

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.

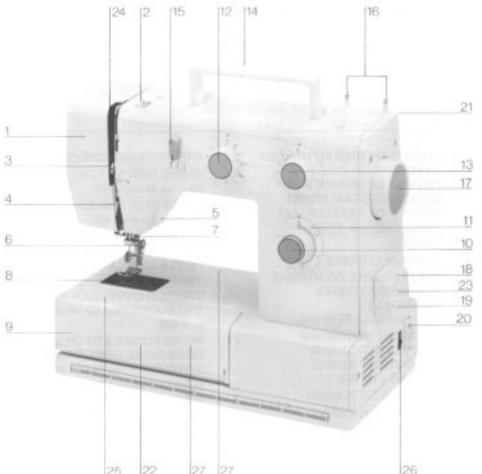
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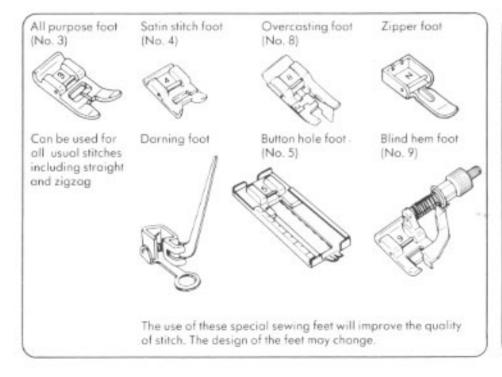
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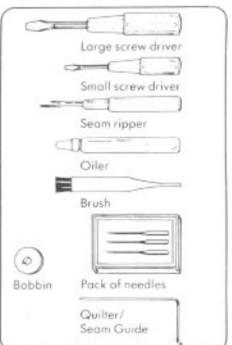


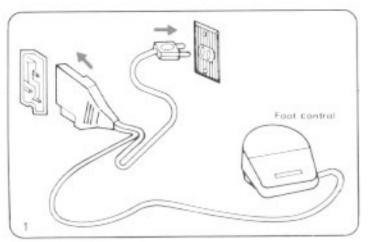
PART NAMES

- 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 Stitch width dial
- 14 Carrying handle
- 15 3 needle position control
- 16 Spool holder pins
- 17 Hand wheel
- 18 Bobbin winder cover
- 19 Bobbin winder
- 20 Socket
- 21 Bobbin winder thread guide
- 22 Accessory box
- 23 Bobbin winder thread cutter
- 24 Presser foot pressure control
 - (inside face plate)
- 25 Drop feed control (inside hook cover)
- 26 Power switch
- 27 Flat-bed extension table and accessory box

ACCESSORIES

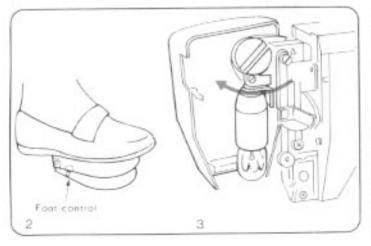






CONNECTING MACHINE TO POWER SUPPLY

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

SAFETY REGULATIONS

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.

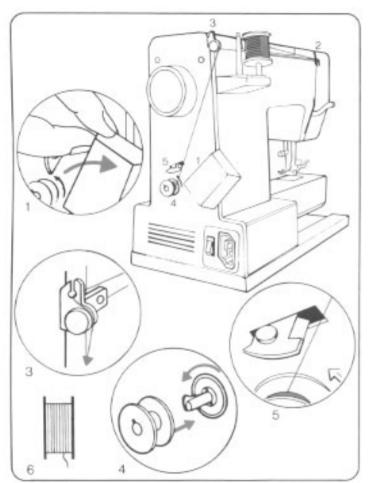
THIS APPLIANCE CONFORMS TO THE STATUTORY RADIO INTERFERENCE SUPPRESSION REGULATIONS.

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

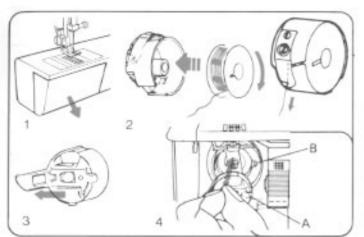
Pass the thread from the spool through the guide at the rear left, (2) then back in front of the spool through the guide at the rear right as illustrated. (3)

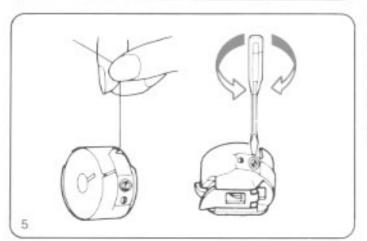
PLACING BOBBIN ON SPINDLE

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)

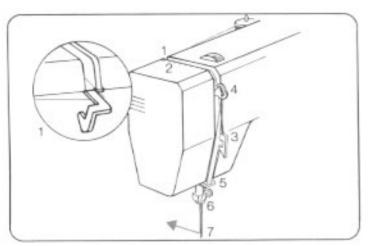
Leave about 10 cm (4") of thread from the bobbin case and always ensure that the needle is raised to its highest position when removing or inserting the bobbin.

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)

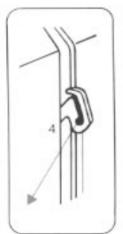
Note: It is not normally necessary to adjust bobbin thread tension. It is usually only necessary to adjust the top thread tension when some alteration is desired. See pages 9/10.

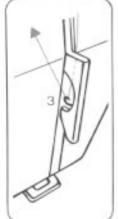


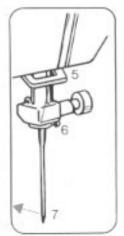
UPPER THREADING

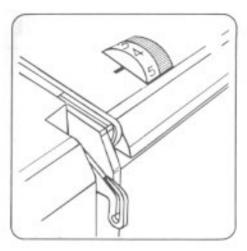
Follow the numbered sequence exactly.

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.





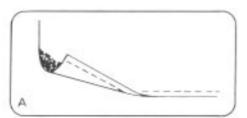


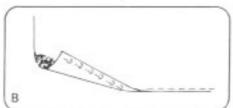


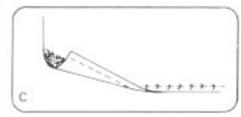
THREAD TENSION

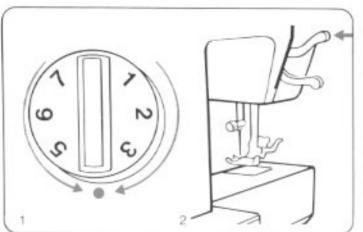
To increase the top tension turn dial to a higher number, to decrease the tension turn to a lower number. The normal setting is 4.

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.



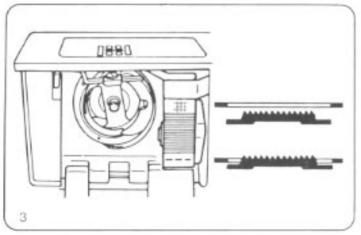






HOW TO ADJUST FOOT PRESSURE

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)

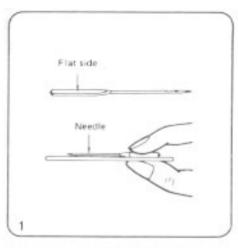
DROP FEED CONTROL

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

Push ---

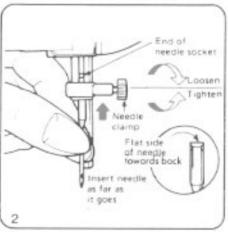
When the fabric is not required to be fed through the machine, i.e. far free hand embroidery or darning etc., the feed dog should be lowered.

Push (3) ##

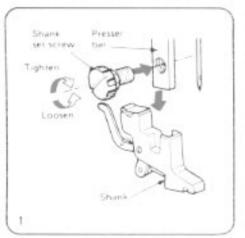


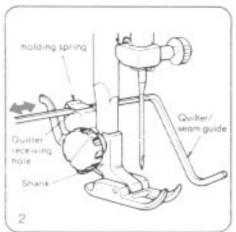
SELECTING AND FITTING OF NEEDLE

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)



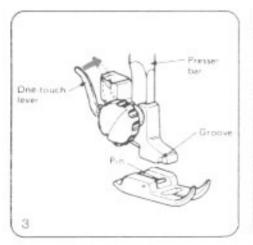
Change the needle regularly and at the first sign of sewing problems. Insert as illustrated. (2)





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)

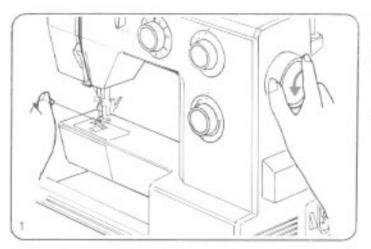




FITTING OF PRESSER FEET

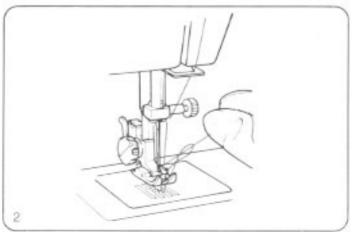
Raise the presser foot. Pull the one-touch lever towards you and the foot will be released. Centre new foot under shank

Lower shank until groove is directly above and touching the pin. Pull ane-touch lever towards you and the foot will become engaged. (3,4)



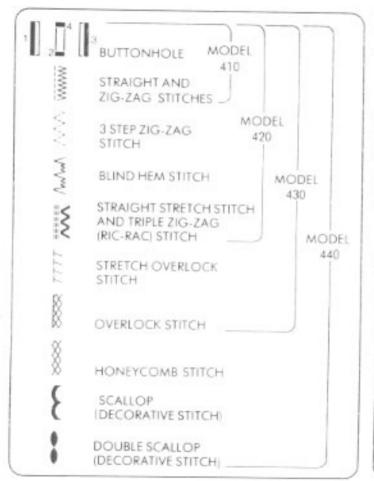
BRINGING UP THE BOBBIN THREAD

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)

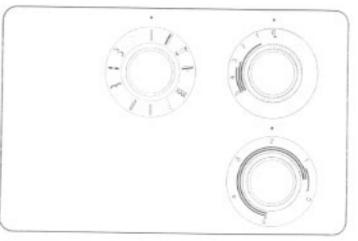
Place both threads under the presser foot and to the rear.

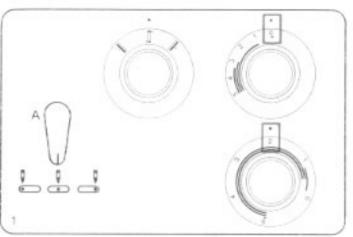


COLOUR CODING

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 and stitch width dials.

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

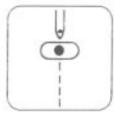




NEEDLE POSITION AND PATTERN	ZIGZAG DIAL	STITCH LENGTH DIAL
	While sewing turn the dial from 0 to 5 and return it from 5 to 0 at the same speed.	0.5-1
***************************************	While sewing turn the dial from 0 to 5 and return it from 5 to 0 drawing same curved lines.	0.5~1
	While sewing turn the dial slowly at the same speed from 0 to 5 and return it quickly from 5 to 0.	0.5~1

NEEDLE POSITIONS

The needle position can be set by moving the lever "A". The normal sewing position is in the centre position. (1) The left and right needle positions make it easier to sew close to the edge of fabrics etc. and create various manual embroidery patterns.



SEWING PATTERNS MANUALLY



By selecting a satin stitch (closed-up zigzog) and by changing the zig-zog width in a regular manner and at a constant sewing speed, various patterns can be sewn. Different needle positions will give different results.

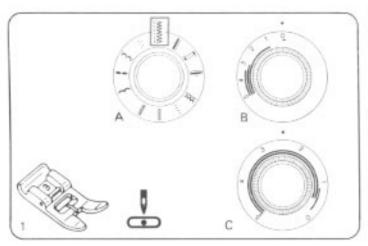
TWIN NEEDLE SEWING

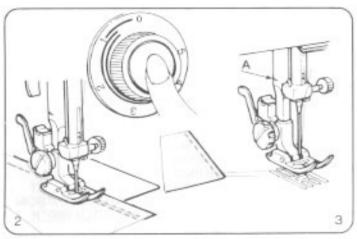


A twin needle, using two top threads, can be used to create very attractive (double) top stitching

WARNING:

CARE SHOULD BE TAKEN TO SELECT ONLY THE CENTRE NEEDLE POSITION AND NEVER SET THE STITCH WIDTH GREATER THAN NR. 3





STRAIGHT STITCHING

Set the pattern selector dial (A) as illustrated and the stitch width dial (B) to "0".

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

While "2" or "3" on the dial gives a suitable stitch length for ardinary 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

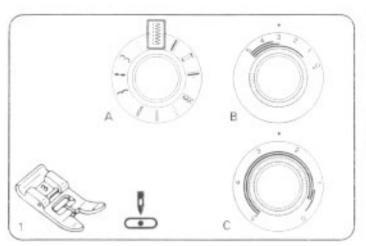
To finish a seam, push the reverse button and hold it, sewing a few stitches backwards. When the button is released the machine will sew forwards again. (2)

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)

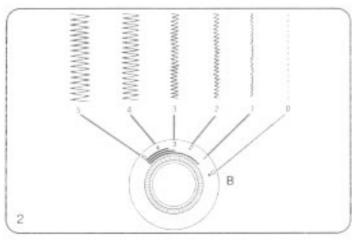
PRESSER BAR THREAD CUTTER

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

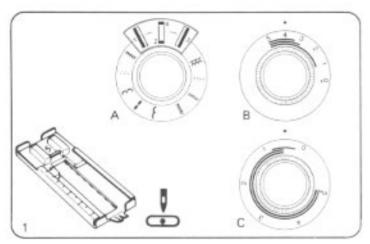


ZIG-ZAG STITCHING

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 (C) between 0.5 and 5,(1)



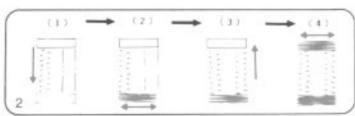
The stitch width dial (B) can be set between 1 and 5. (2)

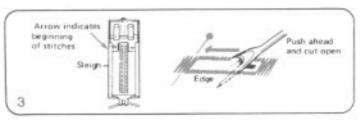


BUTTONHOLING

Set the pattern selector dial (A) to its buttonholing position and fit the Buttonholing foot. Set the stitch width dial (B) between 5 and 3.5 according to the overall width of the buttonhole to be sewn.

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





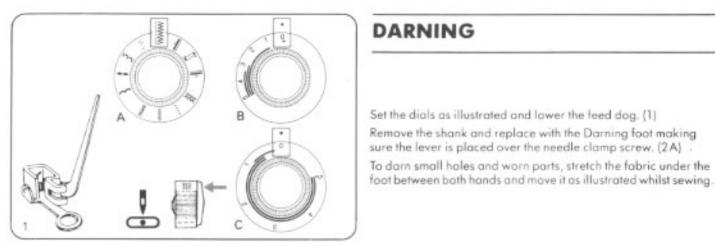
USER TIPS

Always sew a sample buttanhole 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 carded buttonhole can be sewn taking care that the zig-zag stitches of the buttonhole oversew the cord. (3)

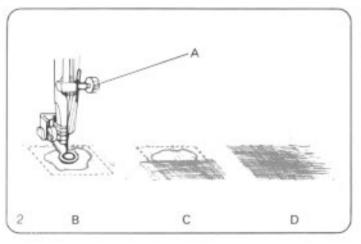
Carefully cut between the sides (beads) of the buttonhole with the seam ripper using a pin through the end bar tack (3) to prevent the seam ripper going too far.

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



DARNING

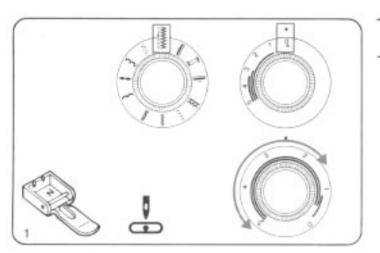
Set the dials as illustrated and lower the feed dog. (1) Remove the shank and replace with the Darning foot making sure the lever is placed over the needle clamp screw. (2A) To darn small holes and worn parts, stretch the fabric under the



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

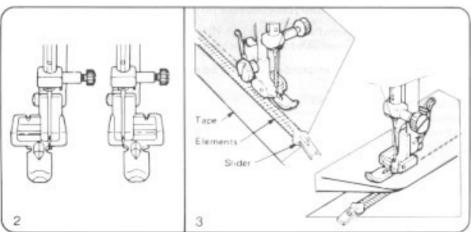
Turn the fabric through 90° and continue to move the fabric from side to side to achieve. (D)

An embroidery ring will be needed to darn larger areas.

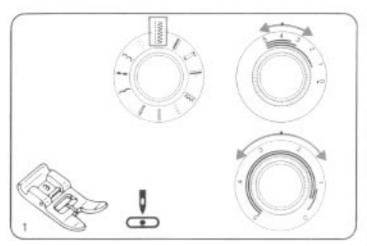


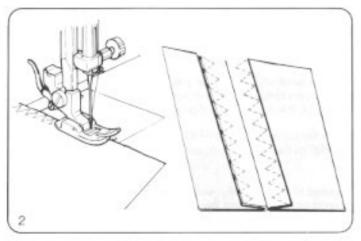
SEWING IN ZIPS

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

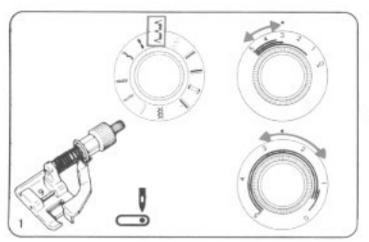
Oversewing edges prevents the fabric from fraying and creates a neat edge.

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.

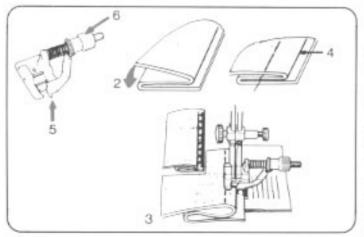
Note: On Models 420, 430 and 440, the 3 step zig-zag stitch can also be used, but use the All Purpose foot **not** the Nr. 8 foot.



BLIND HEM STITCH

(Not for Model 410)

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



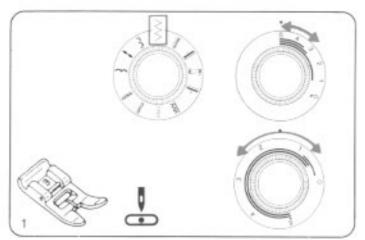
Fold the fabric as illustrated with the "wrong" side facing upwards. (2)

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

(Not for Model 410)

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 an elastic and lace, oversewing edges etc. on a wide range of fabrics.

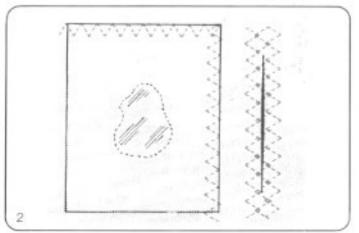
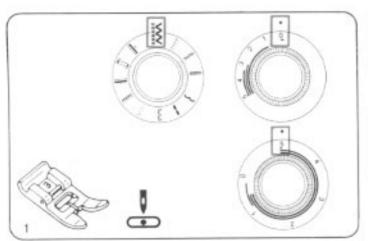


Fig. 2 shows patching, where the stitches are to the edge of the patch and a tear, where the stitches go firstly over the centre of of the tear and then to either side but overlapping slightly on the first row.

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

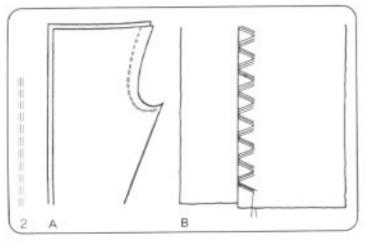


STRAIGHT STRETCH STITCH

(Not for Model 410)

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)



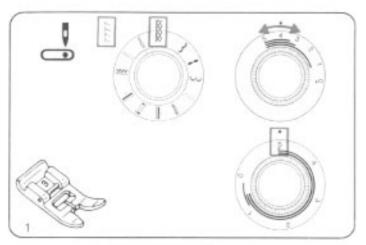
TRIPLE ZIG-ZAG (RIC-RAC) STITCH

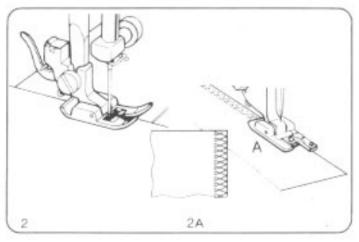
(Not for Model 410)

Set the machine as above, (1) but use zig-zag width setting No 5.

The triple zig-zag stitch is a very strong zig-zag stitch used for seaming heavy fabrics such as canvas etc.

It can be used to oversew edges where the seam has already been sewn by a straight stitch, or as an attractive decorative stitch. (2B)





STRETCH OVERLOCKING AND OVERLOCKING

(Not for Models 410 and 420)

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

for finer fabrics



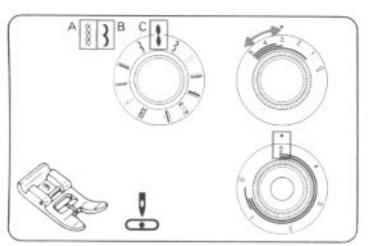
for thicker fabrics



Both these stitches are designed to seam and overlack 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)

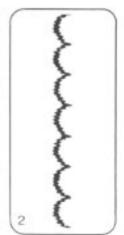


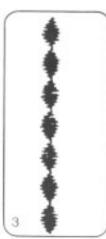
HONEYCOMB STITCH AND EMBROIDERY/DECORATIVE STITCHING (For Model 440 only)

THE HONEYCOMB STITCH

Select the Honeycomb stitch (A) and fit the All Purpose fact. This stitch can be used for many types of jersey and general woven fabrics. For visible seams and hems on T-shirts, sweaters, underwear, serviettes, tablecloths and craft work etc. (1)







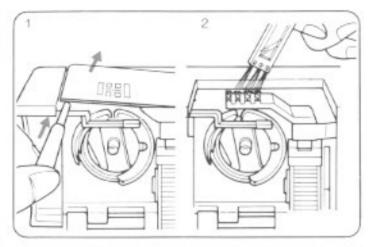
SCALLOP AND DOUBLE-SCALLOP STITCH

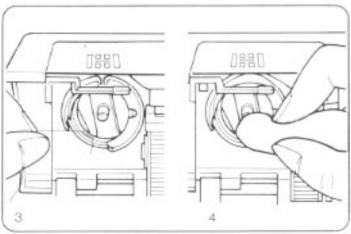
These stitches have a wide range of decorative and utility applications and are particularly suitable for woven fabrics. (2)

The Scallap stitch (B) is ideal for edging collars, cuffs, tablecloths, serviettes etc. (2)

For both the Scallop and Double-Scallop stitch, (C) the stitch length can be reduced beyond the blue setting to achieve a close "satin stitch" if required.

With satin stitch use the satin stitch foot No 4 and a paper backing.





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 fallowing 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 clath. (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	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 cought on reel holder. 6. Needle is damaged.	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	Bobbin case is not inserted correctly. Bobbin case is improperly threaded. Bobbin tension is too tight.	Reposition bobbin. Check by pulling thread. If it pulls smoothly it is correct. Check for correct threading. Change bobbin tension according to instructions.
Skipped stitches	Needle is not inserted correctly. Needle is damaged. Wrong type of needle is used. Wrong foot is used. Foot pressure is wrong.	Reinsert needle (flat side toward back). Insert new needle. Motch needle size to fabric and thread weight. Check to see if proper sewing foot is used. Check foot pressure regulation for proper setting.
Needle breakage	Needle is damaged. Needle is not inserted correctly. Fabric too heavy/wrang needle size. Fabric is being pulled by aperator. Wrong sewing foot is used.	Insert new needle. Reinsert needle correctly [flat side toward back]. Match needle size to thread & fabric weight. Do not pull on clath. Check for proper fact pressure. Use correct fact.
Stitching forms loops	Needle is not threaded correctly. Bobbin is not threaded correctly. Needle/fabric/thread ratio is incorrect. Incorrect tensions.	Thread needle front to back. Thread babbin according to chart. Match needle size to thread & fabric weight. Set correct tensions.
Seams shrink or pucker	Foot pressure is too heavy. Needle is too large for fabric. Wrong stitch length is used Tension is too heavy.	Reduce foot pressure (smaller numbers). Use smaller needle. Adjust length for proper stitches. Check tensions.
Irregular stitching/feeding	Thread is of poor quality Foot pressure is too light. Bobbin is threaded incorrectly Material is being pulled by operator.	Use quality thread! Increase foot pressure (larger numbers). Thread bobbin again and check for proper insertion. Do not pull on fabric. Let it feed automatically.
Machine is noisy and rough	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.	Oil according to instructions. Clean race and hook according to instructions. Clean and oil again only with fine sewing machine oil (not 3-in-1 oil) Replace needle. Comult your specialist dealer.

Fritz Gegauf Ltd.

8266 Steckborn, Switzerland



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