

# **BERNINA 325 & 335 (Gen 2) – COURSE**

## **INTRODUCTION & CONTENTS**

The object of this course is to make you familiar with the features and functions of your Bernina sewing machine. Used properly and with minimal maintenance your Bernina will give you many years of enjoyable sewing. This course takes you step-by-step through the basic functions of your machine.

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## 1. Threading and Preparation

To wind a bobbin, place the empty bobbin on the bobbin spindle. Then put the reel of thread on the horizontal spool pin and attach the appropriate spool cap. Take the thread through the rear guide and clockwise around the pre-tension silver stud then wind the thread clockwise around the empty bobbin 2 or 3 times cutting off any excess thread on the thread cutter. Push the engaging lever over towards the bobbin and the winder will work automatically. The bobbin winder will automatically switch off once the bobbin is full.

To remove the bobbin case from the machine, grasp the bobbin case latch and pull out. Insert the bobbin so that the thread runs clockwise. Laying the thread into the slot, then pull the thread counter clockwise into the slot. Pulling the thread under the spring. Pull the thread to the left under the spring until it lies in the T-shaped slit at the end of the spring. The bobbin must turn clockwise

To insert the bobbin case, hold the bobbin case latch, the finger on the case should point upwards. Insert the case so that it clicks into place

To thread the upper thread, make sure the presser foot is raised. The thread must unwind clockwise passing through the rear guide and into the slit of the upper thread tension you can then follow the arrows.



To thread the needle, lower your presser foot and check your needle is in its highest position. You can do this by pressing the needle up/down button. Press the lever half way down and loop the thread behind and round the guide. Then press the lever all the way down so the threader has fully swung around and is flat against the needle with the wire hook through the needle eye. You can then pass the thread to the right through the slit at the side. You can raise the lever in your left hand. Once you have pulled the loop of thread through you can then pass it through the slit on the foot and trim the thread on the cutter to the left-hand side of the head frame.

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## PRACTICAL STITCHES

- 1.1. To secure a seam at the start lower the presser foot by lowering the presser foot lever or use the knee lifter. Start with the fabric against the 1.5 cm (5/8") guideline on the needle plate and using stitch 1 sew a few stitches forwards then sew a few stitches backwards by pressing and holding the quick reverse button. You can then release the button and sew forwards down the fabric, touching the reverse button a few times to practice.



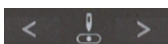
For continuous reverse, press the  function on the screen and the permanent reverse icon this will turn yellow to show it is activated. To clear continuous reverse touch the highlighted icon. The horizontal lines are also 1.5 cm from the needle, making it easier to turn corners accurately. Press the  button again to return to the stitch selection screen.



The needle can be set to stop in or out of the work by pressing the icon on the top left of the screen.

NOTE: The machine is programmed so that even if the controls are altered while the needle is in the work the alterations do not take effect until it is fully clear, so you cannot damage it.

- 1.2. For the next line, sew down the fabric, stopping every few inches to change the needle position to the left or right by pressing the black buttons to the right of the screen. The altered needle position is displayed on the screen under the stitch width and is highlighted in yellow pressing this returns the needle to a central position. There are 11 positions to choose from.



- 1.3. Change to stitch 5 and starting at the beginning of the seam, the machine automatically sews 5 stitches forward and 5 in reverse then continues sewing forward until the quick-reverse button is pressed again. Stop sewing just before the end of the fabric and press the quick-reverse button once. The machine will now fasten off automatically, the foot control must be depressed until the **machine stops completely**. For Patchworkers, stitch 1301 may be used. This sews a ¼ inch of tiny stitches at each end to secure and is useful in securing seams on fine fabrics.



To secure on the spot before sewing, touch knot button. To secure at the end touch the knot button whilst sewing.

- 1.4. Your machine has a temporary memory, select pattern 2 and adjust the width to 5 and the length to 1 then select pattern 1 and sew down, alternating between stitches 1 and 2. The machine will remember the alterations made until it is switched off or the CLR button is pressed. When an alteration has been made to the default setting the stitch length/width number will turn yellow.



To save stitches in the long-term memory touch the personal program icon, save stitches icon then select a folder and confirm with the green tick.

- 1.5. When selecting a pattern, you can expand the screen to see all the options available by pressing the small arrow. Select pattern 24, 25 and 26. These are fully automatic sequences 24 & 25 are bartacks and 26 is a large fly stitch to reinforce pocket openings.



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**SAMPLE 1**



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## 2. EMBROIDERY STITCHES

- 2.1. Using sole 20, select zigzag stitch and reduce the length to about 0.25 for a satin stitch. Adjust the length as required to ensure the fabric feeds evenly without gaps or overlapping of stitches. Do not push or pull while sewing – let the machine keep the feed even. If the fabric sticks, increase the length slightly and use a firm paper underlay to help keep the stitch flat.



- 2.2. Open stitches should not have paper underlay because it cannot be torn away afterwards. Change back to sole 1C and sew a few samples of various open patterns from the decorative stitch folder in the machine.

- 2.3. Press the pattern end button  and the machine will sew the complete pattern and stop, slowing down for the last few stitches. Keep the foot control pressed until the machine stops. This is useful when turning corners or approaching the end of a row of stitching. If a single pattern is required press  then press the pattern repeat function on the screen once and the machine will stop each time one pattern is completed. By pressing several times the number increases to between 1 and 9 and the machine will then sew that number of repeats and stop.



- 2.4. Patterns with a definite left- or right-hand shape can be mirror imaged horizontally and vertically when combined with PATTERN END, they can produce attractive alternating designs. Select a suitable stitch and sew a single pattern, press MIRROR IMAGE and sew the pattern again, de-select MIRROR IMAGE and sew the pattern a third time. When MIRROR IMAGE is selected the symbol is highlighted.



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## 3. MEMORY

The memory is used to store and sew a sequence of patterns. One of its best uses is to sew words and phrases such as “**BERNINA\_335**” “



Select “Combi” mode and the left side of the screen changes.


Press the “A” icon to the right of the screen and select the first alphabet.

Select the letter B and it appears on the left of the screen.





To view all the characters available, you can expand the screen. For lowercase, numbers and characters press the appropriate icon at the top of the screen. A space can be found in the characters folder. When you have entered your text, you can minimise the screen.



To review what you have entered, touch the  then edit the complete combination icon. You can then either delete, mirror the whole combination or set a pattern repeat.



To stitch out one repeat select edit complete combination and single pattern.

If you have missed a letter from your combination return to the main information screen by pressing  and use the arrows to highlight the character above the missed letter, select a new letter and it will appear below the highlighted pattern. Delete by highlighting a letter and touching the bin icon in .





To save a sequence, touch the heart on the right of the screen, then touch the save

stitch folder and the green tick.



To view, or re-select a saved design, touch



To delete a saved sequence, touch the heart, then the bin  you will then see the folders containing your designs, and  to confirm.



You can insert a knot at the beginning and end of your combination by inserting a knot at cursor position.



To exit combination mode press the plus sign.

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**SAMPLE 3**

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## 4. STRETCH STITCHES

- 4.1. Select the vari-overlock stitch number 3 presser foot 2 is indicated. Take two of the pieces of the stretch fabric provided and sew half a line of stitching.

*TIP: This is a highly elastic overlock stitch suitable for fine and medium weight fabrics where the edges are inclined to roll. As it seams and neatens in one operation it is particularly suitable for T-shirts, sweatshirts, baby wear, sports wear, track- suits, etc. Guide to the pin in the foot.*

- 4.2. Remove Foot 2a and attach foot 1. Change to stitch 10 and sew the remainder of the line with the double overlock stitch.

*TIP: This is used on heavy jersey for seaming and neatening in one operation. Trim the seam first. Position the fabric so that the pin on the foot is on the raw edge. Start sewing, keeping both edges together under the pin.*

- 4.3. Open out the sewn pieces and add a third piece of fabric to one edge. Guiding to the 1.5cm mark, select stitch 11 sew half a line of stitching.

- 4.4. Change to stitch 18. Sew the second half of the seam.

*TIP: These highly elastic stitches are for very stretchy fabrics where a flat seam is required, e.g. pockets and facings. Guide to the 1.5cm marking on the needle plate.*

- 4.5. Take the last piece of fabric and fold the long edge under by about 1.5 cm (5/8"). Do the same with one long edge of the existing pieces and place the two folded edges side by side. Select stitch 12 and sew the two folds together. Selvedge's can be joined in this way for linings or for seams with no bulk or for wadding.



Optional - Using foot 10 – the edge stitch foot - makes it easier to sew the edges together.

- 4.6. BALANCE

Select stitches 8 and fold under one of the raw edges. Sew a visible hem from the right side on the folded fabric. Turn up the required depth of hem plus 1 cm (1/2") to trim away. Place the fabric under the presser foot with the right side up. Sew, guiding the folded edge to one of the guidelines on the needle plate. Trim away excess fabric on the wrong side.

The balance of the stitch can be fine-tuned to correct any distortion caused by the stretchiness or thickness of a particular fabric. Always test the stitch on a piece of waste material to correct the balance if necessary.

Having sewn the stitch, remember to press the reset button so the stitch correction is deleted.

To go to balance, touch  then the weighing scales . Keep turning the dial until the stitch on the screen looks like the **incorrect** stitch on the fabric. The sewing machine will then adjust the balance.

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**SAMPLE 4**

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## **5. GATHERING & BASTING**

- 5.1. To gather heavier fabrics, select stitch 2 (zigzag stitch) and presser foot 1. Check it is on the default setting. With the foot up, lay a single strand of cord or shirring elastic vertically under the foot, and up through the slit in the front of the foot. Lower the foot and sew over the cord. When the stitching is finished, pull the cord to gather the fabric.

NOTE: You may need to increase the width and length of the stitch to suit the weight of the fabric and thickness of cord.

- 5.2. Basting is used to tack garments together for fitting. Select Stitch 30, attach a free motion foot (optional) and lower the feed dogs. The machine will sew one stitch each time the foot control is pressed. You can then pull the fabric through from behind making sure you are holding both threads and the fabric.

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**SAMPLE 5.**

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## 6. BUTTONHOLES

The machine automatically reduces the top tension once buttonhole has been selected; this increases the bobbin tension, which gives a more rounded bead.



Touch the buttonhole icon on the right of the screen, then touch buttonhole 51, which is the standard type.




Select  and button measuring. Place the button in the yellow circle and then adjust the width dial until the lines match the size of the button. To exit the screen press the x icon in the corner.


Auto now appears on the screen and using foot 3A you can now sew a fully automatic buttonhole simply by placing your foot on the foot control and keeping it depressed until the machine stops completely. You can repeat this buttonhole without any further adjustment. Any size of buttonhole between 4mm and 29 mm in length can be sewn in this way.

Using the “Auto” foot it is possible to save the buttonhole in the long-term memory.

Touch the personal program then the save stitch folder, choose a file and press the green

tick. To recall, touch the personal program, then  the buttonhole and the Auto length show on the screen.

Alternatively, using foot 3 a manual buttonhole can be sewn. This will not remain in the memory and is generally used for repairing existing buttonholes or for one individual

buttonhole. Touch the  icon (you may need to scroll up to view this icon) and the 7 steps are shown on screen with step 1 activated. Sew the first bead of the buttonhole the desired length. Stop and press the down arrow or quick reverse, number 2 is shown on the screen. The machine now sews in reverse with a straight stitch. At the top of the first bead, stop and press the down arrow or quick reverse again, stage 3 is sewn. Continue until all 7 steps have been completed. The round, keyhole and hand-look buttonholes have only 5 steps but these work in the same way. This type of buttonhole is used if you require one longer than 29mm, or on a fabric with heavy ridges (corduroy etc). Corded buttonholes may also be sewn but if these are horizontal, always work so the loop is at the centre front.

### ADDITIONAL IDEAS:

- a. To sew on buttons, use foot 1 or 20, select pattern 60 and lower your feed dogs. Place the fabric with the button so that when the hand wheel is turned, the needle enters the left-hand hole. Lower the presser foot and holding the thread ends; sew a few stitches until the needle swings to the right. Before the needle descends, stop and check it will go cleanly through the right-hand hole and adjust the width if necessary. Sew until the machine stops automatically. For a four-hole button start with the front holes. The threads are secured and may be cut off.

*Tip: Button sewing on foot no 18 works even better.*

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**SAMPLE 6**

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## **Additional ideas - Hand look quilt stitch**

Hand look quilt stitch is achieved by selecting stitch 1304 in the decorative stitches folder. Monofilament thread is used on the top thread with a lightweight coloured thread on the bobbin. The top tension is can be adjusted to 7.5.

Stitch down the fabric with the wadding behind, the bobbin thread will pull through to the top creating a decorative hand look stitch. For a better result try a larger size needle.

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## **CLEANING INSTRUCTIONS**

Turn off the power supply at the mains.

Lower the feed dog.

Remove the top thread, presser foot and extension tray if fitted.

Lower the feed dog.

Open the hinged cover and remove the bobbin case.

With your thumb, press down on the right-hand rear corner of the needle plate; this will then spring up, allowing its removal.

Remove the shuttle (hook) by pressing the clip situated at the upper left inside the shuttle casing. This will allow the black-hinged shuttle race cover to fall forward.

Brush out the feed assembly and shuttle areas and also the shuttle itself.

Place one drop of oil on the edge of the shuttle.

Replace the shuttle in the shuttle race. The shuttle race is a half-circle and the shuttle itself forms the other half. Put the two halves together.

Replace black hinged shuttle race cover and press it home. If it does not click in firmly, remove and replace the shuttle, then the race cover

Position the needle plate with the hole in the corner directly over the locating stud at the front right-hand side of the needle plate area and press down into place.

Bring the feedback up to the working position.

Change the needle and wipe the screen with a damp cloth if necessary.

## **THREAD JAMS / GEARS APPEARING**

When a thread nest causes a hook blocking, do not turn the hand wheel

Try instead to lift the presser foot and gently lift the fabric without tearing it away and cut the threads above the stitch plate. Then open the bobbin area, remove the hook and remove the thread nest. Check if threads are underneath the stitch plate.

## **TENSION**

If the tension is not correct check the following points

The thread is not too thick for the fabric. If the two thicknesses of the top and bottom thread together are greater than the thickness of the fabric you will never get the tension knot bedded into the fabric.

The needle is not too small for the thread being used.

The same thickness of thread is used on the top and bottom of the machine.

The presser foot was raised before you started to thread up the machine.

Tension should be altered from the top using the thread tension icon in the top left of the screen.

When using thicker threads in the bobbin area you must use the alternative red bobbin case designed for bobbin play.

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## GLOSSARY

### STITCH PLATE

The 3rd guideline on the needle plate is 1.5 cm (5/8") which is the seam allowance normally used. The horizontal lines are also 1.5 cm (5/8") from the needle, making it easier to turn corners accurately.

### QUICK REVERSE BUTTON



While this is pressed the machine sews in reverse. On fine soft fabrics, use it to prevent jamming by starting a little way in the work, sewing a few stitches in reverse and then releasing it to sew forward. In this way there are only two rows of stitching at the start of the seam and the machine has something to feed on when it starts sewing.

This is located on the head frame close to the needle and is also used to program the darning length and to indicate the end of stitching with stitches 5 and 1301.

### CONTINUOUS REVERSE

Stop sewing and then press the reverse symbol in information. The continuous reverse symbol has a yellow box around it and it will now sew in reverse as long as necessary. Press again to cancel the function and return to forward sewing.

### NEEDLE POSITIONS



The machines have 11 separate needle positions. Use the two buttons with the needle symbol between them to select the desired needle position to the left or right. The needle positions can be viewed on the screen.

### NEEDLE SET UP OR DOWN



The needle up/down icon on the left of the screen shows if the needle has been set to stop always in or always out of the work. Either automatic setting can be over-ridden when you have stopped sewing simply by pressing the icon until the needle moves and the arrow changes direction.

**NOTE: Any settings you select only take effect when the needle reaches its highest point so you can alter needle positions, stitch width, length or patterns at any time, even when the needle is in the work, without fear of damaging the machine or fabric.**

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## GLOSSARY

### PATTERN END/ PATTERN REPEAT (1X)



When pattern end is selected the machine will stop at the end of a complete pattern. However, if a combination of patterns is being sewn from the memory, then press pattern repeat symbol in information edit whole combination for the whole pattern to be sewn between one and nine times. If the pattern end button is pressed, only one pattern in the sequence will be sewn.

### MIRROR IMAGE



Any pattern with a definite left- or right-hand shape or that can be turned vertically can be mirror imaged. The pattern may be combined with others in a memory sequence, as a mirrored pattern.

### COMBI MODE



You can use these arrows to scroll through your combinations.



### BALANCE



There is a symbol for balance (a pair of scales) on the screen in information, which when pressed shows a balance screen. This is sometimes used with stretch fabrics to adjust the stitch formation

Turn the width dial clockwise to open the stitch, and anti-clockwise to close.

### SLIDE CONTROL

There is a slide speed control with a start/stop button underneath. When the foot control is in use, make sure that the slide is set to + or the sewing speed will be slower.

If using the start/stop button, then you should start with speed control at a minimum, and increase gradually.

### SECURING FUNCTION




The securing icon can be pressed before starting to sew and it will sew 4 stitches at the beginning. If pressed again while sewing it will secure at the end and stop.

### Foot Pressure

Foot pressure can be adjusted using the dial on the side of the machine this can be reduced for very fine woven or stretch fabrics, or increased for heavy or firm fabrics.

### STITCH SELECTION BY NUMBER

Touch the looking glass symbol at the top right of the screen and the screen changes to a numeric pad. Tap in the stitch number and this appears numerically at the top of the screen. Touch  to confirm and **X** to escape.