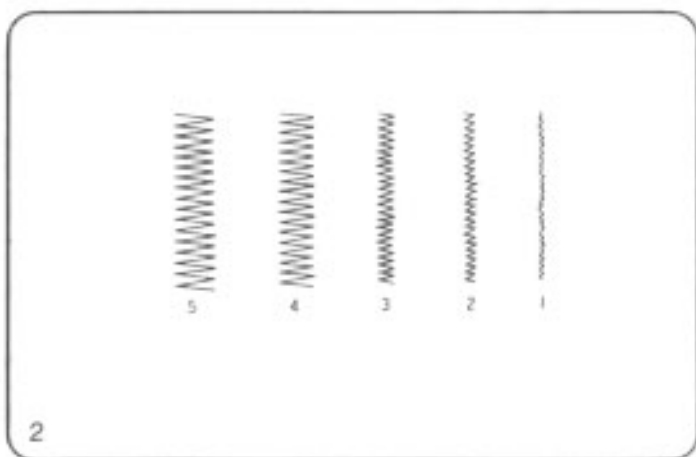
PRESSER BAR THREAD CUTTER

Hold the thread in both hands behind the presser foot. Centre the taut thread into the slot "A" and pull down to cut the thread. (3)

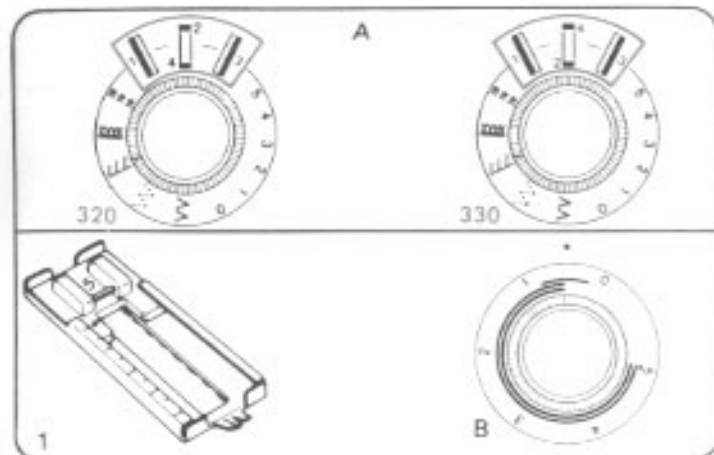


ZIG-ZAG STITCHING

The zig-zag stitch can be set at various stitch widths and lengths according to the application required. Set the pattern selector dial (A) as shown and the stitch length dial (B) between 0.5 and 5. (1)



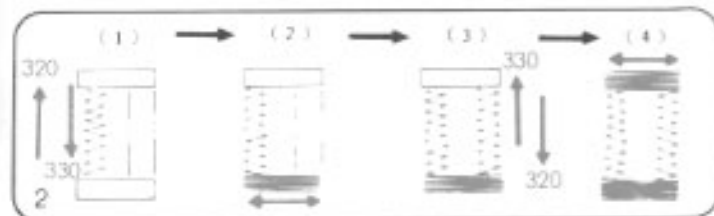
The pattern selector dial (A) can be set between 1 and 5. (2)



BUTTONHOLING

Set the pattern selector dial (A) to its buttonholing position and fit the Buttonholing foot.

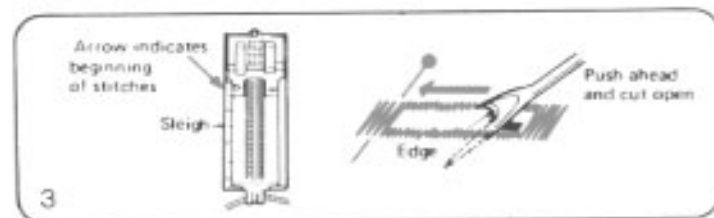
Set the stitch length dial (B) within the green marking to achieve the correct density (closeness) of satin stitch. (1) Sew in the sequence illustrated. (2)



USER TIPS

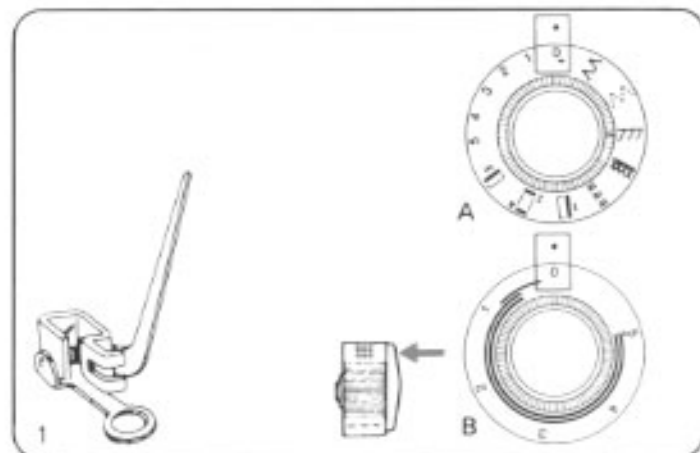
Always sew a sample buttonhole on some spare fabric as settings will change according to the fabric used. For very thin, stretchy or other difficult fabrics, try using interfacing (vilene) or tissue or other paper underneath the fabric to aid machine feeding.

Always use the Buttonhole foot using its calibrated markings to measure the buttonhole length. On suitable fabric, a corded buttonhole can be sewn taking care that the zig-zag stitches of the buttonhole oversew the cord. (3)



Carefully cut between the sides (beads) of the buttonhole with the seam ripper using a pin through the end bar tack (3) to prevent the seam ripper going too far.

The top tension may be reduced to achieve a better looking buttonhole.

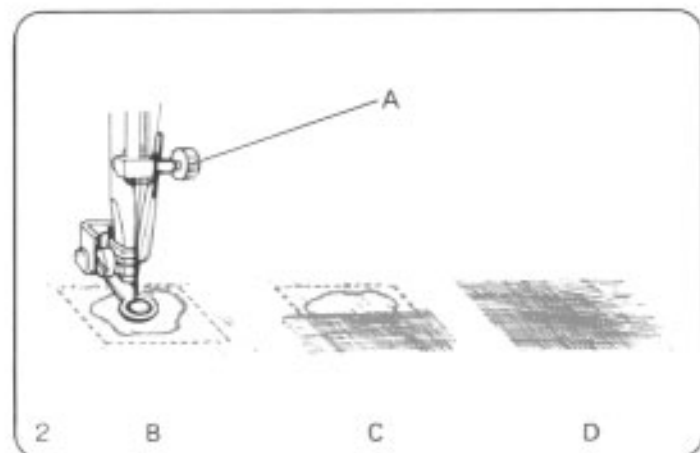


DARNING

Set the dials as illustrated and lower the feed dog. (1)

Remove the shank and replace with the Darning foot making sure the lever is placed over the needle clamp screw. (2A)

To darn small holes and worn parts, stretch the fabric under the foot between both hands and move it as illustrated whilst sewing.

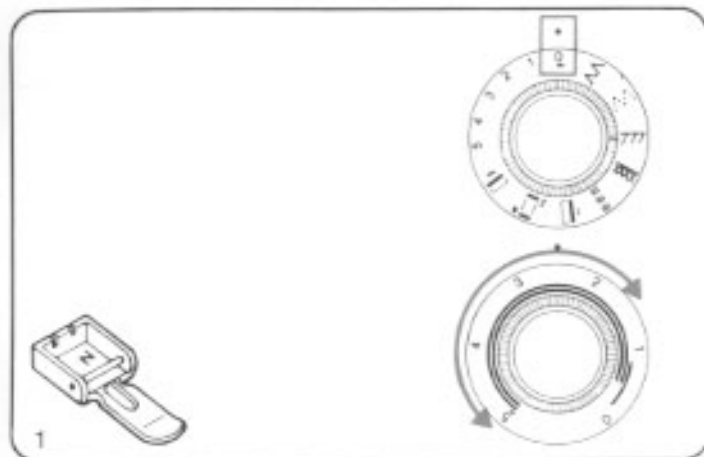


First sew round the hole (B) then from side to side (C).

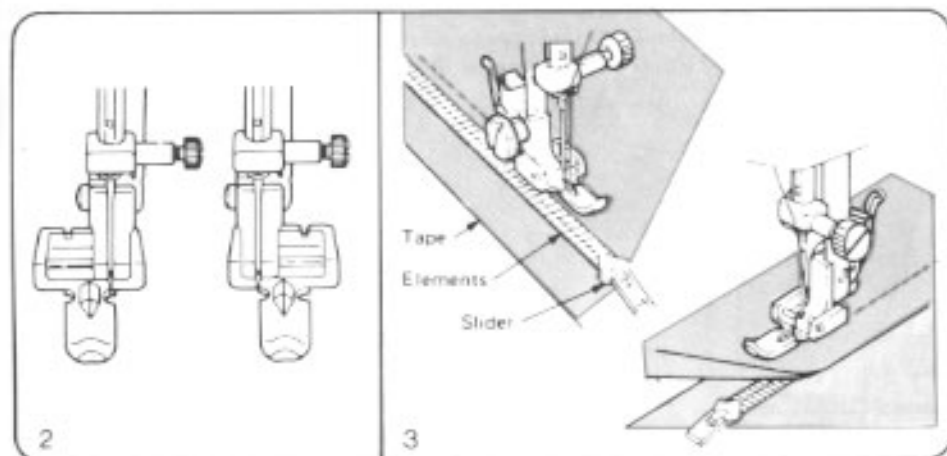
Turn the fabric through 90° and continue to move the fabric from side to side to achieve. (D)

An embroidery ring will be needed to darn larger areas.

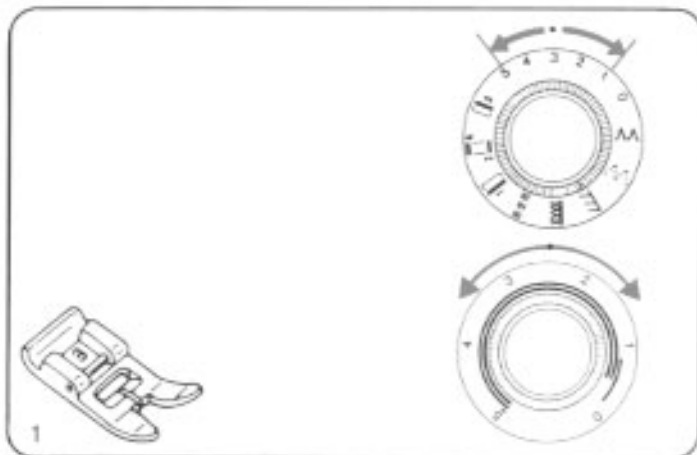
SEWING IN ZIPS



Set the machine as illustrated fitting the Zipper foot. (1) The Zipper foot can be moved to the left or right. (2) To sew on the right hand side of the zipper, move foot over to the right as illustrated and reverse the procedure to sew the left hand side of the zipper. (3)



To move the "zip slider" out of the way, leave needle in the fabric, raise foot and slide it behind the foot. Lower the foot and continue.



OVERSEWING EDGES

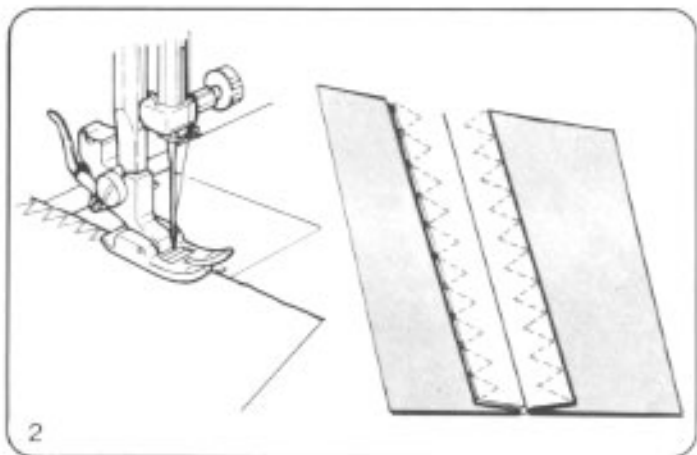
Oversewing edges prevents the fabric from fraying and creates a neat edge.

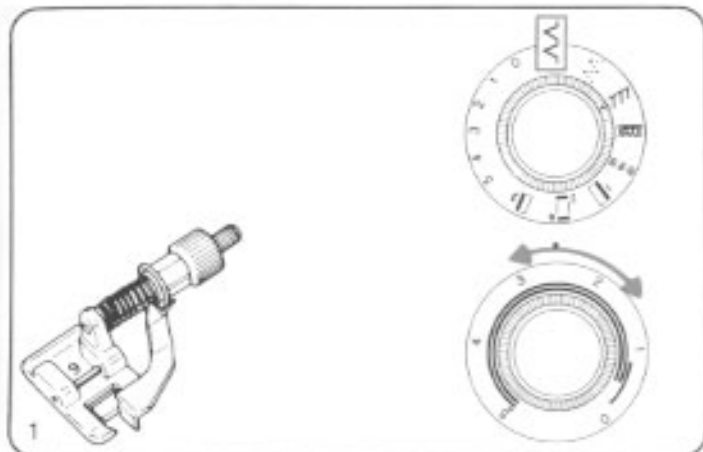
Set the machine as illustrated selecting a suitable stitch width and length. (1)

When sewing, the needle should **just** pass over the edge of the fabric. (2)

On fabrics that are apt to pucker, use the Nr. 8 overcasting foot.

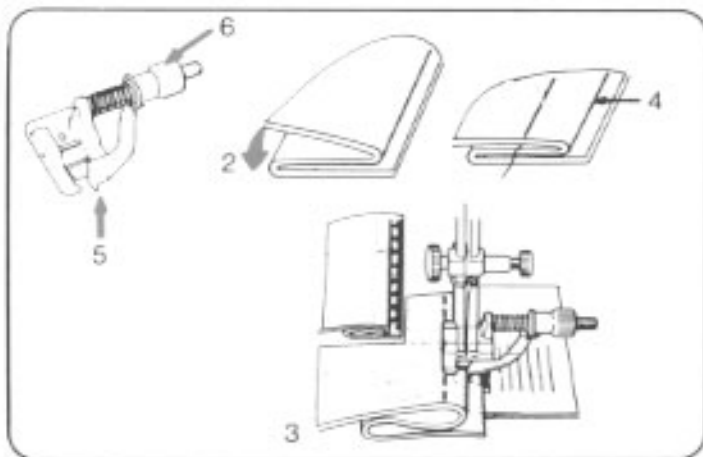
Note: The 3 step zig-zag stitch can also be used, but use the All Purpose foot **not** the Nr. 8 foot.





BLIND HEM STITCH

Set the machine as illustrated fitting the Blind Hem foot. (1)



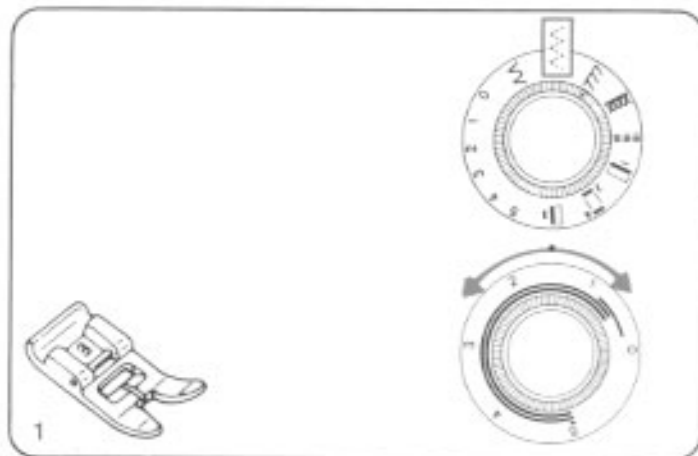
Fold the fabric as illustrated with the "wrong" side facing upwards. (2)

Place the folded fabric under the foot as shown. (3)

Turn the hand wheel towards you by hand, until the needle swings over to the far left. It should then just pierce the fold of the fabric. (4) If it does not, then adjust the position of the fabric.

Once the correct position of the fabric has been set, position the "guide" of the foot (5) up against the fold (3+4) by turning the nut (6).

Proceed to sew carefully feeding the fabric to ensure it retains the correct position against the guide. (3) Note: Some practice will be needed to obtain the best results. Always test the stitch first on a spare piece of fabric.



THREE STEP ZIG-ZAG

Set the machine as illustrated fitting the Nr. 3 All Purpose foot. (1)
 The three step zig-zag stitch has a wide range of sewing applications, such as patching, darning, repairing tears, mending, sewing on elastic and lace, oversewing edges etc. on a wide range of fabrics.

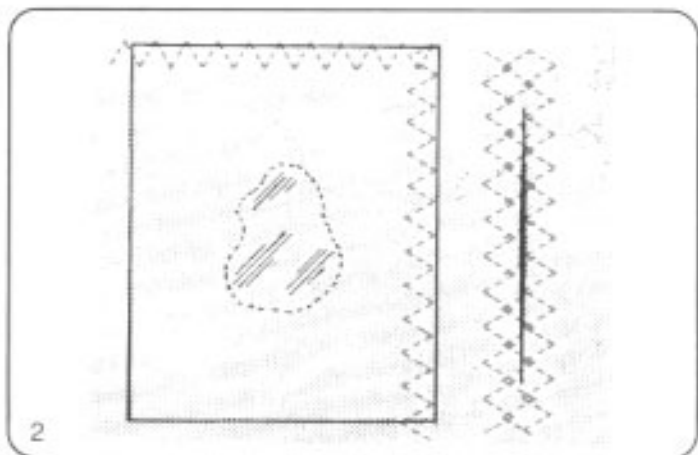


Fig. 2 shows patching, where the stitches are to the edge of the patch and a tear, where the stitches go firstly over the centre of the tear and then to either side but overlapping slightly on the first row.

The stitch length can be reduced until the stitches are very close together. This will give a stronger finish for most repairing operations.

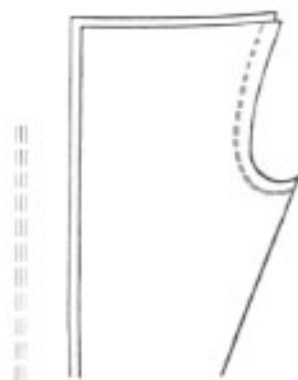
STRAIGHT STRETCH STITCH

(Not for Model 320)



Set the machine as illustrated fitting the All Purpose foot. (1)

The straight stretch sews two stitches forward and one stitch backwards, thereby giving "triple" strength. Use it for stretch fabrics and for areas of "stress" where a strong stitch is required. (2A)



2

A

STRETCH OVERLOCKING AND OVERLOCKING

(Not for Models 3 20)

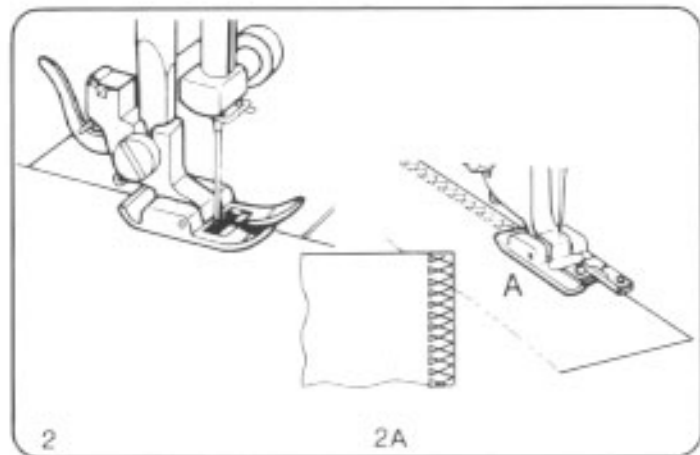
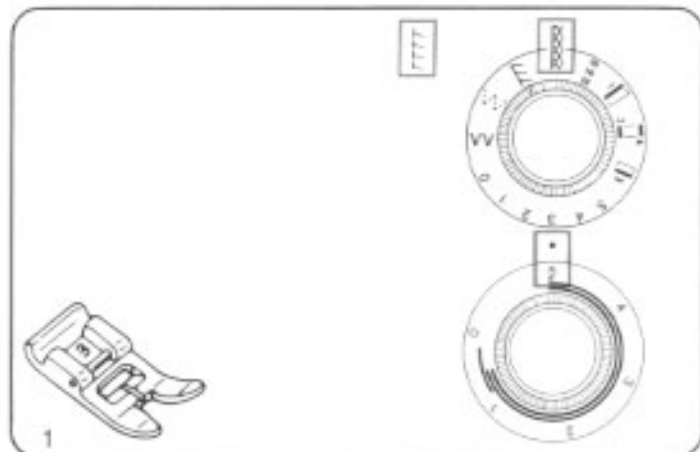
Set the machine as illustrated using the Nr. 3 or Nr. 8 foot.

for finer fabrics  for thicker fabrics 

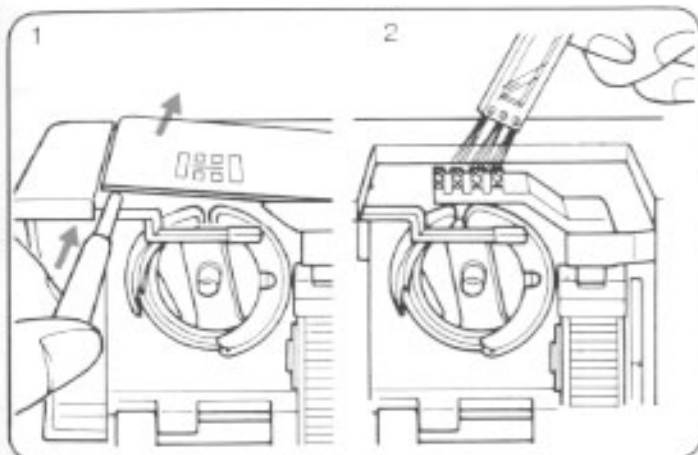
Both these stitches are designed to seam and overlock the edge of a fabric in one operation.

When the needle is at its **extreme** right position, allow it to just pass over or just pierce the edge of the fabric according to the effect you require.

Using the Nr. 8 foot will prevent puckering of thin fabrics. (2A)



MAINTAINING THE MACHINE

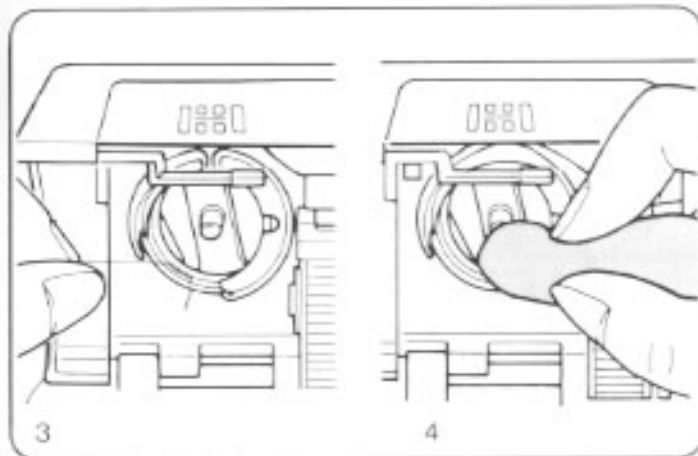


NEEDLE PLATE

To remove snap-on needle plate open hook cover and prise off from the bottom – from left corner – using a non sharp instrument. (1) Remove bobbin case. (see page 8).

CLEANING SHUTTLE HOOK AND FEED DOG

Completely clean the area with a brush. Turn the handwheel slowly towards you to make sure every corner has been cleaned. Take particular care to thoroughly remove the dust from around the feed dog. (2)



FREEING JAMMED THREAD

To release any thread jammed in the hook, pull the end of the thread while turning the handwheel back and forth. (3)

CLEANING AND OILING SHUTTLE HOOK

Clean and oil the hook in the following manner: Turn the handwheel until the needle bar reaches its top position. Remove the bobbin case and clean every part with a piece of oily cloth. (4) Use sewing-machine oil, or some other high-quality refined mineral machine oil. **DO NOT OVEROIL.**

Your machine should be serviced regularly by your specialist dealer.

(CAUTION) When servicing or changing mechanical parts or accessories, the machine must be disconnected from the supply by removing the plug from the socket. Unplug the machine when not in use.

TROUBLE-SHOOTING GUIDE

CONDITION	CAUSE	REMEDY
Top thread breaks	<ol style="list-style-type: none"> 1. Machine is threaded incorrectly. 2. Tension is too tight. 3. Thread is too heavy for needle size. 4. Needle is inserted incorrectly. 5. Thread may be caught on reel holder. 6. Needle is damaged. 	<ol style="list-style-type: none"> 1. Rethread machine and needle. 2. Reduce tension on top (smaller numbers). 3. Use larger needle. 4. Reinsert needle (flat side toward back). 5. Remove spool, rewind excess thread. 6. Insert new needle.
Lower thread breaks	<ol style="list-style-type: none"> 1. Bobbin case is not inserted correctly. 2. Bobbin case is improperly threaded. 3. Bobbin tension is too tight. 	<ol style="list-style-type: none"> 1. Reposition bobbin. Check by pulling thread. If it pulls smoothly it is correct. 2. Check for correct threading. 3. Change bobbin tension according to instructions.
Skipped stitches	<ol style="list-style-type: none"> 1. Needle is not inserted correctly. 2. Needle is damaged. 3. Wrong type of needle is used. 4. Wrong foot is used. 5. Foot pressure is wrong. 	<ol style="list-style-type: none"> 1. Reinsert needle (flat side toward back). 2. Insert new needle. 3. Match needle size to fabric and thread weight. 4. Check to see if proper sewing foot is used. 5. Check foot pressure regulation for proper setting.
Needle breakage	<ol style="list-style-type: none"> 1. Needle is damaged. 2. Needle is not inserted correctly. 3. Fabric too heavy/wrong needle size. 4. Fabric is being pulled by operator. 5. Wrong sewing foot is used. 	<ol style="list-style-type: none"> 1. Insert new needle. 2. Reinsert needle correctly (flat side toward back). 3. Match needle size to thread & fabric weight. 4. Do not pull on cloth. Check for proper foot pressure. 5. Use correct foot.
Stitching forms loops	<ol style="list-style-type: none"> 1. Needle is not threaded correctly. 2. Bobbin is not threaded correctly. 3. Needle/fabric/thread ratio is incorrect. 4. Incorrect tensions. 	<ol style="list-style-type: none"> 1. Thread needle front to back. 2. Thread bobbin according to chart. 3. Match needle size to thread & fabric weight. 4. Set correct tensions.
Seams shrink or pucker	<ol style="list-style-type: none"> 1. Foot pressure is too heavy. 2. Needle is too large for fabric. 3. Wrong stitch length is used. 4. Tension is too heavy. 	<ol style="list-style-type: none"> 1. Reduce foot pressure (smaller numbers). 2. Use smaller needle. 3. Adjust length for proper stitches. 4. Check tensions.
Irregular stitching/feeding	<ol style="list-style-type: none"> 1. Thread is of poor quality. 2. Foot pressure is too light. 3. Bobbin is threaded incorrectly. 4. Material is being pulled by operator. 	<ol style="list-style-type: none"> 1. Use quality thread! 2. Increase foot pressure (larger numbers). 3. Thread bobbin again and check for proper insertion. 4. Do not pull on fabric. Let it feed automatically.
Machine is noisy and rough	<ol style="list-style-type: none"> 1. Machine needs oil. 2. Lint and oil residue have collected in hook or on needle bar. 3. Inferior oil has been used and gums-up machine. 4. Needle is damaged. 5. Machine requires servicing. 	<ol style="list-style-type: none"> 1. Oil according to instructions. 2. Clean race and hook according to instructions. 3. Clean and oil again only with fine sewing machine oil (not 3-in-1 oil). 4. Replace needle. 5. Consult your specialist dealer.

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