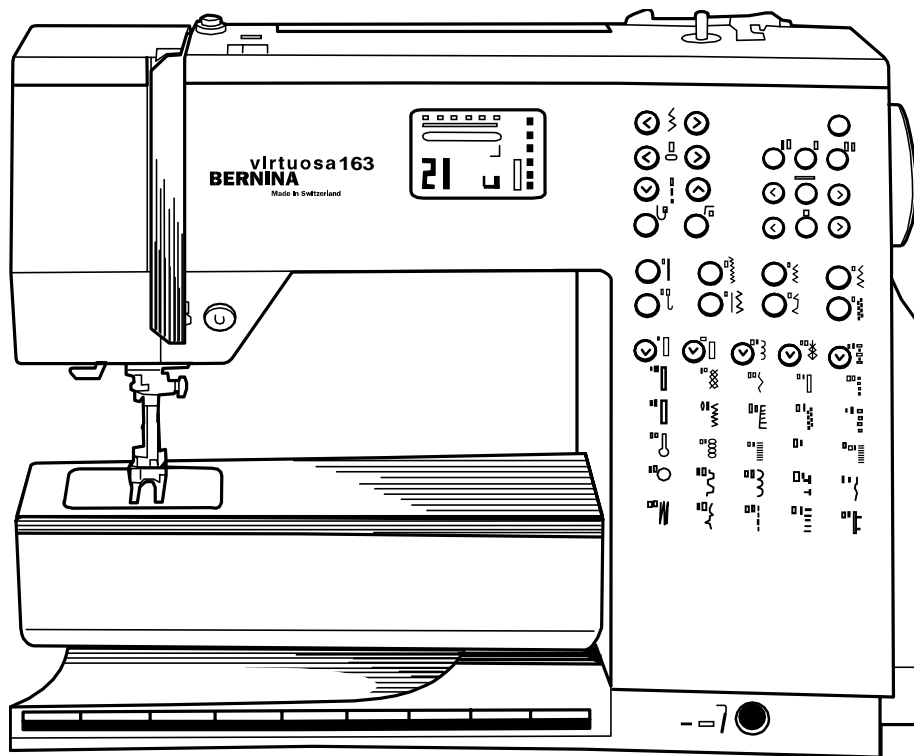


MASTERING YOUR

BERNINA® *virtuosa 153 QE/163*



OWNER'S WORKBOOK

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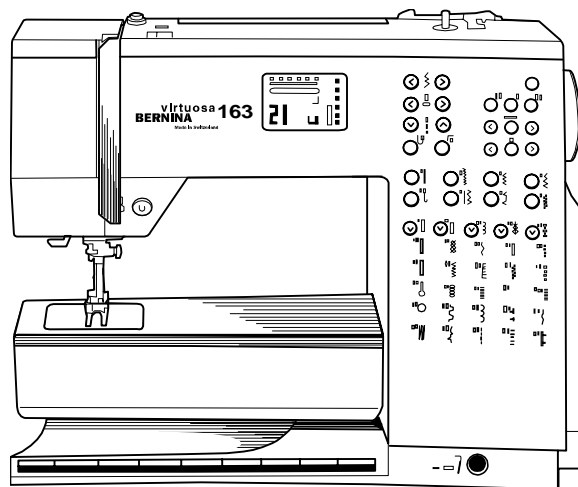
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MASTERING YOUR

BERNINA®

virtuosa 153 QE/163



OWNER'S WORKBOOK

Section A

Care and Feeding of Your Machine

SECTION A

Care and Feeding of Your Machine

Machine Set Up

Owner's manual pg. _____

- Storage of Accessories – attach and detach accessory box.
- Attach foot control; note storage of cords
- Power switch – Owner's manual pg. _____
- Extension table + sliding guide
- Presser foot lifter (optional with 153QE)
 - acts as a "third hand"
 - extra 2mm of presser foot lift
 - drops feed dog to give extra space between presser foot and feed dog
 - speeds sewing by 20%
 - alternate size available for use with a sewing machine cabinet

Presser Feet

Owner's manual pg. _____

- Importance of using the correct foot
- On-screen indicator
- Overview of included presser feet

Feed Dog

Owner's manual pg. _____

Threads

Owner's manual pg. _____

- Types of thread
- Uses for each type of thread

Needles

Owner's manual pg. _____

Bobbins

Owner's manual pg. _____

- Removing the bobbin case
- Winding a bobbin
- Use bobbin thread cutter
- Quick start bobbin – use thread cutter located in the bobbin area
- Clip the thread close to the case before removing the bobbin

Threading the Upper Thread

Owner's manual pg. _____

- Spool pins and discs – Owner's manual pg. _____
 - vertical spool pin for stacked and decorative threads
 - horizontal spool pin for crosswound threads
 - use disc closest to diameter of the spool
- Optional supplementary thread guide
- BERNINA® thread stand with extra thread guide
- Thread machine with the presser foot *up* until ready to thread the needle

Threading the Needle

- Needle threader – Owner's manual pg. _____
- Side thread cutter – Owner's manual pg. _____
- After the needle is threaded, put the thread under the presser foot
- Lower the presser foot
- Insert the thread into the cutter; it is cut to the proper length to begin sewing

Needle Stop Adjustment

- With the foot control – Owner's manual pg. _____
- With the function button – Owner's manual pg. _____

Needle Positions

Owner's manual pg. _____

- Nine positions

Practical/Decorative Stitches

Owner's manual pgs. _____

- Stitches programmed in the machine
- Stitches available from CPS software
- Uses for the stitches – Owner's manual pgs. _____
- How to select stitches – Owner's manual pgs. _____

Straight Stitching

- Seam measuring – stitch plate marks – Owner's manual pg. _____
 - the following measurements are indicated on the stitch plate: 1/4", 3/8", 1/2", 5/8", 3/4", and 1"
 - the line just behind the needle is 4mm
 - the horizontal lines to the far back and the line in front of the needle are 5/8" from needle

- Quilting/seam guide is included with the machine
- Left seam guide and seam guides with rulers are available as optional accessories
- Straight stitch throat plate available
- Basting – use maximum stitch length (5.5mm)

Topstitching/Edgestitching

Owner's manual pg. ____

Securing Stitches

Owner's manual pg. ____

- Options
- Stitch
- Functions

Satin Stitches

- Thread bobbin case finger to adjust tension
- Can taper while sewing
- Stabilizer – important to the success of stitches

Altering Stitches

Owner's manual pg. ____

Restoring Basic Settings

Owner's manual pg. ____

Presser Foot Pressure

Owner's manual pg. ____

Speed Controls

- Two ways to control – Owner's manual pg. ____
 - ½ speed function button
 - ½ stitch at a time by tapping the back of the foot control

Changing the Light Bulb

Owner's manual pg. ____

- Use only 12V 5W. W 2.1 x 9.5d bulbs

Cleaning the Feed Dog

- Periodically remove thread fluff and fabric fuzz which collects under the stitch plate. Refer to manual for step-by-step instructions (pg. ____).

Cleaning and Lubricating the Hook

- Low mass hook system does not require lubrication
- See Owner's manual page ____ for step-by-step cleaning instructions

Cleaning the Screen

- Wipe only with a damp cloth

Cleaning the Outside of the Machine

- Wipe with damp cloth. If needed, use a solution of water and a few drops of liquid soap.
IMPORTANT: Never use oil, alcohol, or solvents of any kind on any part of the external surface of the machine.

Here's an idea... Use your birthday month as a reminder to have your BERNINA® machine serviced. Take it to an authorized BERNINA® technician during the month of your birthday and you'll never have to remember when it was last serviced.



THREADS

Poor quality or the wrong type of thread can cause poor stitches on any machine. Thread passes through the eye of the needle approximately 37 times in a “see-saw” action before it forms a single stitch. Poor quality thread results in crooked and looped stitches, puckered seams, frayed thread, and/or needle breakage. To achieve quality stitches, a sewing machine needs three things: correct thread, correct size needle, and properly adjusted thread tensions.

Several factors such as the fiber, twist, ply, finish, and size of thread must be considered for use with today’s fabrics for fine stitches.

Staple – refers to the length of fibers used to twist together to form a single ply. Domestic thread fiber lengths are usually 1½” to 2½” long while European threads use 5½” to 6½” lengths.

Ply – the number of single strands twisted together to make a single thread.

Roll – the tendency of thread to roll to the right or left during stitching, causing the stitch to appear slightly crooked. Poor quality threads are more likely to roll.

Twist – the crimping of fibers which causes them to interlock firmly into a single ply. Thread should not untwist during stitching. This will cause skipped stitches, thread breakage, crooked stitches, and weak spots in seams.

Right twist – most American threads are twisted to the right, causing some rolling. This gives average stitch quality.

Left twist – Most commercial and imported threads are twisted to the left, giving better than average stitch quality. Left twist resists rolling and makes a larger loop for the hook point to enter, reducing skipped stitches.

Wearable art embellishment has necessitated the creation and marketing of many new thread types, such as Sulky’s rayons and metallics. Made in West Germany, these are left twist threads; Mettler and Isacord threads are also left twist. To test the twist of a thread: while holding the spool in the left hand, roll the strand of thread towards you with one thumb. Left twist will tighten, right twist will loosen.

Fiber – refers to the type of material used to produce the thread. Some commonly used threads:

- *Polyester 2 ply* – such as Metrosene 100. Good for clothing construction on man-made, natural or blended fabrics. Will tolerate heat up to 450° Fahrenheit. Also Isacord embroidery thread – excellent for embroidery, very abrasion resistant.
- *Polyester 3 ply cordonnet* – topstitching or buttonhole twist – such as Mettler 30/3.
- *Cotton 2 ply* – such as Mettler 60/2 – excellent for French Machine Sewing, delicate machine embroidery, and darning.
- *Cotton 2 ply* – such as Mettler 30/2 – loose twist for a soft, shiny look in machine embroidery, applique, and buttonholes.
- *Cotton 3 ply* – such as Mettler 50/3 – excellent for clothing construction on natural fibers. Tighter twist than embroidery cotton thread and less puckering on problem fabrics. Cotton thread stretches less than polyester.
- *Rayon* – a lustrous embroidery thread. Weaker than cotton, it is used for decorative work only.

NEEDLES

Along with thread, needles are very important to stitch formation. Many “mechanical” problems and damage to fabrics can be traced to a bent, damaged, or incorrect size or type needle. Approximately 60% of all needles made are discarded at some stage of production. When selecting the correct needle for any sewing project, three things must be considered:

Needle system – 130/705H

Needle point – to assure stitch formation and avoid fabric damage

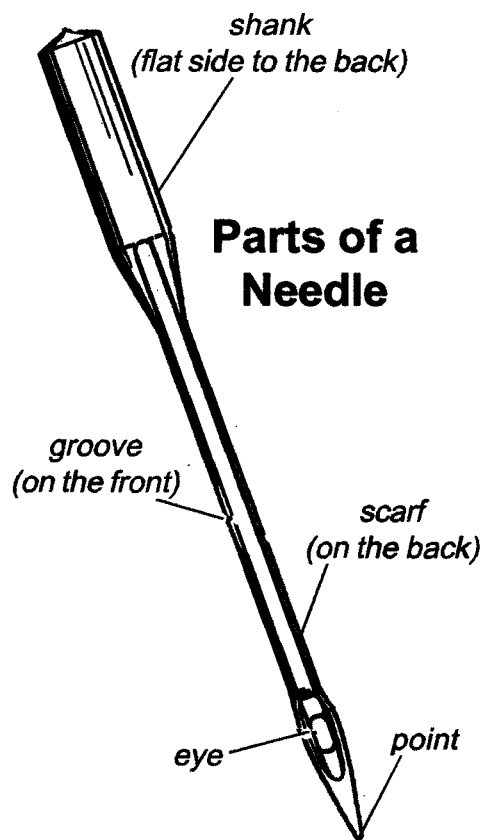
Needle size – small size for lightweight fabrics; larger needle for heavier fabrics

If the needle is:

Too small – the thread can't stay in the groove to form a loop to be picked up by the hook point

Bent – thread loop forms too far away from hook point; hook can't enter loop to form stitch

Blunt – needle won't pierce fabric so no thread loop forms to make a stitch



Need To Know

- Needle should be changed every 4-6 hours of sewing. The needle is the most inexpensive part in your sewing machine but is one of the most crucial for getting good results and keeping your machine running well. Don't let false economy keep you from doing what is best for your sewing projects and your machine.
- European needles are chrome-plated to glide in and out of fabric easily.
- The selected thread should fit in the groove on the front of the needle. If it isn't protected by the groove, a needle with a larger groove should be used.
- Always make sure the needle is fully inserted as high as possible when installing a new one.

SEWING MACHINE NEEDLES

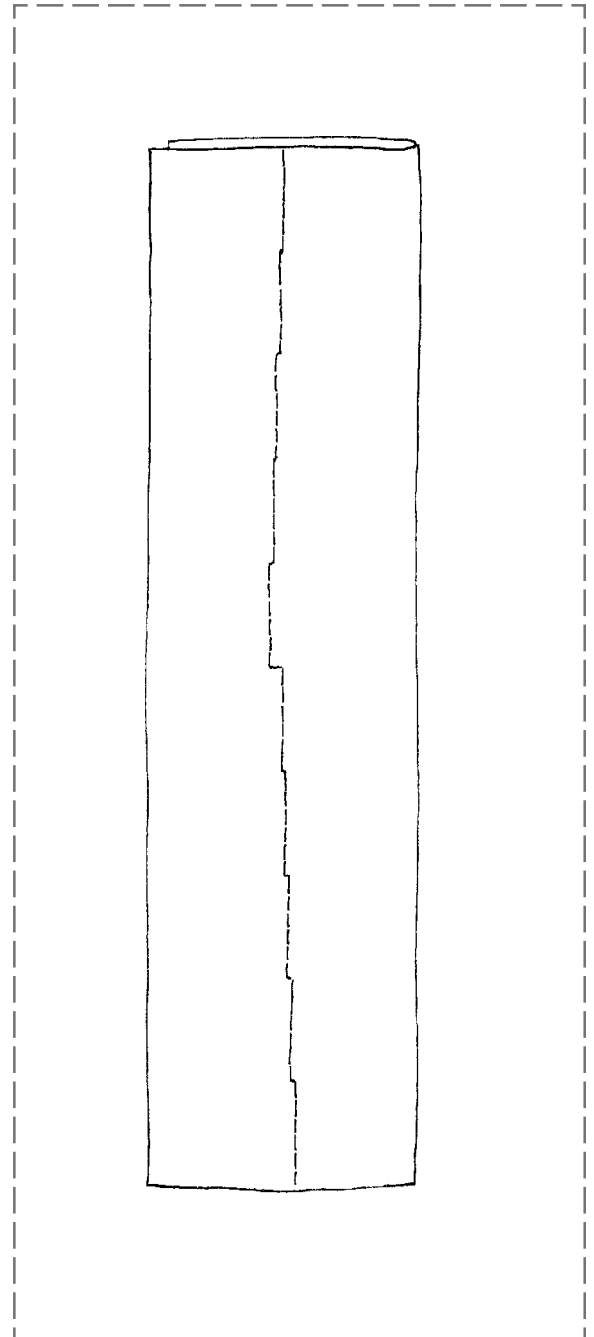
Ball Point	70-90	Has a rounder point. 70 for lingerie, nylon, jersey; 80 for T-shirt; 90 for sweatshirt fleece.	Microtex Sharp (Schmetz)	60-90	A sharp point with a thin shaft. 60-90 corresponds to the weight of the fabric; as the fabric gets heavier, the number is higher.
Stretch	70-90	A stretch needle has a more rounded point and a blue anti-clogging coating which helps to prevent skipped stitches in knits and elastic. Sometimes used on Ultrasuede®, vinyl, and plastic.	Microfiber (Lammertz)		
Stretch Double	2.5/75 4.0/75	Two ballpoint needles on one shank; each needle has a large scarf. Used for hemming and for stitching on knit fabric.	Quilting	assort'd (75 & 90)	The thin, tapered point of this needle causes less damage to fabric when seaming and cross seaming.
Universal	60-110	A compromise between a sharp and a ballpoint needle; can be used on both wovens and knits. 60 – very fine batiste 70 – broadcloth 80 – trigger and gabardine 90 – denim and twill 100 & 110 – canvas	Topstitch	80-100	A sharp point with a large eye and deep groove. For use with heavier fabrics – the large groove cradles heavier threads.
Double Universal	1.6/70- 8.0/100	Two needles attached to one shank. Used for pintucks, hems, and decorative work.	Embroidery (Schmetz)	75-90	Sharp needle with a large eye and groove; also has a coating and a larger scarf. For use with embroidery thread – prevents shredding of rayon or metallic threads. Two threads may be used through the eye of an 80 or 90 needle.
Triple (Drilling)	3.0/90	Three needles attached to one shank. Used to create mock smocking and other decorative effects.	Metafil (Lammertz)		
Jeans	70-90	Has a sharp point and a shaft that is less prone to flex. The sharpness of the needles makes it better for use on denim and woven fabrics where a clean stitch is desired.	Metafil Double	3.0/75	Two Metafil needles attached to one shaft; for double needle work with embroidery threads.
Jeans Double	4.0/100	Two Jeans needles attached to one shank. For topstitching on denim with heavy thread; can also be used for decorative stitching with metallic thread.	Wing	100-120	Sharp pointed needle with a non-cutting wedge of metal on each side. Needle makes a hole in the fabric without cutting the threads of the fabric. Used for decorative and heirloom work, such as hemstitching. Works best on natural fibers or on the bias.
			Double Wing	100	One regular needle and one wing needle attached to a single shaft. Use the same as a Wing; makes one large and one regular hole.
			Leather	80-90	Point is a sharp cutting wedge. Used for sewing leather only. Not for vinyl or simulated leathers.

NEEDLE POSITIONS

Fabric:	Firmly woven fabric, 4" x 6"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery Contrasting color
Presser Foot:	Reverse Pattern Foot #1

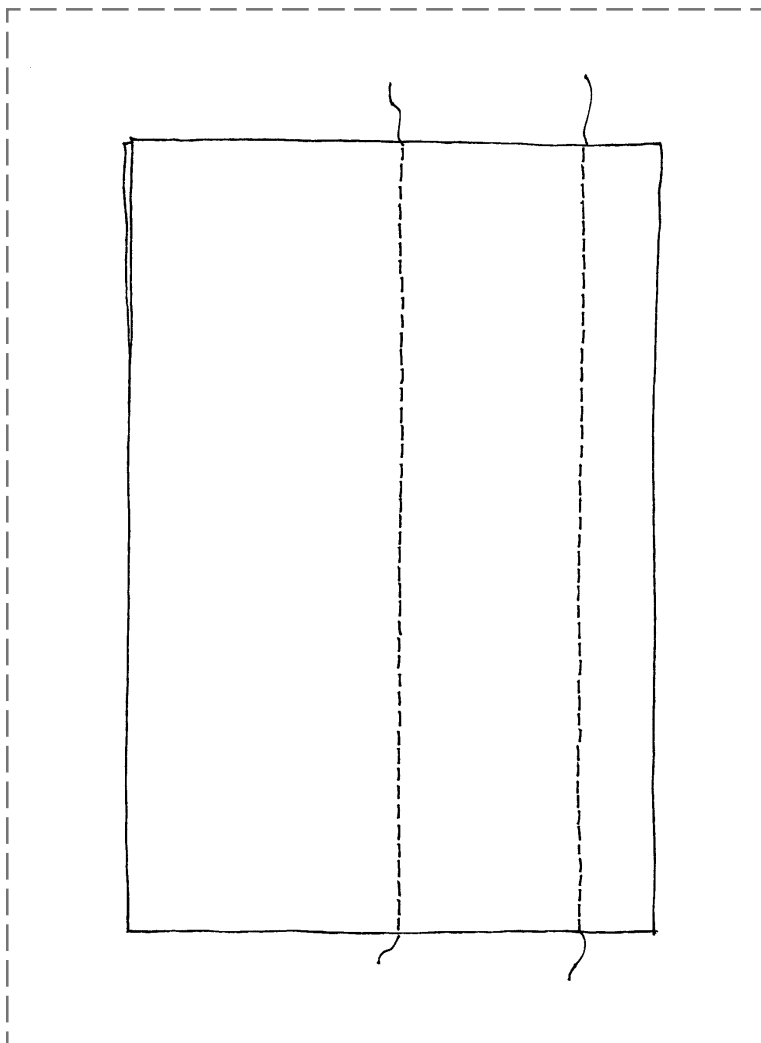
Owner's manual pg. ____

- The 153 QE/163 has 9 fixed needle positions.
- Fold fabric in half to 2" x 6".
- Select Straight Stitch. The basic settings are displayed on the screen. The needle position indicator is just below the stitch width scale; the needle should be in center position.
- Position the fold of the fabric on the 1" mark on the right side of the stitch plate.
- Sew about 6 stitches and stop.
- Move the needle one position to the left.
- Sew another 6 stitches and stop again.
- Repeat until all five positions have been sewn.
- Leaving the fabric under the foot – move the needle position back to center.
- Sew about 6 stitches and stop.
- Move the needle one position to the right.
- Sew about 6 stitches and stop.
- Move the needle one more position to the right – sew another 6 stitches and stop again.
- Repeat until all five positions have been sewn.



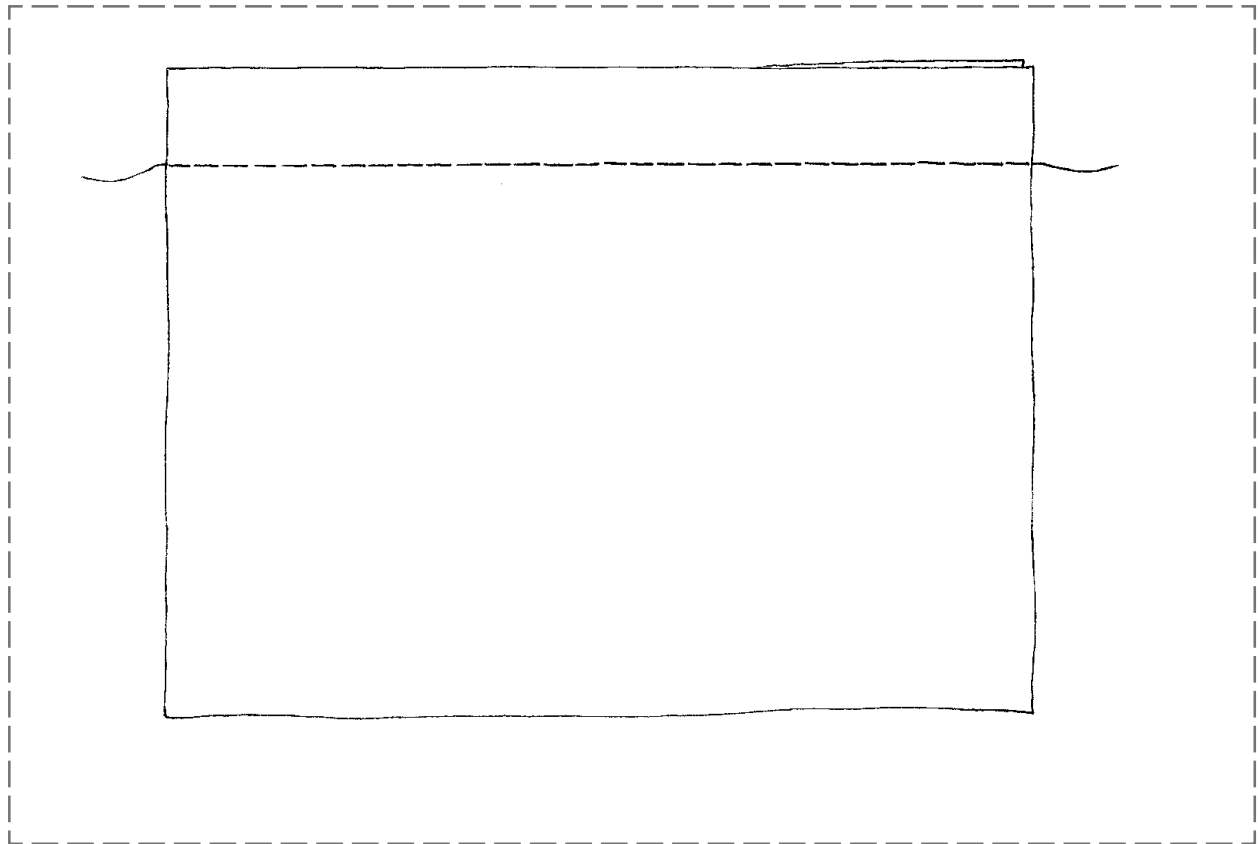
SEAMING

Fabric:	Firm fabric – 2 pieces, 4" x 6" each
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery Contrasting color
Presser Foot:	Reverse Pattern Foot #1



Owner's manual pg. ____

- Find the $\frac{5}{8}$ " guide line on the stitch plate.
- Place fabric pieces right sides together and align them with the guide line.
- Sew a $\frac{5}{8}$ " seam on one 6" edge.
- Attach the Quilting/Seam Guide to the foot and sew a 2" seam on the other side.



BASTING

Fabric:	Firm fabric – 2 pieces, 4" x 6" each
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery Contrasting color
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

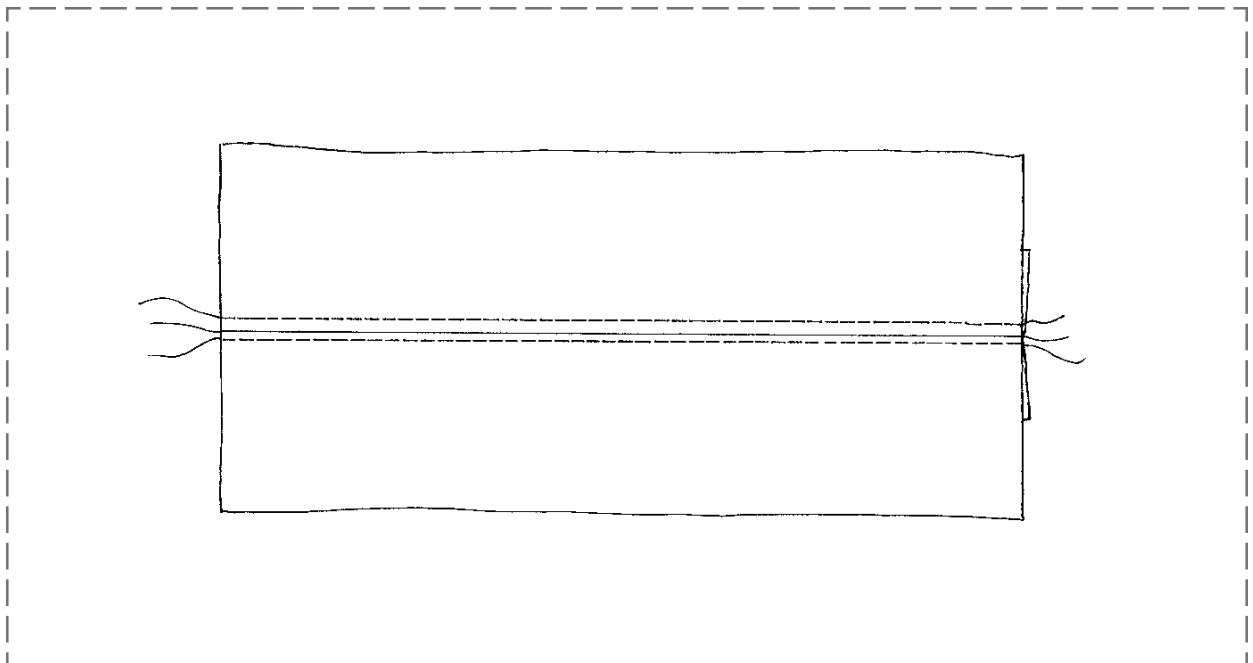
- Place fabric pieces right sides together.
- Using the Straight Stitch with the longest length (5.5mm), baste a $\frac{5}{8}$ " seam along one side of the fabric.
- Loosening the upper tension before stitching will make the stitches easier to remove.

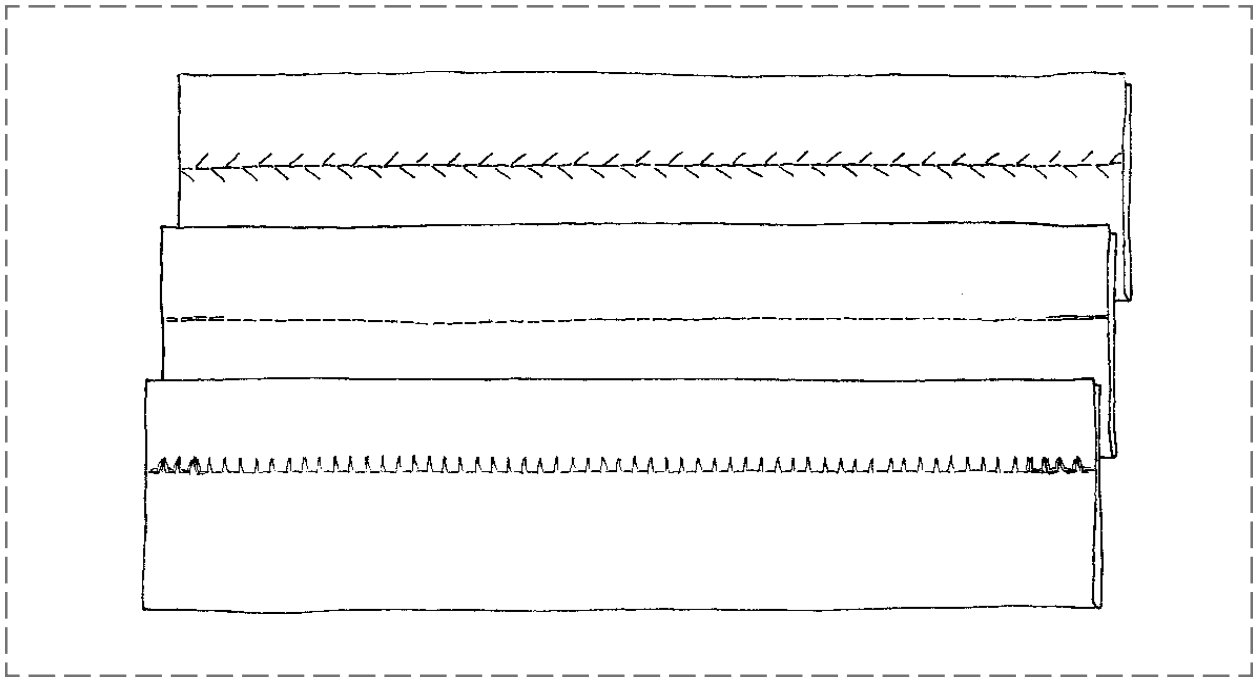
TOPSTITCHING/EDGESTITCHING

Fabric:	Firm fabric – 4" x 6"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery Contrasting color
Presser Foot:	Edgestitch Foot #10 (optional accessory)

Owner's manual pg. ____

- Cut fabric in half to create 2 pieces each 2" x 6".
- Sew two pieces together with a $\frac{5}{8}$ " seam on the 6" sides.
- Press the seam open.
- From the right side, position the blade of the foot in the ditch of the seam.
- Select Triple Straight Stitch #6.
- Move the needle position 3 places to the left.
- Sew the length of the seam.
- Select the longest stitch length.
- Move the needle position to the far right.
- Start at the top of the seam as before.
- Sew down the length of the seam again.





SECURING STITCHES

Fabric:	Firm fabric – 3 pieces, 3" x 6" each
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. _____

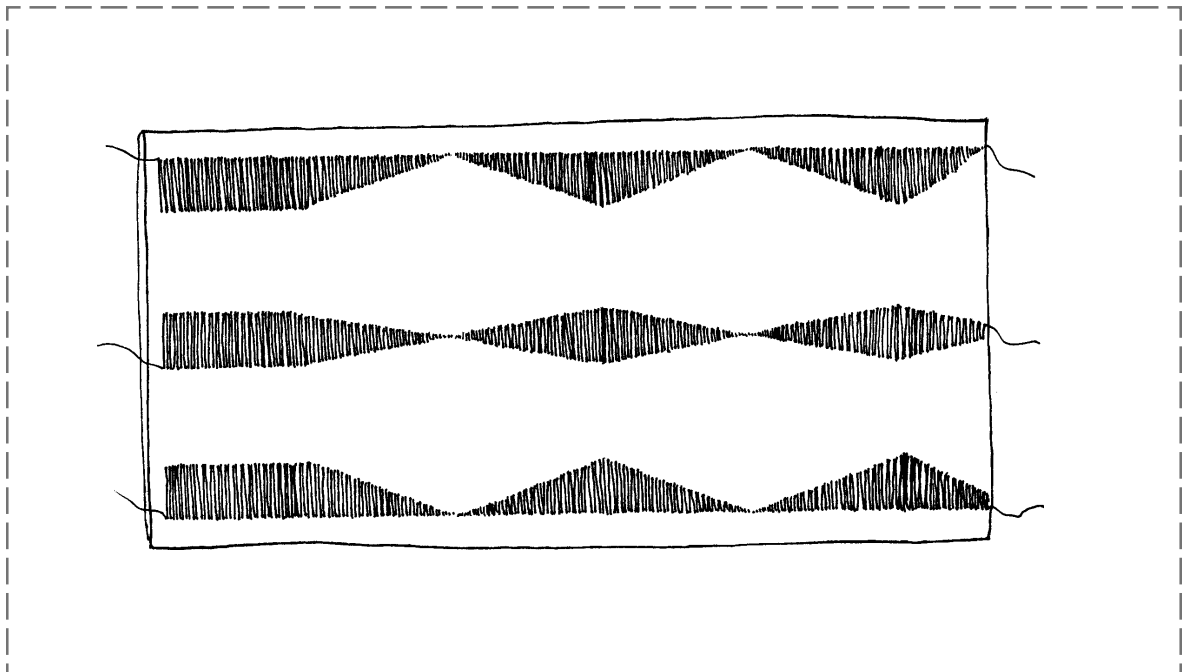
- Fold each fabric piece in half to 1½" x 6".
- Find the 5/8" seam line on the guide plate.
- The BERNINA® 153 QE/163 secures in three ways:
 - 1 – Select stitch #3 and sew a few stitches. Press the Quick Reverse button located on the front of the sewing machine and the machine will sew in reverse until the button is released. Continue stitching the seam and secure the end in the same manner.
 - 2 – Select stitch #5 and stitch. The machine will automatically reverse after five stitches, then continue in a forward motion. Stitch to the end of the seam, then press and release the Quick Reverse button. The machine will stitch backward five stitches, and then continue forward again five stitches and stop.
 - 3 – Select stitch #23 on the 153QE or #21 on the 163. Engage the Securing function to put a securing stitch at the beginning and the end of each pattern repeat. In regular sewing, turn the Securing function off after the first stitch and back on again after the last stitch is taken.

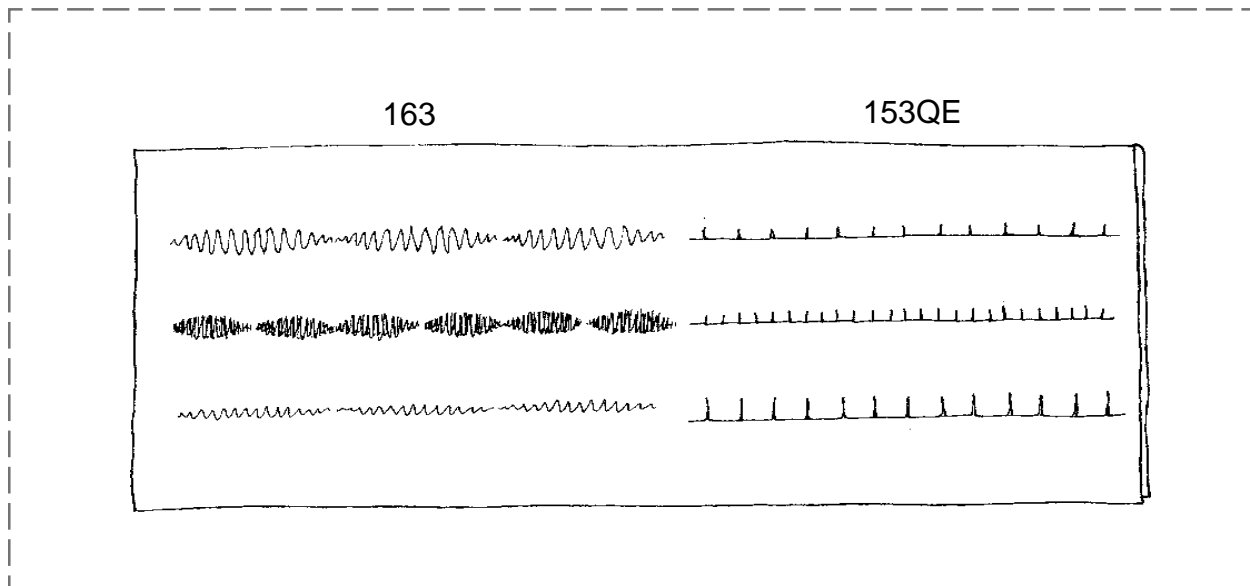
SATIN STITCH

Fabric:	Firm fabric – 3 pieces, 3" x 6" each
Needle:	90/14 Embroidery
Thread:	30 wt. Cotton Embroidery
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

- Fold fabric in half to 3" x 6". Use stabilizer as needed.
- Select Stitch #2. Change the stitch length to satin stitch and the stitch width to 5.5mm.
- Thread the bobbin thread through the hole in the finger of the bobbin case.
- Move the needle position all the way to the left.
- Position the raw edge of the fabric on the $\frac{3}{8}$ " line (on the right side of the stitch plate).
- Sew down this edge about 1". While continuing to sew, turn the stitch width knob to taper the stitch to 0mm. Then widen the stitch back to maximum. Repeat until the stitching reaches the end of the fabric.
- Position the fold of the fabric on the $\frac{3}{8}$ " line (on the left side of the stitch plate).
- Move the needle position all the way to the right and stitch along the right side of the fabric, tapering and widening the stitching while sewing.
- Move the needle position to the center and stitch down the center of the fabric, tapering and widening the satin stitch while sewing.





ALTERED MEMORY

Fabric:	Firm fabric – 6" x 6"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. _____

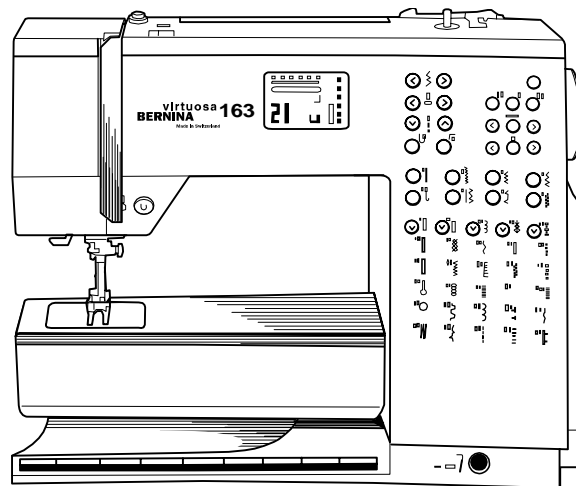
- Fold fabric to 3" x 6".
- Select the suggested stitch (#25 on the 153QE and #33 on the 163).
- Sew a row of stitching as programmed down the center of the sample.
- Alter stitch #33 length to 1mm or stitch #25 length to 4mm and sew a 2nd row on one side of the first row.
- Select stitch #2 - (the one used for satin stitching in the previous exercise).
Notice the computer remembered all the changes made to the stitch.
- Reselect stitch #25 on the 153QE or stitch #33 on the 163.
- Alter stitch #33 width to 2mm or stitch #25 width to 5mm and sew a 3rd row on the other side of the first row.
- Touch CLR - notice the alterations made are gone.
- Select stitch #2 again - notice the changes made to it are gone also. CLR returns all stitch alterations back to default settings.
- The computer will remember any and all stitches you alter, as long as the clear buttons are not used and as long as the machine is not turned off.

RETURNING TO BASIC SETTINGS

- Two options:
 1. Press the external CLR button
 2. Manually set changes back to the basic mark

MASTERING YOUR

BERNINA® *virtuosa* 153 QE/163



OWNER'S WORKBOOK

Section B

Let's Start With The Basics

SECTION B

Let's Start With The Basics

Seams

Triple Straight Stitch – SL 2-3mm

Owner's manual pg. _____

- Jeans Foot #8 prevents needle deflection
- Non-Stick Straight Stitch Foot #53
- This stitch sews strong seams on heavy fabrics

Zigzag – SL1mm SW1.5mm

Owner's manual pgs. _____

Super Stretch – as programmed

Owner's manual pg. _____

- use to seam curved edges that receive a lot of stress such as the crotch area of pants.

Vari-Overlock – SL1mm SW4mm NP right

Owner's manual pg. _____

- Can be used with double needle for a decorative hem on knits
- Overlock Foot #2 prevents the seam from rolling as it is being sewn
- Engage the Needle Down function

Double Overlock – SL2mm SW5mm

Owner's manual pg. _____

Stretch Overlock – SL2mm SW4mm

Owner's manual pg. _____

Flat Joining – SL2mm SW4mm

Owner's manual pg. _____

- Good for thick fabrics such as terry cloth which would be stretched by a straight stitch

Stitching Corners

- Utilize the FHS system to raise and lower the presser foot when turning corners.
- Use the $\frac{5}{8}$ " markings on stitch plate
- Engage the Needle Down function
- Press heel on foot control to lower needle

Oversewing Edges

Blind Hem – Owner's manual pg. _____

- The Blind Hem Foot #5, along with the blindstitch, produces a superior blind hem. The zigzag part of the stitch is formed over the guide on the foot, causing the stitch to be slightly loose, so that the blind hem will not pucker and does not form a tuck in the fabric.

Hand Picked – *Feet-ures*, Unit B pg. _____

Triple Zigzag – *Feet-ures*, Unit A pg. _____

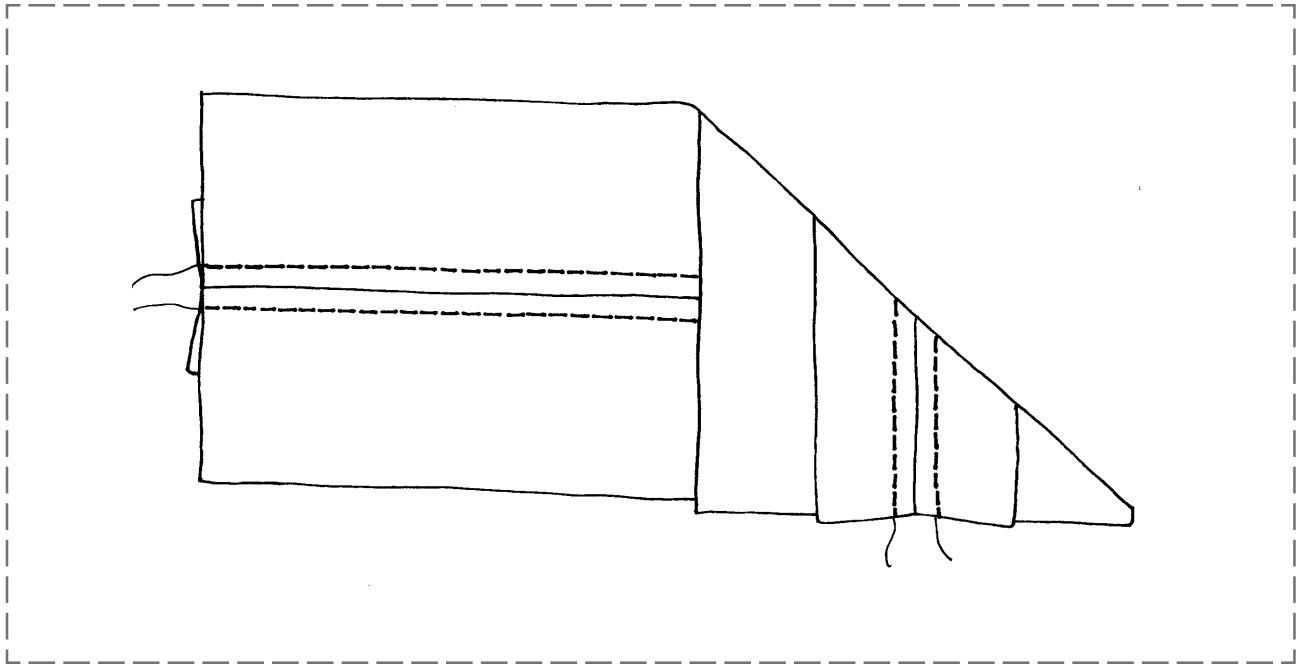
- This stitch is used for strong, visible hems on firm, coarse fabrics such as denim and canvas.

Double Needle – *Feet-ures*, Unit A pg. _____

Neckline Hem – Owner's manual pg. _____

Jeans – *Feet-ures*, Unit B pg. _____

- Height Compensation Tool



TRIPLE STRAIGHT STITCH

Fabric:	Denim, 4" x 6"
Needle:	90/14 Jeans
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1 Edgestitch Foot #10 (optional accessory)

Owner's manual pg.____

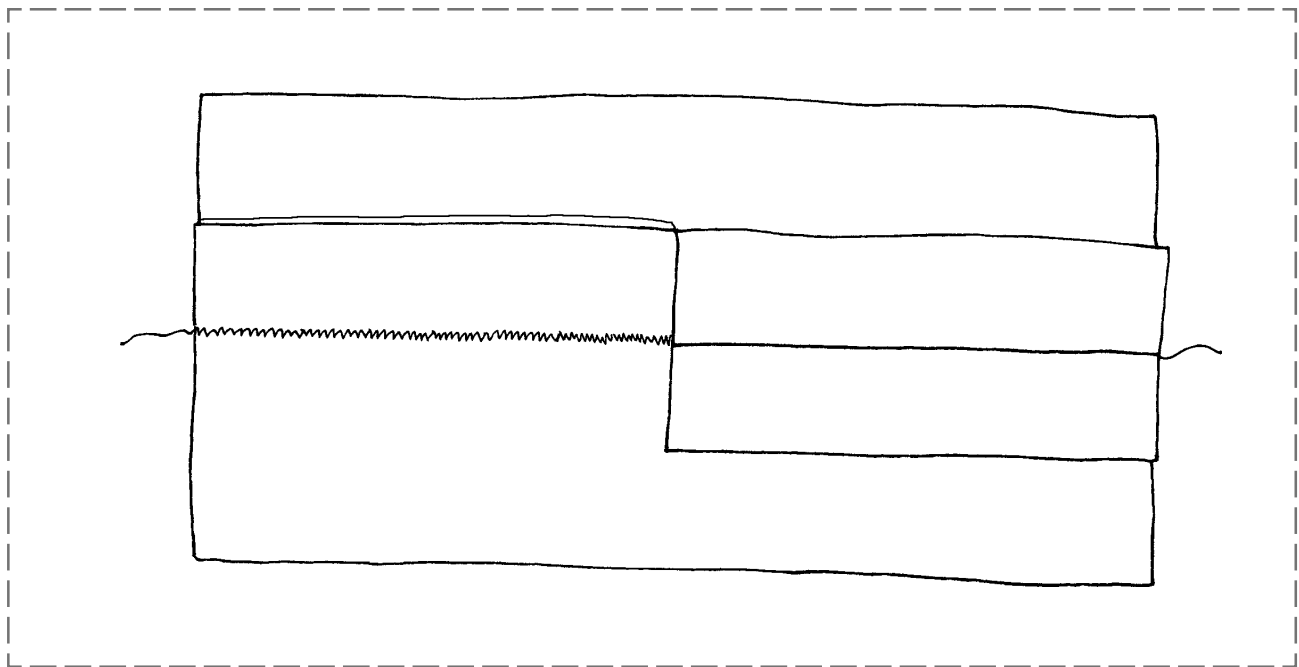
- Cut the fabric in half lengthwise forming two pieces, 2" x 6" each.
- Select the Triple Straight Stitch #6.
- Sew the two pieces together with a $\frac{5}{8}$ " seam allowance using Reverse Pattern Foot #1.
- Press the seam open.
- Change to Edgestitch Foot #10 and adjust the needle position to stitch through the seam allowance.
- Adjust the stitch length to 3.5mm.
- With the guide of the foot in the ditch of the seam, topstitch the length of the seam on both sides.

ZIGZAG SEAM

Fabric:	Firm knit – 4" x 6"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

- Cut the fabric piece in half lengthwise, creating two pieces, 2" x 6" each.
- Select the Zigzag Stitch #2 – SW 1mm and SL 0.5mm.
- Position the fabric to produce a $\frac{5}{8}$ " seam down one side.
- Stitch the seam.
- Clip one seam allowance in the middle.
- Press one part of the seam open and leave the other half closed, so the stitch is visible.
- Trim and mount the sample.



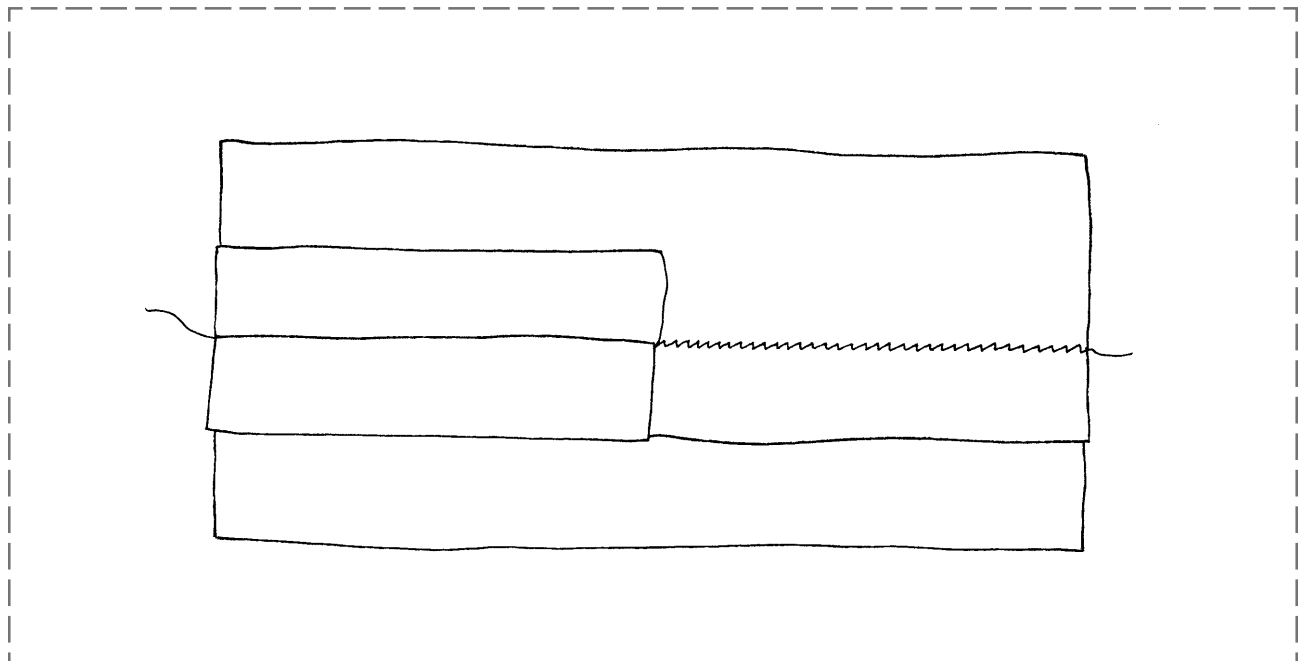
SUPER STRETCH SEAM

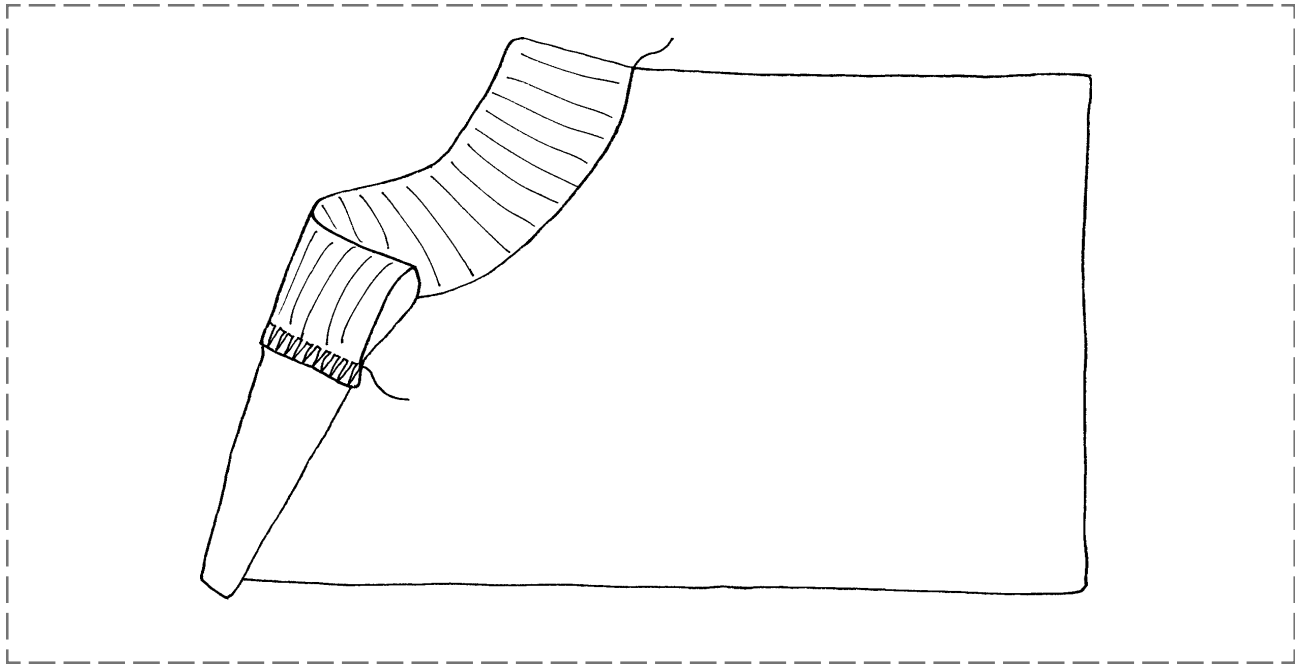
Fabric:	Heavy Double Knit, 4" x 6"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

- Cut fabric in half lengthwise creating two pieces, 2" x 6" each.
- Select stitch #13 on the 153QE or #15 on the 163.
- Position the fabric to produce a $\frac{5}{8}$ " seam down one side.
- Stitch the seam.
- Clip one seam allowance in the middle and press one part of the seam open.
- Trim and mount the sample.

Note: This stitch is good for an open seam on all knit fabrics; works well for sportswear.





VARI-OVERLOCK SEAM

Fabric:	Cotton Interlock, 4" x 6" Ribbing, 2" x 4"
Needle:	80/12 Univeral
Thread:	All-purpose
Presser Foot:	Overlock Foot #2

Owner's manual pg. ___

- Cut an inside curve in one corner of the fabric to simulate a neckline.
- Select the Vari-Overlock Stitch #3.
- Engage the Needle Down function.
- Place folded ribbing along the curved edge of the fabric (ribbing and fabric, right sides together).
- Guide the raw edges of the fabric under the pin of the foot and stitch; stitch length and width can be adjusted, if needed.
- Trim the sample and mount with the ribbing pressed to the finished position.

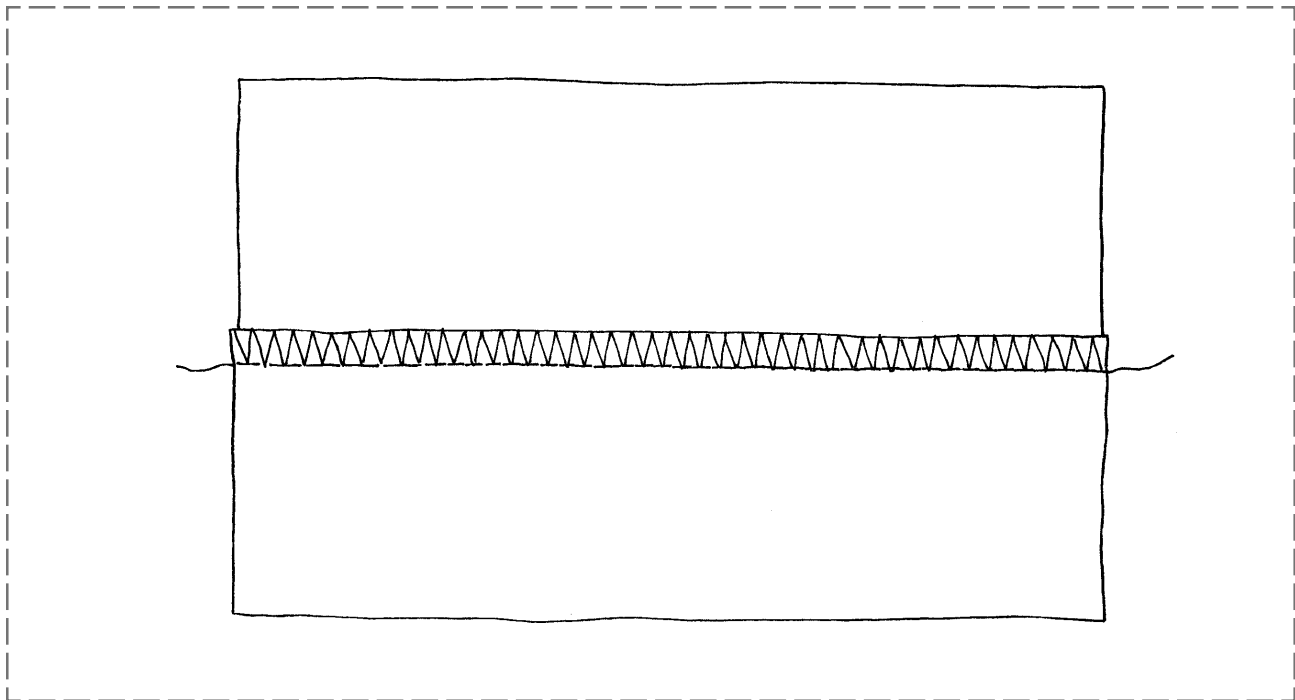
DOUBLE OVERLOCK SEAM

Fabric:	Single Knit – 4" x 6"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Overlock Foot #2

Owner's manual pg. ____

- Cut the fabric in half lengthwise, creating two pieces, 2" x 6' each.
- Select the Double Overlock Stitch #8.
- Guide the raw edge along the pin of the Overlock Foot.
- The right swing of the needle should go off the fabric edge.
- Trim the sample and mount.

Note: This is a good overlock seam for loosely knit fabrics and for cross seams in other knits and jerseys.

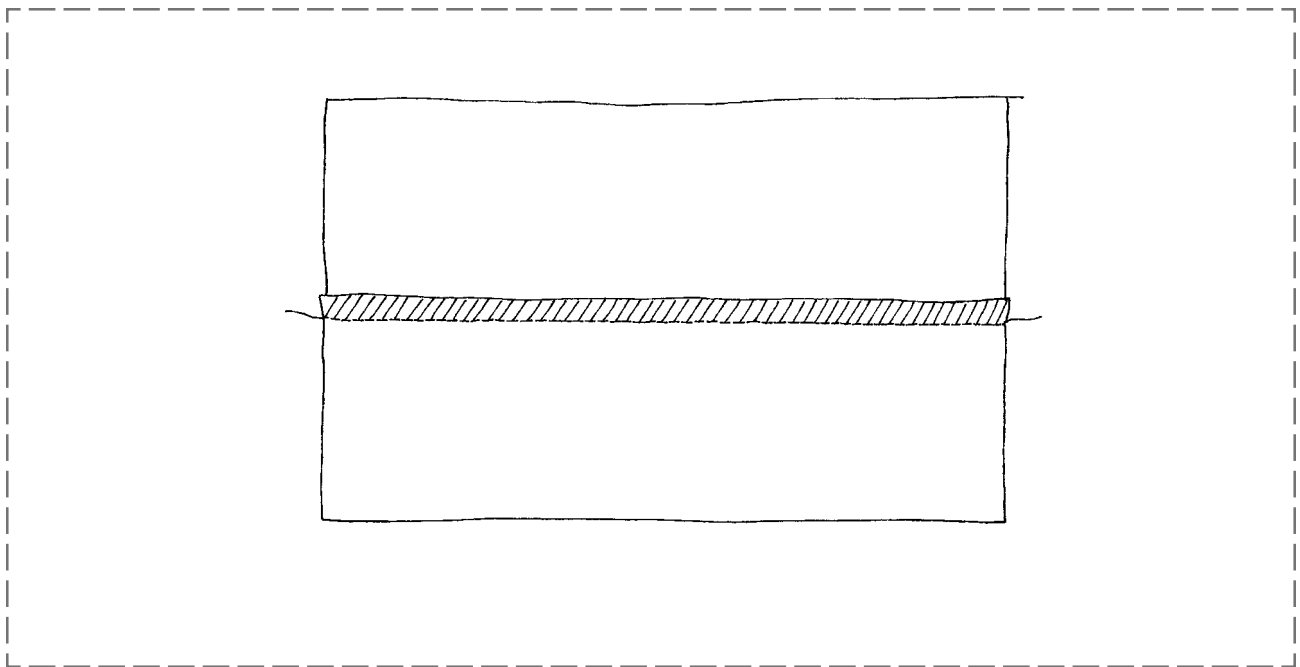


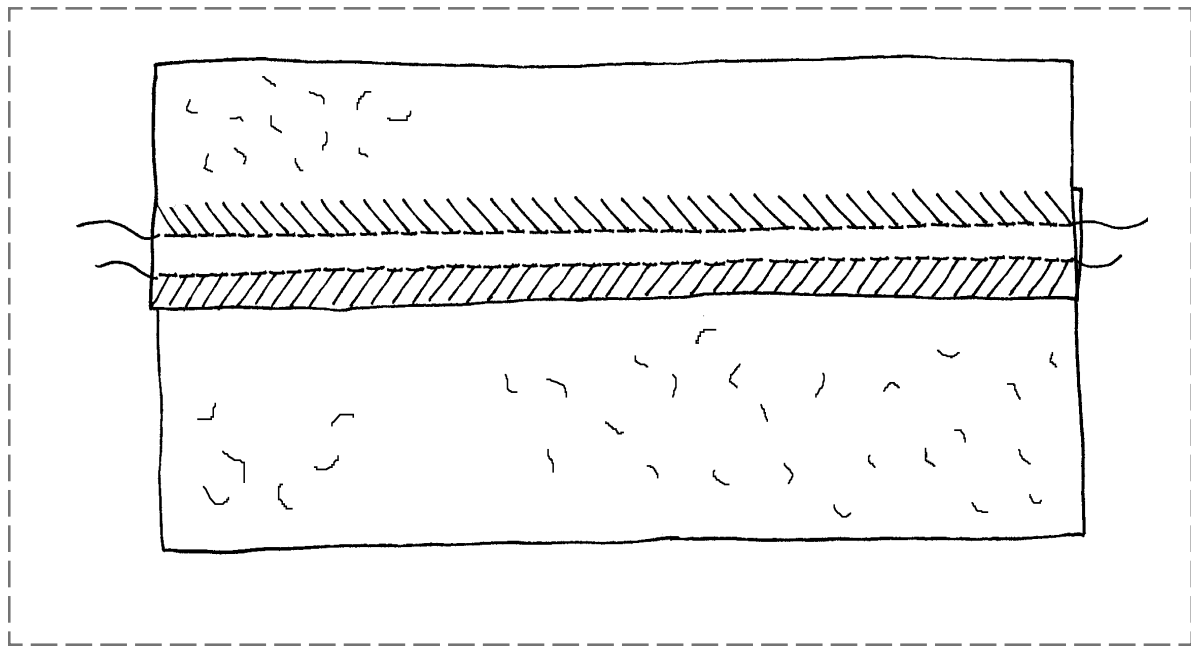
STRETCH OVERLOCK SEAM

Fabric:	Loosely knit fabric, 4" x 6"
Needle:	80/12 Universal
Thread:	Regular sewing
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ___

- Cut the fabric in half lengthwise, creating 2 pieces 2" x 6" each.
- Select the Stretch Overlock stitch #16 on the 153QE or #18 on the 163.
- Guide the fabric so the right swing of the needle goes off the edge of the seam; lighten presser foot pressure *if* seam stretches.
- Trim and mount the sample.





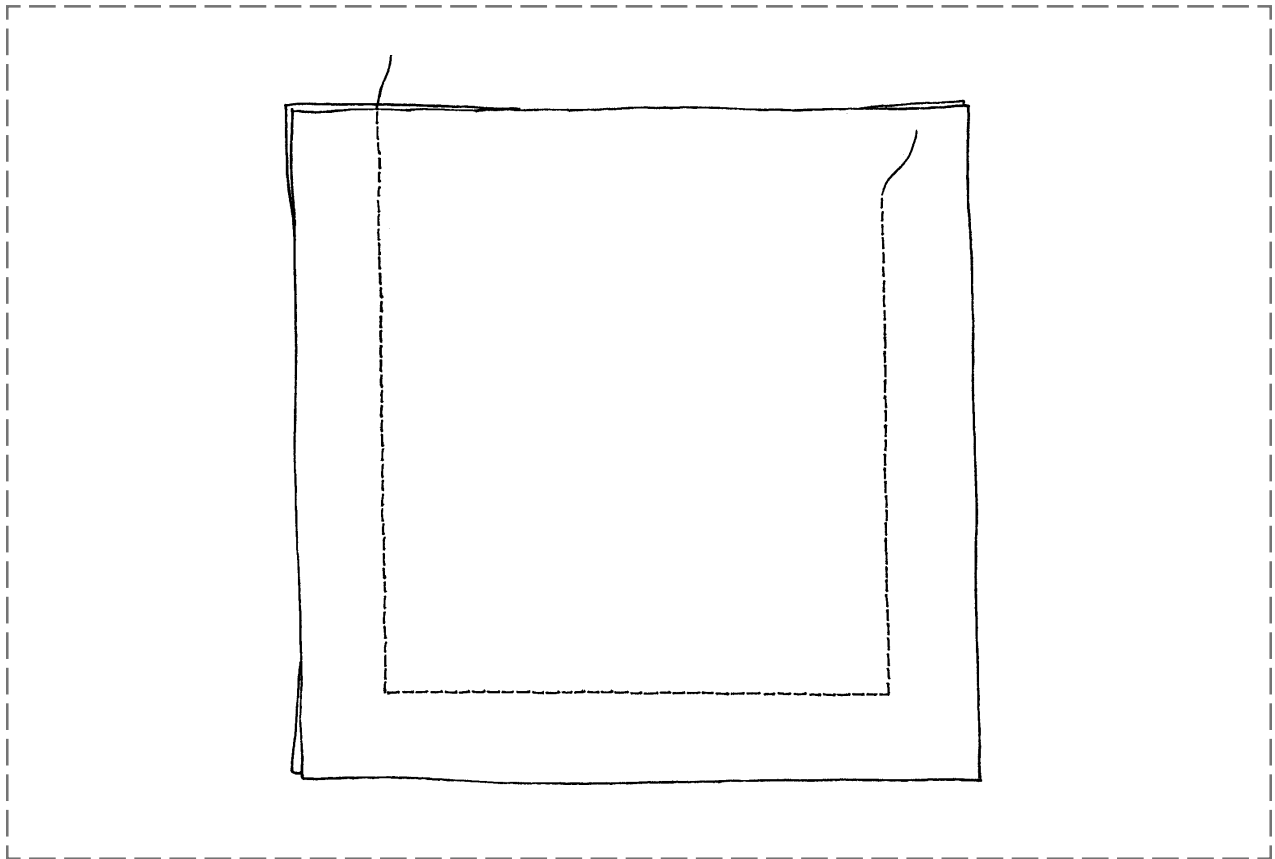
FLAT JOINING SEAM

Fabric:	Terry cloth - 2 pieces, 2" x 6" each
Needle:	90/14 Universal
Thread:	Regular sewing thread to match fabric
Presser Foot:	Reverse Pattern Foot #1

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- Select the Stretch Overlock stitch #16 on the 153QE or #18 on the 163.
- Cut a $\frac{5}{8}$ " seam allowance off one piece of fabric along the long edge.
- Mark a line on the other piece of fabric, $\frac{5}{8}$ " from one long edge. This will be the right-hand piece of fabric.
- Overlap the fabric edges left over right, aligning the left raw edge with the drawn line on the right-hand piece.
- Stitch along the raw edge. Turn the fabric over and stitch along the remaining raw edge.

NOTE: *This is a great seam technique to use on bulky fabrics such as terry cloth.*



STITCHING CORNERS

Fabric:	Firm fabric – 2 pieces, 5" x 5" each
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

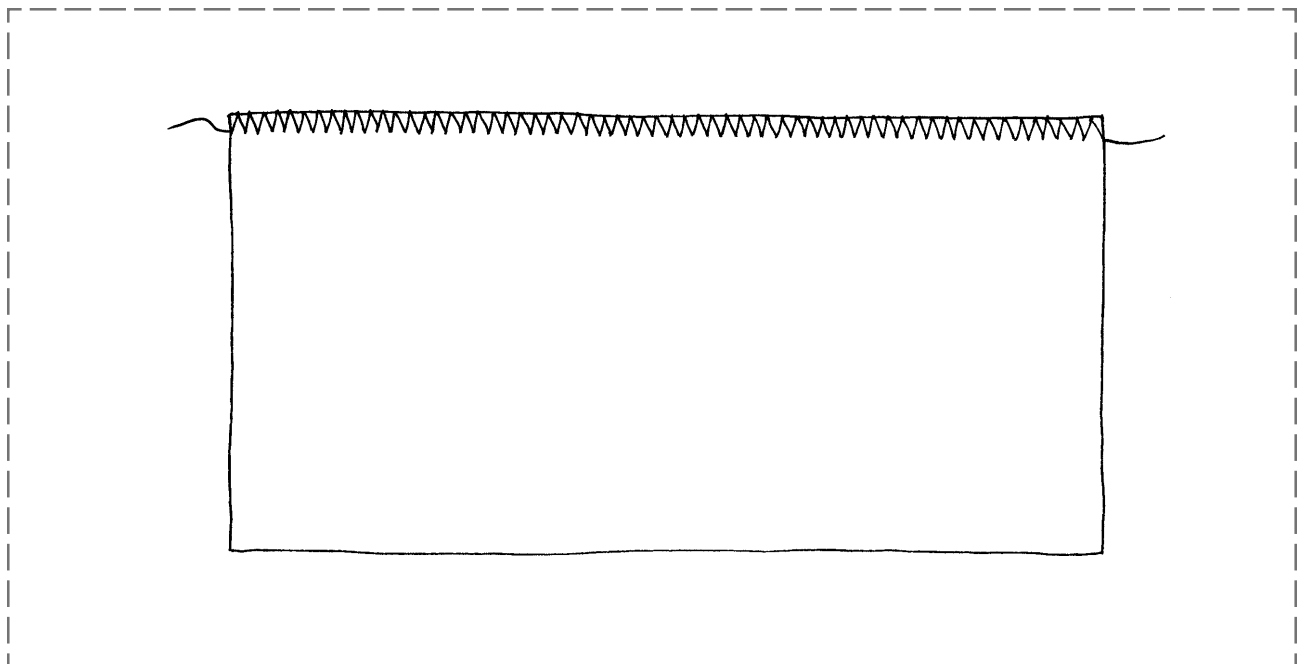
- Select the Straight Stitch #1.
- Place fabric pieces right sides together.
- Place the fabric under the foot with the top edge even with the horizontal line behind the foot.
- The right edge should be even with the $\frac{5}{8}$ " seam line.
- Engage the Needle Down function.
- Sew until the bottom edge touches the horizontal line in front of the needle; stop.
- Pivot and continue sewing until you come to the next corner and do the same thing.
- Stitch only three sides of this sample.

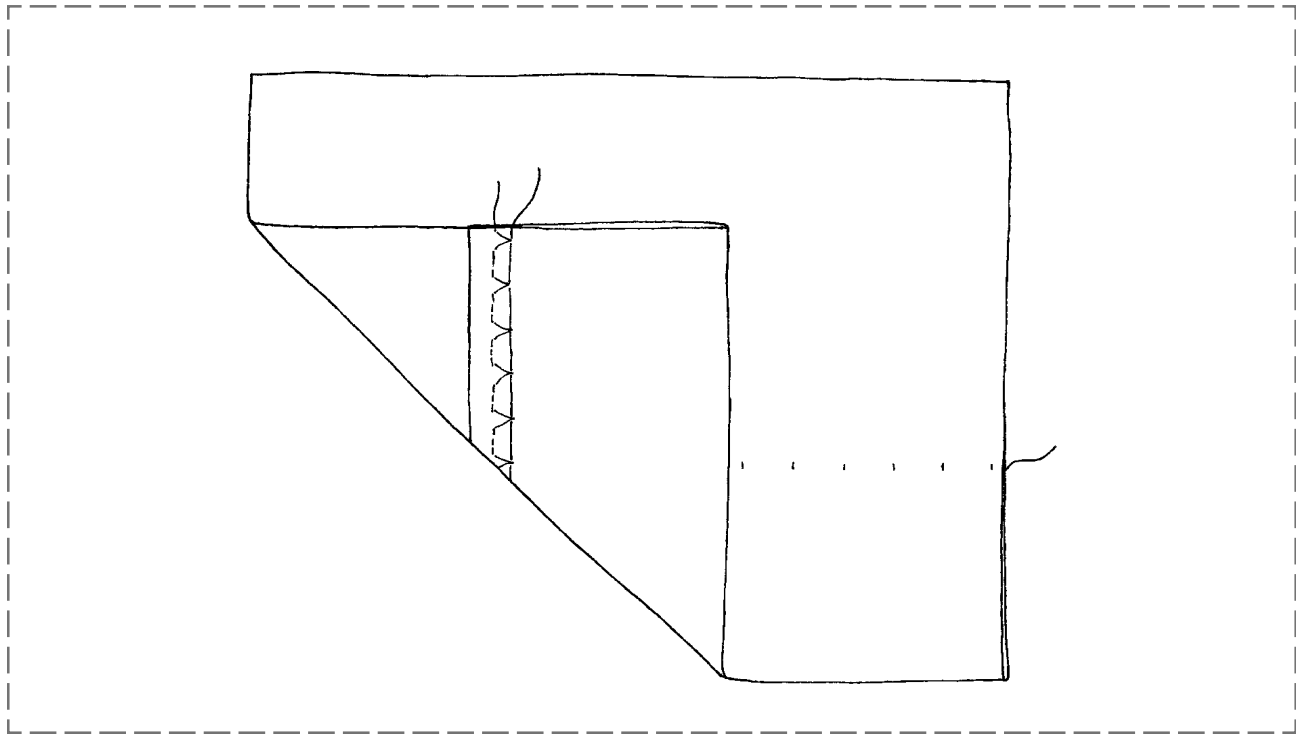
OVERSEWING EDGES

Fabric:	Heavy Flannel – 3" x 6"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1

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- Select the Zigzag Stitch #2.
- Finish one 6" edge using the following steps.
- Guide edge of fabric under the middle of the presser foot.
- The needle should go into the fabric on one stroke of the needle and over the edge on the next stroke.
- Do not use too long a stitch or too wide a stitch; the edge should lie flat, not roll.
- Match the weight of the thread to the weight of the fabric.
- Trim and mount the sample.





BLIND HEM

Fabric:	Heavy Flannel – 6" x 7"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse pattern Foot #1 <i>and</i> Blind Hem Foot #5

Owner's manual pg. ____

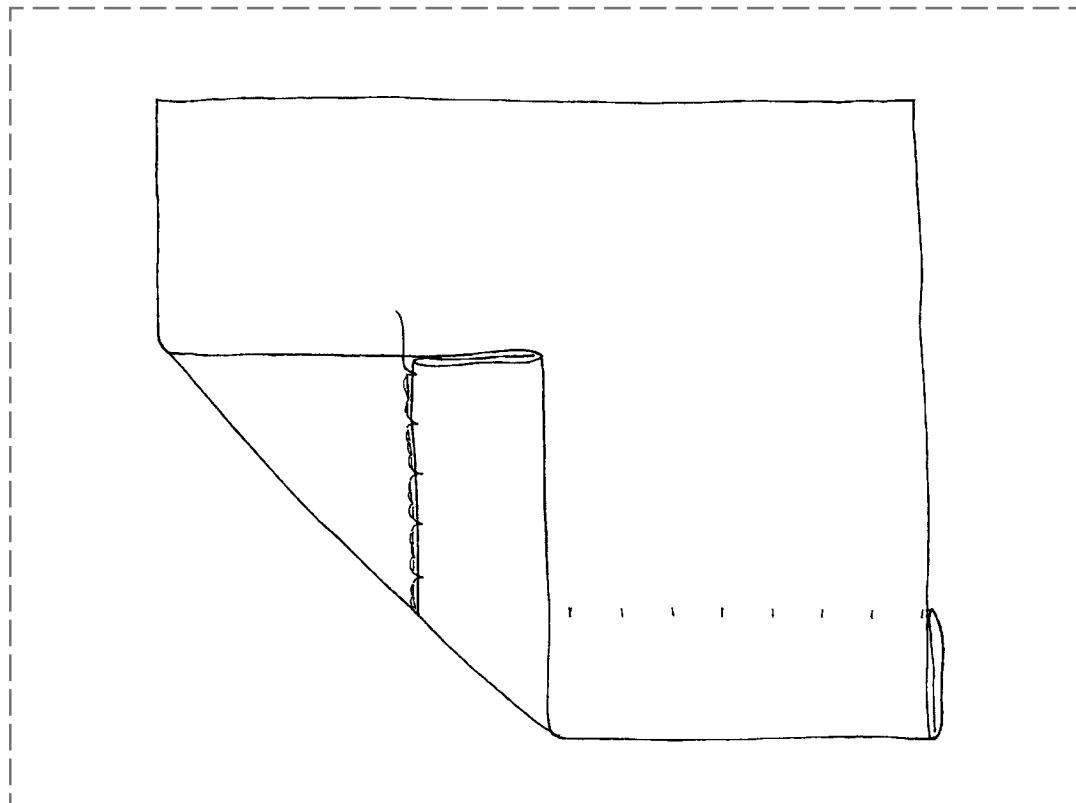
- Finish one 6" edge of the fabric following the steps of the previous exercise.
- Fold a 2" hem to the wrong side of the fabric and press.
- Attach Reverse Pattern Foot #1.
- Baste the hem in place, sewing about ¼" from the raw edge.
- Select the Blindstitch #7 and attach Blind Hem Foot #5.
- Fold hem back to the right side over the basting line.
- Sew on the extended hem allowance, keeping the folded edge next to the guide on the foot.
- Adjust the stitch width if needed so that the needle barely stitches into the fold.
- Mount the sample with the edges folded back as shown in the drawing.

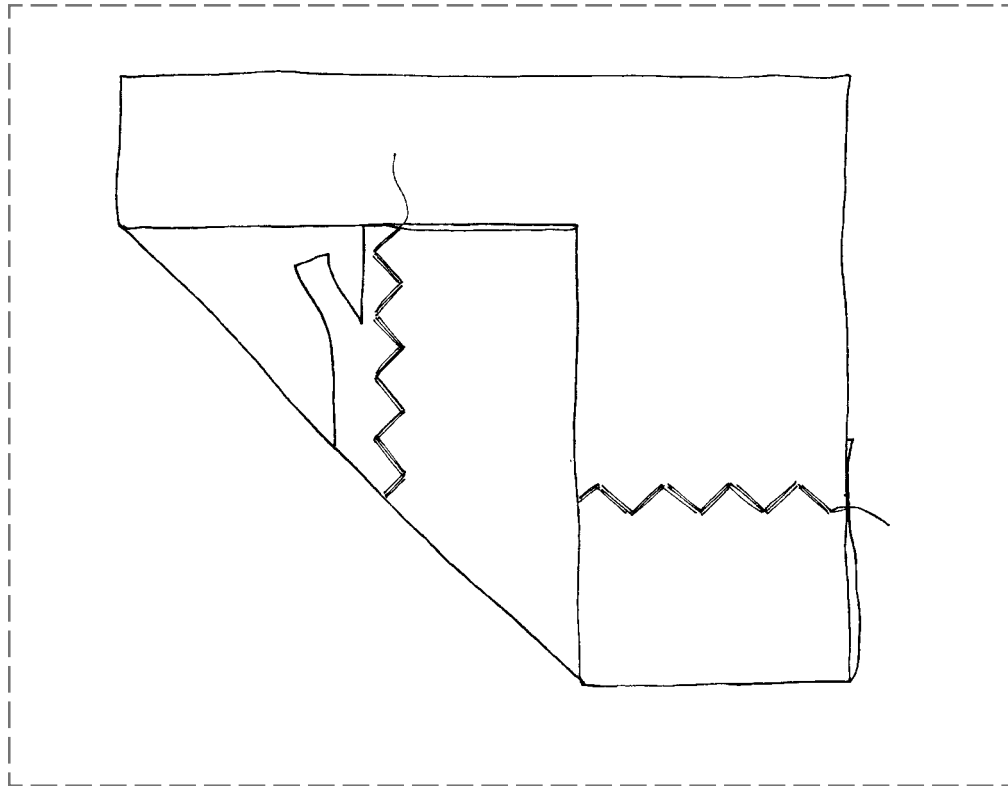
HAND PICKED HEM

Fabric:	Lightweight broadcloth – 6" x 7"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Blind Hem Foot #5

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- Turn up a 1" hem along one of the 6" edges and press.
- Turn up the depth of the hem again and press.
- Fold the entire hem toward the right side of the garment, so that the garment fold is almost even with the top edge of the hem. A scant $\frac{1}{8}$ " to $\frac{1}{16}$ " of hem edge should be visible. This will ensure that both folds are caught by the blind hem pick.
- Place the fabric under the foot just as a traditional blind hem would be placed.
- Sew the hem with Blindstitch #7, making sure that the zigzag pick catches both folds while the straight stitch falls off the edge and stitches in air forming a chain along the upper hem edge.
- Press and mount the sample.





TRIPLE ZIGZAG HEM

Fabric:	Firmly woven – 6" x 7"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidery
Presser Foot:	Reverse Pattern Foot #1

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- Fold a 2" hem to the wrong side of the fabric; press.
- Select the Triple Zigzag Stitch #6.
- Adjust stitch length and width as desired.
- From the right side of the fabric, stitch the hem in place, sewing about 1½" from the fold.
- From the wrong side, trim the excess fabric close to the stitches.
- Press and mount the sample.

DOUBLE NEEDLE HEM

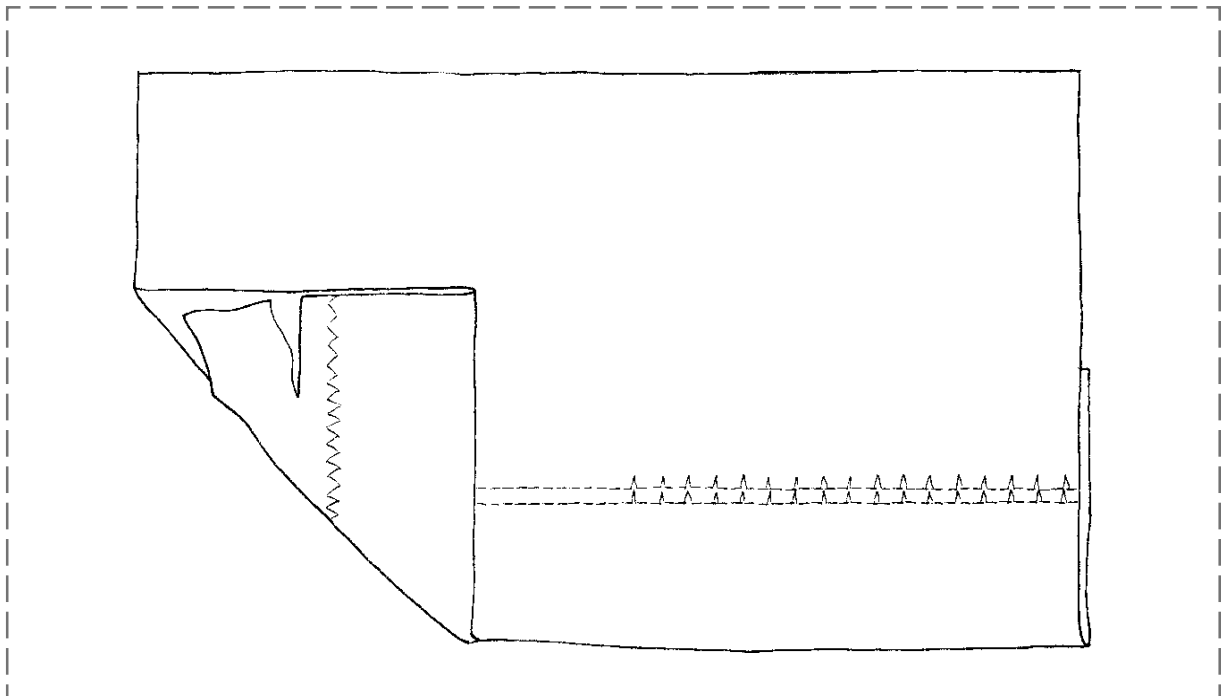
Fabric:	Cotton interlock – 6" x 7"
Needle:	Double 3.0/80
Thread:	All-purpose, 2 colors
Presser Foot:	Reverse Pattern Foot #1

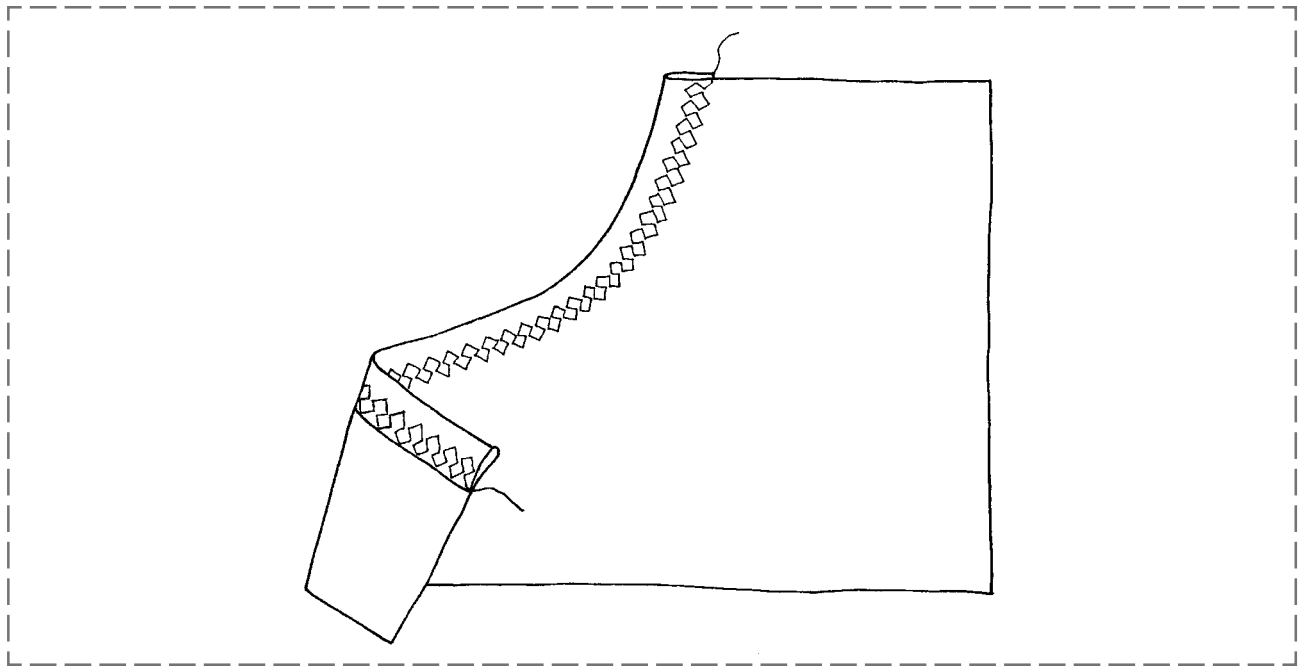
Owner's manual pg.____

- Turn up a 2" hem along one of the 6" edges and press.
- Insert a 3.0/80 double needle.
- Thread the needles with two different colors of thread.
- Place the folded edge of the fabric along the 1" guideline on the right side of the stitch plate.
- Select stitch #1; sew half of the hem.

Note: To be sure the needles will not strike the foot, turn the handwheel to "walk" the machine through the first stitch. Narrow the width as needed to avoid breaking needles.
- Select stitch #7 or experiment with similar stitches; stitch the remainder of the seam.
- Trim excess fabric from the wrong side of the hem.
- Check *Feet-ures*, Unit A for detailed information on working with Double and Triple needles.

Note: This is a good stitch to use when hemming T-shirts and pajamas. You can use other stitches with a double needle for other types of fabrics.
- Press and mount the sample.





NECKLINE HEM

Fabric:	Single knit cotton – 4" x 6"
Needle:	80/12 Universal
Thread:	All-purpose
Presser Foot:	Reverse Pattern Foot #1

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- Cut a curve to simulate a neck edge in one corner.
- Sew a line of stay-stitching, $\frac{3}{8}$ " in from the neck edge using the straight stitch adjusted to a length of 5mm.
- Turn the raw edge under and press or baste in place.
- Select the Honeycomb Stitch (#14 on the 153QE and #16 on the 163).
- Sew from the right side $\frac{1}{4}$ " from the folded edge.
- Trim surplus fabric from wrong side, close to the stitching.

Notes:

- If the hem stretches, add a strip of *Stitch Witchery*® to the edge as it is stay-stitched.
- Using the *Needle Stop Down* function will keep the fabric in place when sewing curves.
- The *Balance* function can be used to make the stitches closer together or farther apart.

- Press and mount the sample.

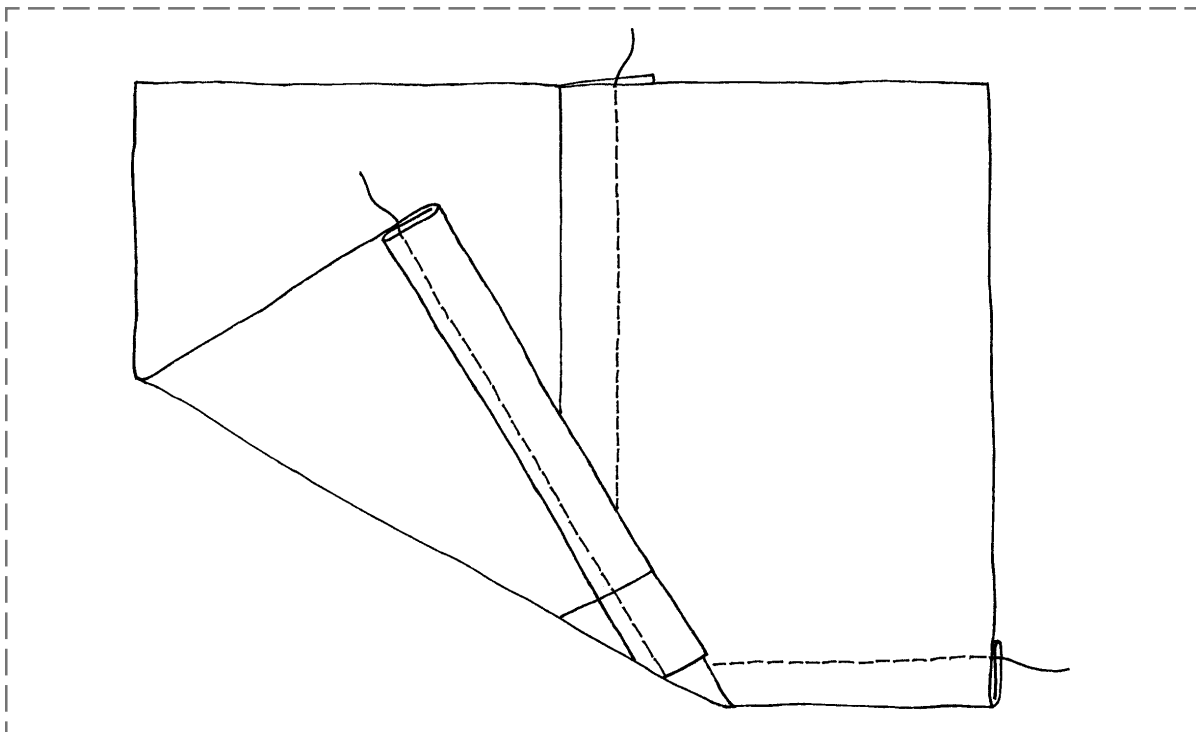
JEANS HEM

Fabric:	Denim – 5" x 7"
Needle:	100/16 or 110/18 Jeans
Thread:	All-purpose
Presser Foot:	Jeans Foot #8

Note: Specially designed to sew over heavy seams and fabrics, the Jeans Foot #8 guides the needle through heavy thicknesses and helps to eliminate needle breakage. It is also effective for topstitching with buttonhole twist or cordonnnet threads.

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- Cut fabric in two pieces, 5" x 3½" each.
- Insert a Jeans needle and select stitch #1.
- Sew a 5/8" seam with right sides together.
- Press the seam to one side.
- Topstitch, using the edge of the foot along the seam as a guide, and stitching through the seam allowances.
- Turn up the lower edge twice, about 3/8" each time.
- Topstitch the hem in place, about 1/8" from the upper edge of the hem.
- Press and mount the sample.



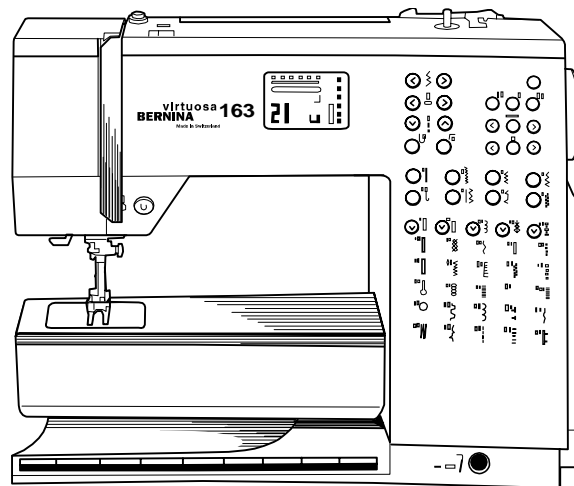
WISH LIST

Let's Start With The Basics

- Feet-ures, Units A, B, C
- Overlock Foot #2A
- Jeans Foot #8
- Embroidery Foot #6
- Straight Stitch Foot #13
- Edgestitch Foot #10
- Cut and Sew Attachment #80
- Double Needles
 - 2.0mm
 - 2.5mm
 - 3.0mm
- Jeans Needles
 - 90/14
 - 100/16
 - Double
- Stitch Witchery - 5/8" roll
- BERNINA® Ironing System
- Curved Hem Ruler
- 6" Sewing Gauge
- Seam Pressing Stick
- BERNINA® Cutting Mat
- BERNINA® 14" Ruler

MASTERING YOUR

BERNINA® *virtuosa* 153 QE/163



OWNER'S WORKBOOK

Section C On The Edge

SECTION C

On The Edge

Buttonholes

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Feet-ures, Unit A

- Types and Uses
- Preparation
 - proper stabilizers
 - sometimes using two or more layers
 - proper adhesion of iron-on stabilizers
- Positioning:
 - marking
 - full bust can be beginning point
 - using spacing tape
 - using Simpflex
- Measuring the Button:
 - to determine length of buttonhole
- Grading Seams
 - using applique scissors
- Height Compensation Tool
 - keep foot level
- Buttonhole Leveler
- Tension Adjustments
- Testing:
 - always use same fabric, thread and stabilizer
- Cutting Open:
 - seam sealant
 - block and cutter
- Tricks:
 - wash-a-way stabilizer for high pile fabrics
 - Stitch Witchery® for loose wovens or knits
- Buttonhole Balance
- Programmed Buttonholes
- Corded Buttonholes:
 - with gimp cord
 - with threads

Sewing Buttons On

Owner's manual page _____

Feet-ures, Unit D

- Button Sew-On Stitch
 - regular
 - decorative
 - snaps, hooks, and charms
 - tie a quilt









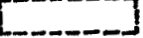



Edges

- Picot – *Feet-ures*, Unit D
- Shell
 - blindstitch – *Feet-ures*, Unit A
 - hemmer feet #68 or #69 – *Feet-ures*, Unit I
- Rolled and Whipped Edge – *Feet-ures*, Unit A
- Fine Edge – *Feet-ures*, Unit B
- Corded Edge – *Feet-ures*, Unit B
 - for tucks
 - for hems
- Designer Hem – *Feet-ures*, Unit B

Attaching Elastics

- Types
- Methods of applying
 - turn under
 - couching over
 - lingerie

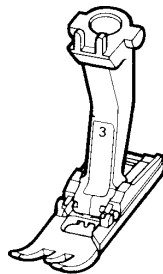
BUTTONHOLES AND EYELETS TYPES AND USES

- X O**  **STANDARD BUTTONHOLE**
Fine to medium weight fabrics. Blouses, shirts, trousers, bedlinens.
- O**  **HEIRLOOM BUTTONHOLE**
Fine to medium weight fabrics. Blouses, shirts, dresses, trousers. children's and baby clothes, doll clothes, heirloom work.
- O**  **STRETCH BUTTONHOLE**
All stretch fabrics made from cotton, wool, silk, and synthetic fibers.
-  **ROUND BUTTONHOLE WITH NORMAL BARTACK**
Medium to heavy weight fabrics of all types. Clothing, jackets, coats, rainwear.
-  **ROUND BUTTONHOLE WITH HORIZONTAL BARTACK**
Medium to heavy weight fabrics of all types. Clothing, jackets, coats, rainwear.
- X O**  **KEYHOLE BUTTONHOLE WITH NORMAL BARTACK**
Heavy weight, non-stretch fabrics. Jackets, coats, trousers, leisure wear.
-  **KEYHOLE BUTTONHOLE WITH POINTED BARTACK**
Non-stretch firm fabric. Jackets, coats, leisure wear.
-  **KEYHOLE BUTTONHOLE WITH HORIZONTAL BARTACK**
Firm, non-stretch fabrics. jackets, coats, leisure wear.
-  **STRAIGHT STITCH BUTTONHOLE**
For prestitching buttonholes and pocket openings. For bound buttonholes & welt pockets.
-  **BUTTON SEW-ON PROGRAM**
For flat buttons with 2 and 4 holes. For sewing on snaps, hooks, and charms.
-  **NARROW ZIGZAG EYELET**
Opening for cords and narrow ribbons/bands, other decorative work.
- X O**  **STRAIGHT STITCH EYELET**
Opening for cords and narrow ribbons/bands, other decorative work.

X available on the *virtuosa* 153QE and 163
O also available on the *virtuosa* 163

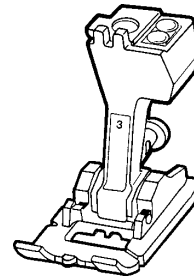
BUTTONHOLE FEET

A number of buttonhole feet are available for BERNINA® sewing machines. The descriptions below will help differentiate between the various feet.



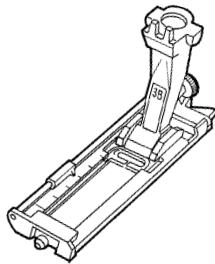
BUTTONHOLE FOOT #3

The standard 5mm buttonhole foot.
Works with any BERNINA® sewing machine



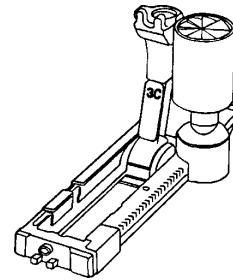
BUTTONHOLE FOOT #3C

The standard 9mm buttonhole foot.
“C” indicates a “coded” foot, with a light sensor that allows 9mm wide stitching.
Works with models 1630 and *artista* 180.



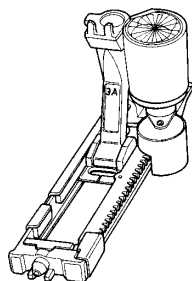
BUTTONHOLE FOOT WITH SLIDE #3B

A 5mm foot with a movable slide indicating buttonhole length, making it easy to stitch a series of identical buttonholes.
Works with any BERNINA® sewing machine.



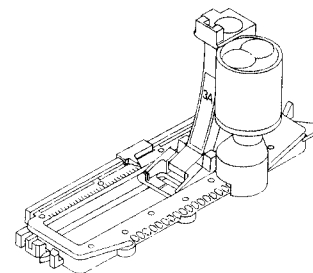
AUTOMATIC BUTTONHOLE FOOT #3C

The automatic buttonhole foot for machines with a 9mm feed system, indicated by the letter “C”.
Works with models 1630 and *artista* 180.



AUTOMATIC BUTTONHOLE FOOT #3A

Automatic foot for machines with a 5mm and 9mm feed system. “A” indicates an “automatic” foot, with a light sensor for counting stitches.
Works with models 1130-1530 and 150-170QPE.



AUTOMATIC BUTTONHOLE FOOT WITH SLIDE #3A

Combines the handy slide measuring system of Buttonhole Foot #3B with the electronic sensor of the older Automatic Buttonhole Feet #3A and #3C.
Works with models 135PE/145 and 150-180.

STABILIZERS

Tear-Away Stabilizer: The most commonly used type of stabilizer, designed to provide temporary support of stitching. Placed on the wrong side of the project and carefully pulled away once stitching is complete. Available in three weights – heavy, medium, and light. Multiple lightweight layers may be preferable to one heavy layer, as they are easier to remove.

Cut-Away Stabilizer: The most widely used stabilizer in the commercial market. Does not break down under dense stitching, due to the high fiber – rather than paper – content. Excess stabilizer is trimmed away after stitching (leave approximately ¼” of stabilizer around the edges).

Web/Poly-Mesh Type Stabilizer: A specially formulated cut-away stabilizer developed for use behind lightweight or light-colored fabrics.

Water-Soluble Stabilizer: Used for backing and topping, in single or multiple layers. Available in two weights. Excellent for decorative stitching and cutwork as there are no remnants of stabilizer left after removal (it dissolves). As a topping, it keeps stitches from being lost in heavily napped fabrics such as velvet and corduroy.

Knit Fusible Interfacing: A very lightweight, flexible interfacing sometimes used as a stabilizer, it gives permanent support (as an underlining) to a fabric. Perfect for plackets, garment edges, under buttonholes, and anywhere extra body and stability are needed.

Woven Fusible Interfacing: This interfacing is sometimes used as a stabilizer and is generally cut on the bias to provide better drape. Gives a firmer hand or finish than knit or non-woven interfacings. Used for lapels, facings, and anywhere a great deal of extra body and stability are needed.

Iron-On Stabilizer: A non-woven product similar to paper. Perfect for knits, this tear-away stabilizer is temporarily bonded to the fabric, inhibiting the tendency of the material to stretch.

Heat Removable Stabilizer: Woven from strands of fiber that are burned away at a low temperature, heat removable stabilizers are perfect for heirloom stitchery.

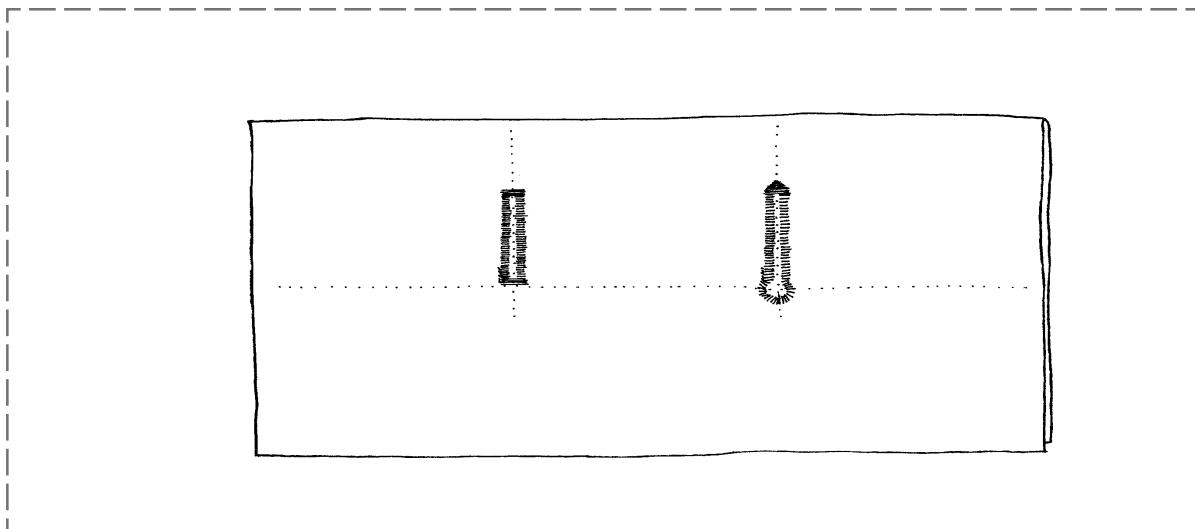
Liquid/Spray Stabilizers: Wonderful for sheer fabrics from which all stabilizer must be removed after stitching, these products are painted or sprayed onto the fabric. Several light applications of spray stabilizer are preferable to one heavy application.

MANUAL BUTTONHOLES

Fabric:	Heavy flannel, 6" x 6"
Stabilizer:	1 piece, 3" x 6"
Needle:	90/14 Embroidery
Thread:	30 weight cotton embroidery
Presser Foot:	Standard Buttonhole Foot #3

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- Fold one piece of fabric in half to 3" x 6". Press and insert the stabilizer.
- Draw a line 1½" from the fold along the 6" length.
- Mark two horizontal lines, running between the fold and the drawn line, spaced about 2" apart.
- Select buttonhole #9 – the standard buttonhole.
- Position the foot over the first short line, aligning the fold of the fabric with the 5/8" marking behind the foot.
- Sew the first side of the buttonhole.
- Stop at the drawn line.
- Continue stitching the remaining steps of the buttonhole.
- Select stitch #10 on the 153QE or #12 on the 163. Place the second short line under the presser foot as before.
- Sew the keyhole buttonhole on the second marked line.
- Cut one buttonhole open.
- Trim and mount the sample.



BUTTONHOLE BALANCE

Fabric:	Heavy flannel, 6" x 9"
Stabilizer:	1 piece, 6" x 9"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidert
Presser Foot:	Buttonhole Foot with Slide #3A

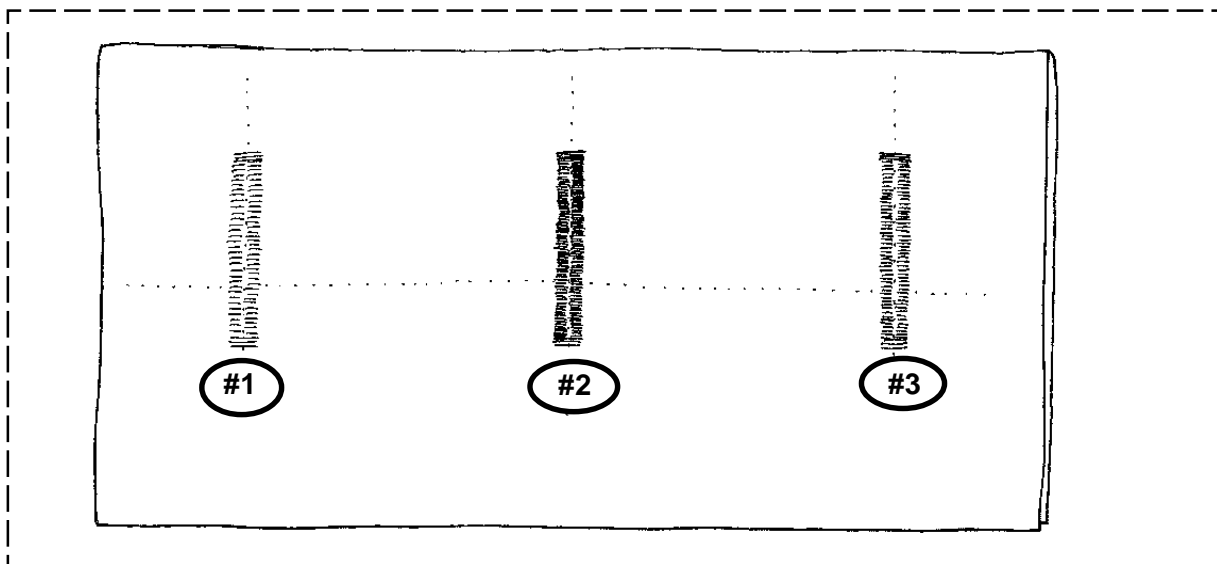
- Owner's manual page ___.
- Select buttonhole #9 and decrease bead density by lengthening the stitch to 1.
- Sew about a 1" buttonhole using the counted stitch method and mark it #1.
- Adjust the balance toward the closed stitch icon.
- Sew the buttonhole and mark it #2.

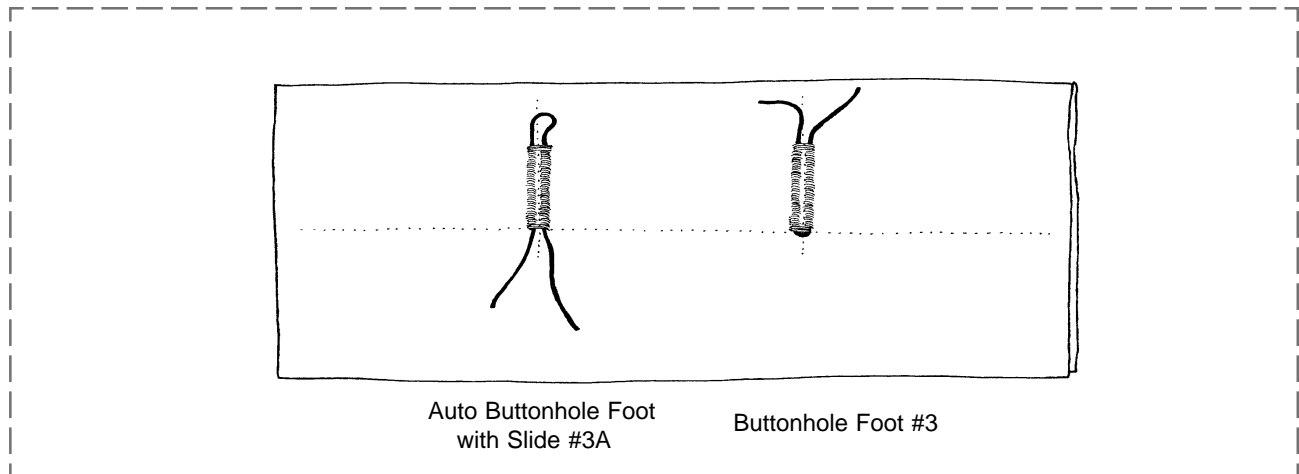
Note: This buttonhole bead is very dense.

- Turn the balance knob toward the open stitch icon.
- Sew another buttonhole; now the stitches are farther apart.
- Mark the sample with #3.

Note: This buttonhole bead is very open.

- Return the balance knob to normal.





CORDED BUTTONHOLES

Fabric:	Heavy flannel, 6" x 6" Two 10" lengths of gimp cord
Stabilizer:	1 piece, 3" x 6"
Needle:	90/14 Embroidery
Thread:	30 weight cotton embroidery
Presser Foot:	Standard Buttonhole Foot #3 and Auto Buttonhole Foot with Slide #3A

Owner's manual pg. ____

- Fold the fabric in half to 3" x 6". Press and insert the stabilizer.
- Mark a line 1½" from the fold and running the length of the fabric.
- Mark two horizontal lines between the fold and the line, spaced about 2" apart.
- Select the Standard Buttonhole #9.
- Place the fold so it is on the 5/8" line behind the presser foot.
- Lower the needle into the fabric on the first line.
- Fold one piece of cord in half; place loop around prong of the Auto Buttonhole Foot with Slide #3A.
Note: The cord strengthens the buttonhole on wovens and prevents it from stretching on knits. The thickness of the cord depends on the fabric to be sewn. Suitable cords are perle cord #8, thick hand sewing thread, gimp cord, or crochet cotton.
- Sew the buttonhole.
- Pull the loop of gimp cord snug and cut tails close to bartack.
Note: On knits, pull to back and tie a knot.
- Sew another corded buttonhole using the Buttonhole Foot #3 on the second line.
- The cord may come away from the prong of this foot. Therefore it is advisable to hold the loop of the gimp down lightly with the finger.
- Pull the cord ends to the back with a large hand sewing needle and tie.
- Trim and mount sample.

STITCH COUNTER BUTTONHOLES

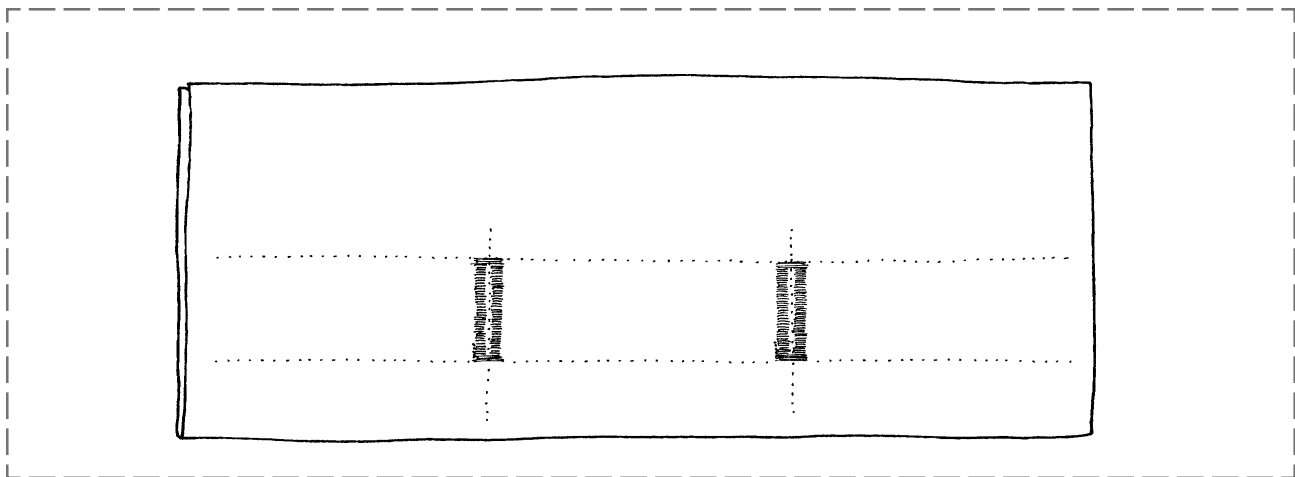
Fabric:	Heavy flannel, 6" x 6"
Stabilizer:	1 piece, 3" x 6"
Needle:	90/14 Embroidery
Thread:	30 weight cotton embroidery
Presser Foot:	Standard Buttonhole Foot #3 or Auto Buttonhole Foot with Slide #3A

Owner's manual pg. ____

- Fold the fabric in half to 3" x 6".
- Mark a parallel line 2" from the fold and a second one 1" from the fold.
- Mark two lines perpendicular to the fold, spacing them about 2" apart.
- Select standard buttonhole #9.
- Position the beginning of the buttonhole on the line closest to the fold.
- Sew the first bead and stop stitching at the second line.
- Press the quick reverse button - as you stitch, the bottom bartack and second bead are sewn.
- Stop the machine even with the first stitch of the first bead - press quick reverse.
- The machine sews the top bartack, ties the stitches off and stops automatically.
- Auto appears on the screen and the buttonhole is programmed.

Notes:

- *The first bead is sewn forward, the second bead backward.*
 - *The buttonhole must be reprogrammed after altering stitch length, width or balance.*
 - *Practice using the fabric and stabilizer to be used in the finished project.*
 - *Stitch buttonholes at consistent speed.*
- Trim threads close and mount the sample.



BUTTON SEW-ON STITCH

Fabric:	Heavy flannel, 6" x 6"
Stabilizer:	1 piece, 3" x 6"
Needle:	90/14 Embroidery
Thread:	30 weight cotton embroidery
Presser Foot:	Button Sew-On Foot #18 (optional accessory)

Owner's manual pg. ____

- Select stitch #2; adjust width as needed and set the length at 0mm.
- Engage the Securing function as you begin—then turn it off—engage it again as you end.
- Lower the feed dogs.
- Fold the fabric in half to 2" x 6"; press. Insert the stabilizer.

Notes: - You can sew buttons on to stay!

- A low shank can be made for dresses and blouses or a high shank can be made for heavier fabrics such as coats and blazers.

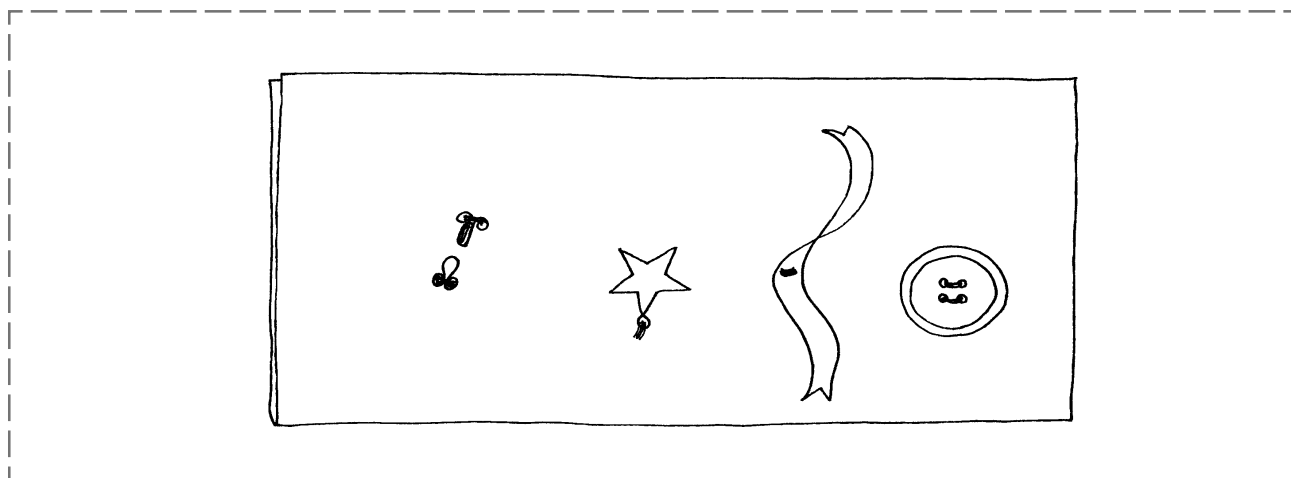
- Use the Button Sew-On Foot #18 to sew on waistband closures, hook-and-eye fasteners, snaps, curtain rings, and charms.

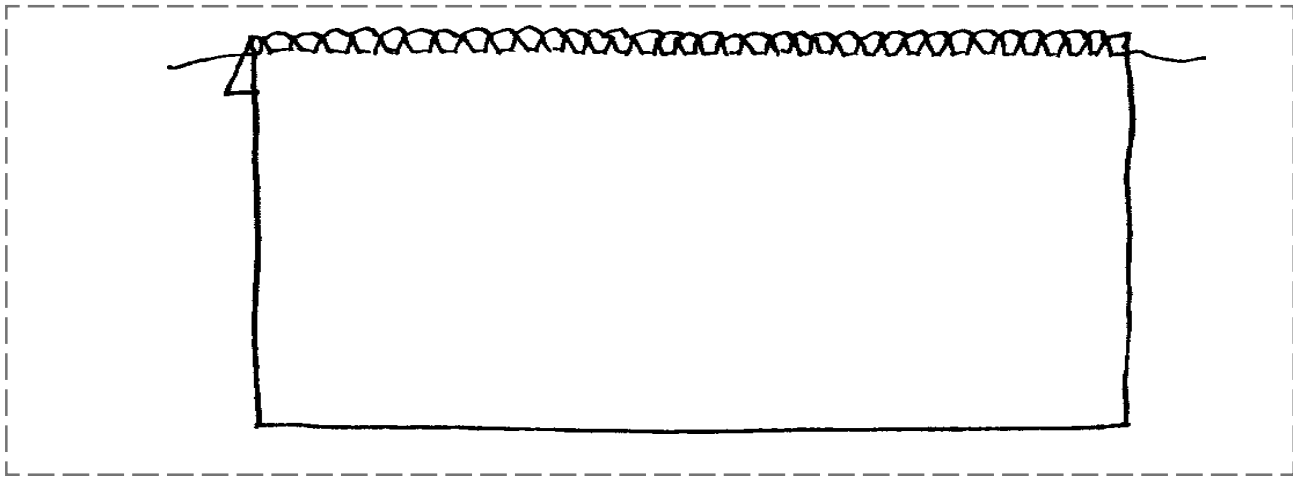
Technique #1

- Select stitch #2; set up as above.
- Use a glue stick to position a button in place.
- Adjust the pin on Foot #18 to the highest position for a long shank.
- Check the distance between the holes of the button by turning the hand wheel.
- Adjust the stitch width if necessary.
- Hold the thread tails as you begin to sew.

Technique #2

- Using the lowest shank setting, attach a charm, a length of ribbon, and a hook-and-eye to the same fabric.
- Trim threads close and mount the sample.





PICOT EDGE

Fabric:	Lightweight single knit cotton, 6" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing thread
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

- Select the Vari-Overlock stitch #3 - SW 4-5mm and SL 1.5mm.
- Fold under one 6" edge about ½" and press.
- Place fabric to the left and position it under the foot so that the stitch, when it swings to the right, will just pass over the folded edge.
- On knit fabrics the surplus can be trimmed from the wrong side close to the stitch.
- On woven fabrics it is advisable to first sew a row of small zigzag stitches about ¼" from where the picot edge will be. Then you will be able to trim close to these stitches after the picot has been stitched.
- Trim and mount the sample.

This stitch is suitable only for fine, soft fabrics and is ideal for lingerie and nightwear.

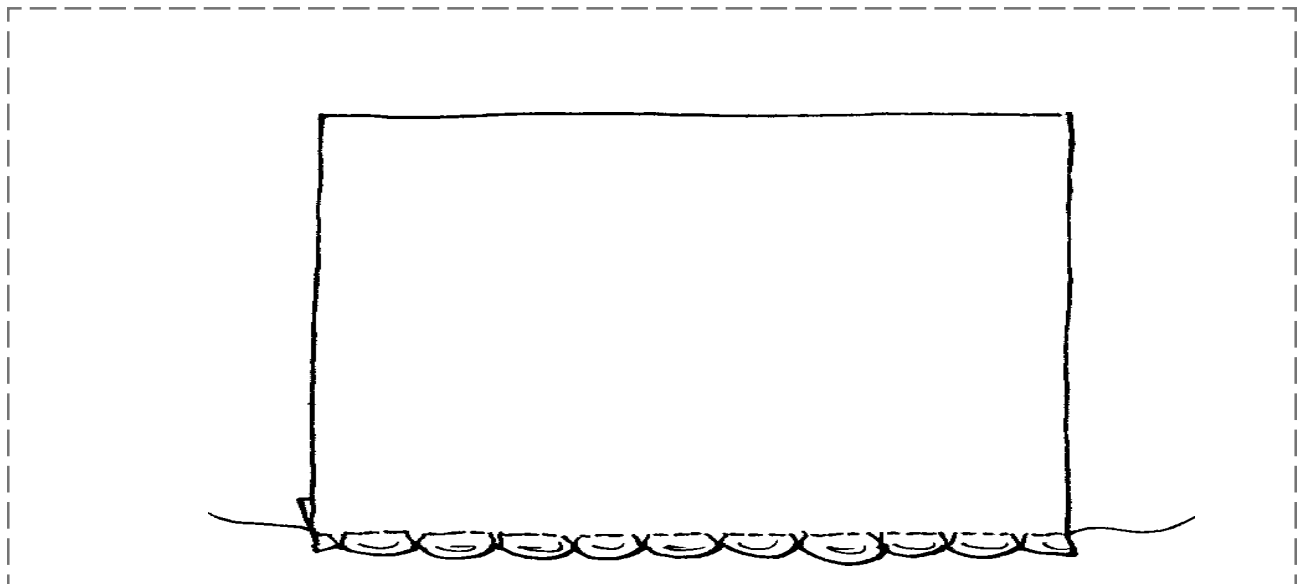
SHELL EDGE

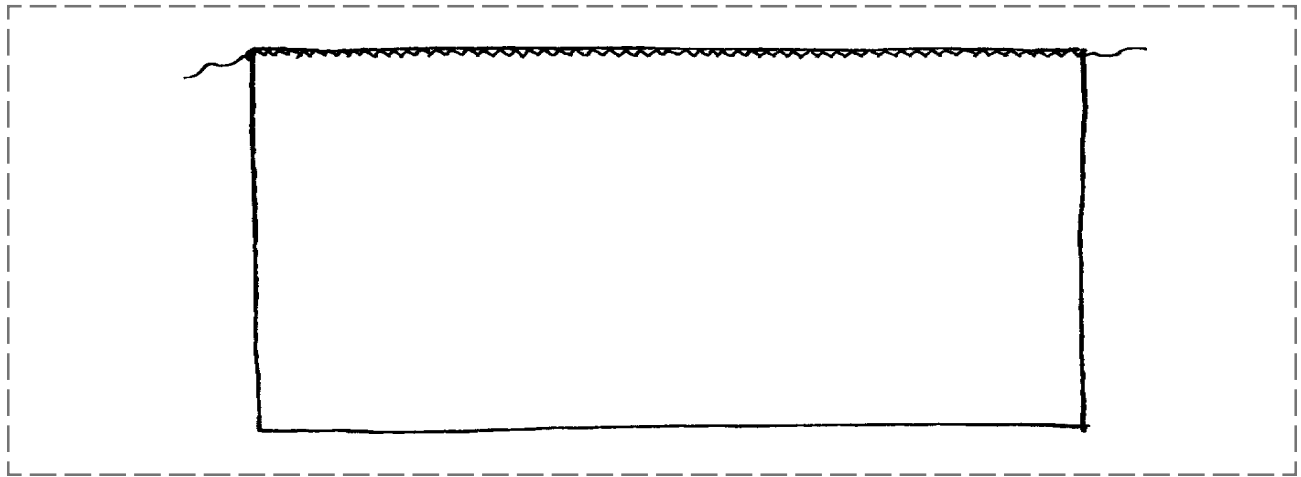
Fabric:	Nylon tricot, 6" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing thread
Presser Foot:	Reverse Pattern Foot #1

Owner's manual pg. ____

- Select the Blind stitch #7 - SW 2.5-5mm and SL 1.5-2mm. The longer the stitch length, the larger the shells.
- Engage the mirror image function.
- Fold under one 6" edge about ½" and press.
- Place fabric to the left and position it under the foot so that the stitch, when it swings to the right, will just pass over the folded edge.
- On knit fabrics the surplus can be trimmed from the wrong side close to the stitch.
- On woven fabrics it is advisable to first sew a row of small zigzag stitches about ¼" from where the shell edge will be. Then you will be able to trim close to these stitches after the edge is finished.
- Trim and mount the sample.

This stitch is suitable for fine, fabrics and is ideal for lingerie and nightwear.





ROLLED AND WHIPPED EDGE

Fabric:	Lightweight cotton, 6" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing thread
Presser Foot:	Buttonhole Foot #3

Owner's manual pg. ____

- Clean one 6" edge of "whiskers"
- Select the ZigZag Stitch #2 - SW 2.5mm and SL 1mm or less.
- Select the left needle position.
- Loosen the top tension if necessary.
- Place cut edge of fabric between the center and right toes of the presser foot and sew.

Notes:

- The left swing of the needle should be in the fabric, while the right swing falls off of the right edge of the fabric.
 - As the needle swings left, it should roll the fabric into a tiny rolled edge.
 - The finer the fabric, the finer the needle and thread used.
- Trim and mount the sample.

*This edge finish is used on a single thickness of fine lightweight fabrics.
It is also use as a seam finish or as an edge on ruffles, hems etc.*

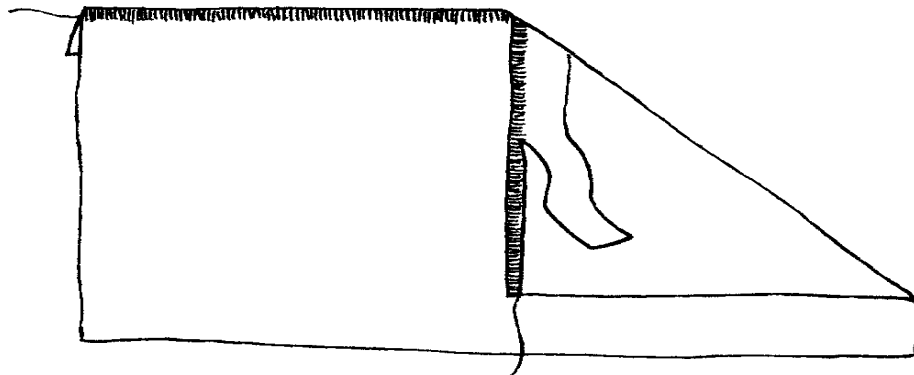
FINE EDGE

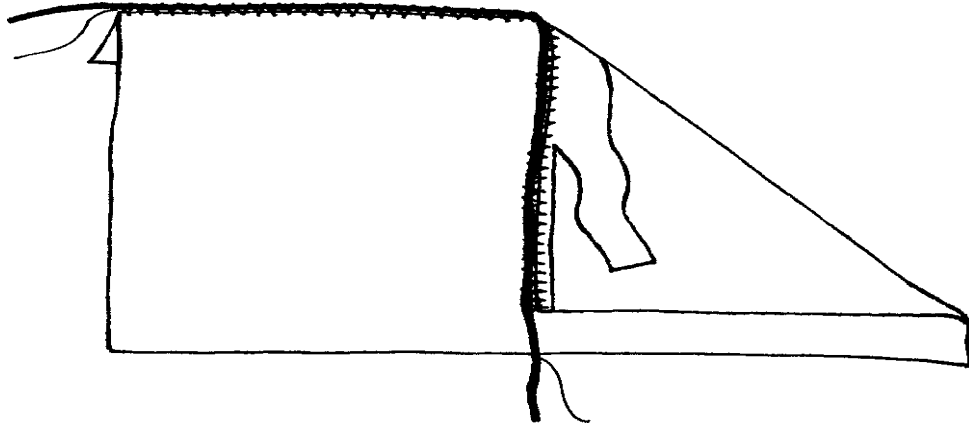
Fabric:	Batiste, 6" x 4"
Needle:	70/10 Universal
Thread:	60 wt. needle and bobbin
Presser Foot:	Edgestitch Foot #10 (optional accessory)

Owner's manual pg. ____

- Select the ZigZag Stitch #2 - SW 2mm and SL 1mm.
- Select the left needle position.
- Fold under ½" hem allowance on one 6" edge and press.
- Place the fabric right side upper most, to the left of the guide on the foot and sew the edge.
- When completed, trim away surplus fabric from the wrong side, close to the stitch.
- Mount the sample.

Note: Reverse Pattern Foot #1 can be used - settings as above but use center needle position.





CORDED EDGE

Fabric:	Medium weight cotton, 6" x 4" Pearl Crown Rayon cord
Needle:	80/12 Universal
Thread:	To match cord
Presser Foot:	Edgestitch Foot #10 (optional accessory)

Owner's manual pg. ____

- Fold under a ½" hem allowance on one 6" edge and press.
- Place the folded edge, right side up, against the left side of the center blade.
- Select the ZigZag stitch #2 - SW 2mm and SL 1mm or adjust as needed.
- Adjust the needle position so the stitch falls on the folded edge.
- The right swing of the needle should barely miss the edge of the fold, stitching in air.
- Sew 2 or 3 stitches and stop with the needle down.
- Raise the foot, insert the cord under the foot from the right, against the needle.
- Pull the cord up through the center slot of the foot and hold it against the left side of the guide.
- Continue stitching - the cord will feed into the zigzag stitch.
- Trim the excess fabric from the wrong side.
- Mount the sample.

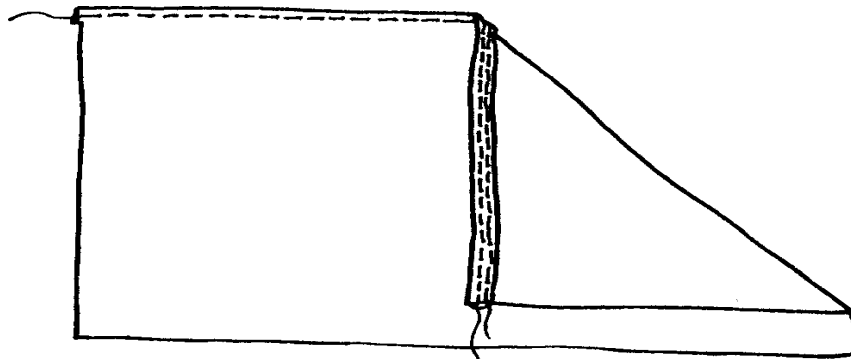
Note: Cord can be a variety of types - pearl rayon works well.

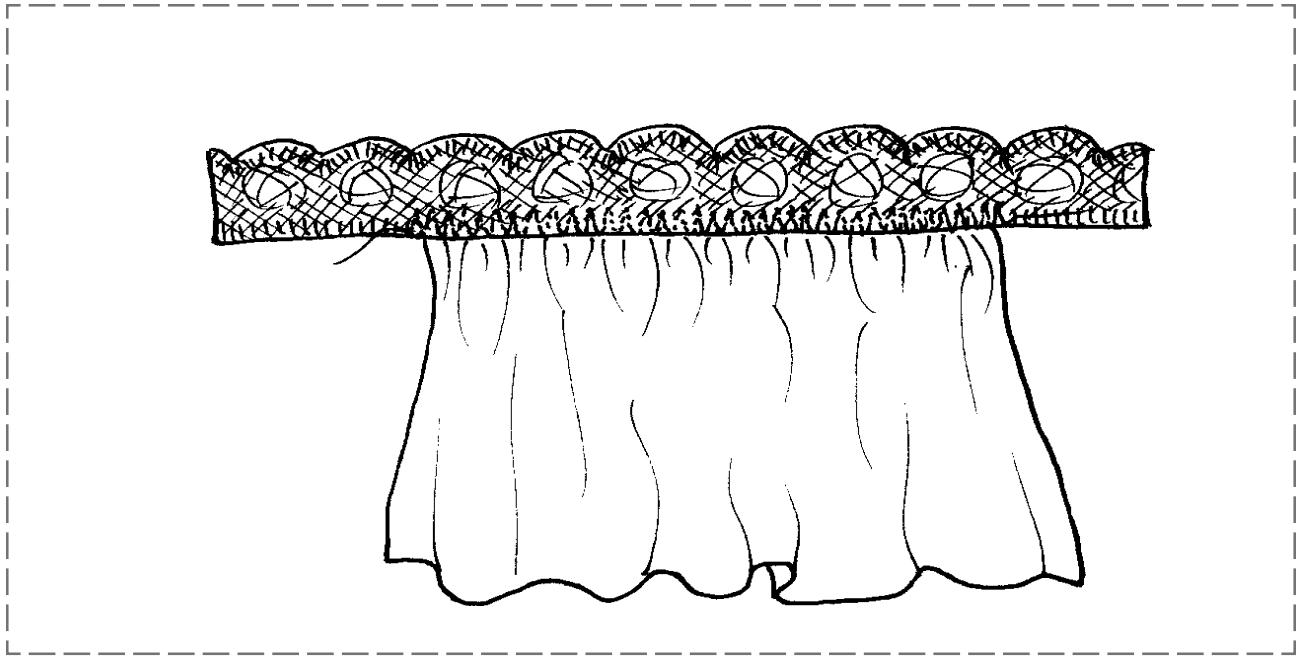
DESIGNER HEM

Fabric:	Medium weight cotton, 6" x 4" Pearl Crown Rayon cord
Needle:	80/12 Sharp
Thread:	All-purpose sewing thread
Presser Foot:	Edgestitch Foot #10 (optional accessory)

- Select Straight Stitch #1.
- Select the left needle position.
- Turn the raw edge under $\frac{3}{8}$ " and press.
- Stitch with the fold against the left side of the guide on the presser foot.
- Trim away seam allowance as close to stitching as you can get.
- Turn the first folded edge under again tightly and place the new fold against the left side of the guide on the foot.
- Stitch again from the wrong side of the fabric as in the first step.
- A successful hem will have two parallel lines of stitching on the wrong side of the hem and one showing on the right side.
- Trim and mount the sample.

*This is a very narrow two-step hem, easily sewn on straight or bias grains.
Works great on sheer fabric.*





ATTACHING ELASTIC LACE

Fabric:	Nylon tricot, 6" x 4" 9" of elastic lace
Needle:	80/12 Universal
Thread:	All-purpose sewing thread
Presser Foot:	Reverse Pattern Foot #1

- Select the Running stitch #4.
- Adjust stitch length to 1mm.
- Engage the needle down function.
- Position the elastic wrong side down on the right side of the tricot along one of the 6" edges.
- Leave a tail of elastic at the back of the presser foot for a "handle".
- Position the elastic so the stitching is at the bottom edge of the elastic lace.
- Stretch the elastic lace gently, as it is being sewn.
- After stitching, trim the surplus tricot from the wrong side of the elastic lace, close to the stitching.
- Mount the sample.

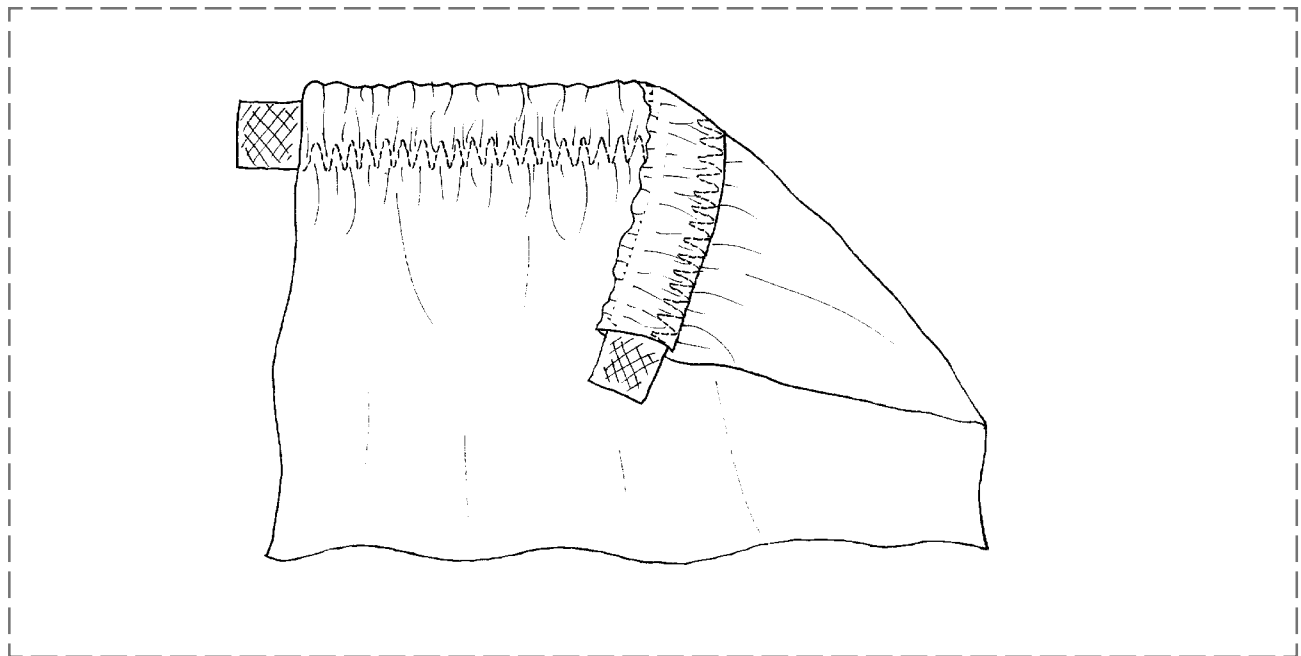
TURNED UNDER ELASTIC

Fabric:	Lycra - cotton or nylont, 6" x 5" 9" of cotton swimwear elastic, ½" wide
Needle:	80/12 Universal
Thread:	All-purpose sewing thread
Presser Foot:	Reverse Pattern Foot #1

- Select the ZigZag stitch #2 - SW 2mm and SL 2mm.
- Position the elastic on the wrong side of the fabric, along one 6" edge.
- Allow a 2" tail of elastic to extend beyond the fabric.
- Using the tail of elastic at the back of the presser foot for a "handle", stretch the elastic a bit to simulate the leg of an exercise leotard or swimsuit.

Note: This is the same procedure used to do a turned waistband, using wider elastic.

- Sew the elastic to the fabric keeping the edge of the elastic and the edge of the fabric together.
- If stopping midway, use the Needle Down function to hold the elastic and fabric in place.
- Fold the elastic to the wrong side and overstitch the elastic from the right side using Running Stitch #4 with a length of 1mm.
- Adjust presser foot pressure and/or stitch length if elastic stretches out as it is sewn.

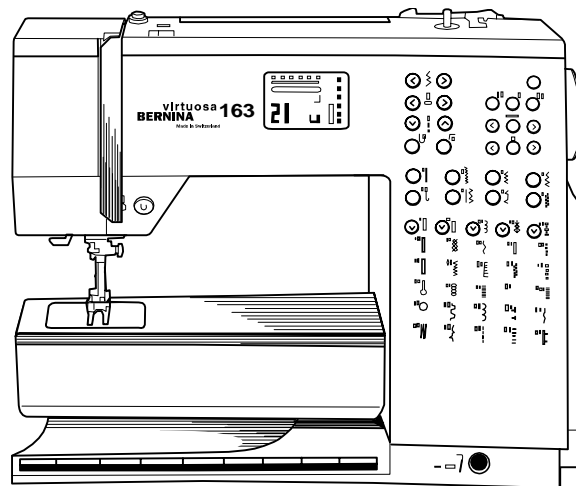


WISH LIST On The Edge

- Feet-ures*
- Edgestitch Foot #10
- Embroidery Foot #6
- Buttonhole Foot with Slide #3B
- Button Sew-on Foot #18
- Gimp or Pearl Crown Rayon
- Stitch Witchery - roll
- Water-soluble stabilizer
- Buttonhole Space Tape
- Buttonhole Placement Gauge - Simpflex ruler
- ½" Drafting Tape
- Marking Pens/Pencils
- Applique Scissors - for grading seams
- Height Compensation Tool
- Seam Sealent
- Glue Stick
- Buttonhole Cutter and Block Set
- Double Needles
- Cotton elastics
- Accessory Box

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OWNER'S WORKBOOK

Section D

Gather It Up and Tuck It Down

SECTION D

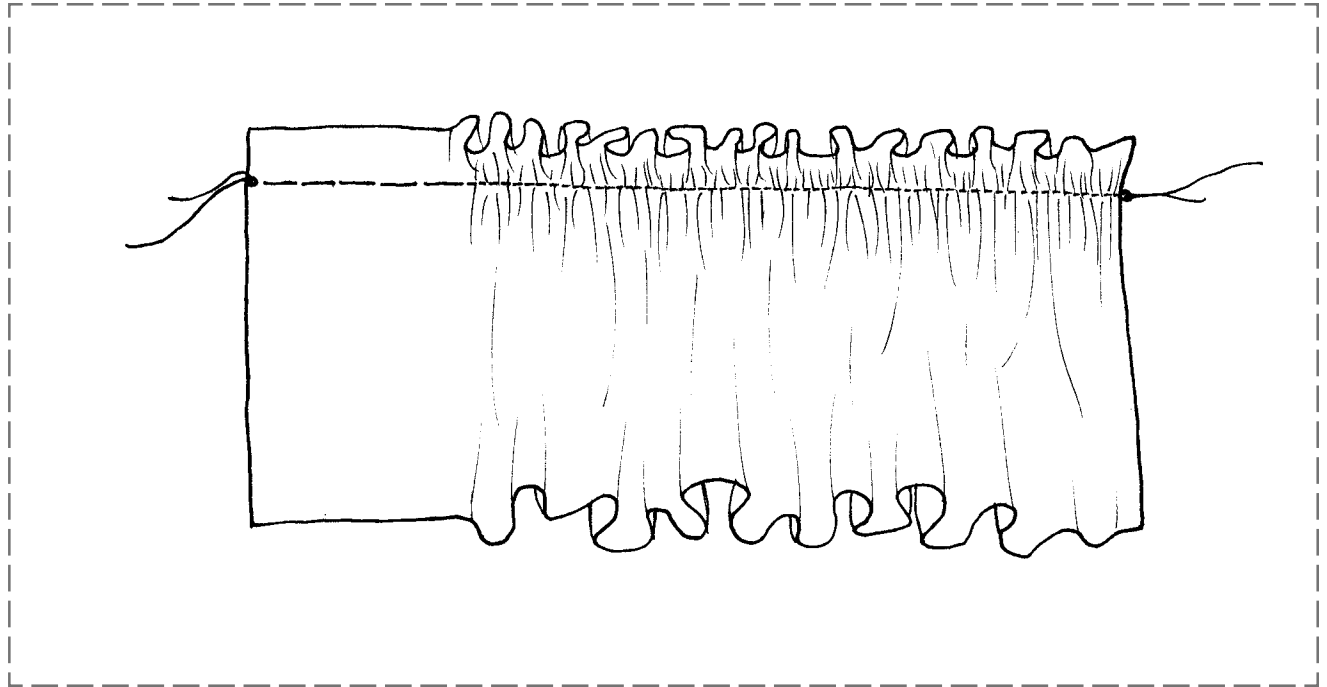
GATHER IT UP AND TUCK IT DOWN

Gathering

- Gathering With A Basting Stitch
 - Lengthen stitch all the way
 - Tighten top tension for easier removal
- Gathering Over A Single Cord
 - Refer to *Feet-ures*, Unit B
 - Embroidery Foot #6 with stitch #2
- Gathering Over Two Cords
 - Buttonhole Foot #3 with stitch #22 on the 153QE or stitch #20 on the 163
 - Can use elastic thread for shirring
- Elastic Thread In Bobbin Case
 - Refer to *Feet-ures*, Unit H
 - Use Black Latch bobbin case
- Narrow Casing Elastic
 - Refer to *Feet-ures*, Unit A
 - Open Embroidery Foot #20 with stitch #2 on the 153QE or stitch #19 on the 163
- Gathering Foot #16
 - refer to *Feet-ures*, Unit D
 - gathering a single layer
 - gathering to a flat piece
 - short stitch length for easing
- Ruffler Attachment
 - refer to *Feet-ures*, Unit J

Tucks

- Pintuck Feet and Double Needles
 - refer to *Feet-ures*, Unit F
 - which feet go with which needle
 - how to thread a double needle
 - how to use grooves in feet
- Corded Pintucks
 - refer to *Feet-ures*, Unit A
 - straight tucks
 - gimp hole
 - turning corners
- Pleats vs Tucks
 - refer to *Feet-ures*, Unit C
 - Edgestitch Foot #10
 - Reverse Pattern Foot #1
- Large Tucks and Pleats
 - refer to *Feet-ures*, Unit D
 - Quilting/Seam Guide
 - Zipper Foot with Guide #14
 - Guide Bars with Rulers
- Decorative Tucks
 - refer to *Feet-ures*, Unit F
 - sewn with decorative stitches vs straight
 - corded edges
 - lace inserted



GATHERING WITH A BASTING STITCH

Fabric:	Medium weight cotton, 12" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Reverse Pattern #1

- Trim all 4 edges of fabric piece with a wavy rotary cutter.
- Use all-purpose sewing thread top and bottom.
- Select stitch #1 - sew with the longest length and tighten the top tension .
- Stitch $\frac{5}{8}$ " from one 12" edge.
- Tie the threads at the beginning to secure and gather the sample up to 6".

Notes:

- Use a fine darning thread; it is easier to remove after a seam has been sewn.
- To secure basting stitches, sew a few normal length straight stitches at the beginning and end of the seam.

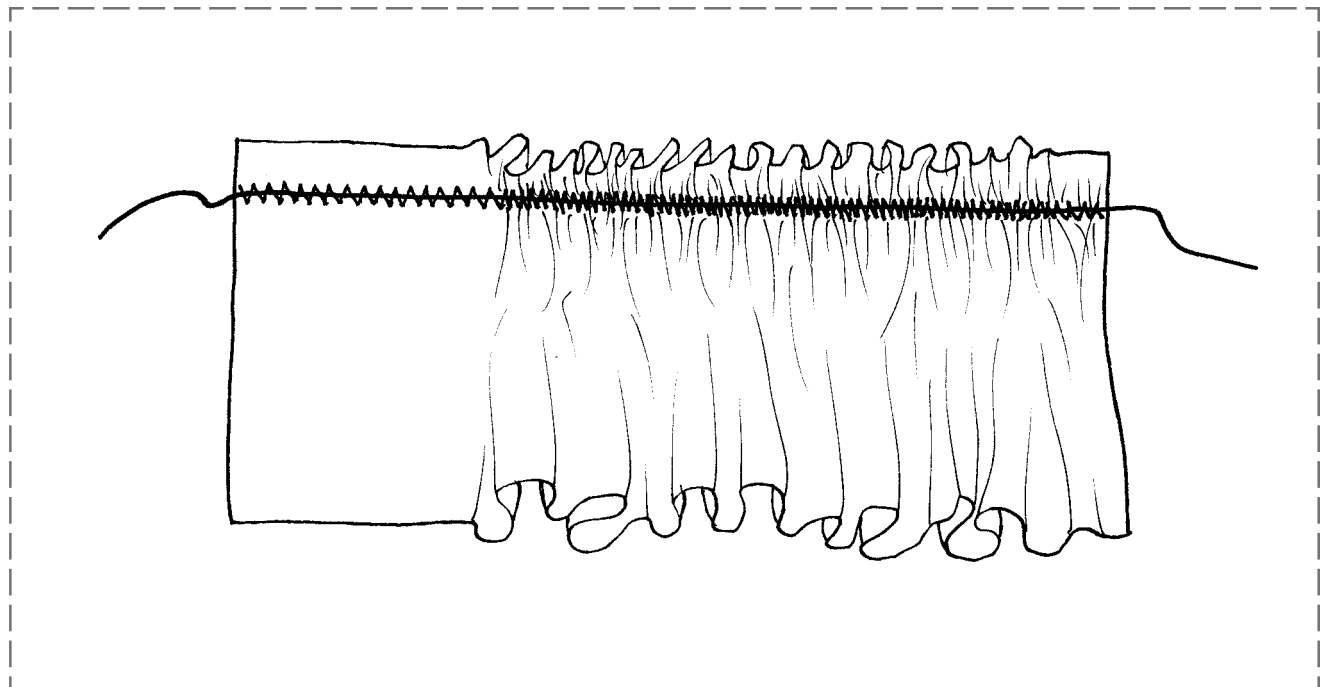
GATHERING OVER A SINGLE CORD

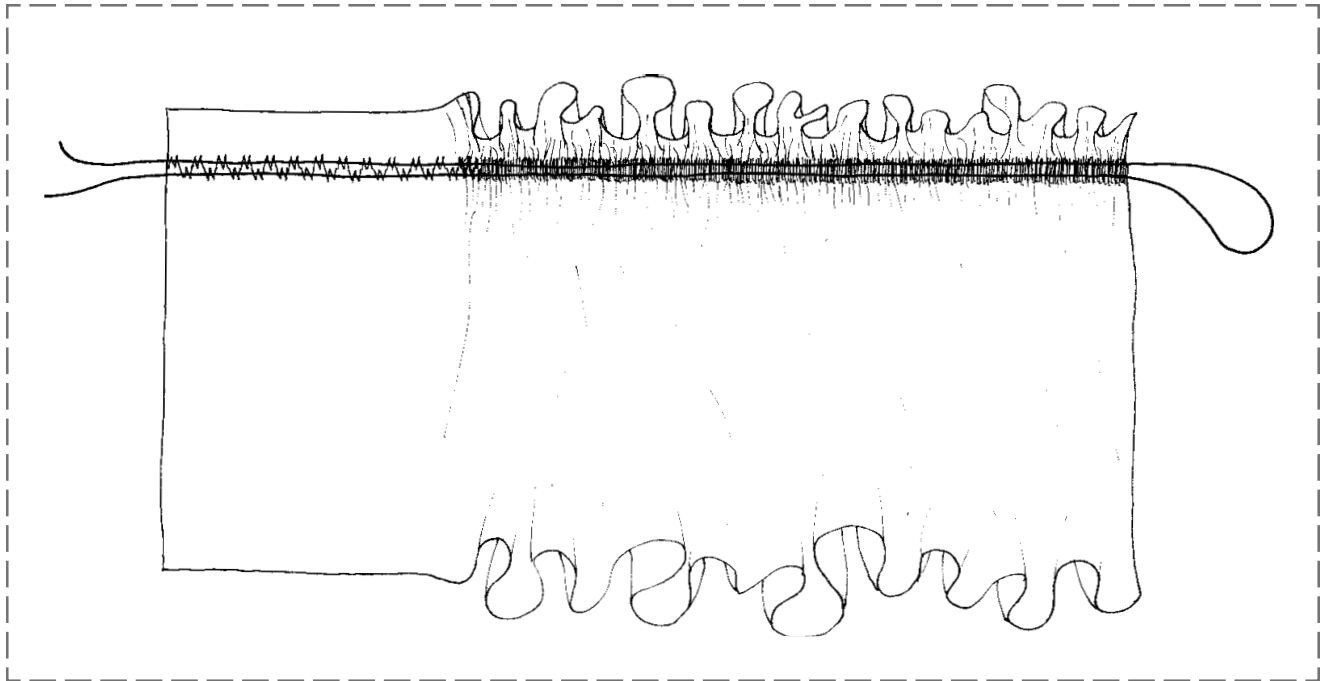
Fabric:	Medium weight cotton, 12" x 4" 18" of cord
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Embroidery Foot #6 (optional accessory)

- Trim all four edges of sample fabric before beginning.
- Thread the cord through the hole in Foot #6, leaving a 2"-3" tail behind the foot.
- Select stitch #2 - SW 2.5mm and SL 2-2.5mm.
- Stitch $\frac{5}{8}$ " from one 12" edge.
- Sew over the cord.
- Secure the cord at the beginning and then pull it to gather the sample to 6".

Notes:

- *Gathering over cord adds additional strength, eliminates thread breakage and allows better control of gathering.*
- *Drop the feed dog and sew a bartack at the beginning and end of cord for strength.*
- *Do not sew through cording.*





GATHERING OVER TWO CORDS

Fabric:	Medium weight cotton, 12" x 4" 30" of cording
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Buttonhole Foot #3

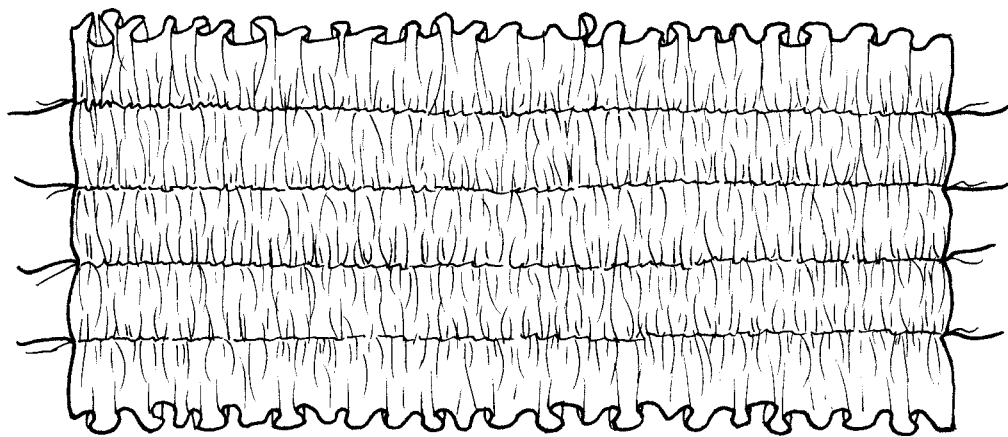
- Trim all 4 edges of the fabric piece with a wavy rotary cutter.
- Place the fabric under the foot and lower the needle but *not* the foot.
- Select the Gathering Stitch #20 on the 163 or #22 on the 153QE.
- Fold cord in half and loop around the middle toe of foot #3; lower it.
- Lift cord loop from toe and pull cord forward leaving 3" tails behind the foot.
- Begin to sew, allowing the two grooves of the buttonhole foot to guide the cord.
- Sew along one 12" edge - $\frac{5}{8}$ " from the edge.
- Pull on both cords to gather the sample to 6".

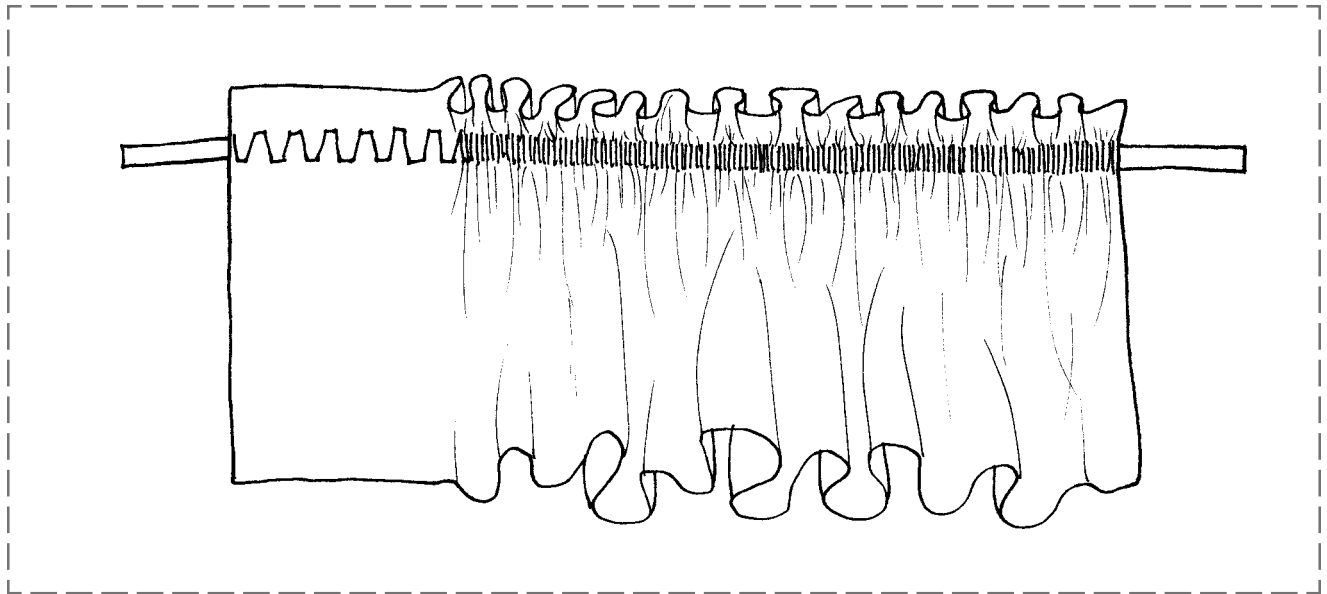
Note: Lower the feed dogs and sew a bar tack at beginning and end of cord for strength.

ELASTIC THREAD IN THE BOBBIN

Fabric:	Rayon Challis - 12" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing Elastic thread (bobbin)
Presser Foot:	Reverse Pattern Foot #1
Other:	Black Latch Bobbin Case

- Trim all four edges of the sample fabric before beginning.
- A Black Latch bobbin case is suggested.
- Wind elastic thread on the bobbin.
- Place in bobbin case and adjust tension if necessary.
- All-purpose sewing thread is used in the needle.
- Select stitch #1 - SL 4mm to 5mm - center needle position - upper tension 7-9.
- Draw guidelines on the fabric, spacing them evenly apart.
- Sew from the right side of the fabric.
- Keep rows flat as sewing.
- When finished, steam press the sample, holding the iron over the fabric with the elastic side up. Do not touch the iron to the fabric.
- Leave the fabric flat until dry.





NARROW CASING ELASTIC

Fabric:	Medium weight cotton, 9" x 4" 12" of 1/8" or 1/4" cotton elastic
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Reverse Pattern Foot #1

- Trim all four edges of the sample fabric before beginning.
- Select the Universal stitch #19 on the 163 and the ZigZag stitch #2 on the 153QE; adjust width to clear the elastic.
- Measure and mark the elastic for amount needed. Allow a 2" tail at both ends.
- Draw a line on the wrong side of the fabric where the elastic is to go (this could be the line on a pattern where a casing is suggested).
- Place the elastic over the line and under the foot and needle - sew a few straight stitches backward and forward to secure the elastic.
- Stretch the elastic gently to give the fullness desired.
- When you reach the other end, secure in the same manner as the beginning.
- Even out the gathers.

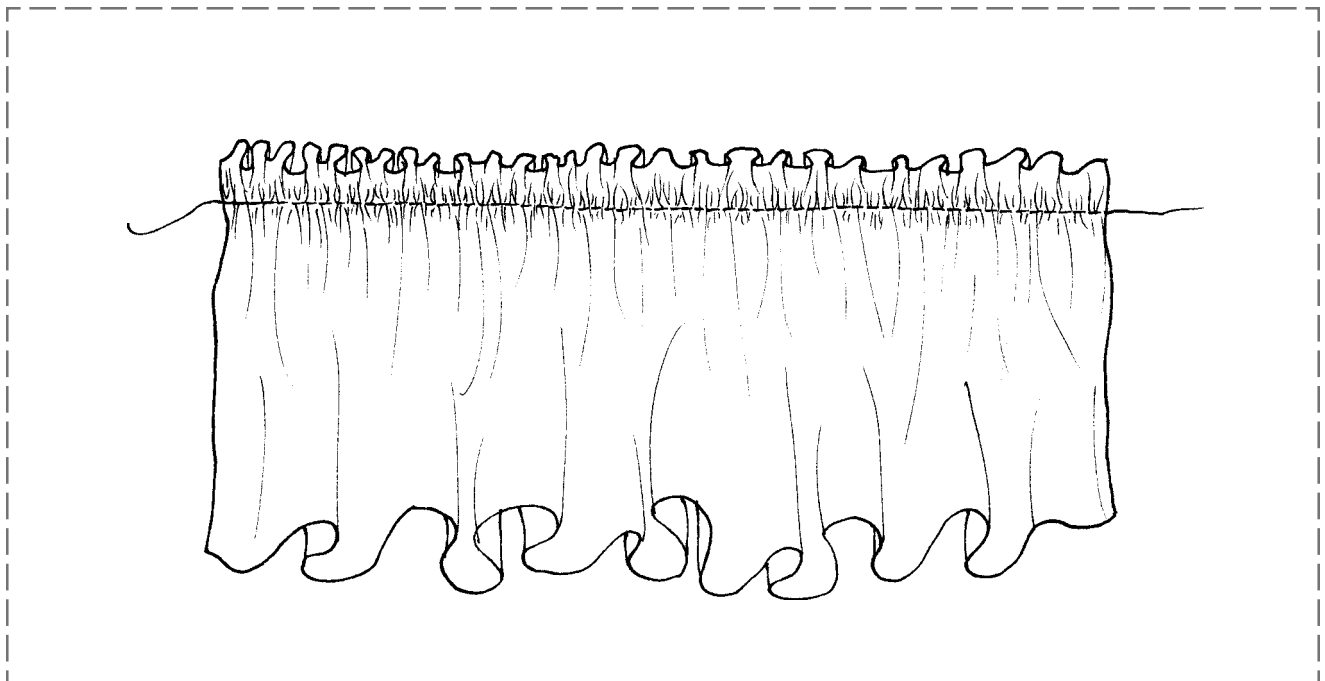
GATHERING FOOT #16

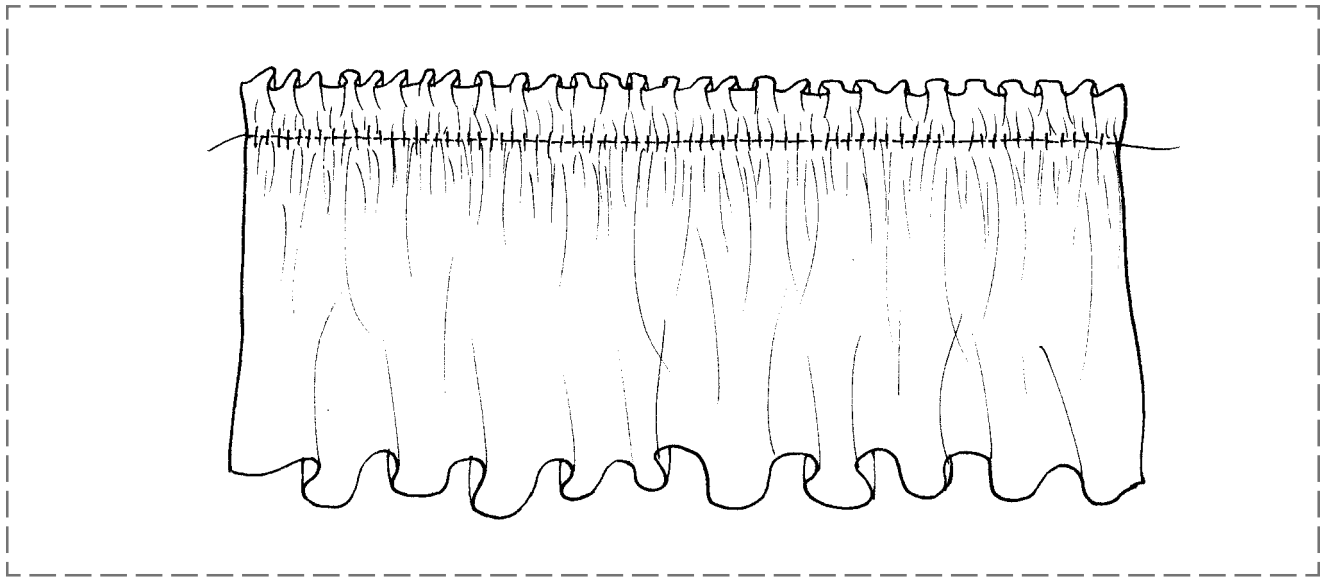
Fabric:	Medium weight cotton, 10" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Wide Gathering Foot #16 (optional accessory)

- Trim all four edges of the sample fabric before beginning.
- Select stitch #1 - lengthen to 5mm.
- Place fabric to be gathered under the foot.
- Guide the fabric, keeping the raw edges even with the right edge of the foot, or use the seam lines on the throat plate.

Notes:

- *There are three things that effect the amount of gathers:*
 1. *Fabric Weight - The lighter weight the fabric, the easier to gather.*
 2. *Tension - Increased upper tension will increase the amount of gathering.*
 3. *Stitch Length - The longer the stitch length, the tighter the gathers.*
- *Use the basting stitch or the long stitch function to increase gathers in heavier weight fabrics such as woolens and corduroys.*





RUFFLER

Fabric:	Medium weight cotton, 12" x 4"
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Foot:	Ruffler Attachment #86 (optional accessory)

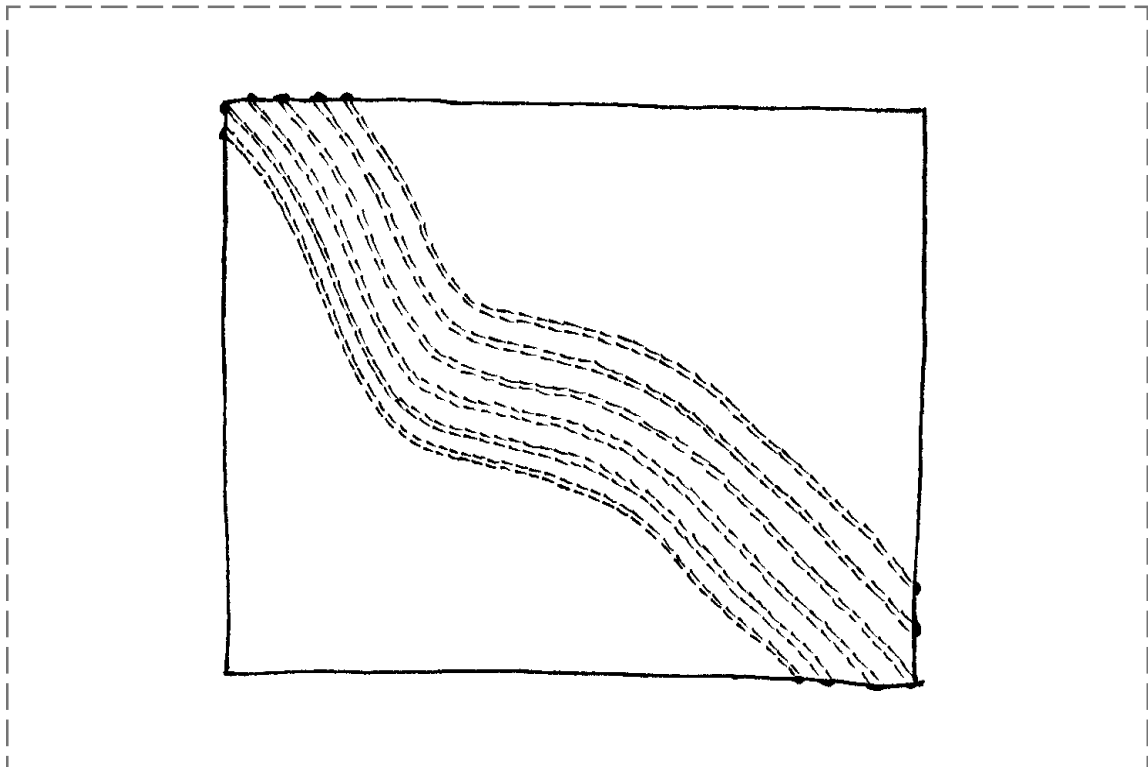
- Trim fabric with wavy rotary cutter before sewing.
- Select stitch #1 - SL 1mm-5mm. The longer the stitch length, the deeper the pleat.
- Needle position is center.
- Set the adjustmin lever on the attachment at 1.
- Place the fabric to be ruffled between the two blades, snugging it against the edge of the seam guide slot, making sure it is slightly beyond the needle.
- Lower the foot and begin sewing.
- If gathers are too deep, turn the adjusting screw counter clockwise; if too shallow, turn the screw clockwise.

Note: Loosening the needle tension to 3-4 will allow some subsequent adjustment of the fullness.

PINTUCKS AND DOUBLE NEEDLES

Fabric:	Lightweight cotton, 6" x 4", starched
Needle:	Double (size should correspond to foot)
Thread:	All-purpose sewing
Presser Foot:	Pintuck Foot #30, #31, #32, or #33 (optional accessories)

- Select the desired presser foot and corresponding double needle:
 - Pintuck Foot #30 - 3 groove - 4mm needle
 - Pintuck Foot #31 - 5 groove - 3mm needle
 - Pintuck Foot #32 - 7 groove - 2mm needle
 - Pintuck Foot #33 - 9 groove - 1.6 needle
- Insert the double needle and thread with two different colors.
- Select the straight stitch #1 - SL 1.75mm-2mm.
- Sew at a slower speed and test the movement of the needle. You want to be sure it doesn't hit the presser foot.
- Top tension can be tightened to create more dimension.
- Start sewing in one corner and meander across the fabric.
- Position the previously sewn tuck in the groove of the foot and sew 6 more rows evenly spaced across the fabric, as desired.
- Trim, press and mount the sample.



PLEATS vs TUCKS

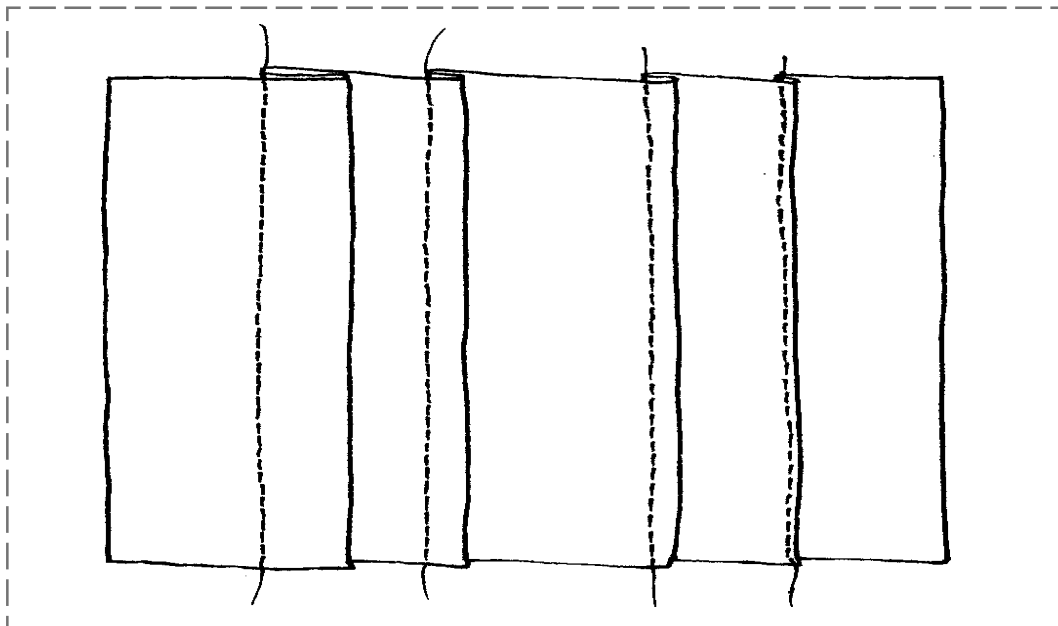
Fabric:	Medium weight cotton, 8" x 5"
Needle:	80/12 Universal
Thread:	All-Purpose
Presser Foot:	Reverse Pattern #1 Edgestitch #10 (optional accessory)

Reverse Pattern Foot #1:

- Starting at the left edge and working across the 8" width, draw 4 lines for folding and pressing. The first 2 lines are 2" apart, second 2 lines are 1¼" apart.
Note: By placing the fold even with the right edge of the foot and placing the needle position all the way to the left to start, it is possible to get 9 different size pleats/tucks.
- Using Straight Stitch #1, sew the first tuck, on the first line, with needle position all the way to the left.
- Second tuck, on second line, with needle position all the way to the right.
- Each position makes about a 1mm difference.

Edgestitch Foot #10:

- Place the fold of the third pleat to the left of the center blade - right next to it.
- Move the needle position all the way to the left and sew.
- Position the fold of the last pleat in the same manner. Move the needle position to half left and sew.
- Very small tucks/pleats are possible with this foot.



LARGE TUCKS/PLEATS

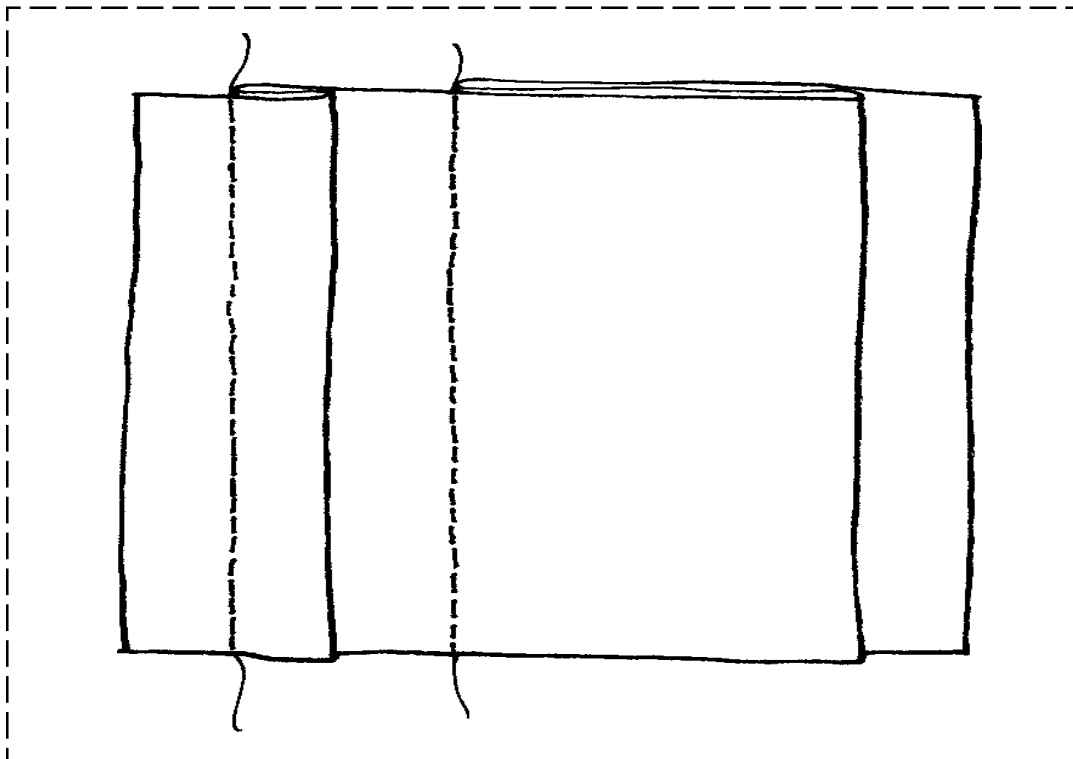
Fabric:	Medium weight cotton, 10" x 4"
Needle:	80/12 Embroidery
Thread:	30 wt. Cotton Embroidery
Presser Foot:	Zipper Foot with Guide #14 (optional accessory)

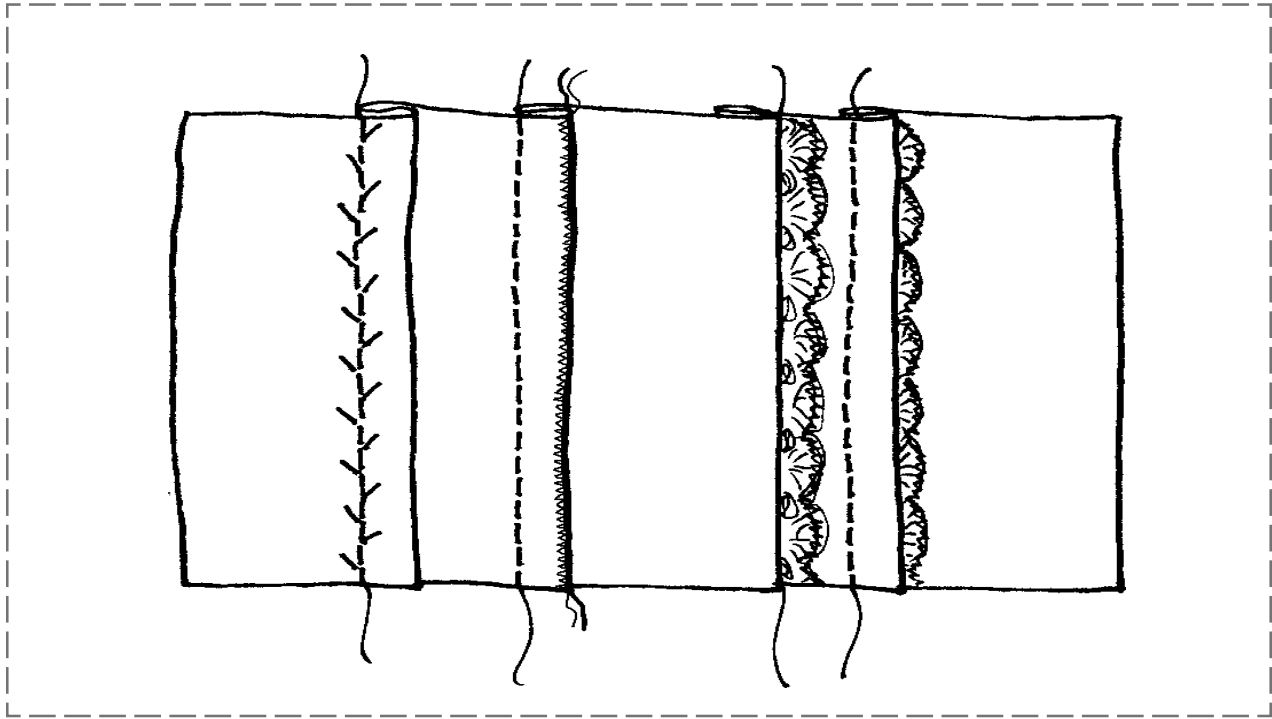
Zipper foot #14 has a movable guide with 9 markings which ensure precise sewing of a variety of different size tucks.

- Select stitch #1 - SL 2-5mm.
- Determine fold line of tuck. Fold on this line and press.
- Adjust the guide on the foot for the widest tuck possible.
- Place fabric under foot, positioning fold of tuck under the lip of the guide.
- Adjust Needle Position to correspond with notch on guide.
- Stitch tuck, allowing folded edge of fabric to feed into lip of guide.
- The Seam/Quilting Guide that comes with the machine, when attached to the foot, can create a pleat up to 2¼" wide. Sew one tuck.

Notes:

- A left guide is available.
- Also available is a set of guides with a ruler attached; they can be used to create pleats up to 4" wide.





DECORATIVE TUCKS

Fabric:	Medium weight cotton, 8" x 4"
Needle:	80/12 Embroidery
Thread:	30 wt. Cotton Embroidery, Metallic, and matching cord
Presser Foot:	Depends on technique

- Draw 4 lines about ¼" apart, across the width of the fabric.
- On the first line - create a tuck, about ¼", using a decorative stitch.
- On the second line - sew a ¼" tuck using a metallic thread with a straight stitch.
- Cord the edge of this tuck with a metallic cord as in Section C - Corded Edge.
- On the third line create an inverted tuck with lace inserted into it.
 - Place the edge of the lace against the drawn line, on the right side, and baste in place.
 - Fold the fabric over the lace and press.
 - Using Edgestitch Foot #10, place the pressed fold against the left side of the center blade - move needle position to the left enough to catch the lace; stitch to the left of the basting line.
 - Open out and press again.
- On the fourth line insert the lace with the tuck.
 - Fold wrong sides together and press the last tuck.
 - Place the edge of the lace in from the fold a scant ¼".
 - Using Foot #37 - the ¼" foot - stitch a tuck, catching the lace as you sew.
 - Press the tuck toward the lace.

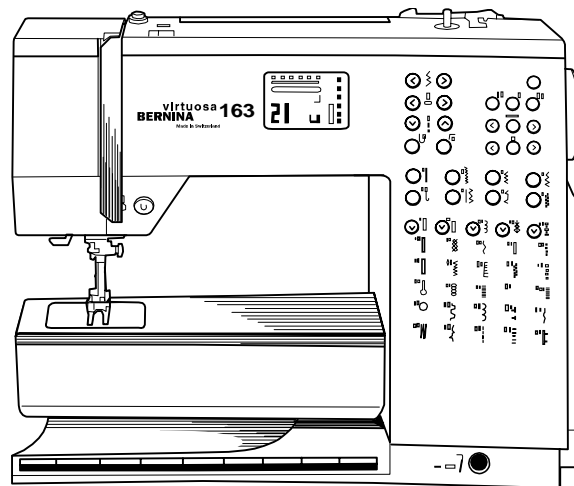
WISH LIST

Gather It Up and Tuck It Down

- Presser Feet:
 - Embroidery Foot #6
 - Edgestitch Foot #10
 - Wide Gathering Foot #16
 - Open Embroidery Foot #20
 - Zipper Foot With Guide #14
 - Patchwork Foot #37
 - Pintuck Feet
 - #30 - 3 groove
 - #31 - 5 groove
 - #32 - 7 groove
 - #33 - 9 groove
- Double Needles
- Ruffler Attachment #86
- Feet-ures*
- Guide Bar Set with Rulers
- Elastic thread
- Gimp cord
- Extra Bobbin case
- Accessory Box
- GooGone
- Sewing Iron
- Metallic Thread and Cord
- Wavy Rotary Cutter
- Ruler
- Cutting Mat
- Spray Sizing

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OWNER'S WORKBOOK

Section E Miscellaneous Magic

SECTION E MISCELLANEOUS MAGIC

Zipper Insertion

Owner's Manual page _____

Feet-ures, Unit B and D - center insertion

Feet-ures, Unit A and F - invisible

Mending Tears and Holes

Owner's Manual page _____

Feet-ures, Unit C and K

Fringing

Feet-ures, Unit B

Fagoting

Feet-ures, Unit B

Bundling

Feet-ures, Unit B

Lace Insertion

Feet-ures, Unit C

Outline Quilting

Feet-ures, Unit H

Hand Look Quilt Stitch

Feet-ures, Unit A

Triple Needles

Feet-ures, Unit A

Wing Needles and Double Wing Needles

Feet-ures, Unit A

Couching Cord

Feet-ures, Unit E

Bobbinwork Basics

Feet-ures, Units B, E, H

Piping

Feet-ures, Unit C

CENTERED ZIPPER

Fabric:	Medium weight cotton, 2 pieces, 4" x 8" each
Zipper:	5" or 6" Conventional
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Feet:	Reverse Pattern Foot #1, Zipper Foot #4, and Zipper Foot with Guide #14 (optional accessory)

Attaching the Zipper:

- Using Foot #1 and stitch #1, sew the seam from the bottom to where the zipper stop will be.
- Lengthen the stitch to the maximum and continue to within ½" from the top of the seam.
- Change back to stitch #1; sew the rest of the way to secure.
- Press the seam open and place the right side of the zipper against the seam allowance, so the zipper teeth are centered over the seam.
- Pin or baste (using a temporary spray adhesive) each side of the zipper to the seam allowance only.
- Change to Zipper Foot #4; adjust the needle position to the right and to the left as needed to get close to the zipper teeth.
- Sew through the *zipper tape and seam allowance only*, from the bottom to the top on each side.
- Pin or baste through all layers.

Topstitching the Zipper:

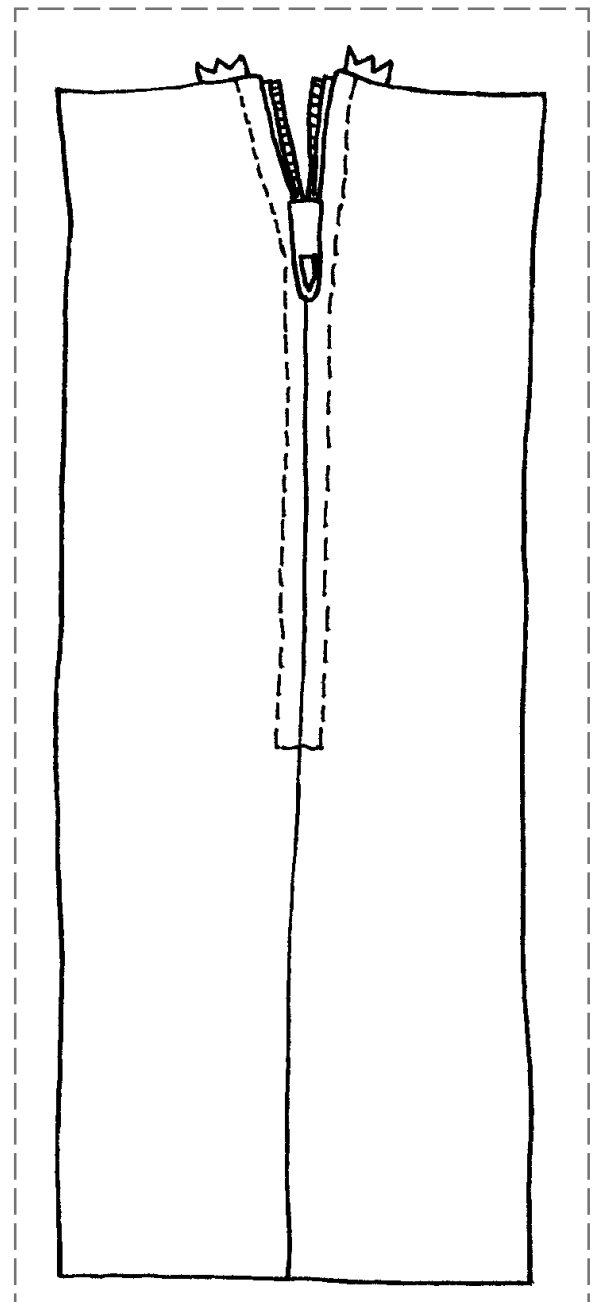
- Change to Zipper Foot with Guide #14.

Left Side:

- Adjust the seam guide on the foot so it is one groove to the right of center and change the needle position to far left.
- Sewing from the right side of the fabric and starting at the bottom, sink the needle into the seam.
- Sew out from the zipper stop about ¾", stop, pivot and make sure the seam guide on the foot is lying in the ditch of the seam.
- Sew up the left side of the zipper.

Right Side:

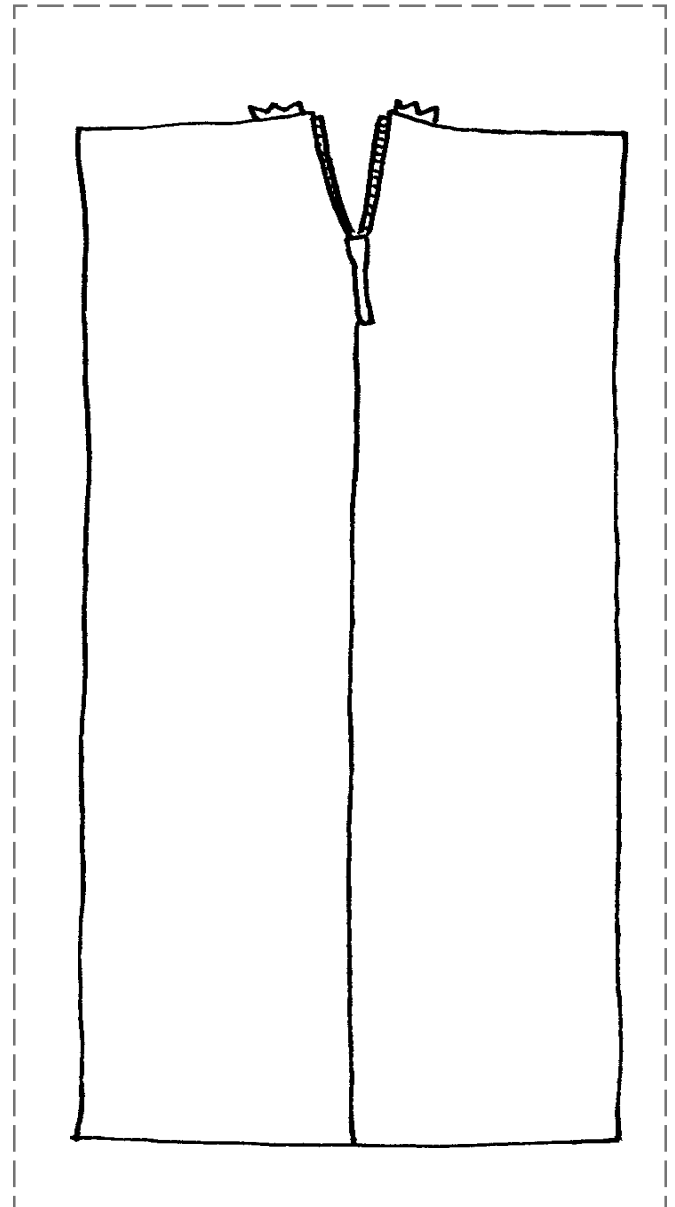
- Adjust seam guide on the foot so that it is one groove to the left of center and change the needle position to far right.
- Repeat the previous steps, starting at the seam and sewing to the right.
- Press and trim the sample. Mount it, attaching it only at the top. You can then lift the sample and use it as a reference.



Note: The invisible zipper can be used in place of a conventional zipper when an uninterrupted design line is desired.

- Mark the seam lines on the right side of fabric.
- Select Straight Stitch #1.
- Refer to the instructions with the zipper for placement on the fabric.
- Open the zipper and press the coils flat, from the wrong side, using the synthetic setting on the iron.
- *Do not sew the seam first* as with conventional zippers. Zipper tapes are sewn to fabric sections first, then the seam is sewn.
- With right sides together, baste or pin right zipper tape to right garment piece, so coil is on the $\frac{5}{8}$ " seam line.
- Using center needle position, place coil in right groove of Foot #3. Sew until foot is stopped by the zipper pull.
- Note: Needle should sew as close to coils as possible without actually sewing into them.*
- With right sides together, baste or pin left zipper tape to left garment piece so that the coil is again on the $\frac{5}{8}$ " seam line.
- Check to be sure the zipper is not twisted.
- Place the coil in the left groove of the foot and complete as with the right side.

- To sew seam: Close the zipper. Using Zipper Foot #4, place the fabric right sides together and stitch as close to the zipper as possible, starting about $\frac{1}{2}$ " above the bottom of the zipper. Backstitch to begin and sew about 2"; then change to Foot #1 to complete the seam.
- Press and trim the sample. Mount it, attaching it only at the top. You can then lift the sample and use it as a reference.



INVISIBLE ZIPPER

Fabric:	Medium weight cotton, 2 pieces, 4" x 8" each
Zipper:	5" or 6" Invisible
Needle:	80/12 Universal
Thread:	All-purpose sewing
Presser Feet:	Reverse Pattern Foot #1, Standard Buttonhole Foot #3, and Zipper Foot #4

MENDING TEARS AND HOLES

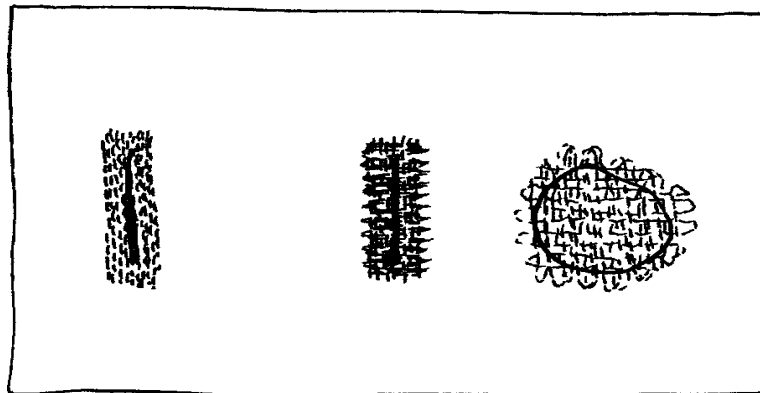
Fabric:	Denim - 4" x 6" Fusible Knit Stabilizer, 2" x 2"
Needle:	90/14 Universal or Jeans
Thread:	To suit the fabric
Presser Feet:	Reverse Pattern Foot #1 and Darning Foot #9

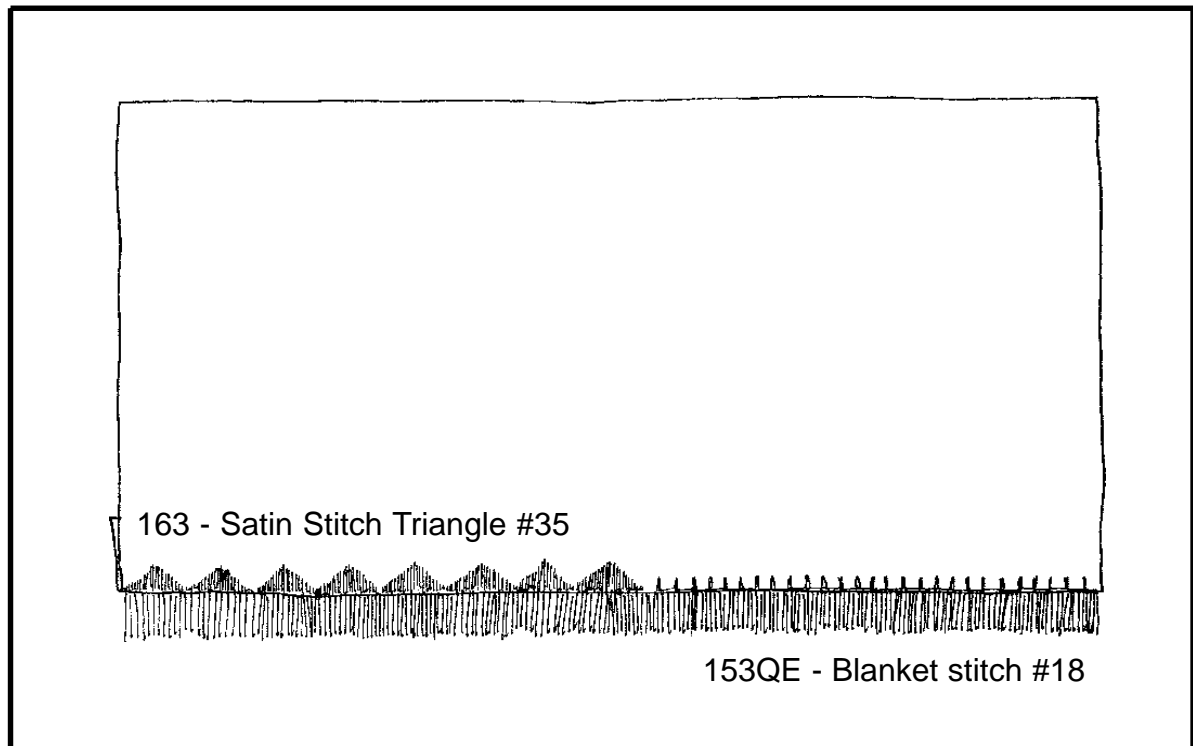
Make 2 tears in the fabric, about 1" each. Make one hole about ½" round.

1. Select stitch #12 on the 153QE and stitch #14 on the 163 (darning program).
 - With feed dogs up, sew the first row the length of the tear.
 - Press the quick reverse at the end of the tear.
 - Sew the second row up to the top of the tear.
 - Press the quick reverse button again (second length programmed).
 - Complete the darning program - the machine stops automatically.
 - For large areas lift the presser foot and move the fabric to the left. The needle will reposition itself and you are ready to continue darning.

The length is programmed.

2. Select stitch #4
 - Sew 3-5 rows of this stitch next to one another.
 - Overlap the rows as you fill the tear.
 - Check manual for more details.
3. Manual Darning of the hole with Foot #9.
 - Bond the fusible knit interfacing on the wrong side of the hole.
 - Select stitch #1 and attach Foot #9. Lower the feed dogs.
 - Hoop fabric to prevent distortion. Stitch, moving the hoop without pressure.
 - Check the sewing manual for more details.





FRINGING

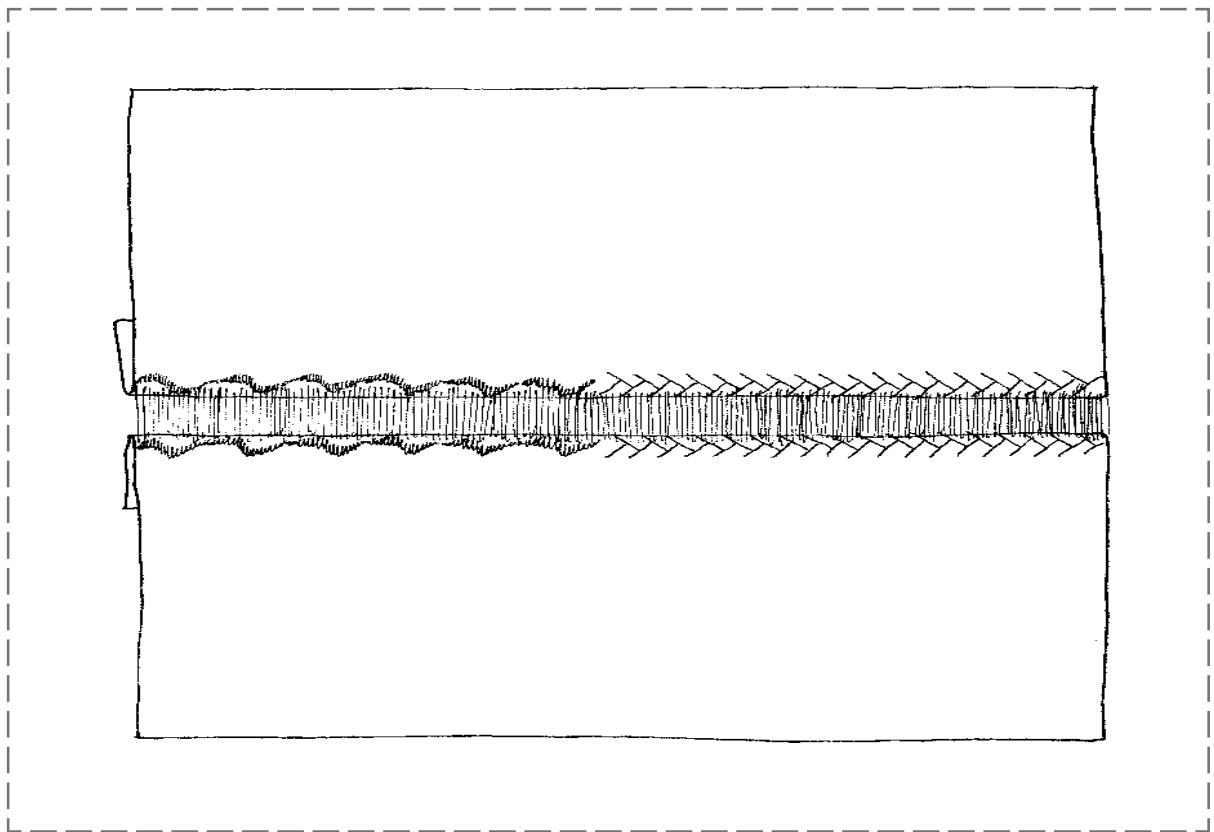
Fabric:	Firm fabric - 2 pieces, 4" x 6" each
Needle:	90/14 Embroidery
Thread:	Rayon Embroidery
Presser Feet:	Tailor Tack Foot #7 (optional accessory) Embroidery Foot #6 (optional accessory)

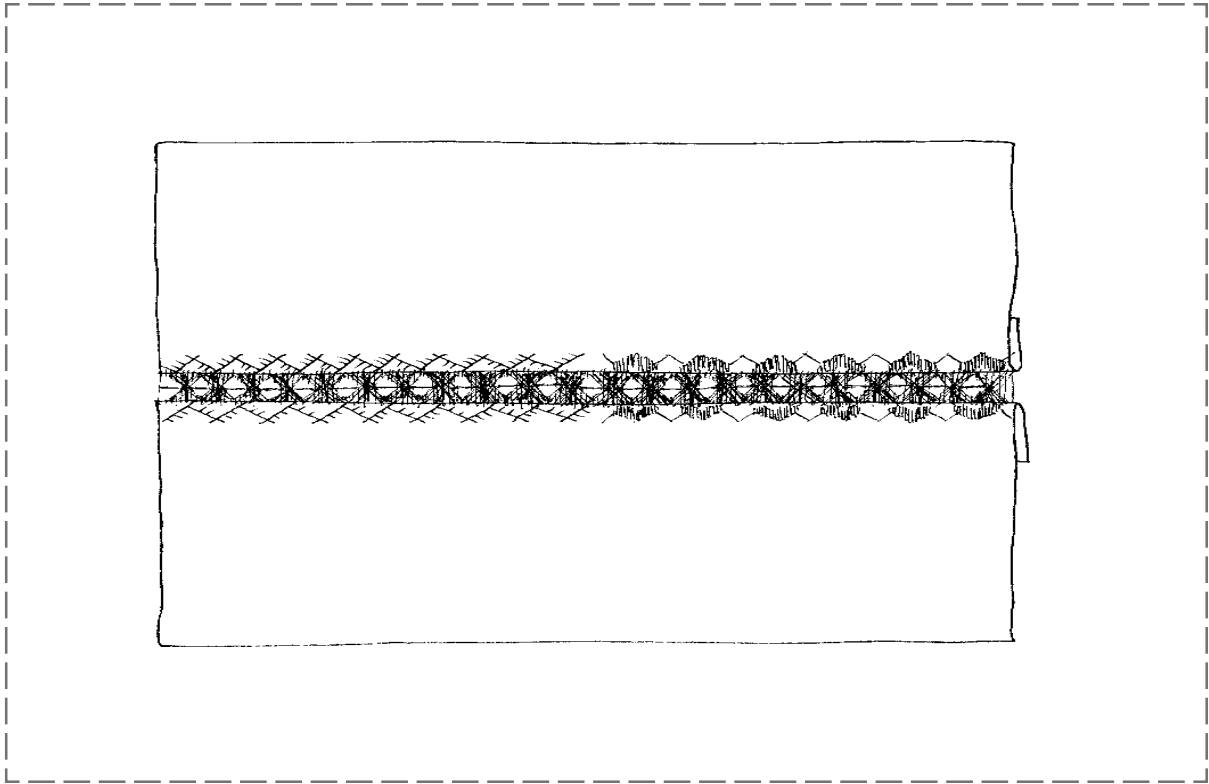
- Select stitch #2 - SW 2mm and SL satin - Tension 1 - Tailor Tack Foot #7.
- Put a contrast all-purpose sewing thread in the bobbin.
- Turn under ½" seam allowance on both pieces of fabric and press.
- Butt the folds together under the center of the presser foot, with right sides up.
- Guide fabric while sewing, so needle swings pierce both fabric pieces.
- Carefully remove the bobbin thread and gently separate the two fabrics, leaving them joined by strands of the upper thread.
- Change to Embroidery Foot #6 and one of the following stitches:
 - Stitch #35 on the 163 - SW about 4mm or
 - Stitch #18 on the 153QE - adjust width as desired
- Engage the Mirror Image function, if needed.
- Anchor the fringe to the fabric edge by oversewing it.
- After fringe is secured on one side, the other fabric can be pulled away.
- Trim excess seam allowance from wrong side if needed.

FAGOTING

Fabric:	Firm fabric - 2 pieces, 3 "x 5" each
Needle:	90/14 Embroidery
Thread:	Embroidery
Presser Feet:	Tailor Tack Foot #7 (optional accessory) Open Embroidery Foot #20 (optional accessory)

- Select stitch #2 - SW 2mm and SL satin - Tension 1 - Tailor Tack Foot #7.
- Place fabrics right sides together; sew with a $\frac{5}{8}$ " seam on a 5" side.
- Sew slowly - adjust motor to $\frac{1}{2}$ speed.
- When finished sewing the seam, pull the two layers firmly apart and press open.
- Change to Open Embroidery Foot #20 for better visibility - may need to stabilize the stitching area to prevent tunneling.
- From the right side, anchor the fagoting to the fabric on either side with a decorative stitch through the seam allowance.
- Trim any excess seam allowance if needed.





BUNDLING

Fabric:	Firm fabric - 2 pieces, 3" x 5" each
Needle:	90/14 Embroidery
Thread:	Embroidery
Presser Feet:	Tailor Tack Foot #7 (optional accessory) Open Embroidery #20 (optional accessory) Reverse Pattern Foot #1

- Select stitch #2 - SW 2mm and SL satin - Tension 1 - Tailor Tack Foot #7.
- Place fabrics right sides together; sew with a $\frac{5}{8}$ " seam on a 5" side.
- Sew slowly - adjust motor to $\frac{1}{2}$ speed.
- When finished sewing the seam, pull the two layers firmly apart and press open.
- Change to Open Embroidery Foot #20 for better visibility - may need to stabilize the stitching area to prevent tunneling.
- From the right side, anchor the fagoting to the fabric on either side with a decorative stitch through the seam allowance.
- Trim any excess seam allowance if needed.
- To "bundle" the fagoting stitches into groups: Select the Triple Straight Stitch #6 - change to Reverse Pattern Foot #1; center the foot over the fagoting stitches and sew down the middle.

LACE INSERTION

Fabric:	Lightweight cotton 4" x 6" 9" insertion lace, ½" - ¾" wide
Needle:	75/11 Universal
Thread:	60 wt. cotton
Presser Feet:	Edgestitch Foot #10 (optional accessory)

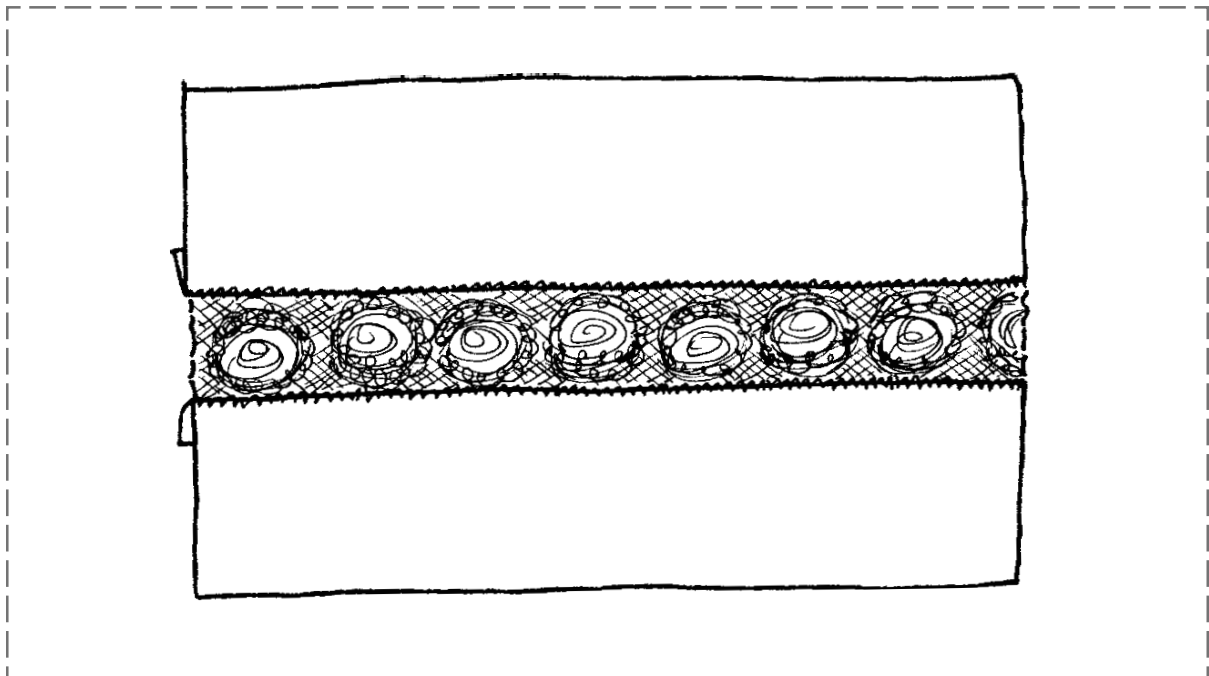
- Pin or baste the lace in position.

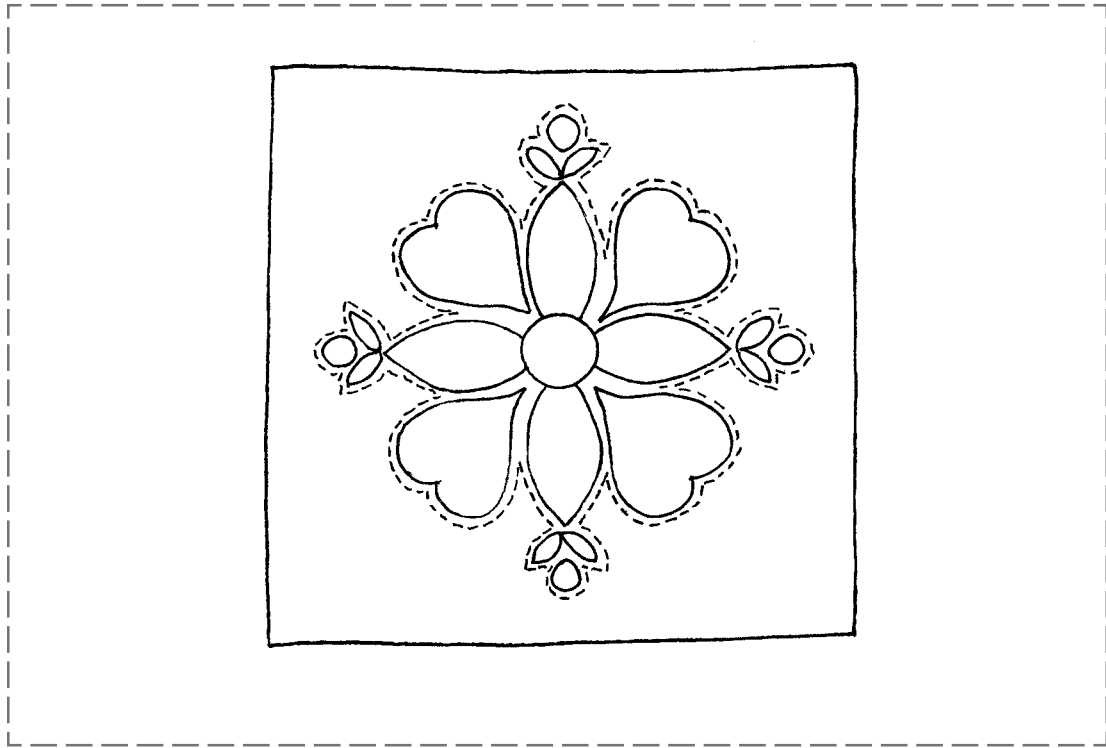
First Run:

- Select stitch #1 - SL 1.5mm-2mm with the needle position set at half left.
- Place the edge of the lace to the left edge of the guide on the foot and sew.
- Sew the right side in a like manner using the needle position set at half right.
- From the back, *carefully* cut through the fabric, in the middle of the two rows of stitching.
- Press the fabric back against the straight stitch.

Second Run:

- Select stitch #2 - SW 1.5mm-2mm and SL 0.75mm-1mm with the needle position set at half left.
- Place edge of lace first to the left of the blade, with the needle in the half left position, and sew the zigzag stitch over the edge of the lace and the previously sewn straight stitch.
- Sew the right side in a like manner using the needle position set at half right.
- Trim surplus fabric from the wrong side.

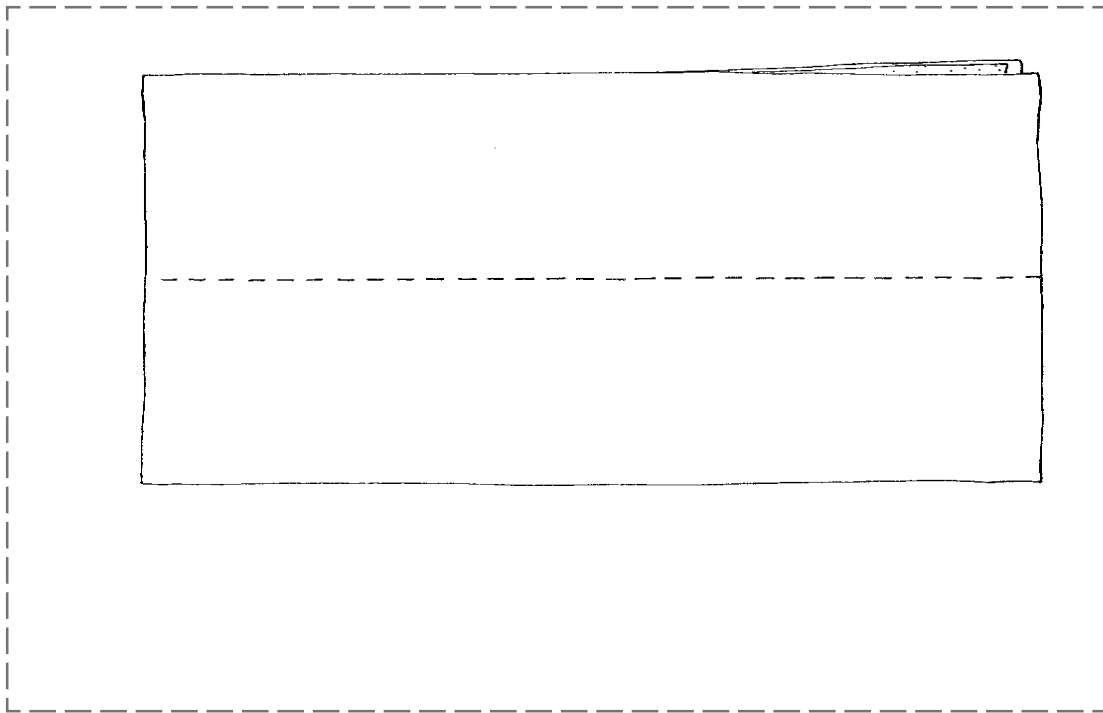




OUTLINE QUILTING

Fabric:	Cheater block or fabric with large design
Backing:	1 piece coordinating fabric, same size as fabric
Batting:	1 piece low-loft, same size as fabric
Needle:	90/14 Quilting
Thread:	Cotton embroidery for bobbin Monofilament for needle
Presser Foot:	Leather Roller Foot #55 (optional accessory)

- Foot #55 allows for easy maneuvering of curves and tight areas.
- Select stitch #1 - SL 2.5mm-3.5mm - tension is loosened to about 3-4 - needle position is to the left, depending on the desired look.
- Engage the Needle Stop Down function.
- Sandwich the batting between the top fabric and the backing. Pin or baste in place.
- Bring the bobbin thread to the top of the fabric and select the Securing function to secure the beginning stitch. Sew; turn the Securing function off. Clip the thread tails.
- Stitch in a continuous line around the outside edge of the design or pattern in the fabric. Move the fabric in any direction to follow the design.



HAND LOOK QUILT STITCH

Fabric:	2 pieces solid cotton - 4" x 6" each
Batting:	1 piece, low-loft - 4" x 6"
Needle:	90/14 Quilting
Thread:	Cotton embroidery for bobbin Monofilament for needle
Presser Foot:	Reverse Pattern Foot #1

Owner's manual page ____

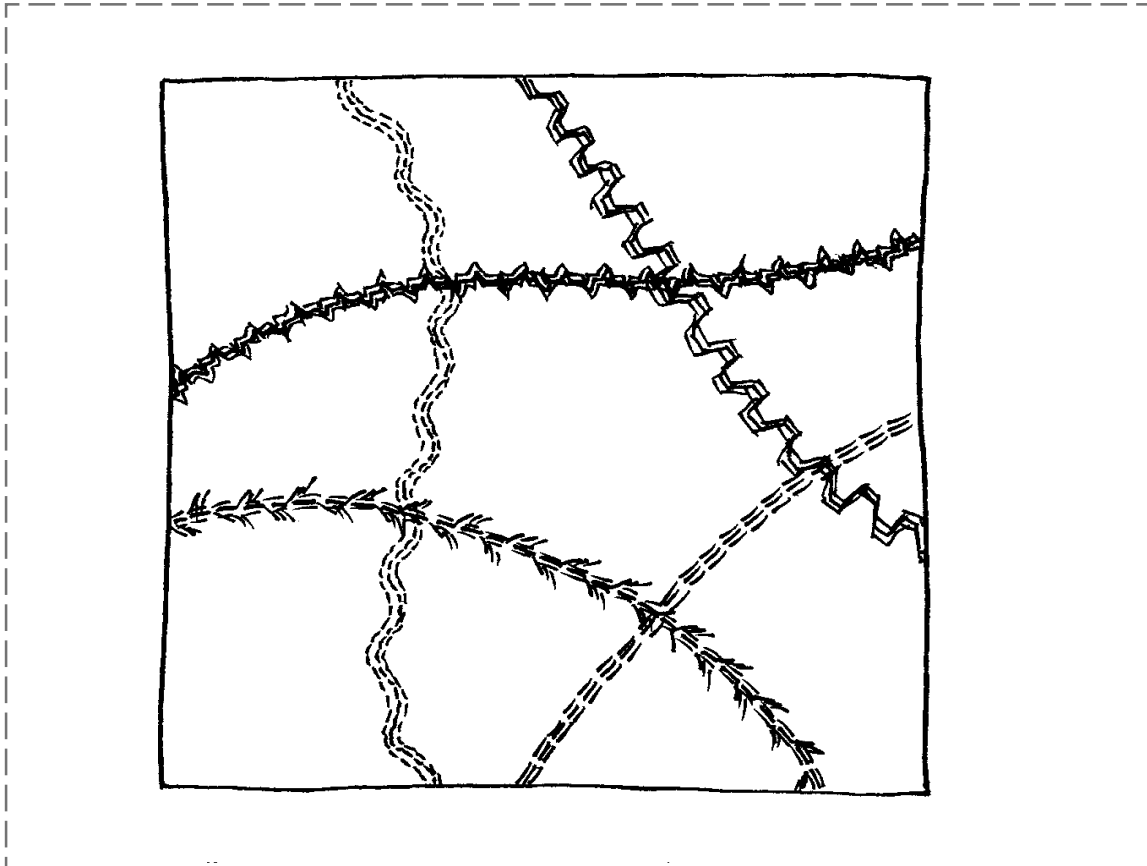
Note: When using the hand Look Quilt Stitch, the cotton embroidery bobbin thread is pulled to the top of the quilt while the monofilament thread "disappears", simulating the look of a hand-sewn running stitch.

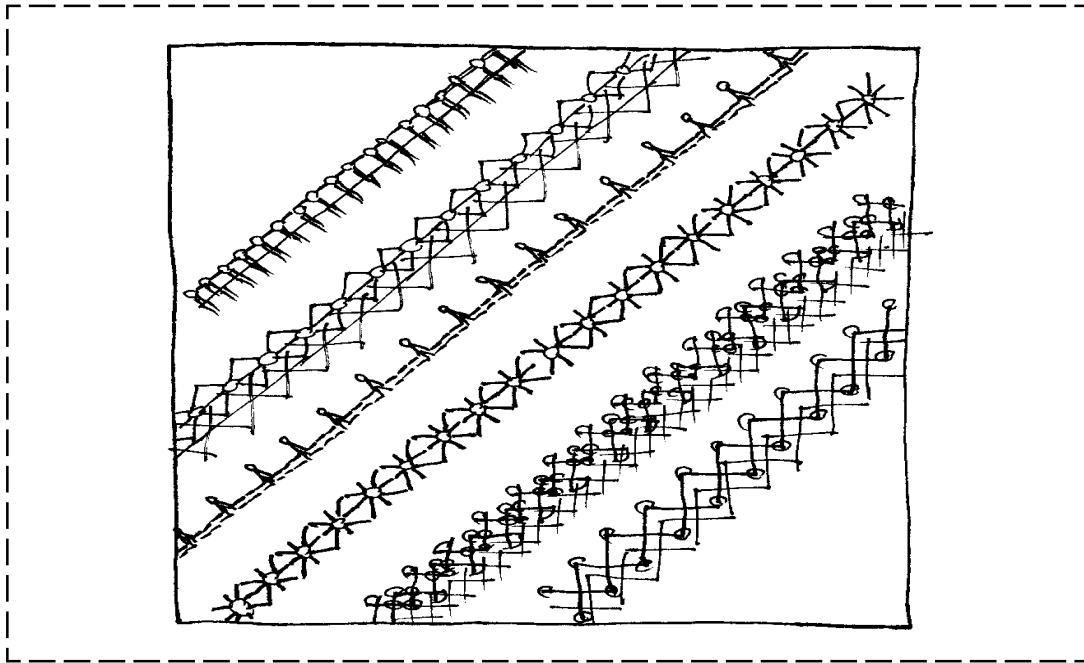
- Select the Hand Look Quilt stitch #21 on the 153QE and #26 on the 163.
- Depending on the fabric you may need to increase the upper tension to 6-9.
- Balance can be used to adjust the stitch as needed.
- This stitch can be sewn in any needle position.
- If monofilament thread breaks, decrease the tension.

TRIPLE NEEDLE WORK

Fabric:	Firmly woven - 6" x 5"
Stabilizer:	Firm Tear-away or Cutaway - 6" x 5"
Needle:	Triple
Thread:	Embroidery, 3 different colors
Presser Foot:	Reverse Pattern Foot #1 or Open Embroidery Foot #20 (optional accessory)

- Thread each needle with a different color thread.
- Select 5 different stitches and sew across the fabric randomly.
- When doing decorative needle work you must sew slowly - change motor to ½ speed.
Note: To be sure the needles will not strike the foot, turn the handwheel to "walk" the machine through the first stitch. Narrow the width as needed to avoid breaking needles.
- Trim threads, then trim sample edges, and mount below.





WINGING IT ONCE AND WINGING IT TWICE

Fabric:	Broadcloth, 6" x 5", starched
Needles:	Wing/120 Double Wing
Thread:	Embroidery
Presser Foot:	Reverse Pattern #1 or Open Embroidery #20 (optional accessory)

Single Wing Needle

- Select stitch #29 on the 163 and stitch #28 on the 153QE.
- Stitch from corner to corner; the holes will open better on the bias.

Note: To be sure the needles will not strike the foot, turn the handwheel to "walk" the machine through the first stitch. Narrow the width as needed to avoid breaking needles.

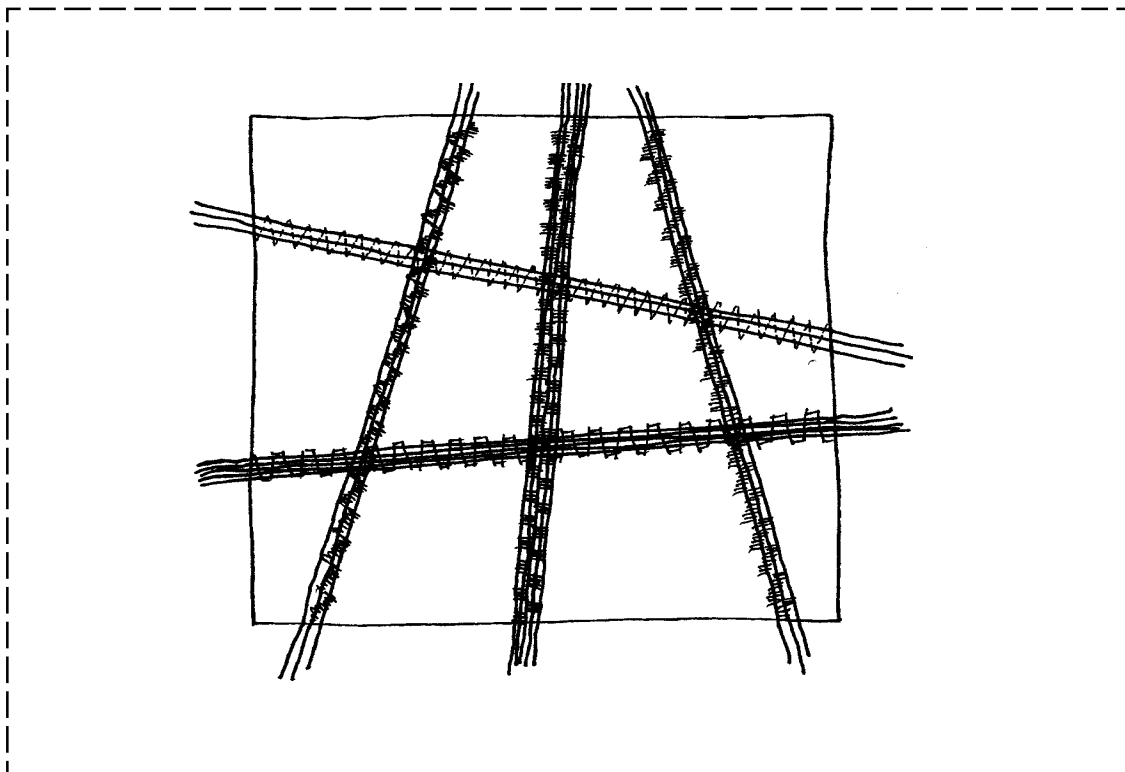
Double Wing Needle

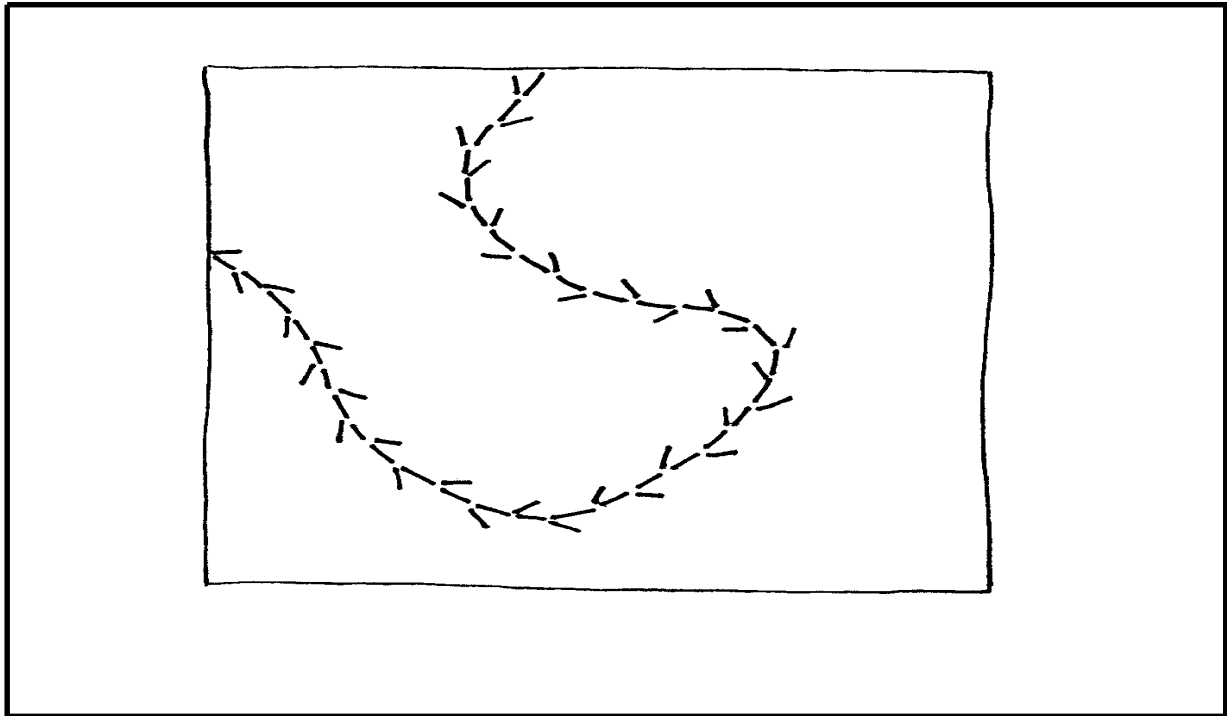
- Use a different color of thread in each needles.
- Select the Blindstitch #7 and sew to the right or left of the single wing needle stitch.
- Select the Honeycomb Stitch (#14 on the 153QE and #16 on the 163).
- Sew rows on either side of the last ones.
- Select the Gathering Stitch (#22 on the 153QE and #20 on the 163).
- Sew rows on either side of the last ones.
- Play with other stitches to get different effects.

COUCHING CORDS

Fabric:	Firmly woven - 6" x 6"
Stabilizer:	Firm Tear-away or Cutaway - 2 pieces, 6" x 5" each
Needle:	90/14 Embroidery
Thread:	Assorted decorative threads Assorted decorative cords
Presser Feet:	Cording Foot #22 - 3 groove (optional accessory) and Cording Foot #25 - 5 groove (optional accessory)

- Select the thread used according to the look that is desired.
- Load the feet by moving the black latch away from the top of the foot and placing the cords in the slots. Cords should feed in from the top and go into the grooves on the bottom of the foot. Load all cords in the same manner.
- Secure the latch across the top of the foot to hold the cords in place.
- To stabilize the fabric you may need more than one layer of stabilizer.
- Try using different colors of cording in each groove.
- Select stitches of your choice. The Running Stitch #4 (lengthen stitch to 3mm-5mm) with variegated thread works well.
- Sew in different directions across the fabric.





BOBBINWORK BASICS

Fabric:	Firmly woven - 6" x 4"
Stabilizer:	Iron-on, 6" x 4"
Needle:	90/14 Universal
Thread:	Pearl Crown Rayon and Monofilament
Presser Foot:	Embroidery Foot #6 (optional accessory) or Open Embroidery Foot #20 (optional accessory) Blacklatch Bobbin case (optional accessory)

- Press the stabilizer onto the wrong side of the fabric.
- Wind the decorative thread on the bobbin and insert it into the case.
- Thread the needle with monofilament; upper tension may need to be loosened for certain decorative threads.
- Sew from the *wrong side* of the fabric for this technique.
- Select stitch #26 on the 153QE and #21 on the 163 and sew randomly across the fabric.

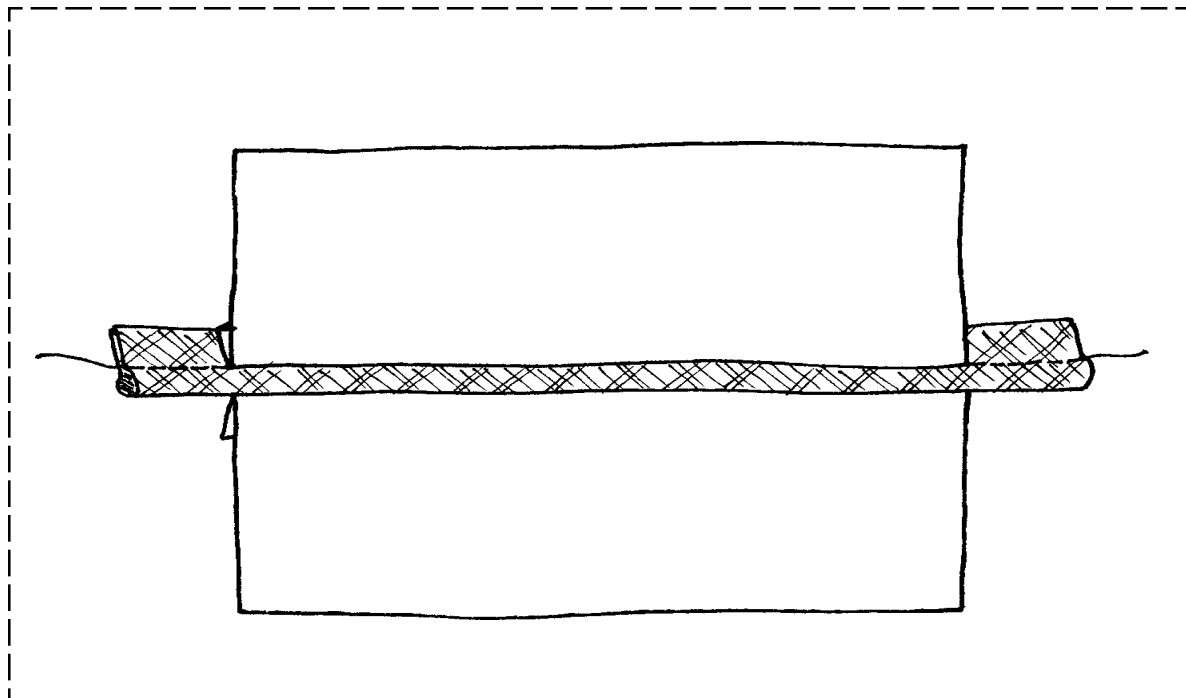
Notes: -When using heavier threads the stitch length should be longer.

-Never use the sewing bobbin case when using heavier threads, as it may cause the tension spring to stretch and affect regular sewing; use a Black Latch bobbin case

PIPED PORTIONS

Fabric:	Firmly woven - 6" x 4" Cotton - 2" x 15" Cable Cord - 18"
Stabilizer:	1 piece iron-on
Needle:	90/14 Universal
Thread:	All-Purpose
Presser Foot:	Bulky Overlock #12

- Fabric strips should be cut 1¼" plus the circumference of the cord being used.
- Trim the 2" strip, if needed, to work with the cording being used. This should result in a 5/8" seam, once the piping is made.
Note: Strips should be cut on the bias; however, crosswise and lengthwise strips may be used if there are no corners to be turned or curves to maneuver.
- Fold the wrong side of the fabric around the filler cord and position it under the presser foot with the folded edge to the left and the cord under the center of the foot so it rides in the large groove.
- Select Straight Stitch #1 and with the needle in one of the right positions, begin stitching. The stitches will be alongside the cord, creating a 5/8" seam.
- Once the piping is made, it is ready to be inserted into a seam.
- Cut the other fabric piece in half, making two 2" x 6" pieces.
- Insert the piping using the same foot.



WISH LIST

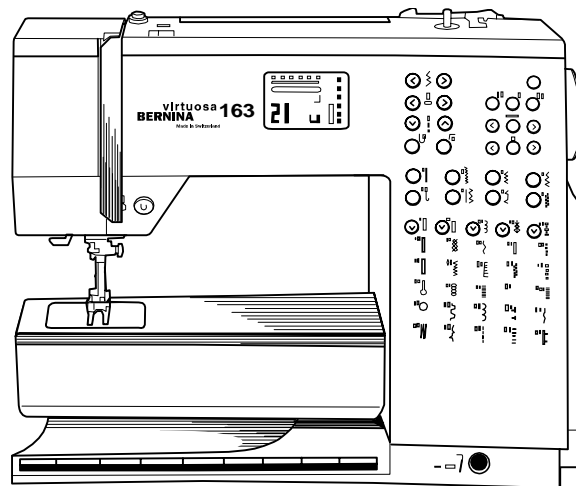
Miscellaneous Magic

- Feet-ures*
- Zipper Foot #4
- Embroidery Foot #6
- Tailor Tack Foot #7
- Darning Foot #9
- Edgestitch Foot #10
- Bulky Overlock Foot #12
- Zipper Foot with Guide #14
- Open Embroidery Foot #20
- Cording Foot #22
- Cording Foot #25
- Leather Roller Foot #55
- Blacklatch Bobbincase
- Spray Stabilizer
- Decorative Threads
 - Metallic
 - Rayon
 - Cotton
- Monofilament Thread
 - Smoke
 - Clear
- Spring Hoops for mending
- Thread Stand
- Blunt Point Scissors for lace
- Needles
 - Single Wing
 - Double Wing
 - Triple
 - Embroidery
- Cotton Batting
- Fusible Interfacing
- Bernina Ironing System

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virtuosa 153 QE/163



OWNER'S WORKBOOK

Section F

Creative Sewing

SECTION F CREATIVE SEWING

The following two samplers will introduce you to a few methods of surface embellishment.

SAMPLER #1 - Fringed Flower

Secure ribbon in one step using a double needle.

Feet-ures, Unit A

Create petals for the flower using Tailor Tack Foot #7.

Feet-ures, Unit B

Sew in circles using the Circular Embroidery Attachment #83!

Feet-ures, Unit H

SAMPLER #2 - The Many Faces Of Applique

Basic Applique skills.

Feet-ures, Unit A

Using eyelets creatively.

Feet-ures, Unit A

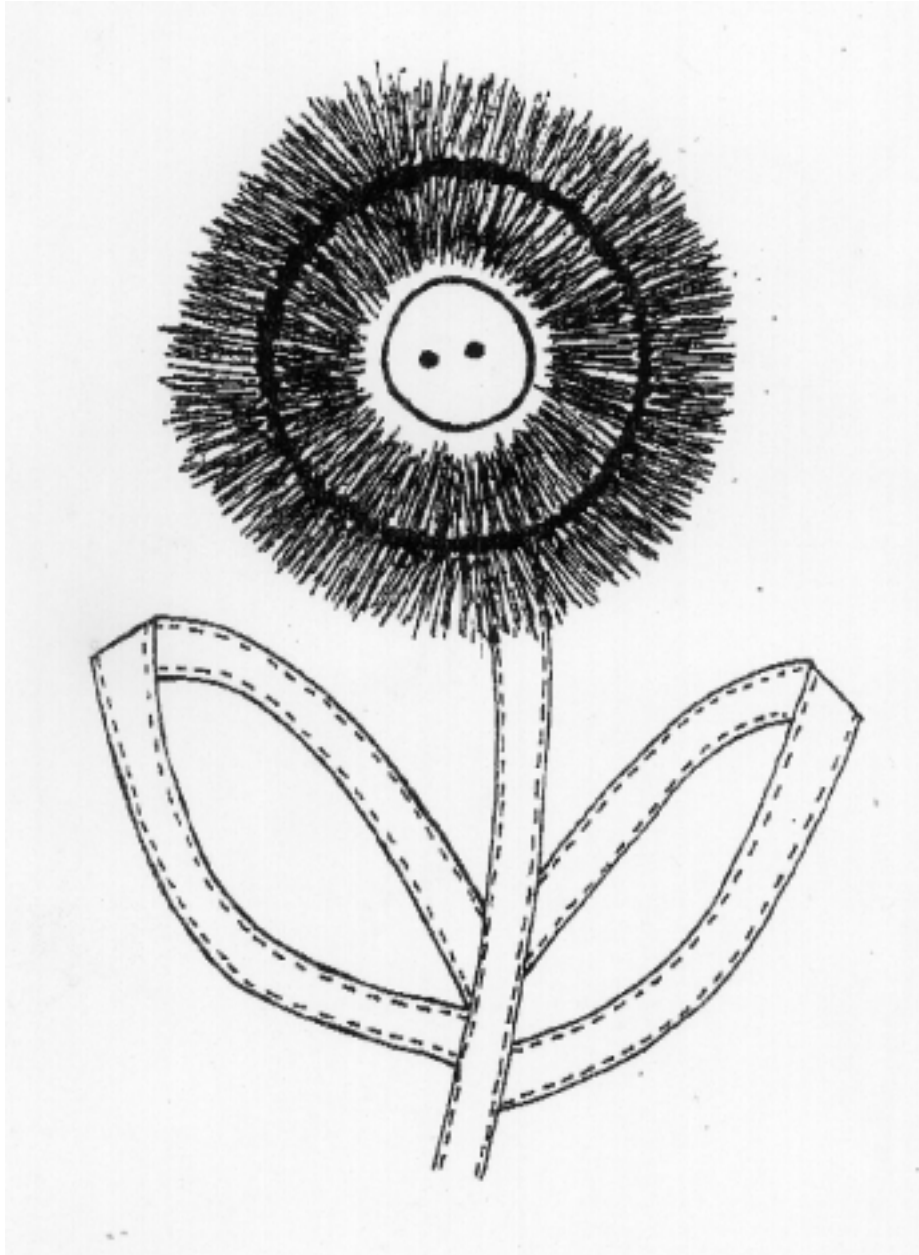
How to do the Bernina Chain.

Feet-ures, Unit A

Sewing with metallic threads.

Feet-ures, Unit A

SAMPLER #1 - FRINGED FLOWER



FRINGED FLOWER

Fabric:	Denim, 9" x 9" 9" of ribbon, 1/8" wide 2mm and 4mm wide grosgrain ribbon
Stabilizer:	1 piece tear-away, 9" x 9"
Needle:	90/14 Embroidery Double/sizes to match grosgrain ribbon.
Thread:	30 wt. cotton
Presser Foot:	Reverse Pattern Foot #1 Tailor Tack Foot #7(optional accessory) Button Sew-on Foot #18 (optional accessory) Circular Embroidery Attachment #83 (optional accessory)
Other:	Large, flat 2-hole button

Creating the Leaves

- Use different widths of ribbon for the leaves and stem. Ex: use 4mm for stem and 2mm for leaves.
- Grosgrain ribbon is recommended for the first try; silk ribbon can also be used.
- Using the drawing on the previous page as a guide, position ribbon for the leaves first. Glue or pin in place.
- Select a double needle that corresponds to the width of the selected ribbon.
- When the tip of the leaf is reached, stop sewing and secure the stitches.
- Fold the ribbon over and begin sewing again at fold.
- Repeat for the other leaf. Be sure they are close enough so the stem will cover the raw edges.
- Position the stem and stitch in place.

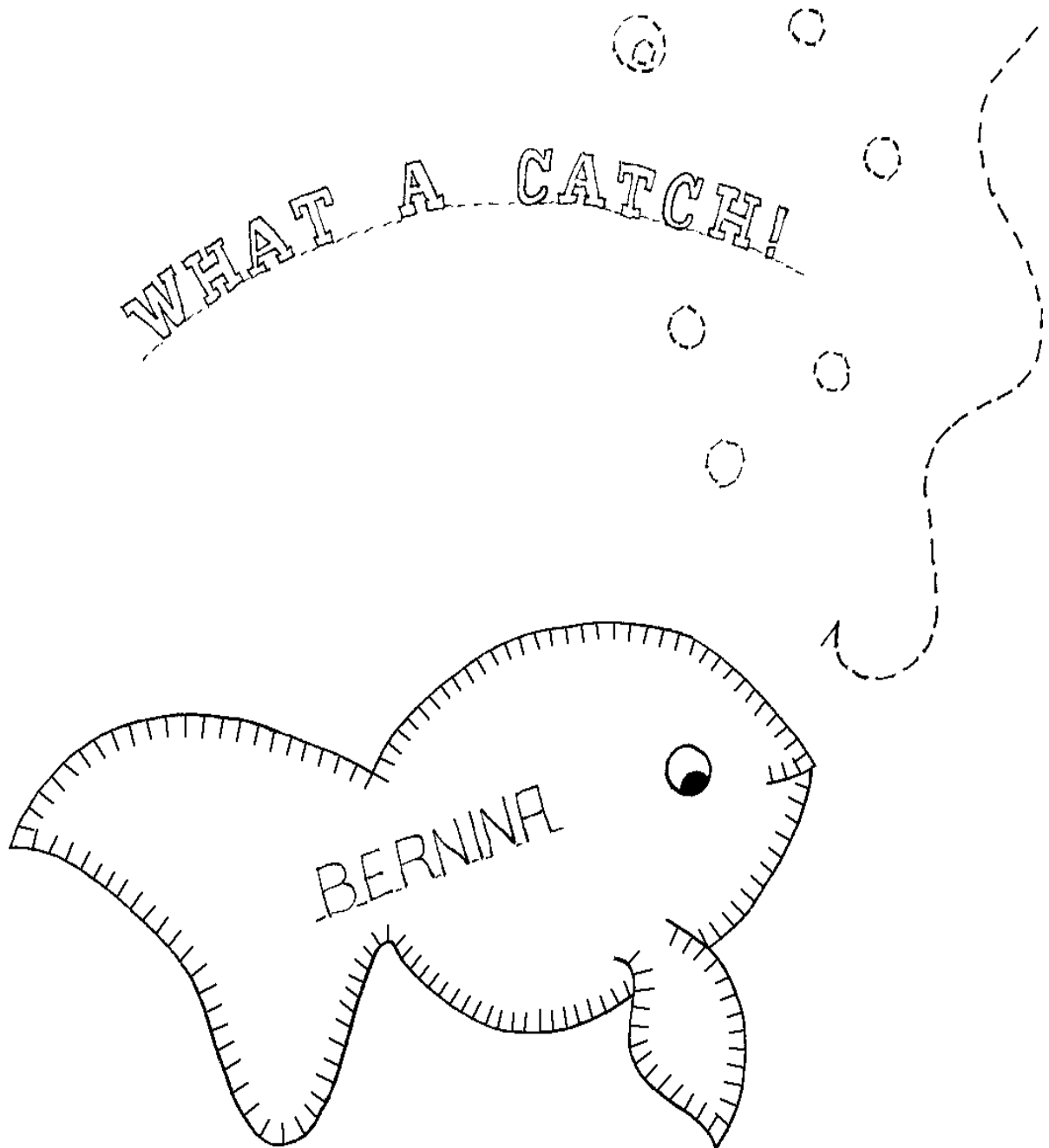
Creating the Fringe for the Flower

- Position the Circular Embroidery Attachment #83 on the machine and set it for a 2.5" circle.
- Mark the center of the flower on the fabric and position it on the pin of the attachment.
- Attach Tailor Tack foot #7 - select stitch #2 - SW 2mm and SL satin - Tension, 1.
- Sew in a circle. When the beginning is reached, overlap the stitching about 1/2".
- Gently remove the stitches from the foot.
- Use a seam sealant to secure the thread tails.
- With fine embroidery scissors, cut the loops of the stitches at the top.
- Carefully lay the stitches flat and with a narrow, close zigzag, sew down the middle of the cut stitches to secure the threads in place.
- Fluff up the fringe around the stitching.

Center of Flower

- Center a piece of narrow ribbon inside the fringed circle.
- Attach it to the fabric with a bar tack and Button Sew-on Foot #18 (drop the feed dog).
- Thread the ends of the ribbon thru the holes of a 2-hole button that will become the center of the flower. Tie the ribbon in a bow.

SAMPLER #2 - BASIC APPLIQUE



BASIC APPLIQUE

Fabric:	Denim, 9" x 9" 6" x 6" for fish
Stabilizer:	Paper-backed fusible web 1 piece tear-away, 9" x 9"
Needle:	90/14 Embroidery 90/14 Metallic
Thread:	Double/sizes to match grosgrain ribbon. Silver metallic thread Ivory Decor or Designer 6 Opalescent thread 30 wt. Cotton Embroidery thread to match fish
Presser Foot:	Open Embroidery Foot #20 (optional accessory) Eyelet Attachment #82 with Foot #92 (optional accessory)

Basic Applique

- Trace the fish onto the paper-backed fusible web.
- Fuse the web to the wrong side of the fish fabric.
- Cut the fish from the fabric.
- Peel paper backing off and press in position.
- Use Open Embroidery Foot #20 so the edge to be sewn is visible.
 - Select applique stitch of your choice and sew around the fish.
 - Use a tiny button for the eye.
 - Create a mouth with straight stitches and a short stitch length.

Fish Line

- Use the BERNINA Chain technique - see page 91 for directions.
- Use Designer 6 (Ivory) thread.
- Pull the thread to the back and use seam sealant.

Air Bubbles

- Use the Eyelet Attachment #82 or the preprogrammed eyelets.
- Create a few bubbles using Yenmet thread.

Hook

- Use Metallic thread.
- Use the BERNINA Chain technique with a short stitch length.
- Pull threads to the back and use seam sealant.

Writing

- Program in "What A Catch !"
- These words could go in the upper left of the picture.
- Program the word "BERNINA" and sew it in the center of the fish.

BERNINA CHAIN

Presser Foot:	Open Embroidery Foot #20 (optional accessory)
Stitch:	Straight Stitch #1
Stitch Width:	0mm
Stitch Length:	As desired
Needle Position:	Center
Single Pattern:	Yes
Needle Down:	Yes

THREADS

- Needle - rayon, metallic, cordonnet, or polyester; depends on the look desired.
- Bobbin - lightweight bobbin thread or 60 wt. cotton.
- Cords - Embroidery floss, Pearl Crown Rayon, gold or silver cords, braided cord, yarn, narrow ribbon, etc.

DIRECTIONS

- Draw the desired design on the surface of the fabric
- Cut decorative threads/cord 3x the desired finished length.
- Sink the needle into the fabric.
- Fold the decorative thread/cord in half and place the center point behind the needle, pulling the ends forward, one on each side of the needle.
- Secure the decorative thread/cord to the fabric by sewing 2-3 forward and reverse stitches over the center point.
- Stop sewing with the needle in the fabric in front of the cord.
- Pull the cords to the front of the needle, overlapping them to form an "X".
- Stitch over the crossed cords to secure; the machine stops at the end of the pattern repeat.
- Continue stitching in this manner, following the drawn design lines.

HINTS

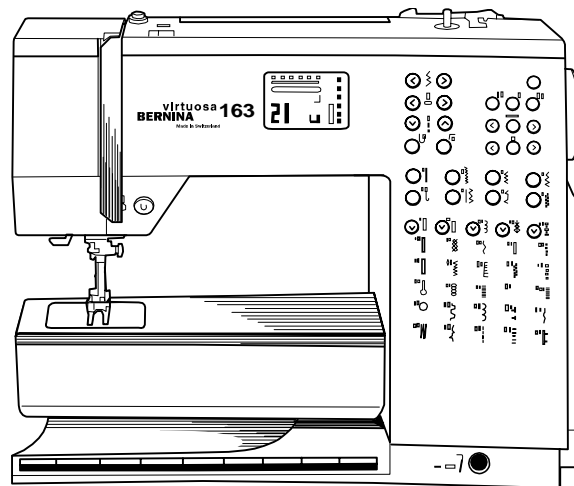
- Vary the number of stitches to produce different effects.
- Use Memory or Pattern End for automatic stitching.
- Fewer stitches and a shorter stitch length = tight, braided look.
- Use various stitch lengths.
- Double Needle can also be used.

WISH LIST CREATIVE SEWING

- Feet-ures*, Units A, B, C
- Tailor Tack Foot #7
- Button Sew-On Foot #18
- Open Embroidery Foot #20
- Circular Embroidery Attachment #83
- Eyelet Attachment #82 with Foot #92
- Needles
 - Double_____
 - Metallic_____
 - Embroidery_____
- Threads
 - 30 wt. Cotton Embroidery
 - Decor - Ivory
 - Metallic - Silver
 - Opalescent
- Embroidery Scissors
- Wonder Under paper-backed fusible web
- Bernina® Ironing System
- Fabric Glue Stick
- Bernina® Thread Stand
- Seam Sealant
- Feet-ures*

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OWNER'S WORKBOOK

Section G Programming Pizzazz

SECTION G PROGRAMMING PIZZAZZ

This section is designed to teach how the memory features of the 153 QE/163 work by sewing a sampler. Programming enables a group of stitches to be selected, altered, manipulated, combined and stored.

Memory Capacity

Owner's manual pages _____

- 30 spaces for storage
- Long term - contents remain until they are deleted

Functions

Owner's manual pages _____

- Motor Speed
- Needle Stop Down
- Pattern End
- Balance
- Mirror Image

Alphabets

Owner's manual pages _____

- Block letters - upper and lower case
- Numbers and characters

Programming

Owner's manual pages _____

- Easy push button method of programming stitches
- Programmed stitches can be viewed on the screen by scrolling through them.
- Programmed stitches can be deleted or overwritten.

Buttonhole Memory

Owner's manual pages _____

- Short term memory
- Long term memory

Buttonhole Balance

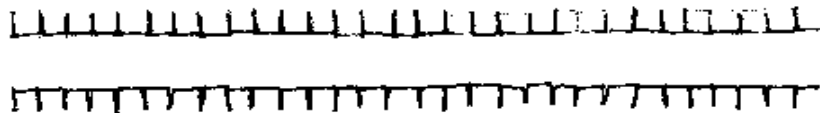
PROGRAMMING PIZZAZZ Function Sampler

Specific sewing directions for this sampler are on the following page.

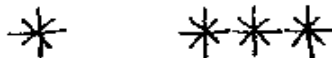
Balance



Mirror Image



Securing Function



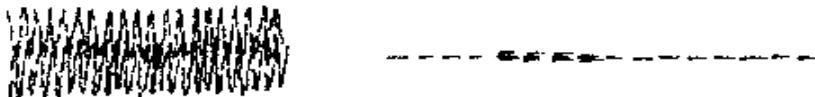
163 - #25
Pattern End
153QE - #27



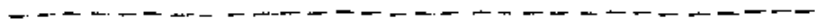
Basting



Reverse Sewing



Needle Stop Up/Down



Sewing Speed



PROGRAMMING PIZZAZZ

Function Sampler

Fabric:	Muslin, 12" x 9"
Stabilizer:	Tear-away as needed
Needle:	90/14 Universal
Thread:	30 wt. cotton embroidery in a contrasting color
Presser Feet:	Reverse Pattern Foot #1 and Open Embroidery Foot #20 (optional accessory)

Row #1 - Sewing Speed

- Select Straight Stitch #1; sew down the 9" length of the fabric.
- Change speeds as you sew.
- The 153QE and 163 have 2 speeds.
- The Clr button does not affect the motor speed.

Row #2 - Needle Stop

- Engage the Needle Down function.
- Sew half way down, stop, use the foot control to raise the needle.
- Sew the rest of the way and stop once more. The machine stops instantly without coasting.
- The Clr button does not affect the needle up/down function.

Row #3 - Reverse Sewing

- Select the Running stitch #4 - sew about 1". Raise the foot and move the fabric to the left about ¼".
- Select the Reverse Sewing function and continue stitching back to the beginning.
- Cut the threads and position the fabric about 1" below what was just stitched.
- Disengage Reverse Sewing.
- Select stitch #1. Sew about halfway and engage the Reverse Sewing function. The reverse stitches are the same length as the forward ones and the machine tracks perfectly.
- Touch Clr to cancel alterations.

Row #4 - Basting

- Select stitch #1.
- Adjust stitch length to maximum.
- Sew a row of basting stitches.

Row #5 - Pattern End

- Select stitch #19 on the 153QE and #37 on the 163.
- Engage Pattern End.
- Using Open Embroidery Foot #20, sew until the machine stops.
- Move the fabric forward about 1”.
- Program 3 of the same stitches into the memory.
- With the Pattern End function still engaged, sew until the machine stops.

Row #6 - Securing

- Select Stitch #28 on the 153QE and #29 on the 163.
- Select Pattern End and the Securing function.
- Sew until the machine stops. The Securing function takes 3 stitches at the beginning and end of the design.
- Raise the presser foot and push the fabric back about 1”.
- Put 3 of the same stitches into the MEM and engage the Securing function.
- Sew until the machine stops. It secured at the beginning of the first pattern and at the end of the third.

Row #7 - Mirror Image

- Use Reverse Pattern Foot #1.
- Select stitch #25 on the 153QE and #23 on the 163.
- Sew one row across the fabri.
- Engage Mirror Image and sew a second row next to the first.

Row #8 - Balance

- Select stitch #8 - sew about one third the distance using the programmed settings; stop.
- Adjust the “balance” to the opened symbol.
- Sew the next third.
- Adjust the balance symbol to the closed symbol.
- Sew the last third.
- Return the “balance” knob to normal.

Note: Clr does not undo Needle Down, Altered settings for buttonholes, Motor Speed, or Continuous Reverse

PROGRAMMING PIZZAZZ

Basic Information for Memory Mania and Sampler

Beginning Basics

- Finished sampler will be about 11" x 15".
- Fabric should be a linen type - 18" x 18".
- Stabilize the fabric as necessary and mark the size of the finished area (11" x 15").
- Use a color thread that will be visible but create a tone-on-tone look.
- Firm muslin will be needed to test the techniques, about ¼ yd.
- Find the center of the fabric and chalk a line horizontally.

Accessing Memory

Owner's manual page___

- Press the external MEM button on the front of the machine.
- Memory cursor appears to the left, the number of available spaces blinks and the word MEM appears on the screen.

Programming

Owner's manual page___

- Select the stitch desired and the stitch number appears on the screen.
- Touch the MEM+ button and the selected stitch is programmed.
- The number of available spaces appears.
- Continue programming in this way.
- Scroll through the programmed memory using the scroll arrows on either side of the MEM button.
- Altered stitches can be saved in the memory; needle position as well as width and length can be saved.
- Delete all unwanted functions before programming.

Corrections in Memory

Owner's manual page___

- Programmed stitches can be deleted or overwritten.
- Scroll to the stitch you wish to change or wish to delete.
- Select the stitch you wish to replace it with and press the MEM+ button. The new stitch is saved over the original one. *Or* press delete and the stitch is cleared.

Viewing Memory Contents

Owner's manual page___

- Use the arrows on either side of MEM to scroll thru the memory.

Saving and Leaving Memory

Owner's manual page___

- To save the contents simply touch the center MEM button. All entries are saved and the memory closes.
- All stored programs can be recalled at any time - even after the machine is turned off.

Memory Capacity

Owner's manual page___

- The total capacity is 30 spaces (meaning 30 individual stitch patterns).

MEMORY MANIA

Programming and Editing Practice

Fabric:	Muslin - 6" x 6" (folded to 3" x 6")
Stabilizer:	As needed
Needle:	90/14 Universal
Thread:	30 wt. cotton
Presser Foot:	Reverse Pattern Foot #1

Row #1

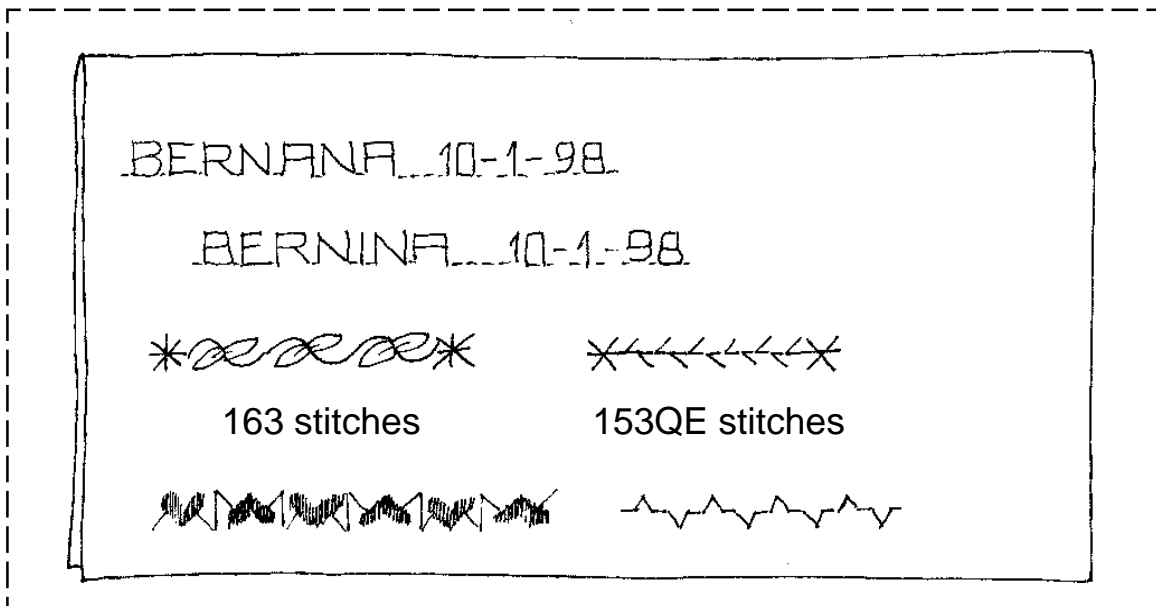
- Select the Alphabet button.
- Program "Bernana" and the date in Block letters.
- Select Pattern End 1x and stitch.
- Edit the memory by changing the first "A" to an "I" and stitch.

Row #2

- Open Memory and delete the contents by pressing the "clr/del" button. Keep it depressed and press the MEM button.
- On the 153QE - select stitch #28/1x and #26/3x and stitch #28 1x.
- On the 163 - select stitch #29/1x and stitch #27/3x's and stitch #29/1x.
- Select Pattern End 1x and the securing function.
- Sew one group.

Row #3

- On the 153QE select stitch #22
- On the 163 select stitch #31
- Enter it into the memory 1x
- Engage mirror image and enter it into the memory again 1x.
- Sew a row across the fabric.



MEMORY SAMPLER

Fabric:	Muslin - 6" x 6" (folded to 3" x 6")
Stabilizer:	As needed
Needle:	90/14 Universal
Thread:	30 wt. cotton
Presser Foot:	Reverse Pattern Foot #1

Before stitching this exercise, read the information completely and stitch the Memory Mania exercise from the previous page.

- Sew out stitches or motifs on muslin first.
- Leave space below and above the center row, where the monogram is.
- Draw guide lines to guide the rows of stitches.
- Sampler can be laid out as below or use your creative license.
- Add or delete rows as needed to create desired look.

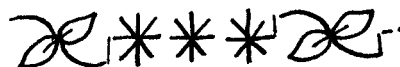
Row #1

153QE: Honeycomb Stitch #14
163: Entredoux Stitch #22



Row #2

153QE: Leaf Stitch #20 1x, Star Stitch #28 3x, #20 1x
163: Leaf Stitch #27 1x, Star Stitch #29 3x, #27 1x



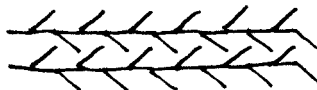
Row #3

153QE: Star Stitch #28 1x, Checkers Stitch #24 1x,
#28 1x, #24 1x, #28 1x, #24 1x
163: Star Stitch #29 1x, Checkers Stitch #36 1x,
#29 1x, #36 1x, #29 1x, #36 1x



Row #4

153QE: Feather Stitch #24
163: Feather Stitch #21



Row #5

Name/date



Row #6

153QE: Heart Stitch #19 1x, Mirror Image, then #19 1x
163: Heart Stitch #31 1x, Mirror Image, then #31 1x



Row #7

153QE: Star Stitch #28 1x, Heart Stitch #19 1x, Mirror Image,
then #19 1x, no Mirror Image, then #19 1x, #28 1x
163: Star Stitch #29 1x, Heart Stitch #31 1x, Mirror Image, then
#29 1x, no Mirror Image, then #29 1x, #31 1x



BUTTONHOLE MEMORY

Fabric:	Heavy flannel, 6" x 9"
Stabilizer:	1 piece, 6" x 9"
Needle:	90/14 Embroidery
Thread:	30 wt. cotton embroidert
Presser Foot:	Buttonhole Foot with Slide #3A

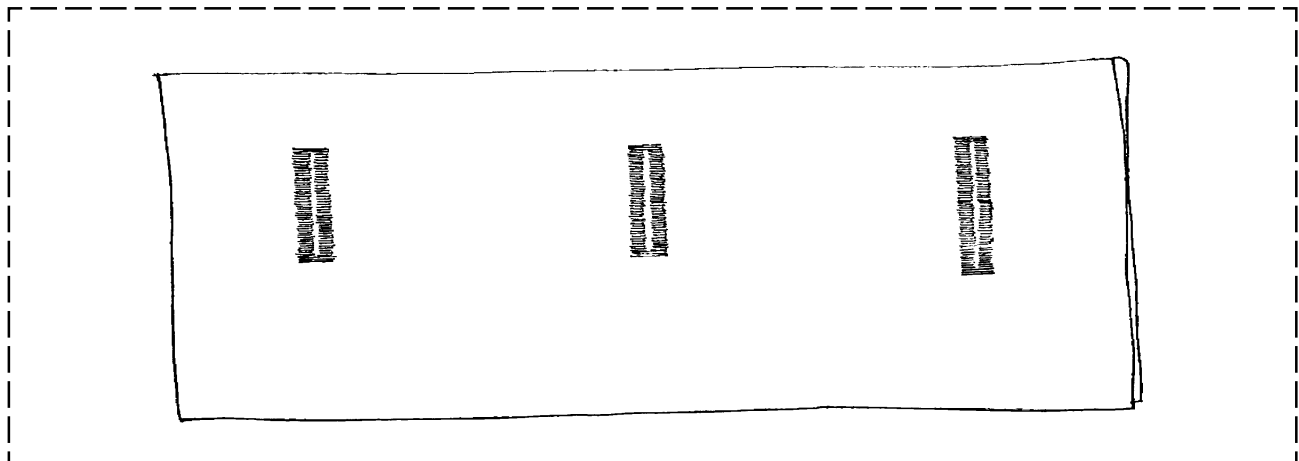
Short Term Memory

- Fold fabric in half to 3" x 9".
- Space the buttonholes evenly across the fabric.
- Select Standard Buttonhole #9 and attach Buttonhole Foot with Slide #3A.
- Press the Continuous Reverse button.
- Program a 1" buttonhole as for a counted stitch buttonhole.
- Notice the word AUTO is now blinking on the screen.
- Sew the first bead. Stop at desired length and press the quick reverse button.
- Sew the bar tack and second bead until you reach the beginning of the buttonhole.
- Press the quick reverse button again. The machine will sew the top bartack and the securing stitches and stop automatically.
- The word AUTO appears and the buttonhole has now been programmed in short term memory.
- All buttonholes will now be sewn this programmed size.
- Sew a second buttonhole.

Long Term Memory

- Press MEM+ (after the buttonhole has been programmed).
- Turn the machine off and wait 60 seconds. Turn the machine back on.
- Select Standard Buttonhole #9 and press MEM button.
- Sew a buttonhole on the third line.

Note: In order to clear a saved buttonhole, a new buttonhole length must be programmed over the previous one.



WISH LIST

Programming Pizzazz

- Feet-ures*
- Chalk Wheel
- Large Ruler - clear
- Decorative Thread
 - Rayon___
 - Cotton___
 - Metallic___
- Sewers Aid
- Interfacing
 - Fusible Tricot___
 - Fusible Woven___
- Needles
 - Embroidery___
 - Metallic___
- Buttonhole Space Tape
- Buttonhole Placement Gauge - Simplex Ruler
- Fabric Marking Pen