

BERNINA
eBook Series



JUST SEW IT!

Exploring Twin Needles

Written by
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EXPLORING TWIN NEEDLES

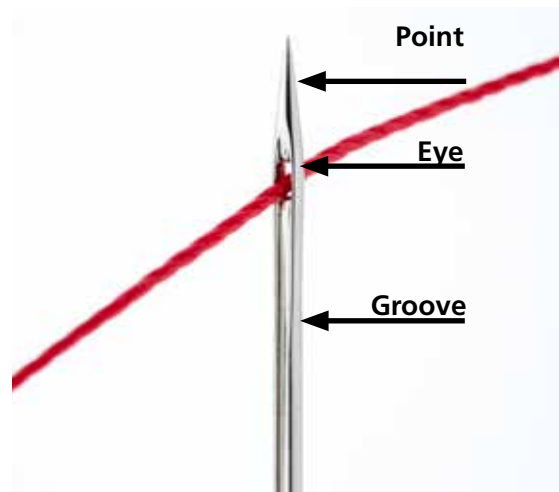
In the wide array of techniques used in the sewing, quilting, and embroidery worlds, different needles are needed to provide the best results for every project. Twin needles, or double needles, are a type of needle that is often overlooked, but prove to be very useful in every category of sewing, not to mention that they are fun to use.

Twin needles are two needles leading to two identical rows of parallel stitching accomplished using a single bobbin. Available in different types, sizes, and needle distances, there are few techniques that the twin needle cannot accomplish. This eBook discusses the anatomy of the twin needle, the different sizes and types, how to set up the sewing machine to operate with this type of needle, and different sewing techniques that are enhanced with the twin needle.

ANATOMY

How is the twin needle designed? The anatomy is simple: The two needles are connected to a single shank by a plastic bridge piece. The bridge piece acts as the shoulder for both needle shafts. Each needle has its own groove, eye, and point; however, both are the exact same size. The shank of a twin needle has a flat side, like that of a singular needle, which should be positioned to the back when inserted into the machine. Each needle has its own thread supply. Two spools of thread are needed for proper threading.

NEEDLE ANATOMY LABELED



EXPLORING TWIN NEEDLES

HOW THE STITCHES ARE MADE

In order to use a twin needle, or double needle, the sewing machine must be able to do a zigzag stitch. Even though there are two upper threads moving through the machine, the two needles share a single bobbin. While the twin needle is creating parallel rows of stitching on the top side of the fabric, the bobbin is doing twice the work beneath the surface, bouncing back and forth between each needle and creating a zigzag stitch on the wrong side of the project.



**COMPARING WRONG SIDES
OF STRAIGHT STITCH SINGLE
NEEDLE AND TWIN NEEDLE**

SIZES

Needle packaging lists several different details about system, type, and size of the needles included. Twin needles have similar packaging, but needle distance is also included. This section discusses the different types, sizes, and needle distances of twin needles and how the information is listed on the packaging.



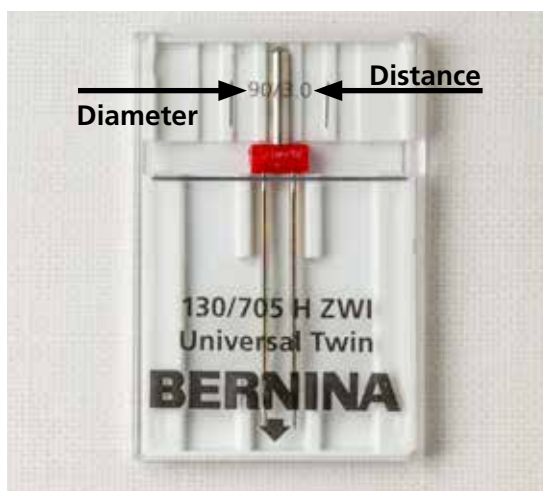
One of the first things to take into consideration is the needle type (#3 on packaging diagram). Like singular needles, twin needles come in a variety of types. Singular needles come in types such as Universal, Stretch, Jersey, Embroidery, Jeans, Leather, Topstitch, Microtex, and so many more, each with its own sizes. Twin needles follow the same concept. Each needle type refers to different needle eye and point shape. The type of needle used should accommodate the material being sewn. The most common types of twin needles are Universal, Stretch, and Jeans, but other types of twin needles include Embroidery, Hemstitch, and Metallic. Twin needles are marked with the acronym KWI, which is short for the German word Kwillingsnadel. Translated to English, this word means twin needle.

EXPLORING TWIN NEEDLES

Universal twin needles can be used for most general sewing projects. The packaging will typically say Universal Twin. The needle points are a cross between that of a sharp needle and a ballpoint, so that the sewist can use the needle for both wovens and knits. Stretch twin needles are designed specifically for sewing knit fabrics. Both needles have ballpoints that will penetrate the knit fabric without snagging the fibers. This will be indicated by stating Stretch Twin on the packaging, and the 'S' acronym will be listed before KWI for a Stretch twin needle. Jeans needles are also a common type of twin needle. These needles have sharp points for clean penetration through woven fabrics. Jeans twin needles are often used for hemming denim jeans and creating lapped seams, but they can also be used for quilting and sewing through thick or multiple layers of other woven fabrics. The acronym for the Jeans twin needle is J KWI.

Another important piece of information is the needle system. BERNINA sewing machines use 130/705 H (#2 on packaging diagram). The other numbers refer to the sizing (#1 on packaging diagram). There are two different sizes listed on the packaging of twin needles. The first number, usually the larger number, is the size of the diameter of each needle in the European measurement (NM). Remember, both needles are the same size. The second number, or smaller number, is the needle distance between the center axis lines of both needles (NE). This essentially states how far apart the two straight rows of stitching will be. The needle size and distance are also embossed on the back of the plastic bridge piece on the same side where the shank is flat.

The only exception for twin needles not being the same size is the Hemstitch twin needle. Used for heirloom sewing, the Hemstitch twin needle has a wing needle on the left and a straight needle on the right. They are still connected to a single shank. The packaging for this type of needle is marked with the acronym ZWIHO, short for the German words Hohlsaum-Zwillingsnadel. Note that the 'HO' acronym for Hemstitch is listed after ZWI. The packaging again has two numbers. The first is the size of the wing needle, and the second is the needle distance. These numbers are also embossed on the back of the plastic bridge, along with the size of the straight needle.



The width between the needles, or the needle distance, ranges from 1.0 millimeter all the way to 8.0 millimeters. A complete list is 1.0, 1.6, 2.0, 2.5, 3.0, 4.0, 6.0, and 8.0 mm. With each needle distance comes different needle sizes and needle types, as well. Twin needles' sizes range from 70 to 100 (NM).

EXPLORING TWIN NEEDLES

With this type of variety, there are few projects that cannot be completed. Different distances can be used based on the project, type of sewing machine, and personal preference. Check the manual of the sewing machine being used to see the greatest stitch width the machine can support. The twin needle distance must be smaller than the maximum width of the machine to avoid breaking needles. More information about machine setup will be discussed in the next section. More details on needle distance will be discussed in the TECHNIQUES section.

The size of needle goes hand-in-hand with the size of thread being used to complete the project, as well as the thickness and weave of the material being sewn through. The thicker the thread is, the bigger the needle will need to be. A tip to finding the perfectly sized needle for the thread being used is to check if the thread fits in the groove on the shaft of either needle. If the thread is too big, the needle will not make a big enough space in the fabric for the thread to travel through. If it is too small, there is a greater risk of skipping stitches because the thread will not fill the hole created by the needle. More details on needle size will be discussed in the TECHNIQUES section.

SEWING MACHINE SETUP

Threading the sewing machine to operate with twin needles is not at all complicated, but proper threading will ensure perfect stitches every time. Supplies needed to thread the machine are two spools of thread, foam pads, spool caps, and one bobbin with a bobbin case. Before threading the upper part of the machine, wind a bobbin on the bobbin winder. Insert the wound bobbin in the bobbin case, and into the machine normally. Be sure that the 9.0 mm Standard Stitch Plate is attached, then attach the twin needle of choice. (For machines that have 5.5 mm maximum widths, attach the 5.5 mm Standard Stitch Plate after ensuring that the needle size is correct.)



**LOADING TWO SPOOLS OF THREAD ON
UPPER PART OF MACHINE**

Place one spool of thread on the vertical spool holder and one spool on the horizontal spool holder, using foam pads as necessary. Place a spool cap on the horizontal spool holder. Grab both threads, and simultaneously thread them under the hook of the top thread guide. Next, separate the threads and run them on opposite sides of the tension disk, one to the left and one to the right. Match the threads back up and take them down, back up and through the take-up lever, and back down through the two thread guides near the needle. Thread the left and right needles individually. Thread the left needle with the thread that runs on the left side of the tension disk manually, and vice versa with the right needle. Test out the stitches on scrap fabric to ensure that stitches are as desired.

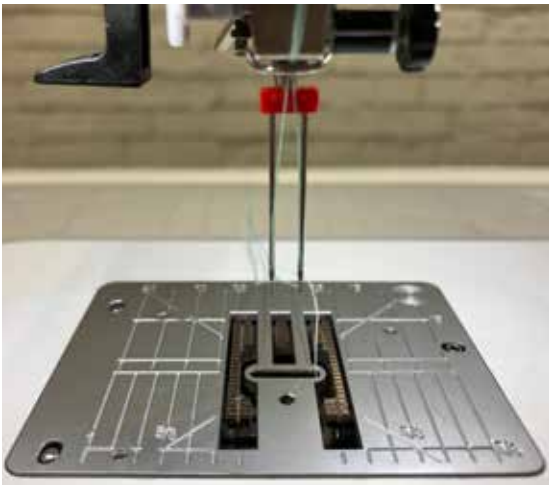
EXPLORING TWIN NEEDLES



If it is not comfortable to thread both threads at once, thread one at a time. The process is the same. Run the first thread to the right of the tension disk and manually through the right needle. Take the second thread to the left of the tension disk and manually through the left needle. If unsure how to thread the sewing machine, refer to the Tutorial menu within the Home menu or on the function bar of many BERNINA machines. The information and directions for threading a specific model of sewing machine are also available in the machine manual.



**THREADS ON EITHER SIDE
OF TENSION DISK**



**THREADS GOING THROUGH THREAD GUIDES
NEAR NEEDLE AND RESPECTIVE NEEDLES**

EXPLORING TWIN NEEDLES

On certain models of BERNINA sewing machines, there are security features that should be changed before stitching with a twin needle. These features ensure that there is no damage caused to the machine, accessories, or the sewist. The three main security features are Needle Security, Stitch Plate Security, and Presser Foot Selection.



NEEDLE SECURITY AND STITCH PLATE SECURITY

If the sewing machine has these security features, select the Stitch Plate Security/Needle Selection icon in the status bar menu, and select the twin needle with the correct needle distance being used. In the same menu, check that the 9.0 mm Standard Stitch Plate is selected. Not using this stitch plate could result in broken needles and/or damage to the sewing machine. Check the manual for the machine to see if a twin needle with a needle distance greater than 4.0 mm can be used. Some machines only have a 5.5 mm stitch width, which does not allow a twin needle with a greater needle distance to be used.



PRESSER FOOT RECOGNITION

Again, on certain models, the machine can be told which presser foot is being used. If the twin needle is too wide, or the stitch cannot be sewn, the machine will alert the user. Select the Presser Foot Indicator icon in the status bar menu and select the presser foot being used. The best presser feet to accompany the twin needle will be discussed later in this eBook.

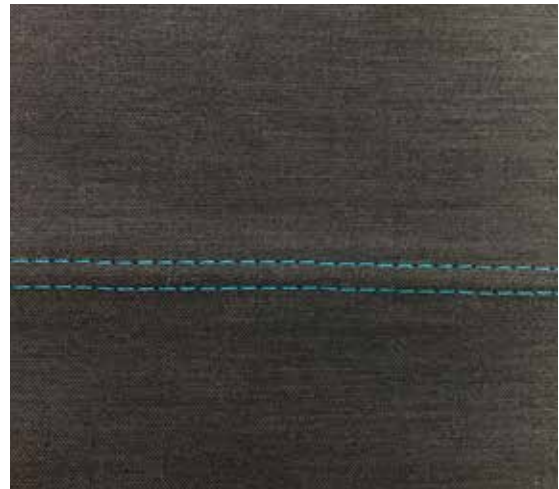
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TECHNIQUES

Twin needles have been around for some time and have been used for a variety of techniques. In this section, different twin needle techniques will be demonstrated. Information about the size of needle, presser foot, and fabric used will all be listed. The techniques may also be supported by listing sewing machine settings that may need to be changed.

HEMMING WOVENS

NEEDLE SIZE AND DISTANCE	70 or 80 Universal, Jeans Twin Needle; 4.0 mm or less
PRESSER FEET	#0, #1/1C/1D, #20/20C/20D, Walking Foot #50
STITCH	#1 Straight Stitch
MACHINE SETTINGS	If available on your machine, engage BERNINA Dual Feed and use a D foot; increase stitch length if desired
FABRIC	Wovens
OTHER INFORMATION	Possible projects include cloth napkins and flannel baby blankets



EXPLORING TWIN NEEDLES

HEMMING KNITS

NEEDLE SIZE AND DISTANCE	75/4.0 mm Stretch Twin Needle
PRESSER FEET	#0, #1/1C/1D, Walking Foot #50
STITCH	#1 Straight Stitch
MACHINE SETTINGS	Decrease upper thread tension for stretchy knits
FABRIC	Knits
OTHER INFORMATION	For hemming T-shirts, knit dresses, and athletic leggings



HEMMED KNIT



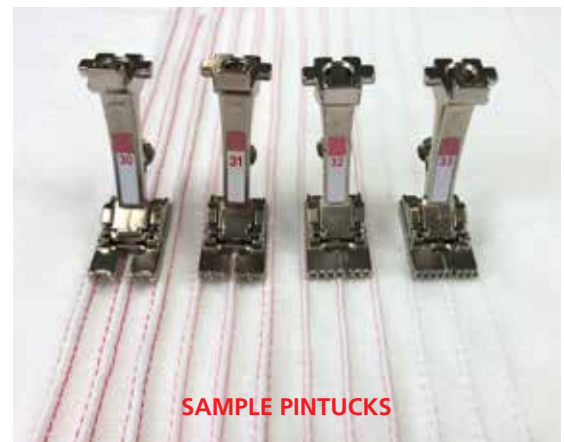
PINTUCKS

NEEDLE SIZE AND DISTANCE	Needle distance dependent on which presser foot is used
PRESSER FEET	Pintuck Feet #30, #31, #32, #33, Pintuck & Decorative Stitch Foot #46C
STITCH	#1 Straight Stitch
MACHINE SETTINGS	Increase stitch length and upper thread tension
FABRIC	Light- to medium-weight wovens; do not back with stabilizer
OTHER INFORMATION	Check that the correct needle is being used for the pintuck foot



NEEDLE IN GROOVES OF FOOT

NOTE: To find the proper needle distance for the presser foot, lay the twin needle in the grooves. If the needle stays in place by itself, it will work for that particular foot. Use cording and the Pintuck Cording Attachment for pintucks with more body and structure.



SAMPLE PINTUCKS

EXPLORING TWIN NEEDLES

TOPSTITCHING

NEEDLE SIZE AND DISTANCE	90/6.0 mm or 90/8.0 mm Universal Twin Needle
PRESSER FEET	#1/1C/1D, #20/20C/20D
STITCH	#1 Straight Stitch
MACHINE SETTINGS	Increase stitch length and upper thread tension
FABRIC	Wovens
OTHER INFORMATION	Provides a decorative and functional look; consider using 30 weight thread; use for lapped seams



TOPSTITCHING LAPPED SEAMS
ON DENIM

NOTE: If using a narrow needle distance and Cordonnet thread, consider using Cordonnet Foot #11, which allows the foot to move over the thicker thread, but not let thread travel from side to side.



DECORATIVE STITCHING

NEEDLE SIZE AND DISTANCE	Use a larger size when using thicker thread
PRESSER FEET	#20/20C/20D, Clear Foot #34/34C/34D, Clear Embroidery Foot #39/39C (for more visibility)
STITCH	Select any decorative stitch from the <i>Stitch Selection Menu</i>
MACHINE SETTINGS	Set the machine's security features to ensure decorative stitch works
FABRIC	Wovens; back fabric with stabilizer
OTHER INFORMATION	Use two different shades of thread for a shadowy effect



DECORATIVE
STITCHING



EXPLORING TWIN NEEDLES

QUILTING (STIPLING, FREE-MOTION, STRAIGHT-LINE)

NEEDLE SIZE AND DISTANCE	90 Universal or Jeans Twin Needle; 4.0 mm or less
PRESSER FEET	#24, #29/29C, Walking Foot #50, BERNINA Stitch Regulator
STITCH	#1 Straight Stitch
MACHINE SETTINGS	Consider adjusting the <i>presser foot pressure</i> depending on thickness
FABRIC	Quilt sandwiches (two fabric pieces, with batting in between)
OTHER INFORMATION	Note that the back side of the quilt will have a zigzag stitch



WALKING FOOT

NOTE: Consider using a busy print for the backing of the quilt, along with matching thread that blends in.



BACK OF QUILT SANDWICH

HEIRLOOM SEWING

NEEDLE SIZE AND DISTANCE	100/2.5 mm Hemstitch Twin Needle
PRESSER FEET	#20/20C/20D
STITCH	Any stitch from Heirloom Stitch Menu #700
MACHINE SETTINGS	Increase and/or decrease stitch length and width as desired
FABRIC	Lightweight woven linens or linen-like fabrics
OTHER INFORMATION	Use stabilizer or starch to keep fabric firm; use as a hemming tool



HEIRLOOM STITCH

EXPLORING TWIN NEEDLES

THREAD PAINTING

NEEDLE SIZE AND DISTANCE	Use a sharp point; needle distance should be narrower than 4.0 mm
PRESSER FEET	Freehand Embroidery Foot #24, BERNINA Stitch Regulator
STITCH	#1 Straight Stitch, #2 Zigzag Stitch
MACHINE SETTINGS	Adjust the upper thread tension as needed
FABRIC	Wovens; back fabric with stabilizer
OTHER INFORMATION	Start the process by pulling the bobbin thread to the top of the work



NOTE: Secure the thread first by taking three to four stitches close together. Use similar or contrasting threads to create shadow effects, directional details, or bold outlines.

TWIN NEEDLE COUCHING

NEEDLE SIZE AND DISTANCE	Needle distance should be narrower than 4.0 mm
PRESSER FEET	Cording Feet #22 & #25
STITCH	Select any decorative stitch from the <i>Stitch Selection Menu</i>
MACHINE SETTINGS	Set the machine's security features to ensure decorative stitch works
FABRIC	Use heavier fabrics for better results
OTHER INFORMATION	Test the stitch with the cording on scrap fabric first



EXPLORING TWIN NEEDLES

QUILTING ON THE BERNINA Q SERIES

Quilting with a twin needle on the BERNINA Q Series requires different accessories. The Q 20 and Q 24 are equipped to use the Twin Needle Stitch Plate. This stitch plate is specifically designed to accommodate the two BERNINA Stitch Regulator sensors built into the machines. The Twin Needle Stitch Plate is not available nor needed for BERNINA domestic sewing machines.



**TWIN NEEDLE STITCH PLATE
FOR Q SERIES**



**Q-MATIC TWIN NEEDLE
QUILTING**

EXPLORING TWIN NEEDLES

FINAL TIPS

- Select a needle that best accommodates the fabric being sewn. Needle selection is one of the first things to be done, and directly impacts the final results.
- DO NOT use a Straight Stitch Plate. A Straight Stitch Plate, identifiable with an orange mark on it, is meant for sewing straight stitches with a single needle and embroidering. With these techniques, the needle does not move some side to side. The opening on this stitch plate is not wide enough for two needles, and attempting to stitch with a twin needle will likely cause needle breakage and/or damage to the machine.
- Use the Standard Stitch Plate, discussed in the SEWING MACHINE SETUP section. This plate has a 9.0 mm opening that will allow both needles to take stitches without breaking.
- Depending on the size of needles, use a Dual Needle Plate. This plate is marked with a purple square and has a 5.5 mm needle opening. If using needles with a distance of 1.6, 2.0, 2.5, 3.0, or 4.0 mm, it may be best to use the plate with the smaller needle opening to prevent fabric from being pushed down in the opening when being penetrated by the needles.
- Reduce the stitching speed using the Slide Speed Control when using twin needles.
- ALWAYS test the stitch on scrap fabric first. This allows the sewist to adjust any machine settings before sewing on the project.
- If the fabric pulls up between the two rows of stitching, consider decreasing the tension, using stabilizer, or using needles with a smaller width between the two needles. The opposite, however, is true with pintucks. The more tunneling between the rows of stitching the better.

For more information on which needle to use for your next project, visit the [BERNINA website needle search](#).