BERNINA
B 750
BERNINA
B 750

BERNINA 750 QE

made to create **BERNINA**

Dear BERNINA Customer

Congratulations! You have decided on BERNINA and therefore on a product which will delight you for years. For more than 100 years our family company has attached greatest importance to satisfied customers. As for me, it is a matter of personal concern to offer you Swiss development and precision at the height of perfection, future-orientated sewing technology and a comprehensive customer service.

The BERNINA 7-series consists of three ultramodern sewing-/embroidery computers, whose development not only focused the highest demands on technique and the ease of use but also considered the design of the product. After all we sell our products to creative people like you, who do not only appreciate high quality but also form and design.

Enjoy the creative sewing, quilting and embroidering on your new BERNINA 750 QE and keep informed about the various accessories at www.bernina.com. On our homepage you will also find a lot of inspiring sewing instructions, to be downloaded for free.

Our highly trained BERNINA dealers will provide you with more information on service and maintenance offers.

I wish you lots of pleasure and many creative hours with your new BERNINA.

H.P.

H.P. Ueltschi
Owner
BERNINA International AG
CH-8266 Steckborn
www.bernina.com

2. Edition

SAFETY INSTRUCTIONS

IMPORTANT INFORMATION

When using an electrical appliance, basic safety precautions should always be followed, including the following:

Read all the instructions before using this sewing-/embroidery computer.

When the sewing-/embroidery computer is not in use, it should be disconnected from the electricity supply by removing the plug from the outlet.

⚠ DANGER!

To reduce the risk of electrical shock:

1. The sewing-/embroidery computer should never be left unattended when plugged in.
2. Always unplug this sewing-/embroidery computer from the electrical outlet immediately after using and before cleaning.
3. LED Radiation – Do not view directly with optical instruments. Class 1M LED product.

⚠ WARNING!

To reduce the risk of burns, fire, electric shock or injury to persons:

1. Use this sewing-/embroidery computer only for purposes as described in this manual. Use only attachments, accessories and parts recommended by the manufacturer.
2. Do not allow this sewing-/embroidery computer to be used as a toy. Close attention is necessary when this sewing-/embroidery computer is used by or near children and infirm persons. The sewing-/embroidery computer is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the sewing-/embroidery computer by a person responsible for their safety. To ensure children do not play with the sewing-/embroidery computer they must be supervised.
3. Never operate this sewing-/embroidery computer if:
   - it has a damaged cord or plug
   - it is not working properly
   - it has been dropped or damaged
   - it has fallen into water

   Return the sewing-/embroidery computer to your local authorized BERNINA dealer for examination or repair.
4. Never operate the sewing-/embroidery computer with any air openings blocked. Keep ventilation openings of the sewing-/embroidery computer free from the accumulation of lint, dust and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing needle.
6. Never insert any objects into any openings on the sewing-/embroidery computer.
7. Do not use the sewing-/embroidery computer outdoors.
8. Do not operate the sewing-/embroidery computer where aerosol products (sprays) or oxygen are being used or where oxygen is being administered.
9. Do not pull or push the fabric while stitching. This may deflect the needle, causing it to break.
10. Do not use bent needles.
11. Always use the original BERNINA stitch plate. The wrong stitch plate can cause needle breakage.
12. To disconnect, turn power switch to «0» (off), then remove the plug from the outlet. Do not unplug by pulling the cord, instead grasp the plug to pull it from the outlet.
13. Turn power switch to «0» (off) when making any adjustments in the needle area, such as changing the needle or the presser foot, etc.
14. Always unplug the sewing-/embroidery computer from the electrical outlet when carrying out cleaning or maintenance work or any other user servicing adjustments mentioned in this manual.
15. This sewing-/embroidery computer is provided with double insulation (except USA and Canada). Use only identical replacement parts. See instructions for servicing of double-insulated products.

SERVICING DOUBLE-INSULATED PRODUCTS

In a double-insulated product two systems of insulation are provided instead of grounding. No grounding means is provided on a double-insulated product, nor should a means for grounding be added to the product. Servicing a double-insulated product requires extreme care and knowledge of the system and should be done only by qualified service personnel. Replacement parts for a double-insulated product must be identical to the original parts in the product. A double-insulated product is marked with the words: «DOUBLE INSULATION» or «DOUBLE INSULATED».

The symbol ⧈ may also be marked on the product.

DISCLAIMER

No liability will be assumed for any possible damage which arises from misuse of this sewing-/embroidery computer.
This sewing-/embroidery computer is intended for household use only.
This sewing-/embroidery computer meets the European Standard 2004/108/EC concerning the electromagnetic tolerance.

SAVE THESE INSTRUCTIONS!

Please find the latest version of your instruction manual at **www.bernina.com**

Environmental Protection

BERNINA is committed to the protection of the environment. We strive to minimize the environmental impact of our products by continuously improving product design and our technology of manufacturing.

When your sewing computer won't be used anymore, dispose this product in an environmentally responsible way according to the national directive. Do not throw away this product with your household waste. In case of doubt, please contact your BERNINA dealer.

If the sewing computer is stored in a cold room, it should be brought to a warm room about one hour before use.

Contents Sewing

Safety Instructions 2

Environmental Protection 3

Key to Signs 8

Glossary 8

Accessory 9

Standard Accessories 9

Presser feet 10

Accessory box free standing 11

Bobbin 11

Overview sewing computer 12

Front view 12

Detail view 12

Important sewing information 14

Thread 14

Needle, thread and fabric 14

Needles, threads 15

- Correct needle/Thread combination 15
- Too thin thread or too thick needle 15
- Too thick thread or too fine needle 15

Overview needles 16

Sewing preparation 18

Power Switch/Power Cable 18

Foot control 18

Slide-on table 18

Presser foot lifter 19

Vertical spool pin 19

Winding a bobbin 20

- Bobbin winding while sewing 20

Inserting a bobbin/Threading lower thread 21

Removing/inserting bobbin case 21

- Removing the bobbin from the bobbin case 21

Threading the upper thread 22

Changing the needle 22

Threading the double needle 23

Threading the triple needle 23

Thread needle 24

Changing the presser foot 24

Stitch plate 25

- Markings on the stitch plate 25
- Removing the stitch plate 25
- Replacing the stitch plate 25

Thread tension 26

- Altering the upper thread tension 26
- Saving the upper thread tension 26
- Reset settings 26

Altering presser foot pressure 27

- When sewing thick material, e.g. quilting 27
- Saving presser foot pressure 27
- Reset settings 27

Feed Dog lowered/ready to sew 28

Feed Dog and Fabric Feed 28

Functions 30

Overview «Function»-buttons sewing 30

- «Start/Stop»-button 30
- «Presser foot position»-button 30
- Automatic thread cutter 30
- «Quick reverse»-button 30
- «Needle stop»-button 30
- Programmable «Pattern end/Securing»-button 30
- Speed control 30
- Stitch width and Stitch length Knobs (Multifunction) 31
- «Needle position»-buttons 31

Display 32

Overview Main Display 32

- System settings 32
- Menu Selection 32
- Selection 33
- Stitch Pattern selection 33
- Stitch Pattern Display 33

Functions - Display 34

Overview Sewing functions 34

General functions 34

Overview Functions buttonholes 36

Overview Functions Alphabets 38

Overview Functions Combi mode 40

Setup Program 44

Overview «Setup»-display 44

Changing Display settings 45

- Brightness 45
- Sewing light 45
- Brightness sewing light 45
- Welcome text 45
- Deleting Welcome text 45
- Corrections 45

Selecting the Display color 46

Sewing settings 46

- Sewing speed 46
- Altering the upper thread tension 46
- Securing stitches at pattern begin 46
- Automatic securing program at pattern end 47
- Automatic thread cutter 47
- Raising the presser foot 47
- Automatic thread cutter and securing stitches 47
- Presser foot position when needle stop down 47
- Presser foot in hover position 47
- Reset settings 47

Adjusting embroidery settings 48

- Calibrating the hoop 48

Display Calibration 49

Altering the acoustic signals 49

Monitoring 50

Altering the winding speed 50

Update 51

Calibrating buttonhole foot No. 3A/Cleaning/Packing position 51

Reset/Delete user data 52
- Reset settings 52
- Delete user data 52

Information 53
- Language 53
- Version 53
- Dealer details 54
- Service data 54

Tutorial 55

Overview Tutorial 55

Creative consultant 57

Overview Creative consultant 57

Overview Sewing techniques 57

Leaving the sewing consultant 57

Help program 58
- Stitch patterns 58
- Functions 58

Balance 59

Practical and decorative stitches 59
- Corrections 59
- Reset settings 59

eco description 60
- Activating eco 60
- Deactivating eco 60

Practical stitches 62

Overview Practical stitches 62

Stitch pattern selection 64
- Selecting stitch pattern 64
- By stitch number 64
- Cancelling 64

Customizing stitch pattern individually 65

Temporary Altered Stitch Memory 65

Personal memory permanent 66

Altering stitch width and stitch length 67

Examples of application Practical stitches 68

Straight stitch 68

Triple straight stitch 68

Triple Zig-Zag 69

Zipper 70

Manual darning 71

Automatic darning 72

Reinforced darning, automatic 73

Finishing edges 73

Double overlock 74

Top stitching edges 75

Blind hem 76

Visible hem 76

Securing program 77

Basting stitch 77

Flat joining seam 78

Height compensation of uneven layers 79

Sewing corners 79

Buttonholes 80

Overview Buttonholes 80

Important information 81
- Marking the length of manual buttonholes 81
- Marking the length of automatic buttonholes 81
- Marking the length of keyhole buttonholes 81
- Test sewing 81
- To adjust the bead width 81
- To adjust stitch length 81

Stabilizer 82

Cords 83
- Ideal cords 83
- Cord with the automatic buttonhole foot No. 3A 83
- Cord with the buttonhole foot No. 3C (optional accessory) 83
- Fixing the cord 83
- Cutting buttonholes open with the seam ripper 83
- Cutting open buttonholes with the buttonhole cutter (optional accessory) 83

Altering the balance 84
- Balance with direct entry length buttonholes 84
- Balance with direct entry length keyhole or round buttonholes 84
- Balance for manual keyhole or round buttonhole 84
- Balance for manual standard buttonhole 84
- Balance for stitch counter buttonhole 84
- Clear balance 84

Programming Buttonholes 85

Standard and stretch buttonhole with auto-length, automatically 85

Automatic with direct legth entry 86

Automatic with button measuring 86

Automatic round and keyhole buttonhole 87

Decorative buttonhole with double pointed bartack 88

Heirloom Buttonhole 89

Stitch counter buttonhole 89

Buttonhole in long term memory 90

7- or 5-step-buttonhole, manually 92

Button sew-on program 93

Eyelet program 94

Decorative stitches 95

Overview Decorative stitches 95

Application 95

Examples of application Decorative stitches 96

Cross Stitches 96

Pintucks 97

Bobbin-Play sewing 98

Quilt stitches 99

Overview Quilt stitches 99

Examples of application Quilt stitches 100

Handlook quilt stitch 100

For free-motion quilting 101

BSR (BERNINA Stitch Regulator) 102

Quilting with BSR 102
- BSR-Function 102
- BSR function with straight stitch No. 1 102
- BSR function with zig-zag No. 2 102
- Two different BSR modes 102
- Preparation 103
- Remove presser foot sole 103
- Attaching the presser foot sole 103

Functions in the BSR mode 104
- Needle stop down (standard) 104
- Needle stop up 104
- Raise or lower the needle 104
- Securing with the «Start/Stop»-button (only Mode 1) 104
- Securing function (only Mode 2) 104
- Free motion quilting (only Mode 2) 104
- Free motion quilting without BSR activation 104
- Beeper (audio signal) activation/deactivation 105
- Selecting sound for BSR in the Setup Program 105
- Selecting sound for BSR in the «BSR»-display 105
- Activating the BSR Sewing Function 106
- Deactivating the BSR Sewing Function by using the «Start/Stop»-button 106
- BSR Function deactivation 106

BERNINA Dual Feed 107
- Presser Feet Selection 107
- Switching On BERNINA Dual Feed 107
- Switching Off BERNINA Dual Feed 107

Fabrics 108

Alphabets 109

Overview Alphabet 109
- Lettering 109
- Perfect stitch formation 109

Combining lettering 110

Correcting the combination 110

Alphabet in combination with functions 111
- Select lower case 111
- Change size 111

Personal program 112

Creating a Personal Display 112

Preparing stitch patterns 112
- Programming/Saving first stitch pattern 112
- Programming/Saving second stitch pattern 113
- Stitch pattern selection in the Personal program 113
- «Personal»-display 113

Alterting/Overwriting stitch patterns 114

Deleting stitch patterns 115

Combi mode 116

Creating stitch combinations 116
- Programming and saving 116

Deleting Stitch Patterns 117

Opening a saved combination 117

Correcting a stitch pattern combination 118
- Inserting a stitch pattern 118
- Altering stitch patterns 118
- Mirroring complete combinations 119
- Combination subdivider 1 119
- Interrupting a combination 119

Stitch pattern combination 120
- Overwriting 120
- Deleting 120

Contents Embroidery 121

Cleaning 164

Troubleshooting 166

Stitch patterns 171

Index 186

Notes

Key to Signs

DANGER!
Very important!
Risk of injury!

ATTENTION!
Very important!
Risk of damage!

Tips!

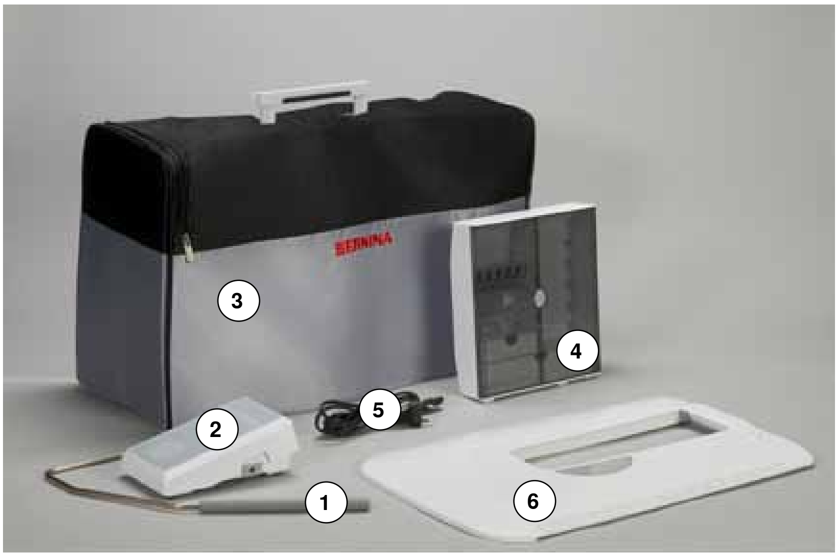
Glossary

BERNINA USB stick	Mobile storage medium
Balance	Correcting abnormalities in stitch formation due to the fabric
Fabric fold	Folded edge of material
BSR	BERNINA-Stitch-Regulator. Quilting with consistent stitch length within a certain speed
clr	Clear. Deleting settings or data
Hook	«Catches» the needle-thread loop, forming the stitch together with the lower thread
LMS	Length Measuring System for buttonhole
Memory	Long Term Memory
Satin stitching	Dense Zig-zag
Bartack	Buttonhole-bead cross-connections

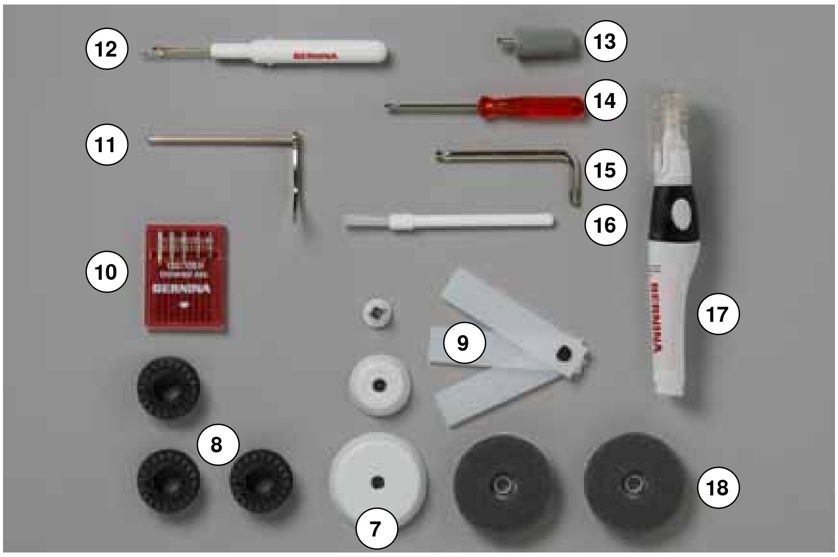
All rights reserved
For technical and product improvement reasons, the sewing computer's features, parts and accessory are subject to unannounced changes and alterations at any time. The included accessories can differ from country to country.

Accessory

Standard Accessories

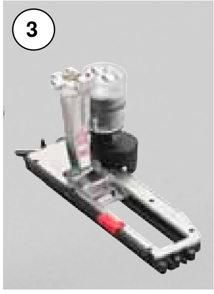


1 Presser foot lifter
2 Foot control
3 Soft Cover With Pocket
4 Accessory Box
5 Power cable
6 Slide-on table



7 3 spool discs
8 4 bobbins (one of them in the bobbin case)
9 Height compensation tool
10 Selection of needles
11 Seam guide, right
12 Seam ripper
13 Screwdriver Torx, gray
14 Screwdriver, red
15 Angular Torx button
16 Lint brush
17 Lubricator
18 2 foam pads

Presser feet

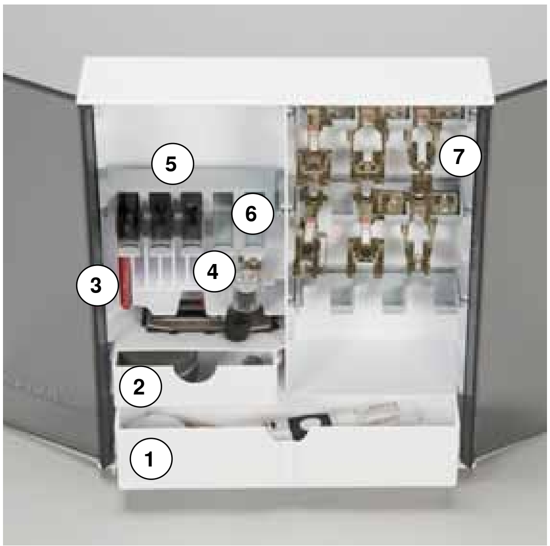


1	No. 1C	Reverse pattern foot
2	No. 1D	Reverse pattern foot
3	No. 3A	Automatic buttonhole foot with slide
4	No. 4D	Zipper foot
5	No. 5	Blindstitch foot
6	No. 20C	Open embroidery foot
7	No. 37D	Patchwork foot
8	No. 42	BSR foot

Visit **www.bernina.com** for more accessory information.

Accessory box free standing

- on the back of the box, pull both extensions out until they click into place



Storage example

Lay-out
The box is equipped as standard with one large **1** and one small **2** drawer as well as a compartment for bobbin holders **5** and presser feet **7**.

- to remove a bobbin, press the compartment holder **6** lightly
- buttonhole foot with slide no. 3A can be stored in the left compartment **4**
- store the needle package in the special compartment **3**

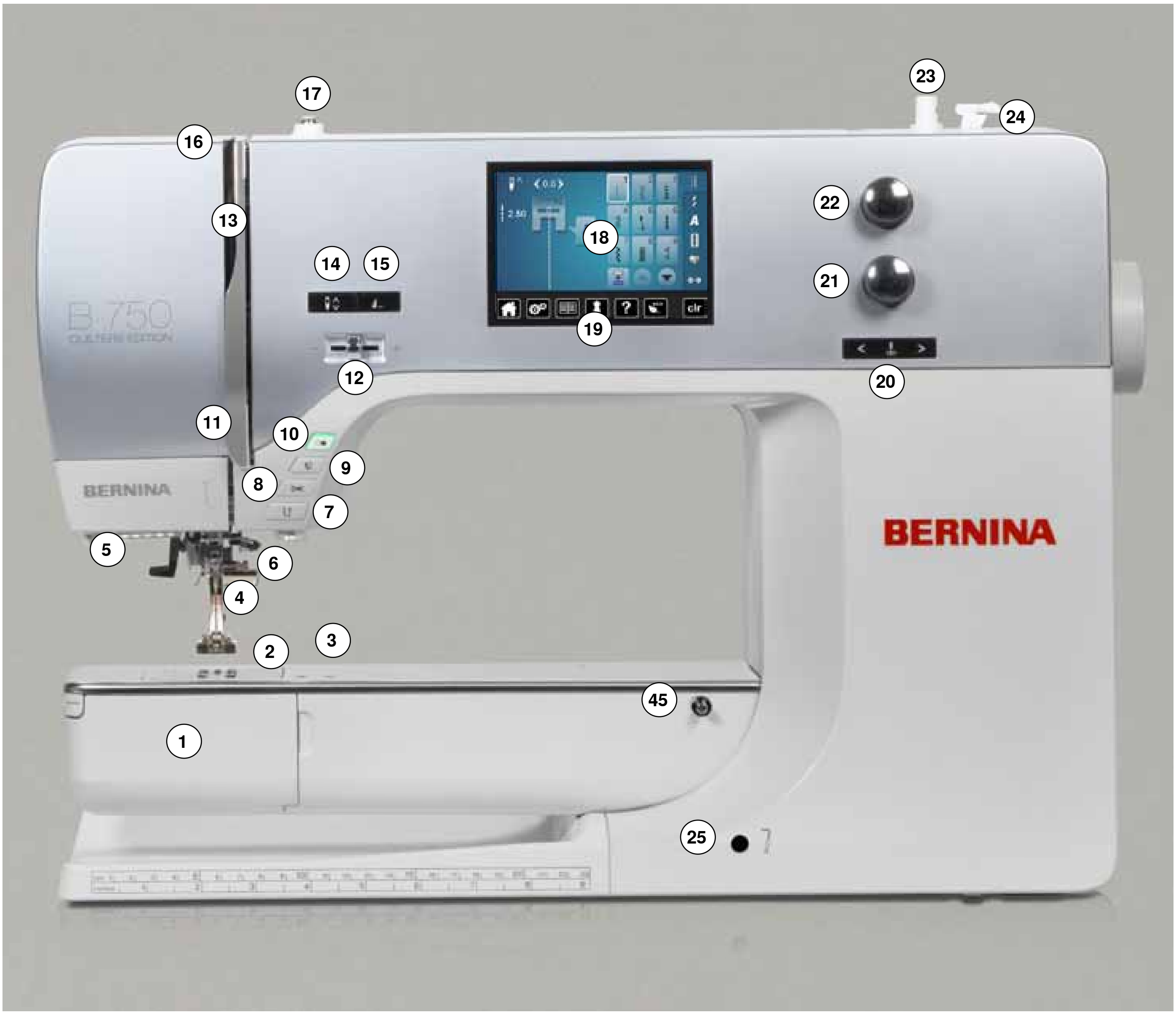
Bobbin

ATTENTION!
Treat the bobbins with care. Keep the white sensor surfaces free of scratches or stains to ensure correct.

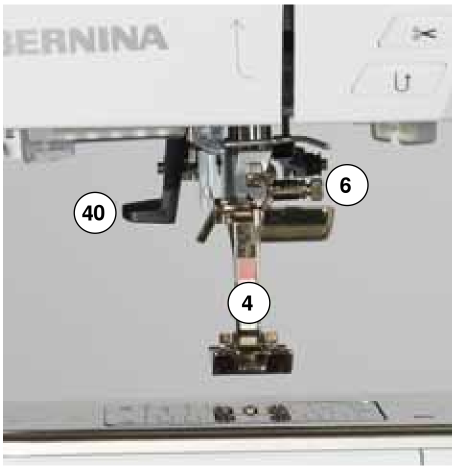
ATTENTION!
Put the bobbins into the appropriate case of the accessory box so that the silvery sensor surfaces are on the right side. Otherwise the bobbin can get jammed in the case, as the two bobbin surfaces are different in diameter.

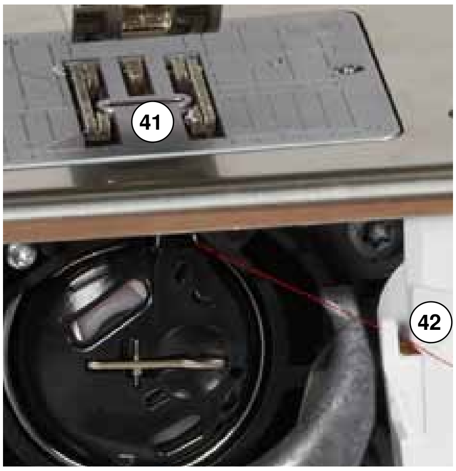
Overview sewing computer

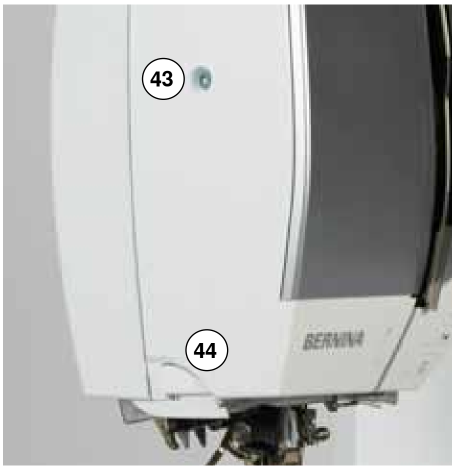
Front view

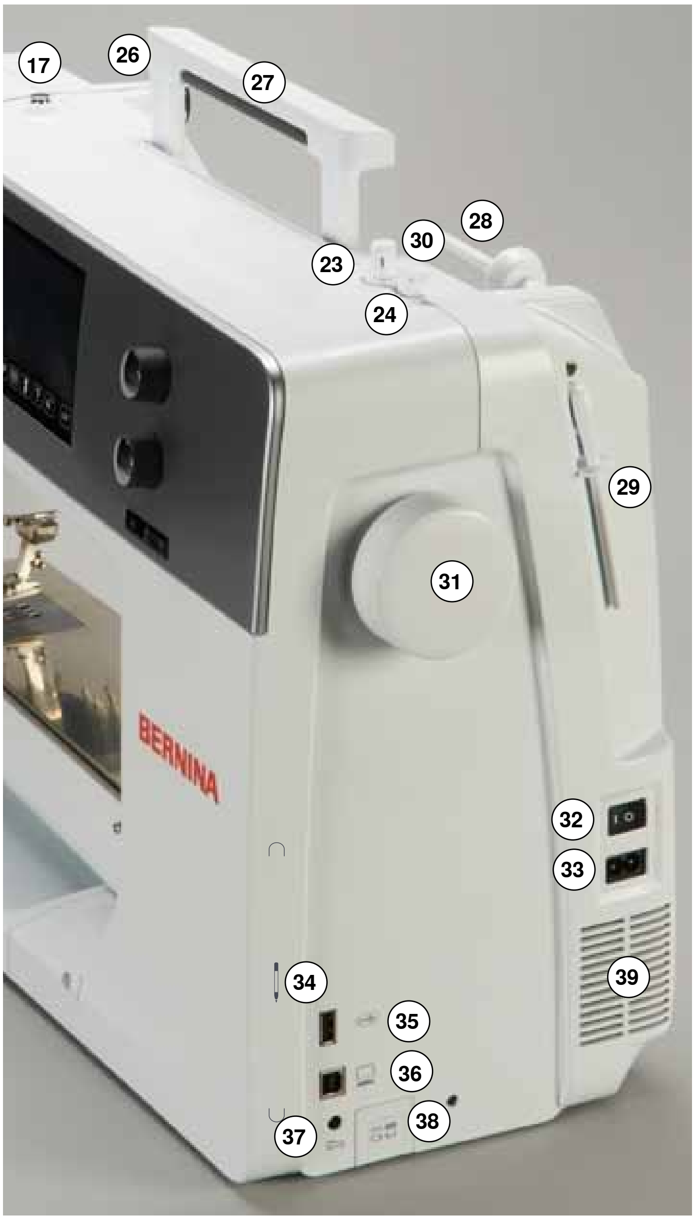

23
17
24
16
22
13
18
14
15
21
19
20
12
11
10
9
8
7
BERNINA
5
6
4
3
2
45
1
25

Detail view


BERNINA
6
40
4

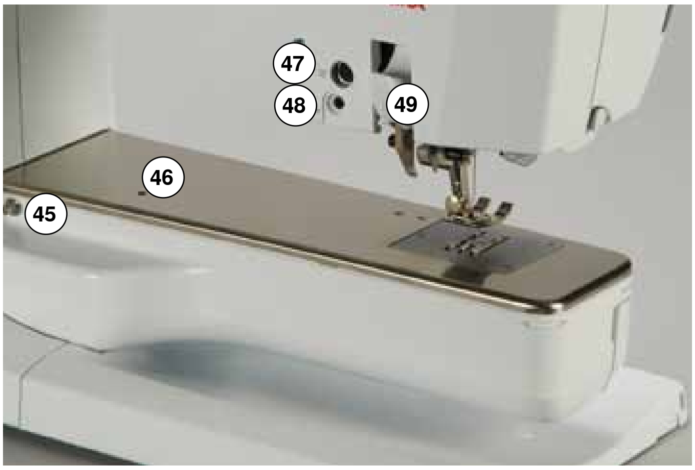



43
44
BERNINA



1 Bobbin cover
2 Stitch plate
3 Attachment base for special accessories
4 Presser foot
5 LED-sewing light
6 Needle clamp
7 «Quick reverse»-button
8 «Automatic thread cutter»-button
9 «Presser foot up/down»-button
10 «Start/stop»-button
11 Thread guide
12 Slide Speed Control
13 Thread take-up cover
14 «Needle stop»-button down/up
15 Programmable «Pattern end-/securing»-button
16 Thread take-up lever
17 Pre-tension stud
18 Display
19 «Sewing support»-buttons
- «Home»-button
- «Setup»-button
- «Tutorial»-button
- «Creative Consultant»-button
- «Help»-button
- «eco»-button
- «clr»-button

20 «Needle position»-buttons
21 Stitch length knob
22 Stitch width knob
23 Bobbin winder
24 Thread cutter on bobbin winder
25 Free hand system connection
26 Rear thread guide
27 Carrying handle
28 Horizontal spool pin
29 Vertical spool pin
30 Eyelet thread guide
31 Handwheel
32 Power switch On «I»/ Off «0»
33 Power plug socket
34 Magnetic holder for touchscreen pen (optional accessory)
35 USB-connection
36 PC-connection for embroidery software
37 Foot control socket
38 Feed dog drop
39 Air vents
40 Needle threader
41 Feed dog
42 Cutter for lower thread
43 Headframe fixing screw
44 Thread cutter on the head frame
45 Slide-on table socket
46 Darning hoop connection
47 Special-accessories port
48 BSR-connection
49 BERNINA Dual Feed



USA/Canada only: The sewing computer has a polarized plug (one blade wider than the other). To reduce the risk of electrical shock, this plug is intended to fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way!

Important sewing information

Thread

Be sure to select the appropriate thread type and weight for the fabric. For a perfect sewing result, thread and fabric quality play an important role. It is recommended to use quality brands.

Cotton threads

- cotton threads have the advantage of being a natural fiber and therefore are especially suitable for sewing cotton fabrics
- if cotton thread is mercerized, it has a slight sheen that is not lost with washing

Polyester threads

- polyester thread has a high tensile strength and is particularly colorfast
- polyester threads are more flexible and are recommended where a strong and elastic seam is required

Rayon threads

- rayon threads are made of natural fibers and have a brilliant sheen
- rayon threads are suitable for decorative stitches and achieve a more beautiful effect

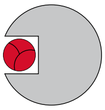
Needle, thread and fabric

ATTENTION!
Check the needle condition.
As a guide: Replace the needle before starting a new sewing project. A defective needle does not only damage the sewing project but also the sewing computer.

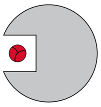
Care must be taken when choosing needle and thread.

The correct needle size depends on the selected thread and fabric. The fabric weight and type determine the thread weight, needle size and point form.

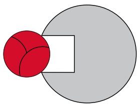
Needles, threads



Correct needle/Thread combination
When sewing, the thread should travel smoothly down the long groove on the front of the needle.



Too thin thread or too thick needle
The thread has too much clearance in the long groove. Skipped stitches and damage to the thread can occur.

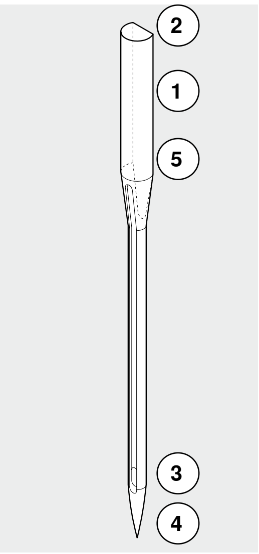


Too thick thread or too fine needle
The thread rubs on the edges of the long groove and can get jammed. This can cause thread breakage.

Guidelines

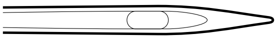
Material and thread	Needle size
Light weight materials: Fine thread (darning thread, embroidery thread)	70-75
Medium weight materials: Sewing thread	80-90
Heavy weight materials: Sewing thread (quilting thread, topstitching)	100, 110, 120

130/705 H-S/70



1	**130**	Shank length
2	**705**	Flat shank
3	**H**	Needle scarf
4	**S**	Needle point (here e.g. medium ball point)
5	**70**	Needle size (shank diameter)

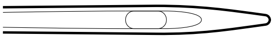
Overview needles



Universal
130/705 H/60-100

Normal point, slightly rounded

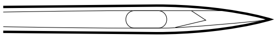
For nearly all natural and synthetic fabrics (woven and knitted)



Jersey/Stretch
130/705 H-S, H-SES, H-SUK/70-90

Ball point

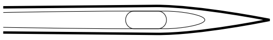
Jersey, knit and stretch material



Leather
130/705 H-LL, H-LR/90-100

With cutting point

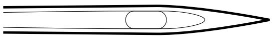
All types of leather, synthetic leather, plastic, sheeting



Jeans
130/705 H-J/80-110

Very fine sharp point

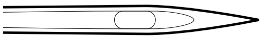
Heavy weight fabrics such as jeans, canvas, overalls



Microtex
130/705 H-M/60-90

Especially fine sharp point

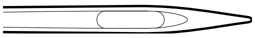
Mircro fiber fabrics and silk



Quilting
130/705 H-Q/75-90

Fine sharp point

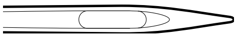
Straight and topstitching



Embroidery
130/705 H-SUK/70-90

Large eye, slight ball point

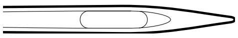
Embroidery on all natural and synthetic fabrics



Metafil
130/705 H-MET/75-80 or H-SUK/90-100

Large eye

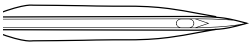
Sewing with metallic threads



Cordonnet (Topstitching)
130/705 H-N/80-100

Small ball point, long eye

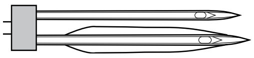
Topstitching with thick thread



Wing needle (Hemstitch needle)
130/705 HO/100-120

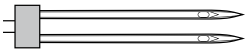
Wide needle (wing)

Hemstitching



Double wing needle
130/705 H-ZWI-HO/100

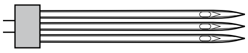
For special effects with hemstitch embroidery



Double needle
130/705 H-ZWI/70-100

Needle distance:
1.0/1.6/2.0/2.5/3.0/4.0/6.0/8.0

Visible hems in stretch fabrics, pintucks, decorative sewing



Triple needle
130/705 H-DRI/80

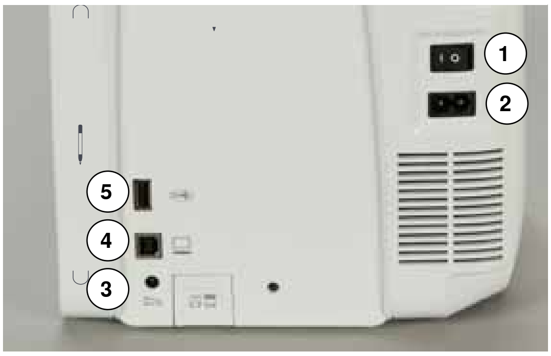
Needle distance: 3.0

Visible hems in stretch fabrics;
Decorative sewing

Notes

Sewing preparation

Power Switch/Power Cable

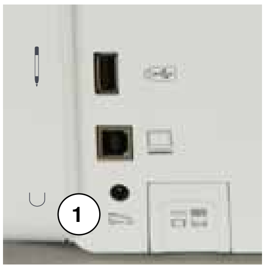


1 Power Switch
The sewing computer is switched on («I») and off («0») with the power switch.

I the sewing computer is switched on
0 the sewing computer is switched off

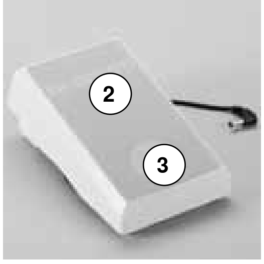
2 Power plug socket
3 Foot control socket
4 PC-connection for embroidery software
5 USB-connection

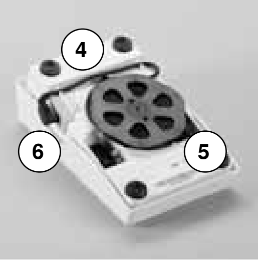
Foot control



Connecting the foot control

- unwind the cable
- plug the cable in the outlet **1**
- unwind the cable to the desired length and slip into **4** or **5**





Sewing speed control
Control the sewing speed by pressing the foot control **2** more or less.

Adjust needle down or up

- sink the heel back **3** on the foot control
- ► the needle adjusts the position up/down

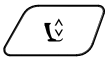
Removing the foot control

- wind the cable around the reel
- plug cable into **6**

⚠ **USA/Canada only: Use only foot controller type LV-1 with sewing computer B 750 QE.**

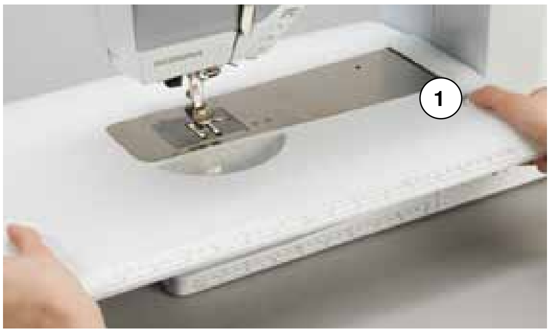
Slide-on table

The slide-on table increases sewing surface.



Attaching the slide-on table

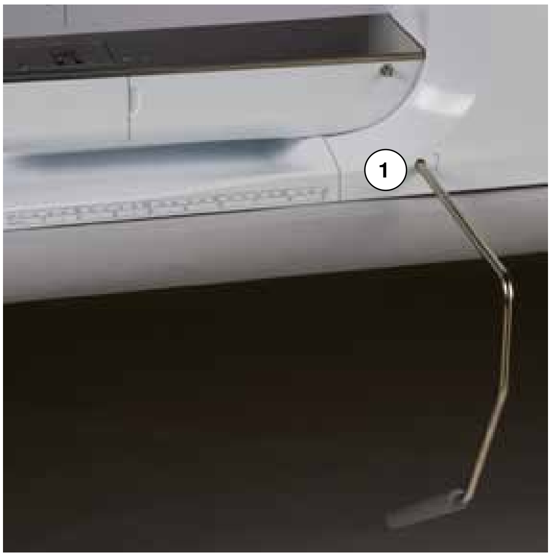
- turn the handwheel (see page **13**)
- ► needle is raised
- press «Presser foot up/down»-button
- ► presser foot is lifted
- slide table to the right, over the free arm until it engages



Removing the slide-on table

- raise the needle and presser foot
- press button **1** down
- pull slide-on table to the left

Presser foot lifter



Raising or lowering presser foot via FHS.

Attaching the Free Hand System

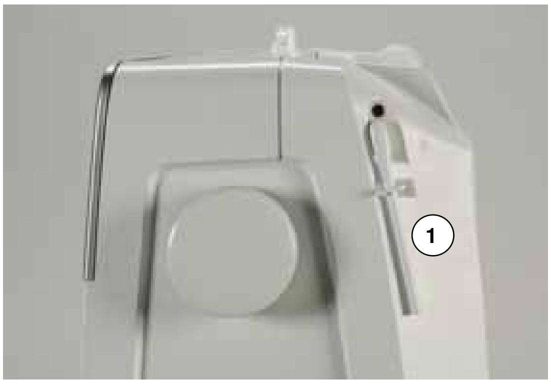
- insert into the opening **1**

Raising and lowering the presser foot

- with your knee push lever to the right
- you should be able to operate the FHS with your knee in your normal sitting position
- ► the presser foot is raised; the feed dog is lowered simultaneously. The thread tension is released
- ► the feed dog is raised as soon as the first stitch is sewn

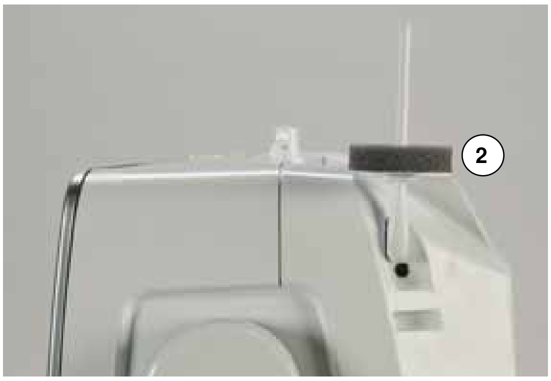
Your dealer can adjust the FHS if necessary.

Vertical spool pin



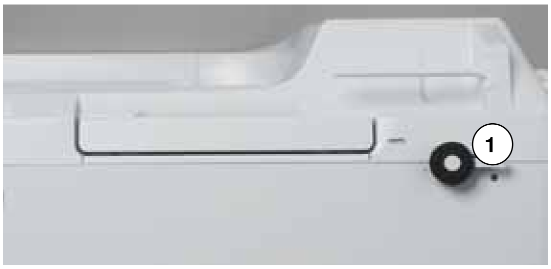
The vertical spool pin is on the side behind the handwheel.
It is an essential aid for sewing with more than one thread, e.g. double needle work and can also be used for winding the bobbin while sewing.

- turn the spool pin **1** as far it will go

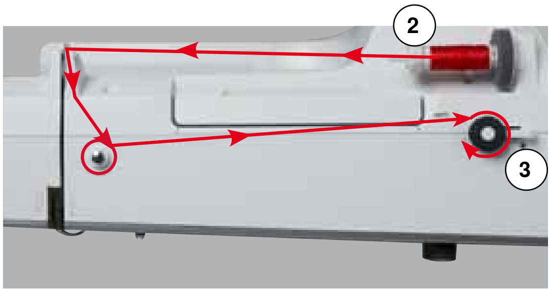


- use foam pad **2** for stability with all thread spools

Winding a bobbin

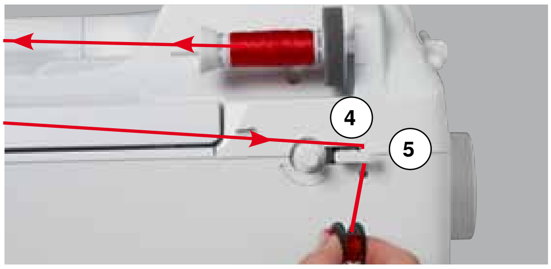


- turn power switch to «I» (on)
- place empty bobbin on spindle **1**

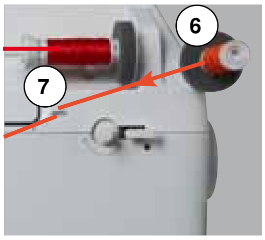


- place foam pad on the spool pin
- place thread on the spool pin
- attach appropriate spool disc **2**
- following the direction of the arrow, take the thread through the rear guide and around the pre-tension stud
- wind the thread two to three times around the empty bobbin
- cut off any excess thread on the thread cutter **3**

Appropriate spool disc
Diameter of thread spool determines disc size. There must be no gap between the disc and the spool.

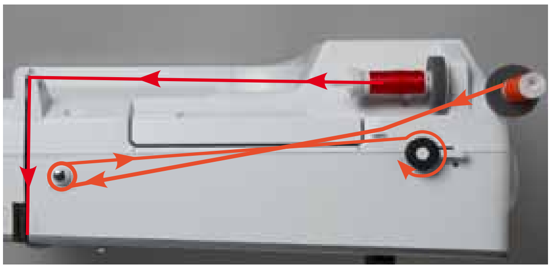


- push engaging lever **4** towards bobbin
- ► the winder works automatically
- ► the Display to wind the bobbin appears
- move the round knob in the Display using the finger to the left/right or
- turn the stitch width knob (see page **12**)
- ► the winding speed is altered
- ► the motor will stop automatically when the bobbin is full
- ► the Display is closed
- remove bobbin and pull the thread over thread cutter **5** to cut it



Bobbin winding while sewing

- attach foam pad on the vertical spool pin **6**
- place thread on the vertical spool pin
- following the direction of the arrow, take the thread through the thread guide **7** and



- guide around the pre-tension stud

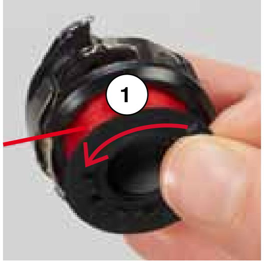
Then proceed as mentioned above.

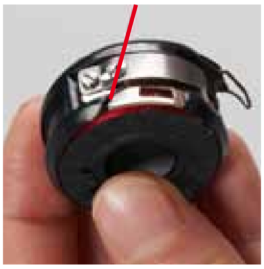
It is recommended to reduce the winding speed when winding from the vertical spool pin.

Inserting a bobbin/Threading lower thread

Removing the bobbin from the bobbin case

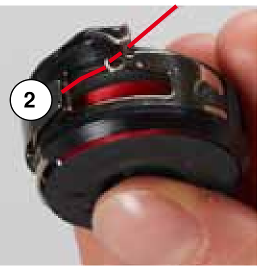
- press the release lever at the bobbin case (see illustration «Changing bobbin case» on this page)

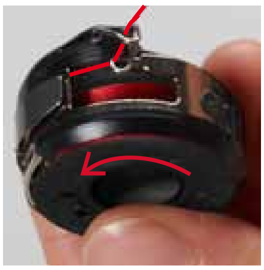




- remove the bobbin case according to following description
- insert the bobbin so that the thread is wound counterclockwise **1**

- pull the thread from the left into the slot

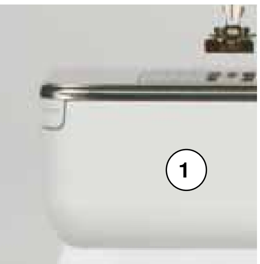


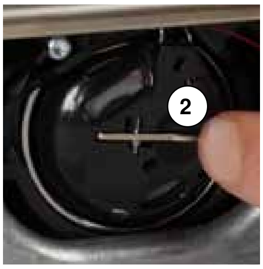


- pull the thread to the right under the spring **2**
- lead the thread beneath the thread guide and pull upwards
- ► the thread is threaded in the guide

- pull the thread
- ► the bobbin must turn counterclockwise

Removing/inserting bobbin case

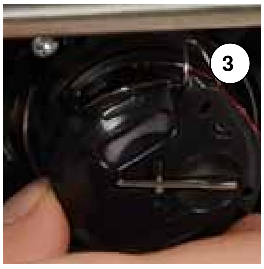


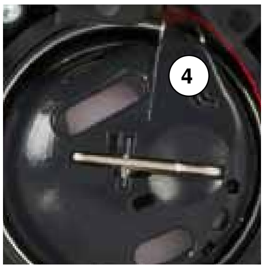


Removing the bobbin case

- raise the needle
- turn power switch to «0» (off)
- open bobbin cover **1**

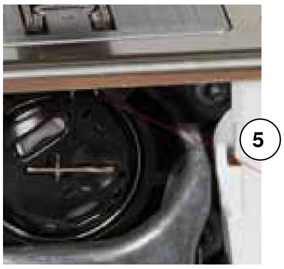
- press bobbin case release **2**
- remove the bobbin case





Inserting the bobbin case

- hold the bobbin case with the thread guide **3** pointing upwards
- put the thread guide into the notch **4** of the hook race cover
- insert the bobbin case and press in the center until it clicks into place

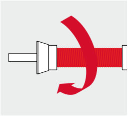


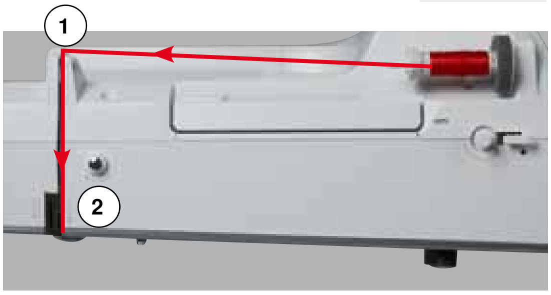
Bobbin thread cutter

- pull the thread over thread cutter **5** to cut it
- close the cover

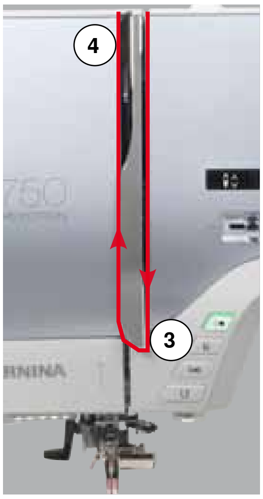
Threading the upper thread

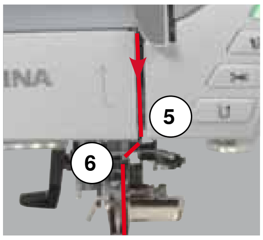
- raise the needle and presser foot
- turn power switch to «0» (off)
- place foam pad on the spool pin
- place spool on pin so that the thread unwinds clockwise
- attach appropriate spool disc





- hold the thread and lead it from the spool along the direction of the arrow into the rear guide **1**
- then into slit of upper thread tension **2**

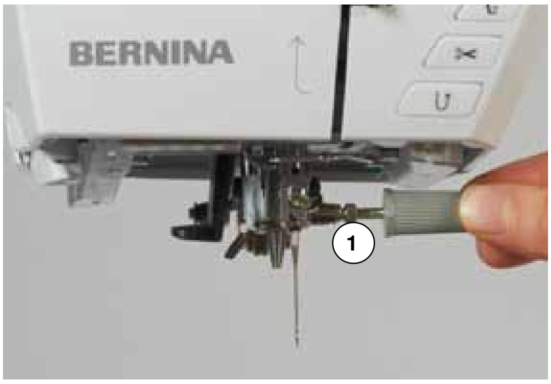




- pull thread down to the right of the take-up cover and around **3**
- take thread up to the left of the cover and around **4**, placing it in the take-up lever
- take thread down and through guides **5** and **6**
- thread the needle (see page **24**)

Appropriate spool disc
Diameter of thread spool determines disc size. There must be no gap between the disc and the spool.

Changing the needle



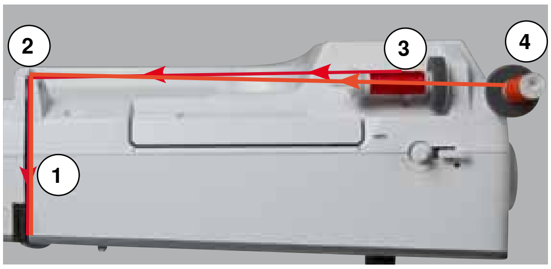
Removing the needle

- raise the needle
- remove or lower presser foot (see page **24, 30**)
- turn power switch to «0» (off)
- loosen the needle clamp screw **1** using the gray screwdriver
- pull the needle down to remove

Inserting the needle

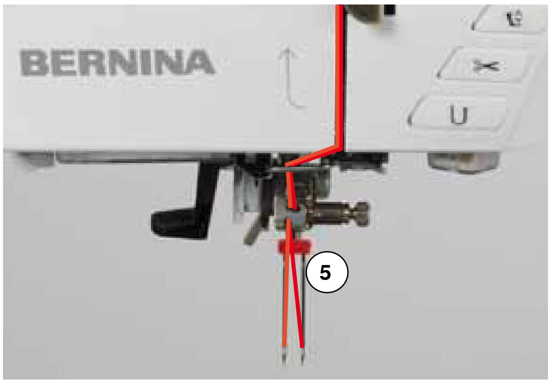
- flat side of needle to the back
- insert the needle as far as it will go
- tighten needle clamp **1** using the gray screwdriver

Threading the double needle



Threading the first thread

- raise the needle and the presser foot, remove the presser foot if necessary
- turn power switch to «0» (off)
- insert double needle
- place foam pad on the spool pin
- place thread spool **3** on horizontal spool pin
- attach appropriate spool disc
- take thread through rear guide **2**
- guide the thread to the front in the slit and past the tension disc **1** on the **right** side
- guide the thread to the needle as usual and
- thread the **right** needle manually



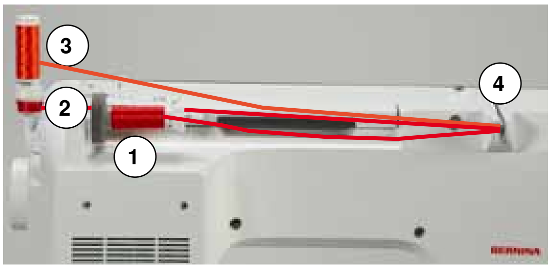
Threading the second thread

- place foam pad on vertical spool pin
- place the second thread spool **4** on the vertical spool pin
- take thread through rear guide **2**
- guide the thread to the front in the slit and past the tension disc **1** on the **left** side
- guide the thread to the needle as usual and
- thread the **left** needle manually

Threads **5** must not be twisted together.

When using the vertical spool pin, always add a foam pad. This prevents the thread from twisting around the spool pin.

Threading the triple needle

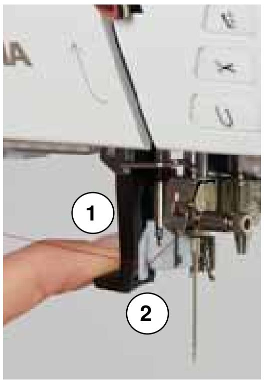


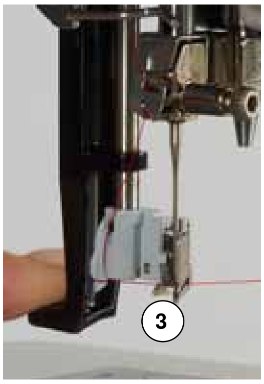
Two thread spools and one full bobbin are needed.

- insert triple needle
- place one thread spool **1** on horizontal spool pin
- place second thread spool **3** and the bobbin **2**, separated by a spool disc, on vertical spool pin (both spools must to turn in the same direction)
- thread as usual and
- guide **two** threads on the **left** side of the tension disc **4** and **one** thread past the **right** side
- guide threads to the needle as usual
- and thread every needle manually

By using the Guide eyelet for metallic and silk thread (optional accessory) the thread release from the stacked spool/bobbin can be enhanced.

Thread needle



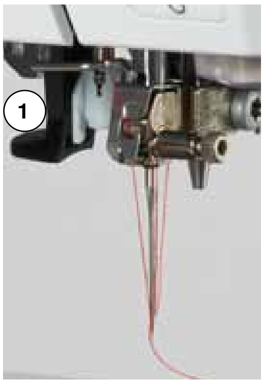


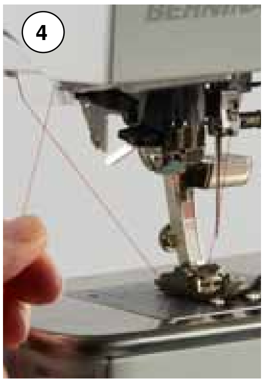
Position the needle by pressing the foot control once (1 stitch).

- raise the needle
- lower the presser foot
- turn power switch to «0» (off)
- hold thread to the left and back

- press lever **1** down and hold it
- guide thread around the hook **2** to the right in front of the needle

- put the thread from the front into the guide **3** until it catches in the wire hook



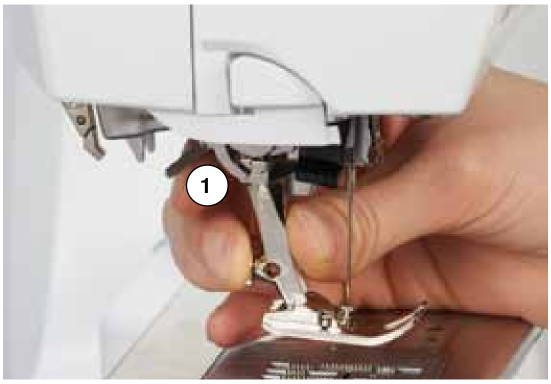


- release lever **1** and thread
- ► needle is threaded
- pull the thread to the back and

- put the thread under the foot and pull it from back to front over the thread cutter on left side of the head frame **4**, cut

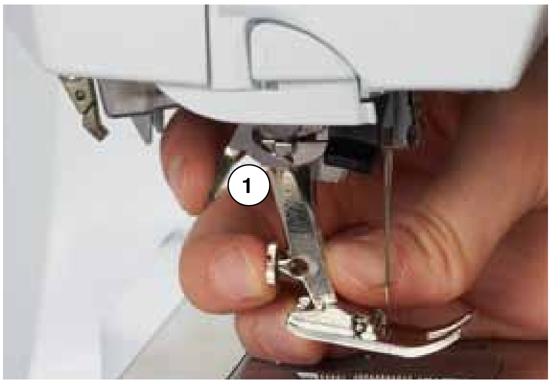
Threads release automatically as soon as the first stitch is sewn.

Changing the presser foot



Removing the presser foot

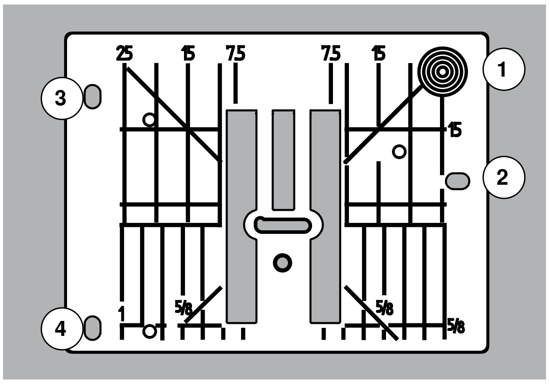
- raise the needle and presser foot
- turn power switch to «0» (off)
- raise the clamping lever **1**
- remove the presser foot



Attaching the presser foot

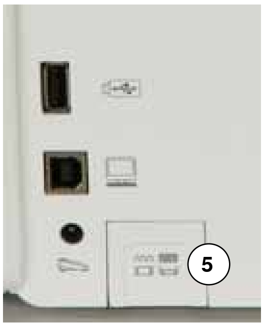
- guide the presser foot upwards over the cone
- press the clamping lever **1** down

Stitch plate



Markings on the stitch plate

– the stitch plate is marked with vertical, horizontal and diagonal lines in **mm** and **inches**
– the lines help to guide the fabric for sewing seams and precise topstitching, etc.
– the horizontal markings are helpful for sewing corners and buttonholes, etc.
– the diagonal markings are useful for quilting
– needle insertion point is position «0» (center needle position)
– the vertical measurements correspond to the distance between the needle and the line
– measurements are marked to the right and to the left of center needle position



Removing the stitch plate

- press «Feed dog»-button **5**
- ► the feed dog is lowered
- turn power switch to «0» (off)
- remove presser foot and needle
- press the stitch plate down at the right back corner **1** until it flips up
- remove the stitch plate

Replacing the stitch plate

- place the openings of the stitch plate **2**, **3** and **4** above the corresponding guide pins
- press down until it clicks into place
- press «Feed dog»-button
- ► the feed dog is raised as soon as the first stitch is sewn

Thread tension

Higher upper thread tension = the upper thread is tightened, which pulls the lower thread up to the top of the fabric.
Lower upper thread tension = the upper thread is loosened, which enables it to be pulled to the back of the fabric.

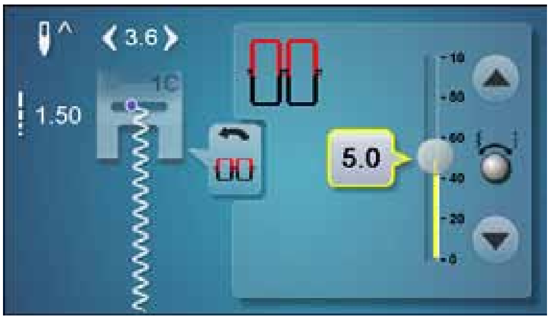
Basic settings are applied automatically when a stitch pattern or program is selected.

The upper thread tension is set optimally at the BERNINA factory and the sewing computer has been tested. Metrosene-/Seralon thread size 100/2 (Company Mettler, Switzerland) is used for upper and lower thread.

In case of using other types of sewing or embroidery threads, the optimal tension may vary. Therefore it may be necessary to adjust the upper thread tension according to the fabric and the desired stitch pattern.

Altering the upper thread tension

- touch «i»-icon
- touch «Upper thread tension»-icon



- the optimal stitch formation (stitch formation in the fabric) is visible
- the white bar within the scale and the number in the icon show the basic setting
- touch arrow icon up/down or
- turn stitch width or stitch length knob to the left or to the right or
- move the round knob in the Display using the finger
- upper thread tension is tightened or loosened
- the alteration of the upper thread tension is visible within the scale (yellow) and in the yellow-framed icon
- basic setting remains visible (white)
- the alteration of the upper thread tension only affects the selected stitch

Saving the upper thread tension

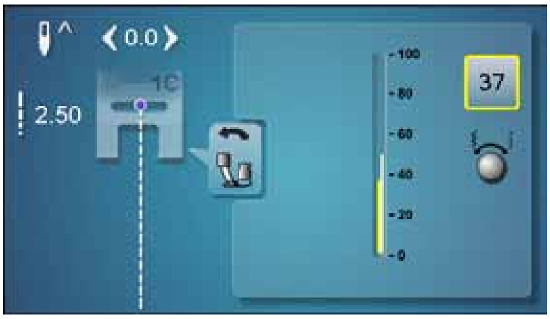
- touch «Back»-icon
- the setting is saved and the Display closes

Reset settings

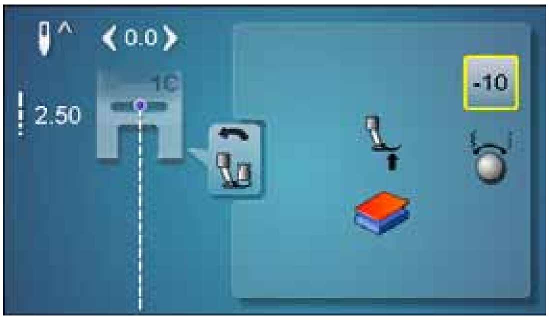
- touch the yellow-framed icon
- basic setting is reset
- switch off the sewing computer
- any alterations are deleted

Altering presser foot pressure

- touch «i»-icon
- touch «presser foot pressure»-icon



- ► presser foot pressure scale is displayed
- turn stitch width or stitch length knob to the left or to the right
- ► presser foot pressure is increased or decreased
- ► alterations of the presser foot pressure is displayed in the scale (yellow) and in the yellow-framed icon
- ► the basic setting remains visible (white)



When sewing thick material, e.g. quilting

- turn stitch width or stitch length knob to the left
- ► the presser foot pressure decreases to minus

The presser foot is slightly lifted and the material can be moved more simply.

Saving presser foot pressure

- touch «Back»-icon
- ► the settings are saved and the display closes

Reset settings

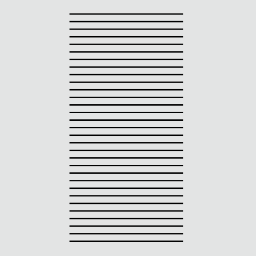
- touch the yellow-framed icon
- ► basic setting is reset

Reset the presser foot pressure to basic setting after finishing the task.

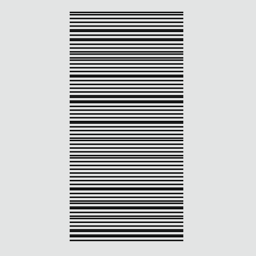
Feed Dog and Fabric Feed

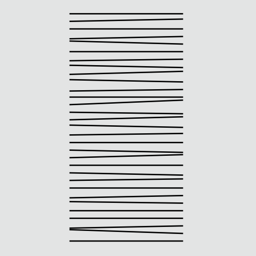
With each stitch the feed dog moves forward by one step. The length of this step is determined by the stitch length selected.

With an extremely short stitch length, the steps are also very short. The fabric moves away from the foot quite slowly, even at full sewing speed. e.g. buttonholes, satin stitch and decorative stitches are all sewn with a very short stitch length.



Let the fabric feed evenly.

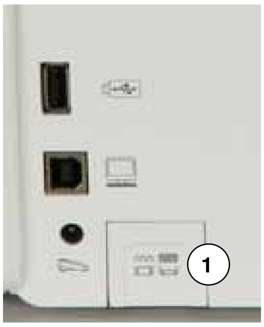


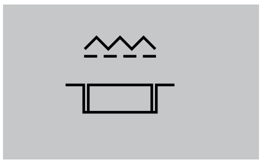


ATTENTION!
Pulling, pushing or holding back the fabric can result in damages of the needle and stitch plate.

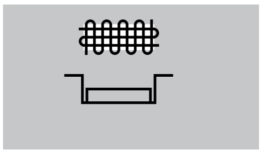
Pulling, pushing or holding back the fabric will result in uneven stitches.

Feed Dog lowered/ready to sew





«Feed dog»-button **1** flush with housing.
- ► feed dog is ready to sew



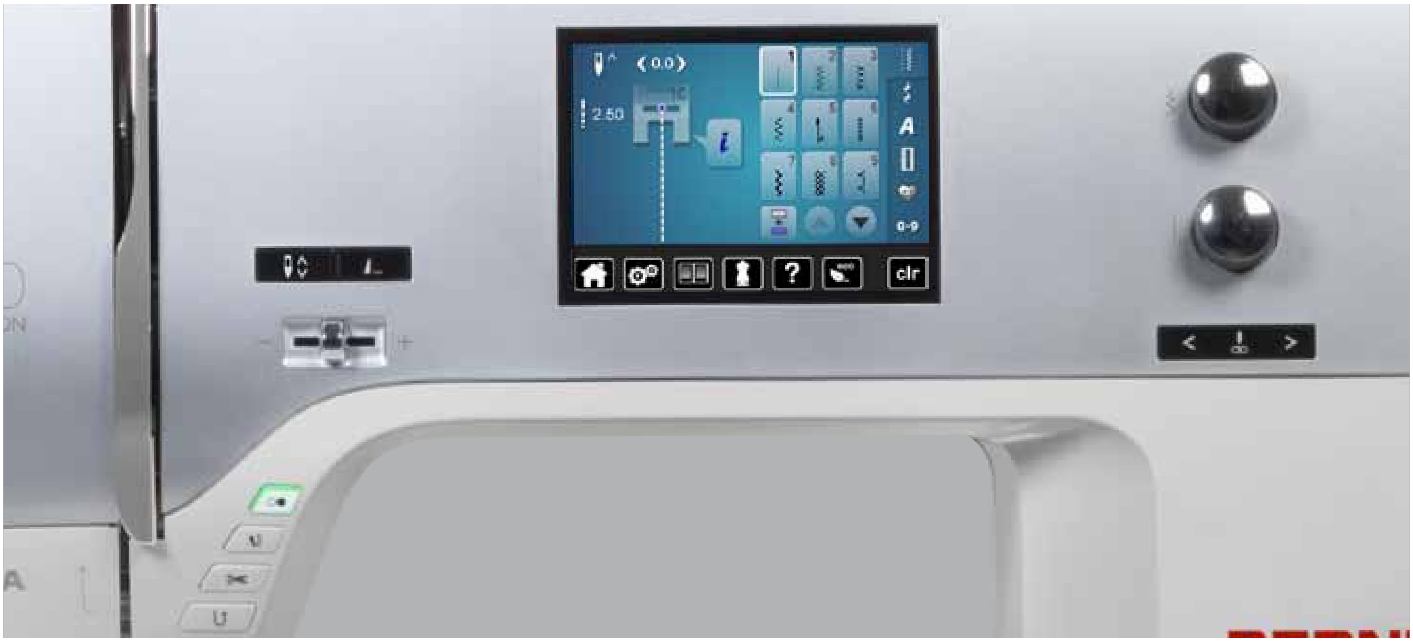
«Feed dog»-button **1** pressed.
- ► feed dog is lowered

For free-motion sewing (darning, embroidery, quilting, etc.).

Notes

Functions

Overview «Function»-buttons sewing



«Start/Stop»-button

- starts and stops the sewing computer when operating it **with** or **without** foot control
- starts and stops the BSR-Function if the BSR foot is attached and activated

«Presser foot position»-button

- ● touch button
- ► the presser foot is lowered and lifted to a hover position to position the material easily
- ► the presser foot is lowered on the material while starting to sew
- ● press the button again
- ► the foot is lifted

«Automatic thread cutter»-button

- upper and lower threads are automatically cut
- 2-6 securing stitches can be programmed in the setup program. These are sewn before the thread is cut

«Quick reverse»-button

- secures the seam beginning and end: sews in reverse as long as the button is pressed
- used to program the buttonhole length
- used to program the darning length
- used to determine end of stitching in straight stitch Securing stitch No. 5
- used for securing in Quilters securing program No. 1324

«Needle stop»-button

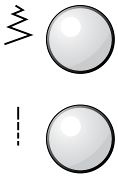
- ● touch button
- ► the needle is raised or lowered in the same way as by sinking the heel back on the foot control

Programmable «Pattern end/Securing»-button

- ● touch button before or during sewing
- ► single pattern is secured at the end, with the selected number of stitches programmed
- ● touch button before or during sewing of a combination
- ► the active pattern of the combination is secured at the end, with the selected number of stitches programmed
- ● the number and type of the securing stitches can be programmed in the setup program

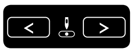
Speed control

- sewing speed is infinitely variable with the slide



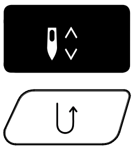
Stitch width and Stitch length Knobs (Multifunction)

- to adjust stitch width or stitch length
- to alter thread tension
- to set the buttonhole slit width or the button size
- to adjust the balance
- various alterations in the setup program
- various alterations when embroidering



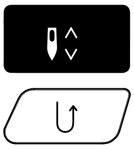
«Needle position»-buttons

● press the left button
► needle moves to the left
● press the right button
► needle moves to the right
● keep button pressed
► quick change
– total of 11 needle positions (5 left, 5 right, 1 center = 0)



Needle stop position up and «Quick Reverse»-button

If the «Quick Reverse»-button is pressed while sewing or after stopping (e.g. zig-zag) with programmed needle stop **up**, the sewing computer sews one stitch forward before it switches to sewing in reverse.

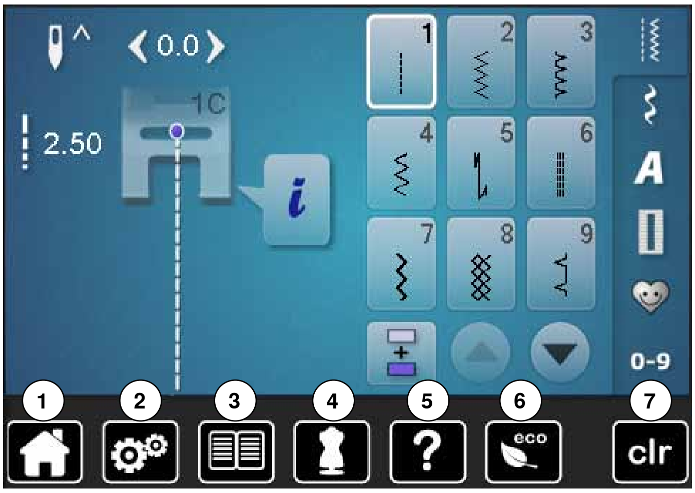


Needle stop position down and «Quick Reverse»-button

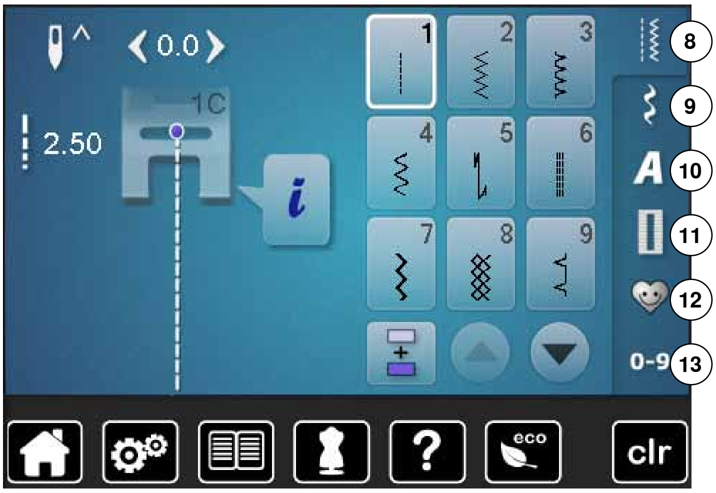
If the «Quick Reverse»-button is pressed after stopping (e.g. zig-zag) with programmed needle stop **down**, the sewing computer switches to sewing in reverse immediately.

Display

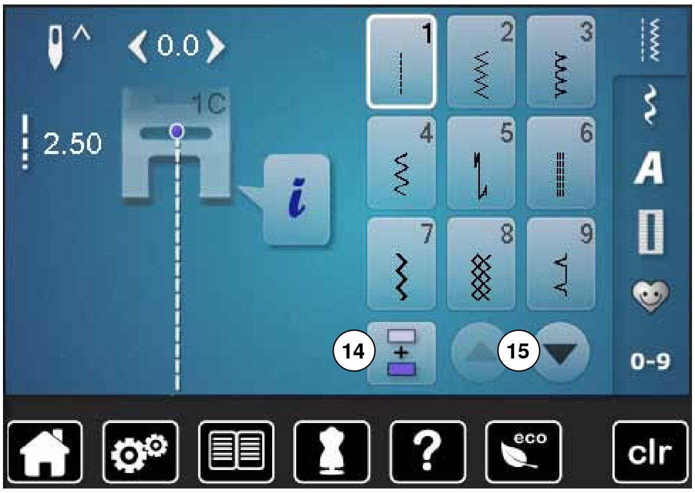
Overview Main Display


0.0
2.50
1C
i
1
2
3
4
5
6
7
8
9
0-9
eco
clr
1
2
3
4
5
6
7

System settings
1 Home
2 Setup Program
3 Tutorial
4 Creative consultant
5 Help
6 ECO
7 Clear settings

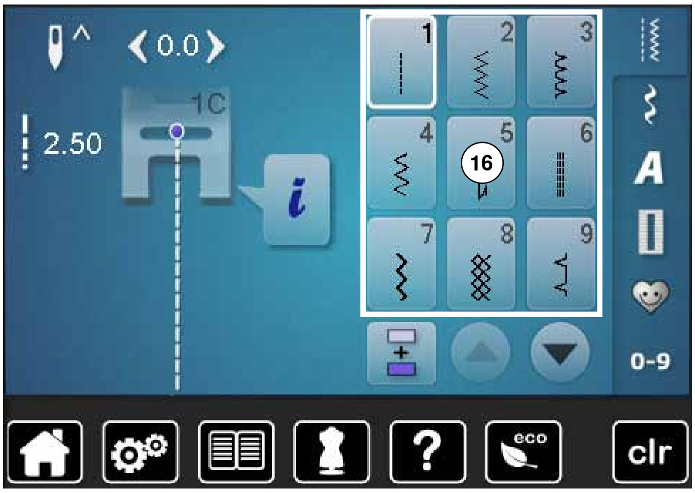

0.0
2.50
1C
i
1
2
3
4
5
6
7
8
9
0-9
eco
clr
8
9
10
11
12
13

Menu Selection
8 Practical stitches
9 Decorative stitches
10 Alphabets
11 Buttonholes
12 Personal program/Memory
13 Stitch selection by number


0.0
2.50
1C
i
1
2
3
4
5
6
7
8
9
14
15
A
0-9
eco
clr

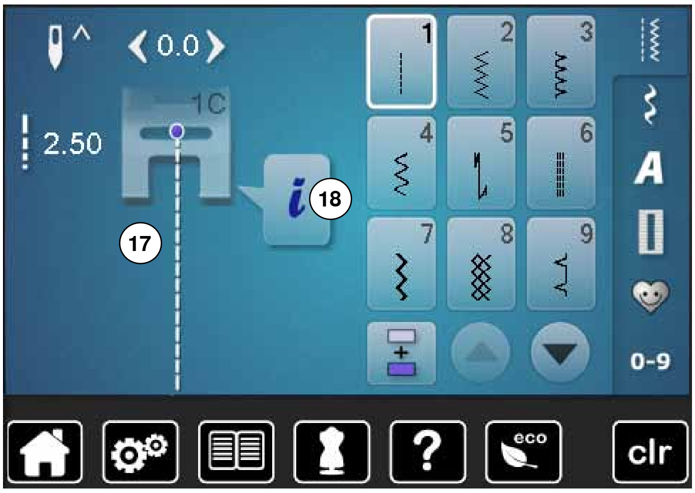
Selection

14 Single and combi mode
15 Scroll up/down


0.0
2.50
1C
i
1
2
3
4
5
6
7
8
9
16
A
0-9
eco
clr

Stitch Pattern selection

16 Stitch pattern selections


0.0
2.50
1C
i
18
17
1
2
3
4
5
6
7
8
9
A
0-9
eco
clr

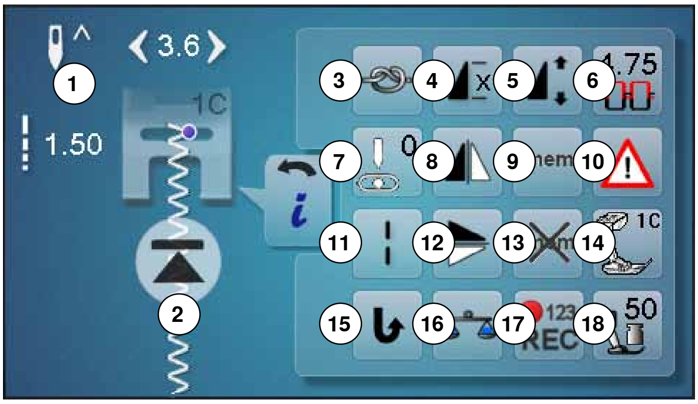
Stitch Pattern Display

17 Display of the stitch pattern selected
18 Information

Functions - Display

Overview Sewing functions

- ● touch «i»-icon
- ► «Function»-display appears



Functions

1 Needle stop up/down
2 Pattern begin
3 Securing
4 Pattern repeat
5 To alter pattern length/stitch density
6 Upper thread tension
7 Needle position
8 Mirror Image (Left/Right)
9 Personal memory permanent
10 Security program
11 Long stitch
12 Mirror image (Up/Down)
13 Clear saved setting to default
14 Presser foot indicator
15 Permanent reverse sewing
16 Balance
17 Stitch Counter
18 Presser foot pressure

General functions

Information
- ● touch icon
- ► another Display is opened

Back
- ● touch icon
- ► goes back to the previous Display
- ► all changes are saved

Confirm selection
- ● touch icon
- ► activates or confirms alteration/selection

Leaving the active Display
- ● touch icon
- ► the Display is closed
- ► goes back to the previous Display

Needle stop up/down
- ● touch icon
- ► the arrow on the Display points down
- ► the sewing computer stops with needle down
- ● touch the icon again
- ► the arrow on the Display points up
- ► the sewing computer stops with needle up

Pattern begin
- ► the function appears when the sewing computer is stopped while sewing a single stitch or a stitch combination
- ● touch icon
- ► the needle moves to the beginning of a stitch pattern or program

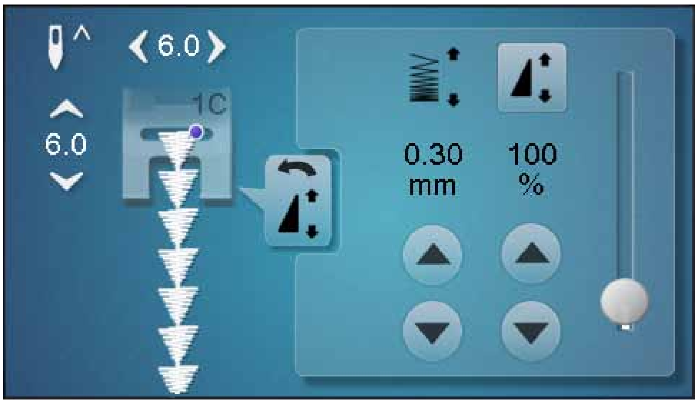
Securing
- ● touch icon before sewing
- ► the single stitch is secured with four stitches at the beginning
- ● touch icon while sewing a single pattern
- ► the single stitch is secured at the end
- ► the sewing computer stops
- ● to program the securing function within a stitch combination
- ● any single stitch of the combination can be secured at the begin or at the end

Pattern repeat
- ● touch icon 1x
- ► number 1 appears: the sewing computer stops at the end of a single stitch or a stitch combination
- ● touch icon 2-9x
- ► numbers 2-9 appear: the sewing computer stops after the selected repeats of single stitches or a stitch combination

Altering pattern length
- ● move the round knob in the Display using the finger
- ► pattern length (Standard = 100%) is infinitely variable
- ● extend or shorten in 1%-steps using the arrow icons or
- ● touch «Pattern length»-icon
- ► the pattern length is extended in 100%-steps

Maximum length is 1000%, shortest length is 10%. Some stitch patterns are limited and cannot be extended to 1000%.

Upper thread tension
- ● change upper thread tension
- ► the respective value is visible in the icon



Needle position

- ● move the needle position to the left or to the right touching the arrow buttons left/right or using the finger
- ● keep arrow button pressed
- ► quick moving of the needle
- ► the needle position is displayed in the yellow-framed icon
- ● touch yellow-framed icon
- ► the needle moves to the middle (position 0)

Mirror image (Left/Right)

The sewing computer sews the stitch pattern mirrored, left/right referring to the sewing direction.

Personal memory permanent

- ● select a stitch pattern and alter e.g. stitch length or stitch width
- ● touch icon
- ► the altered stitch pattern is saved

Security program

- ● touch icon
- ● touch «Needle»- or «Stitch plate»-icon

Overview Needle:

- ● touch desired «Needle»-icon
- ► stitch width is limited automatically
- ► this prevents the inserted special needle (double needle etc.) from hitting the presser foot or the stitch plate = no needle breakage
- ► numbers in the needle icons show the needle distance in mm
- ● touch «Standard needle»-icon
- ► the standard needle is activated again
- ► stitch width limitation is deactivated

Overview Stitch plates:

- ● touch the desired «Stitch plate»-icon
- ► stitch width is limited automatically
- ► this prevents the inserted needle from hitting the presser foot or the stitch plate = no needle breakage

The function remains active even when the sewing computer is turned off and on.

If the straight stitch plate is activated, the stitch width cannot be altered.

Altering stitch density

Certain decorative stitches (e.g. No. 401) allow an alteration of the stitch density. The set stitch pattern length will not be affected.

- ● touch arrow icon «up»
- ► the stitch density is reduced in 0.05mm steps
- ► the stitch distance is enlarged
- ● touch arrow icon «down»
- ► the stitch density is increased in 0.05mm steps
- ► the stitch distance is reduced

Long stitch

- – the sewing computer sews every **second** stitch (max. stitch length 12mm)
- – applicable for practical and decorative stitches

Exception: buttonholes, alphabets

Mirror image up/down

The sewing computer sews the stitch pattern mirrored up/down referring to the sewing direction.

Clear saved setting to default

- ● touch icon
- ► any alterations of the selected stitch pattern are reset to basic setting

Presser foot indicator

- ● touch icon
- ► the Display is opened showing the optional presser feet for the selected stitch pattern
- ● touch «Back»-icon
- ► the Display is closed

Permanent reverse sewing

The sewing computer sews the selected stitch pattern in reverse.

Balance

Balances forward and reverse stitches.

Stitch Counter

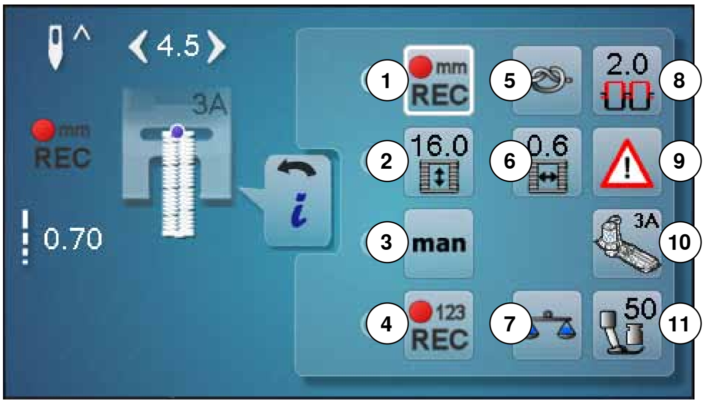
- ► when the desired length is achieved, touch the «Quick Reverse»-button
- ► the display changes to «auto»
- ► the selected stitch pattern is temporarily programmed

Presser foot pressure

- ● alter presser foot pressure
- ► the respective value is visible in the icon

Overview Functions buttonholes

- touch «Buttonhole»-button
- select the buttonhole
- touch «i»-icon



Altering the buttonhole

1 Programs the buttonhole length
2 Buttonhole length direct entry
3 Manual buttonhole
4 Stitch counter buttonhole
5 Securing
6 Buttonhole slit width
7 Balance
8 Upper thread tension
9 Security program
10 Presser foot indicator
11 Presser foot pressure

Programming buttonhole length

► the icon is white-framed after a buttonhole has been selected
- determine the buttonhole length by pressing the «Quick reverse»-button or
- program the indicated length directly in the icon below by touching the icon

► function becomes inactive after programming the length
- if a new length is to be programmed, touch the icon again

Buttonhole length direct entry

Enter the buttonhole length via the stitch width or stitch length knob. Size in mm.

Manual buttonhole

- sew a manual buttonhole in 5 or 7 steps (depending on buttonhole type)
- select every step by touching the arrow icons below the indicated buttonhole

Stitch counter buttonhole

Having sewn the desired length of the 1st bead, then
- press «Quick reverse»-button

Having sewn the desired length of the 2nd bead, then
- press «Quick reverse»-button

► Display shows «auto»
► the buttonhole is programmed

Securing

- touch icon before sewing

► the buttonhole is secured with four securing stitches at the beginning
- touch icon while sewing a buttonhole

► the buttonhole is secured at the end
► the sewing computer stops

Buttonhole slit width

- set the buttonhole slit width to between 0.1mm and 2.0mm using the stitch width or the stitch length knob or the arrow icons

Balance

Balances forward and reverse stitches.

Upper thread tension

- change upper thread tension
- ► the respective value is visible in the icon

Security program

- touch icon
- touch «Needle»- or «Stitch plate»-icon

Overview Needles:

- touch desired «Needle»-icon
- ► the stitch width is limited automatically
- ► this prevents the inserted special needle (double needle etc.) from hitting the presser foot or the stitch plate = no needle breakage
- ► numbers in the needle icons indicate the needle distance in mm
- touch the «Standard needle»-icon
- ► the standard needle is activated again
- ► stitch width limitation is deactivated

Overview Stitch plates:

- touch desired «Stitch plate»-icon
- ► the stitch width is limited automatically
- ► prevents the inserted needle from hitting the presser foot or the stitch plate = no needle breakage

The function remains active even when the sewing computer is turned off and on.

Presser foot indicator

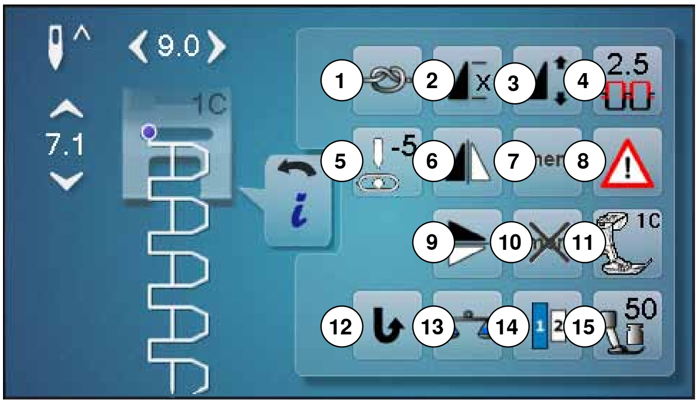
- touch icon
- ► the recommended presser foot is displayed
- ► the active Display shows the optional presser feet for the selected stitch pattern
- touch «Back»-icon
- ► the Display is closed

Presser foot pressure

- alter presser foot pressure
- ► the respective value is visible in the icon

Overview Functions Alphabets

- touch «Alphabet»-button
- select Alphabet
- touch «i»-icon



Altering Alphabet

1 Securing
2 Pattern repeat
3 To alter pattern length
4 Thread tension
5 Needle position
6 Mirror image (Left/Right)
7 Personal memory permanent
8 Security program
9 Mirror image down/up
10 Clear saved setting to default
11 Presser foot indicator
12 Permanent reverse sewing
13 Balance
14 Lettering size in alphabets
15 Presser foot pressure

Securing

- touch icon before sewing
- ► single stitch is secured at the begin with four securing stitches
- touch icon while sewing a single stitch
- ► the single stitch is secured at the end
- ► the sewing computer stops
- to program the securing function within a pattern combination
- each individual pattern of the combination can be secured at the start or the end

Pattern repeat

- touch icon 1x
- ► number 1 appears: the sewing computer stops at the end of an individual stitch or stitch combination
- touch icon 2-9x
- ► numbers 2-9 appear: the sewing computer stops at the end of a stitch or a stitch combination after the number of repeats selected

Altering pattern length

- move the round knob in the Display using the finger
- ► pattern length (Standard = 100%) is infinitely variable
- extend/shorten in 1%-steps with the arrow icons or
- touch «Pattern length»-icon
- ► pattern length is extended in 100%-steps

Maximum length is 200%, shortest length is 10%.

Upper thread tension

- change upper thread tension
- ► the respective value is visible in the icon

Needle position

- move the needle to the left or to the right using the arrow icons left/right or the finger
- keep arrow icon pressed
- ► quick movement of the needle
- ► the needle position is displayed in the yellow-framed icon
- touch yellow-framed icon
- ► moves the needle to the middle (Position 0)

Mirror image (Left/Right)

The sewing computer sews the stitch pattern mirrored, left/right referring to the sewing direction.

Personal memory permanent

- select a stitch pattern and alter e.g. stitch length or stitch width
- touch icon
- ► the altered stitch pattern is saved

Security program

- touch icon
- touch «Needle»- or «Stitch plate»-icon

Overview Needle:

- touch desired «Needle»-icon
- ► stitch width is limited automatically
- ► this prevents the inserted special needle from hitting the presser foot and the stitch plate = no needle breakage
- ► numbers in the needle icons indicate the needle distance in mm
- touch «Standard needle»-icon
- ► Standard needle is activated again
- ► stitch width limitation is deactivated

Overview Stitch plates:

- touch the desired «Stitch plate»-icon
- ► stitch width is limited automatically
- ► this prevents the needle from hitting the presser foot and the stitch plate = no needle breakage

The function remains active even when the sewing computer is turned off and on.

Mirror image (Up/Down)

The sewing computer sews the stitch pattern mirrored, up/down referring to the sewing direction.

Clear saved setting to default

- touch icon
- ► any alterations of the selected stitch pattern are reset to basic setting

Presser foot indicator

- touch icon
- ► shows recommended presser foot
- ► the active Display shows optional presser feet for the selected stitch pattern
- touch «Back»-icon
- ► the Display is closed

Permanent reverse sewing

The sewing computer sews the selected stitch pattern in permanent reverse.

Balance

Balances forward and reverse stitches.

Lettering size in alphabets

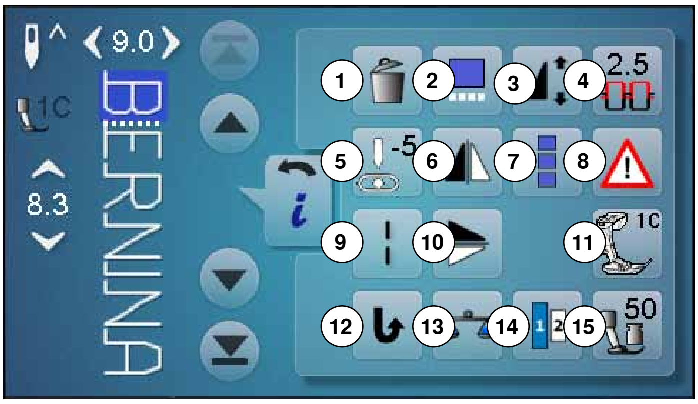
- select alphabet
- ► letter size is 9mm
- touch icon
- ► activates number «2»
- ► the font size is reduced

Presser foot pressure

- alter the presser foot pressure
- ► the respective value is visible in the icon

Overview Functions Combi mode

- touch «Combi mode»-icon
- select stitch pattern
- touch «i»-icon



Combi mode

1 Deleting
2 Editing combinations at cursor position
3 Altering the pattern length
4 Upper thread tension
5 Needle position
6 Mirror image (Left/Right)
7 To edit the whole combination
8 Security program
9 Long stitch (without alphabets)
10 Mirror image (Up/Down)
11 Presser foot indicator
12 Permanent reverse sewing
13 Balance
14 Lettering size in alphabets
15 Presser foot pressure

Deleting
Deletes an individual stitch.

Editing a combination at cursor position
- touch icon
- ► Display appears

Altering pattern length
- move the round knob in the Display using the finger
- ► pattern length (Standard = 100%) is infinitely variable
- extend/shorten in 1%-steps with the arrow icons or
- touch «Pattern length»-icon
- ► pattern length is extended in 100%-steps

Maximum length is 1000%, shortest length 10%. Some stitch patterns are limited and cannot be extended to 1000%.

Upper thread tension
- change upper thread tension
- ► the respective value is visible in the icon

Needle position
- move the needle to the left or to the right touching the arrow icons left/right or using the finger
- keep arrow icon pressed
- ► quick movement of the needle
- ► the yellow-framed icon shows the needle position
- touch yellow-framed icon
- ► moves the needle to the middle (Position 0)

Mirror image (Left/Right)
The sewing computer sews the stitch pattern mirrored, left/right referring to the sewing direction.

Editing the whole combination

- ● touch icon
- ► Display appears

Security program

- ● touch icon
- ● touch «Needle»- or «Stitch plate»-icon

Overview Needles:

- ● touch the desired «Needle»-icon
- ► stitch width is limited automatically
- ► this prevents the inserted special needle from hitting the presser foot and the stitch plate = no needle breakage
- ► numbers in the needle icons indicate the needle distance in mm
- ● touch «Standard needle»-icon
- ► the Standard needle is activated again
- ► the stitch width limitation is deactivated

Overview Stitch plates:

- ● touch the desired «Stitch plate»-icon
- ► stitch width is limited automatically
- ► this prevents the inserted needle from hitting the presser foot and the stitch plate = no needle breakage

The function remains active even when the sewing computer is turned off and on.

Long stitch

- the sewing computer sews every **second** stitch (max. stitch length 12mm)
- applicable for practical and decorative stitches
- **Exception:** buttonholes, alphabets

Mirror image (Up/Down)

The sewing computer sews the stitch pattern vertically mirrored, up/down referring to the sewing direction.

Presser foot indicator

- ● touch icon
- ► shows the recommended presser foot
- ► the active Display shows the optional presser feet for the selected stitch
- ● touch the «Back»-icon
- ► the Display is closed

Permanent reverse sewing

The sewing computer sews the selected stitch pattern in permanent reverse.

Balance

Balances forward and reverse stitches.

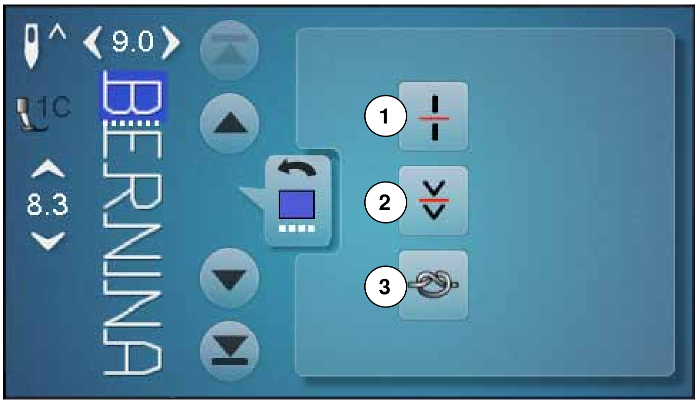
Lettering size in alphabets

- ● select alphabet
- ► letter size is 9mm
- ● touch icon
- ► activates number «2»
- ► the font size is reduced

Presser foot pressure

- ● alter the presser foot pressure
- ► the respective value is visible in the icon

- touch «Combi mode»-icon
- select the stitch pattern
- touch «i»-icon
- touch «Cursor position»-icon



Functions

1 Combination subdivider (1)
2 Combination subdivider (2)
3 Securing

Combination subdivider (1)

- each combination or memory folder can be subdivided into several parts
- only those parts where the cursor is located will be sewn
- to sew another part, the cursor must be placed into this part

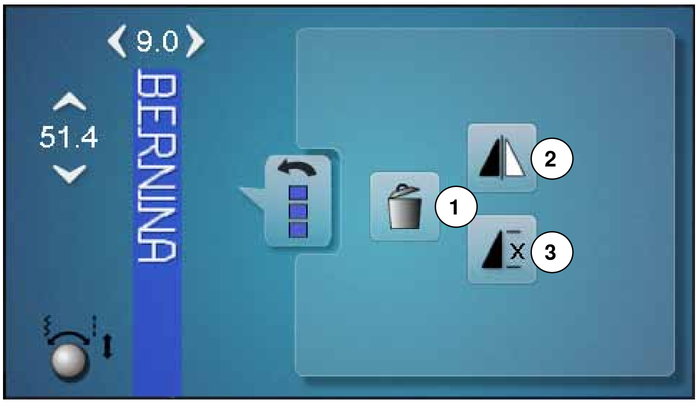
Combination subdivider (2)

- each combination can be interrupted as desired
- after stopping, the needle moves to the next part to be sewn

Securing

- program the function within a pattern combination
- each individual pattern of the combination can be secured at the start or the end

- touch «Combi mode»-icon
- select stitch pattern
- touch «i»-icon
- touch «Edit whole combination»-icon



Functions

1 Deleting
2 Mirror Image (Left/Right)
3 Combination repeat

Deleting
Deletes the whole combination.

Mirror image (Left/Right)
The sewing computer sews the whole combination mirrored, left/right referring to the sewing direction.

Combination repeat

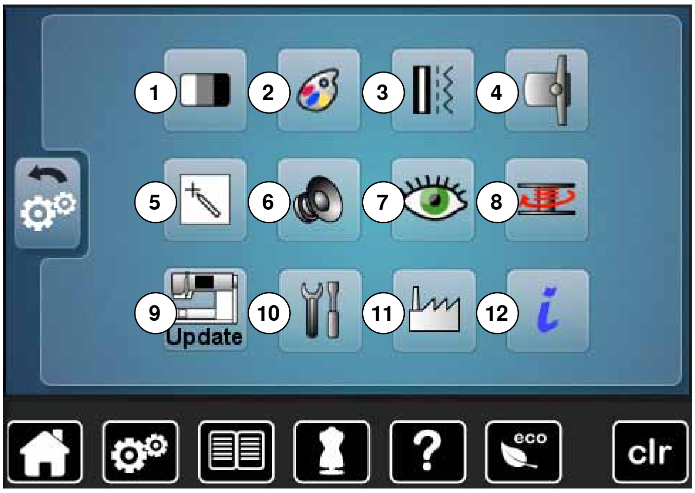
- touch icon 1x
- ► number 1 appears: the sewing computer stops at the end of a pattern combination
- touch icon 2-9x
- ► numbers 2-9 appear: the sewing computer stops at the end of a stitch combination after the selected number of repeats

Setup Program

Overview «Setup»-display

The Setup Program enables an individual adjustment of the Display surface and the settings according to your personal requirements.
After setting the sewing computer to your personal requirements, all changes made in the Setup Program are saved, even when the sewing computer is switched off.
Exceptions from this rule are outlined within the description of the function concerned in each case.

- touch «Setup Program»-button
- ► «Setup Program»-display is opened

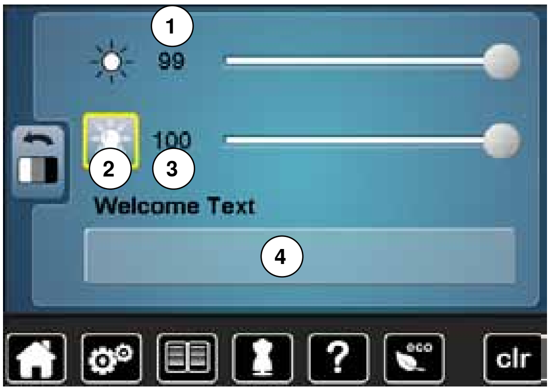


1 Display settings
2 Display color
3 Sewing settings
4 Embroidery settings
5 Display calibration
6 Audio System
7 Monitoring
8 Winding speed
9 Update sewing computer
10 Calibration buttonhole foot No. 3A/Cleaning/Packing position
11 Basic setting
12 Information

Touch the yellow-framed icon to reset to basic setting.

Changing Display settings

- touch «Display setting»-icon



Brightness

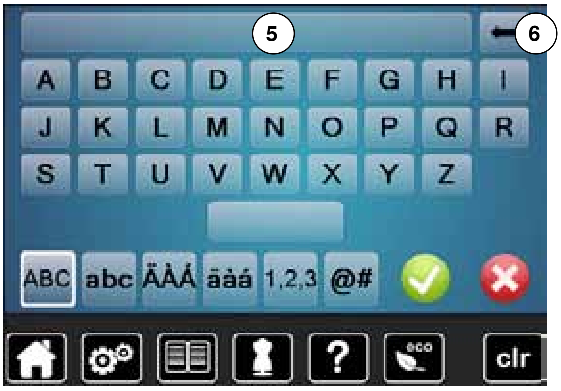
- move the round knob in the Display to the left/right using the finger or
- turn the stitch width knob
- the brightness **1** of the Display changes
- alterations are visible in the yellow-framed icon
- a white line indicates the basic setting

Sewing light

- when icon **2** is active, the sewing light is on
- when icon **2** is inactive, the sewing light is off

Brightness sewing light

- move the round knob in the Display to the left/right using the finger or
- turn the stitch length knob
- the brightness **3** of the sewing light changes
- alterations are visible in the yellow-framed icon
- a white line indicates the basic setting



Welcome text

- create or change Welcome Text **4**

The space button is below the keyboard.

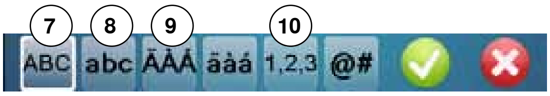
- Welcome text appears in the text icon **5** above the letter keys
- touch ✓ to confirm

Deleting Welcome text

- touch «Text»-icon **5**
- the entered text is completely deleted

Corrections

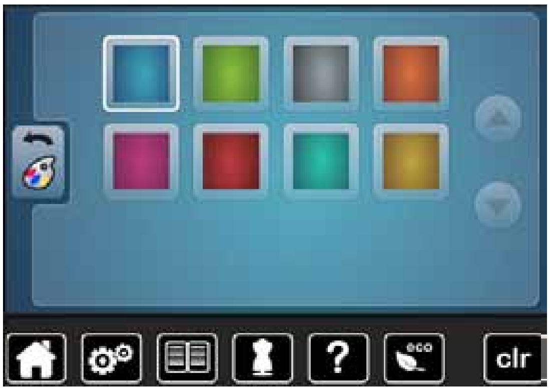
- touch icon **6**
- the entered text is deleted from the right to the left



7 «ABC» all in upper case (Standard)
8 «abc» all in lower case
9 «Ä À Á», «ä à á» and «@ #» upper and lower special characters
10 «1,2,3» numbers and mathematical characters

Selecting the Display color

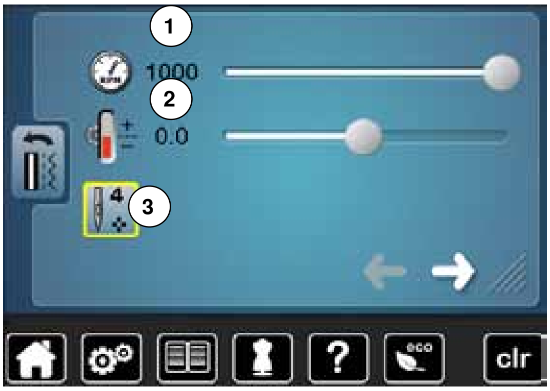
- touch «Display color»-icon



- select the desired display color

Sewing settings

- touch «Sewing setting»-icon



Sewing speed
- move the round knob in the Display to the left/right using the finger or
- turn the stitch width knob
- ► alters the maximal sewing speed **1**
- ► the number in the yellow-framed icon indicates the stitches per minute, the basic value is indicated by a white line

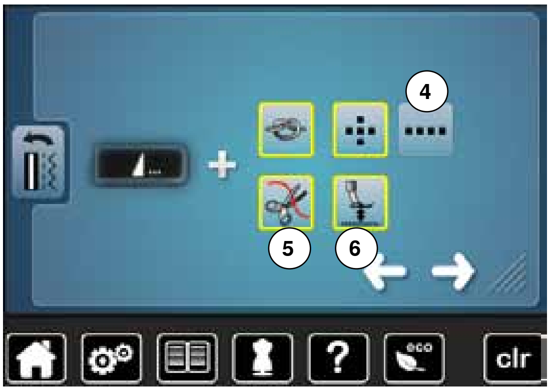
Altering the upper thread tension
- move the round knob in the Display to the left/right using the finger or
- turn the stitch length knob
- alters the basic setting of the upper thread tension **2** at plus or minus two basic values

0.0 = basic setting

> Alterations of the upper thread tension and the sewing speed affect any stitch patterns and embroidery motifs and remain active even when the sewing-/embroidery computer is switched off.

Securing stitches at pattern begin
- ► the function is active (standard)
- ► 4 securing stitches are sewn before a stitch pattern starts
- touch icon **3**
- ► function is inactive = no securing stitches will be sewn

- touch icon



Automatic securing program at pattern end

– the number and type of the securing stitches of the **external** «Pattern end/ Securing»-button can be programmed

– standard = four securing stitches in the same place

● select function **4** for forward securing stitches

● via the arrow icons three to six securing stitches can be programmed

Automatic thread cutter

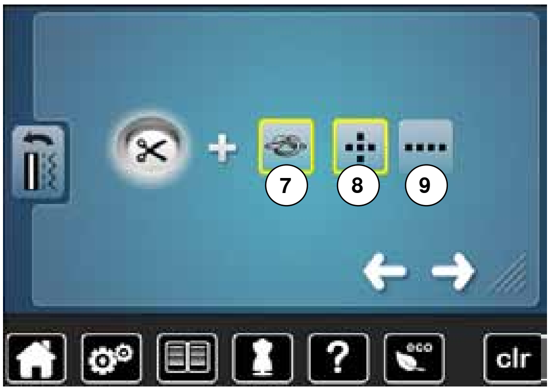
► if function **5** is activated, the upper and lower thread are automatically cut after sewing

Raising the presser foot

► if function **6** is activated the presser foot is raised after securing

► if function is not activated, the presser foot remains down

● touch icon



Automatic thread cutter and securing stitches

– the number and type of the securing stitches before the thread is cut can be programmed

– standard = no securing stitches programmed

● touch icon **7**

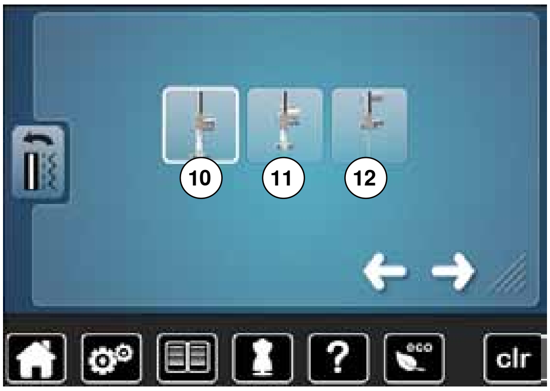
► icon **8** is activated

► four securing stitches are sewn at the place

● select icon **9** to secure with small stitches sewn in a forward direction

● via the arrow icons icons two to six securing stitches can be programmed

● touch icon



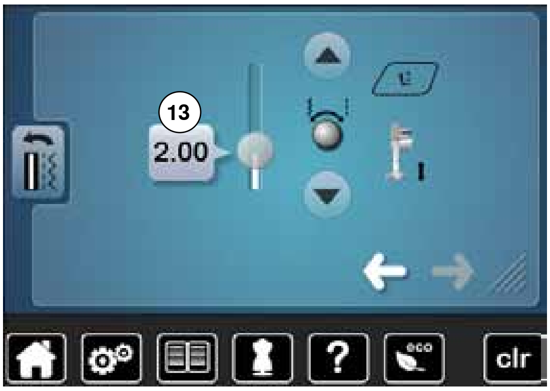
Presser foot position when needle stop down

► with activated icon **10**, the presser foot remains down when the sewing computer stops

► with activated icon **11**, the presser foot is raised enough to pivot the fabric (hover position)

► with activated icon **12**, the presser foot is raised into its highest position

● touch icon



Presser foot in hover position

● turn the stitch width or stitch length knob or

● touch arrow icons up/down or

● move the round knob in the display using the finger

► the margin of lifting can be adjusted from 0mm to 7mm.
Standard = 2mm

► the respective value = the distance between material and presser foot, is displayed in the icon **13**

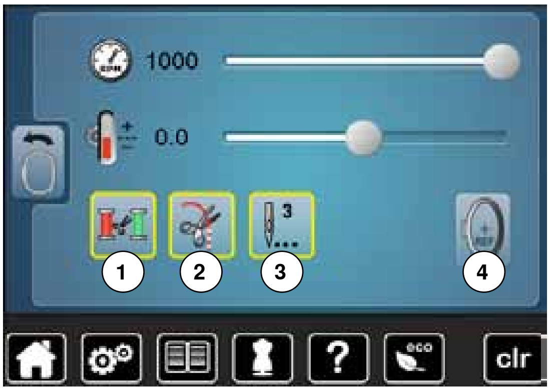
Reset settings

● touch the yellow-framed icon

► basic setting is restored

Adjusting embroidery settings

- touch «Embroidery settings»-icon

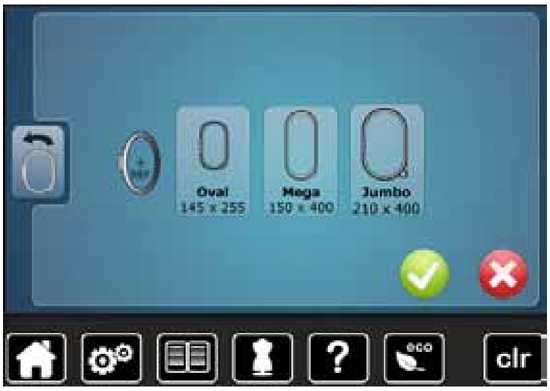


The settings for embroidery speed and the upper thread tension can be adjusted in the same way like the settings for sewing. (see page **46**)

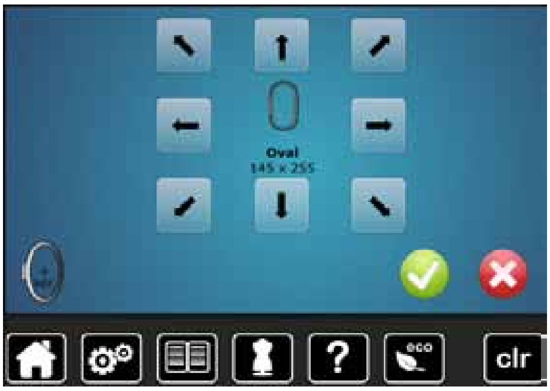
- touch icon **1**
- ► when changing the thread color the automatic cut of the thread is activated or deactivated
- touch icon **2**
- ► to turn automatic thread cutter on or off
- touch icon **3**
- ► activate or deactive securing stitches. Standard = activated
- ► i.e. after selecting an embroidery motif or cutting the threads using the automatic thread cutter will trigger the stitching of 3 securing stitches
- ► function is inactive = no securing stitches will be stitched, i.e. the lower thread must be taken up either manually (handwheel) or by «back heel kicking» the foot control. The threads must be held when starting to embroider
- touch icon **4**
- to calibrate the hoop

Calibrating the hoop

The hoop calibration adjusts the needle to the center of the hoop. Adjustments can only be done if the embroidery module is attached.



- select the required hoop and follow the instructions on the screen



- place embroidery template into the embroidery hoop
- ► the hoop is checked and the needle positioned to the center
- if the needle is **not** positioned exactly in the center of the embroidery template, it has to be centered by using the arrow icons
- touch icon ✓ until the selection menu appears
- ► the adjustment is saved

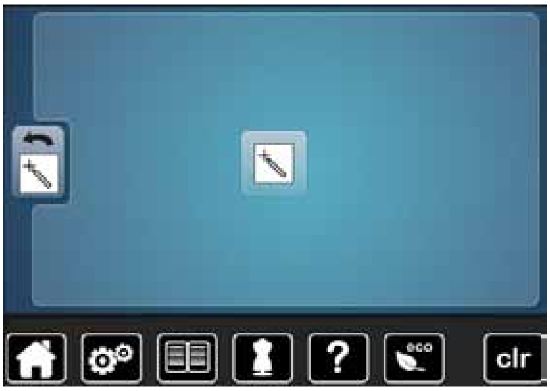
Place the fabric in the embroidery hoop. The embroidery template is located well in the hoop.

Display Calibration

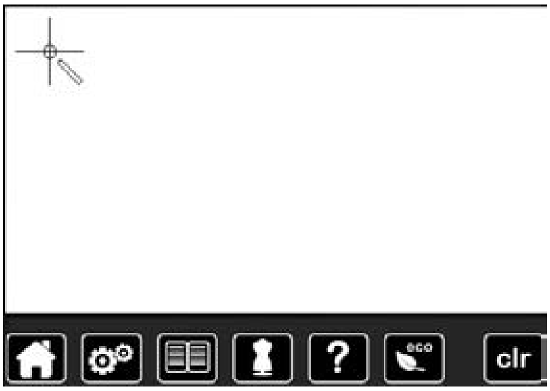
The Display calibration can be opened as follows:

- turn off the sewing-/embroidery computer
- touch the two needle positioning buttons on the front panel and keep them pressed
- turn on the sewing-/embroidery computer and release the buttons as soon as the Display appears

- touch «Display calibration»-icon



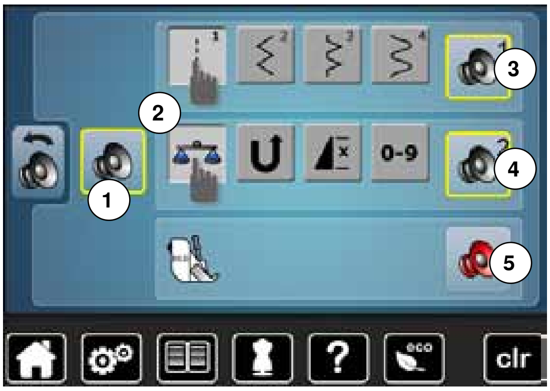
- touch the calibration icon



- touch the center of the cross using a blunt pen
- ► the cross moves to the next position
- repeat this until all three positions shown are calibrated
- ► the Display is closed
- ► the calibration is saved

Altering the acoustic signals

- touch «Acoustic signal»-icon



By touching **1** the signals are activated or deactivated.

Selecting Stitch Pattern/Function/BSR
Stitch patterns and function selection **2** can be confirmed acoustically.

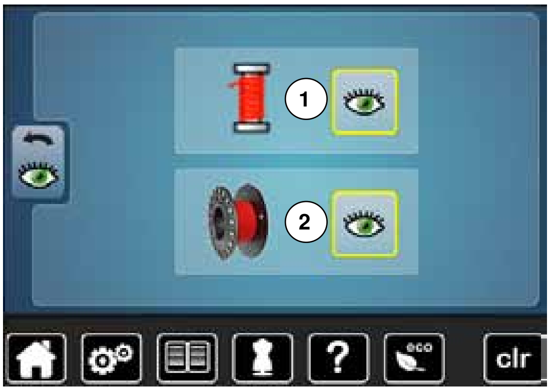
- touch the icon **3** with the loudpseakers for the stitch patterns until you hear the desired sound

There are six different sounds to choose from.

- ► the sound is indicated by a number (1-6)
- the sounds for the functions **4** and the sound for quilting with the BSR **5** can be activated or deactivated in the same way
- ► the deactivation is indicated as last option when clicking through the different sounds

Monitoring

- touch «Monitoring»-icon



The following monitoring functions can be activated or deactivated:
1 Upper thread indicator
2 Lower thread indicator

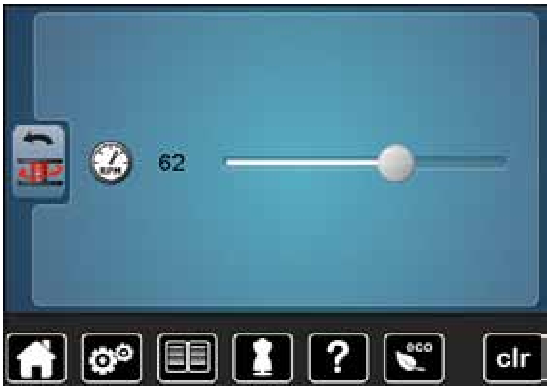
Upper-/Lower thread indicator

- ► open eye = function active
- touch «Open eye»-icon
- ► closed eye = function inactive

The sound type for the monitoring functions is set in the audio settings for functions.

Altering the winding speed

- touch «Winding speed»-icon

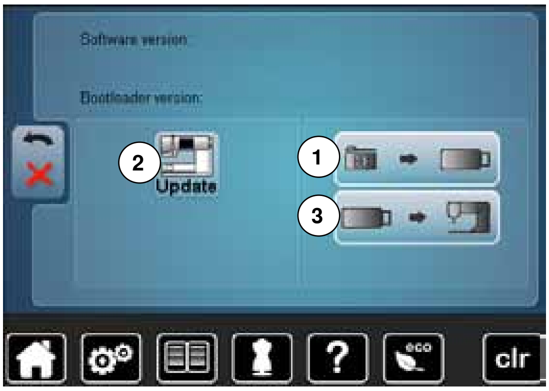


- move round knob in the Display to the left/right using the finger or
- turn the stitch width knob
- ► the winding speed is changed

Update

⚠ **Do not remove the BERNINA USB stick until there is a message which indicates the end of the update.**

- insert BERNINA USB stick with the new software version
- touch «Update»-icon



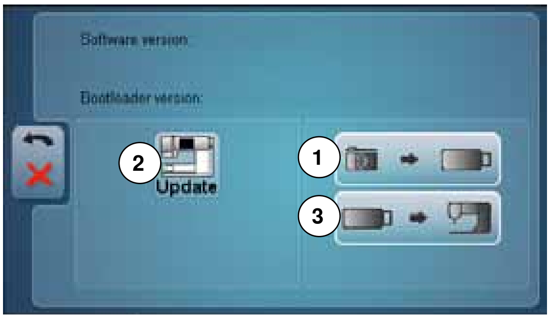
It is recommended to save the data and the settings of the sewing computer before the update is carried out.

- touch icon **1**
- the data of the sewing computer is saved on the USB Stick
- touch «Update»-icon **2** to start the procedure

It is then checked if:

  - ► a BERNINA USB stick is inserted
  - ► there is enough free space available
  - ► the correct software version is on the stick
- ► the data and settings are accepted

After the successful update a message appears and sewing-/embroidery computer is ready for use.



- ► if the update cannot be started or if there are problems during the update process, an error message appears

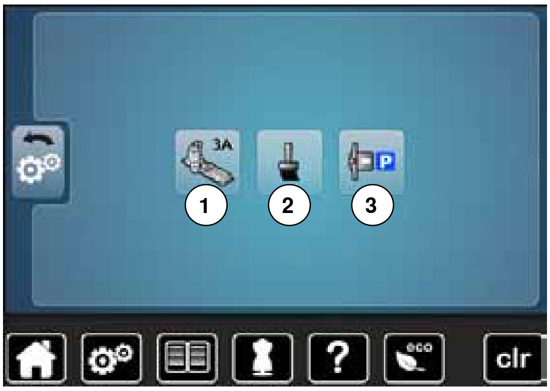
If the data and the settings aren't on the sewing computer anymore after the update:

- touch icon **3**
- ► the data on the stick are saved on the sewing computer

> Please find the latest version of Software at www.bernina.com

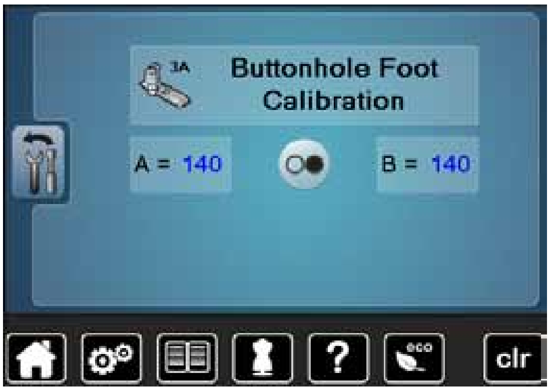
Calibrating buttonhole foot No. 3A/Cleaning/Packing position

- touch «Cleaning/Calibrating»-icon



1 Calibrating Buttonhole foot No. 3A
2 Cleaning the thread catcher
3 Packing position

- touch «Calibration»-icon



Buttonhole Foot Calibration

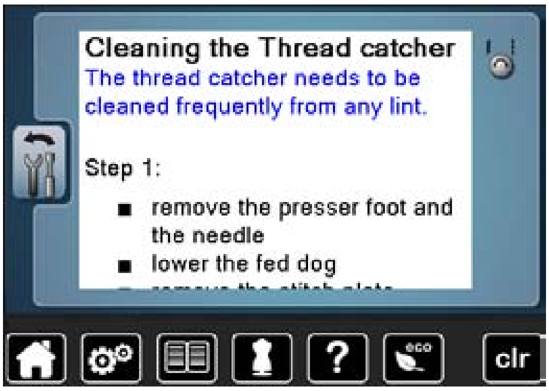
A = 140

B = 140

- attach buttonhole foot No. 3A
- touch «Start/Stop»-button
- ► the buttonhole foot No. 3A moves forward and backwards
- ► the buttonhole foot No. 3A is calibrated and the sewing computer indicates whether the calibration has been successful

The buttonhole foot No. 3A is matched to this sewing computer and should only be used on this sewing computer.

- touch «Cleaning»-icon



Cleaning the Thread catcher

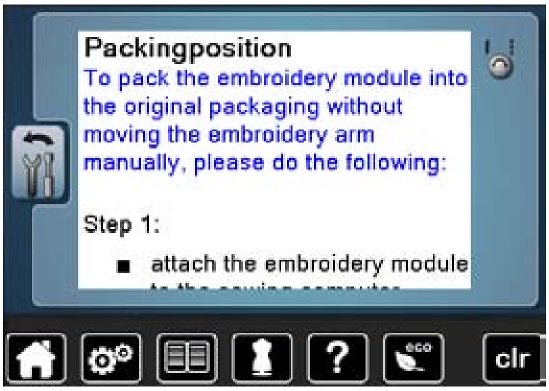
The thread catcher needs to be cleaned frequently from any lint.

Step 1:

- remove the presser foot and the needle
- lower the fed dog

- clean the thread catcher according to the instructions

- touch «Packing position»-icon


Packingposition

To pack the embroidery module into the original packaging without moving the embroidery arm manually, please do the following:

Step 1:

■ attach the embroidery module

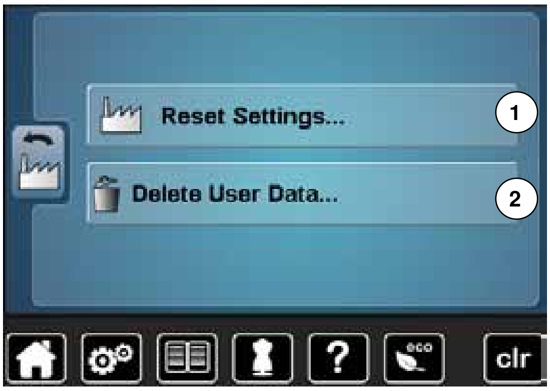
The embroidery module must be connected with the sewing computer.

- ► the embroidery arm of the embroidery module moves to packing position

The embroidery arm of the embroidery module must not be moved manually. By means of this function the embroidery module can be stored in the original box.

Reset/Delete user data

- touch «Basic settings»-icon

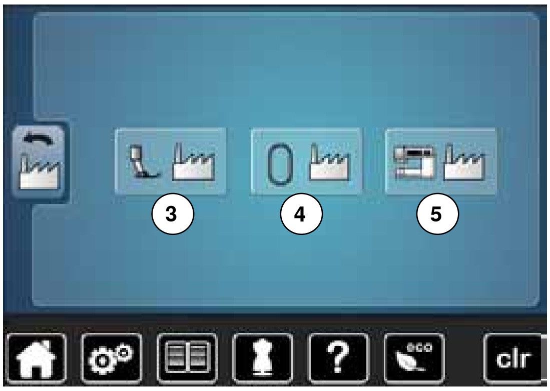


Choose from following options:

1 Reset Settings
2 Delete user data

Reset settings

- touch icon **1**



Choose from following options:

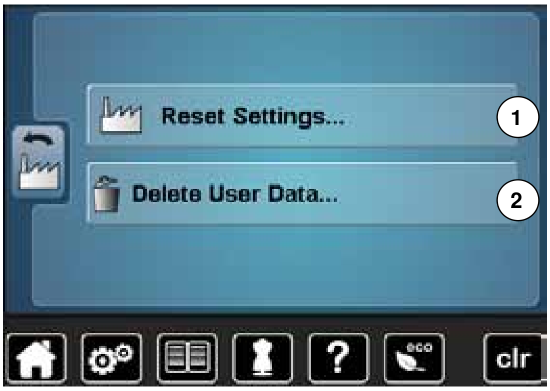
3 Reset Sewing
4 Reset Embroidery
5 Reset All

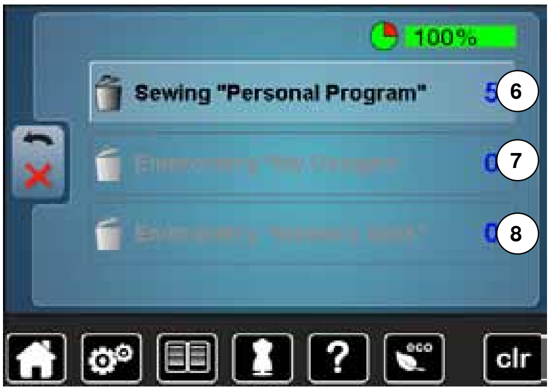
- touch the icon, whose settings should be reset to basic setting
- confirm with ✓
- ► the previous Display appears
- touch «Back»-icon
- ► selection menu appears

Exceptions:
Thread tension, brilliance, brightness, display color and speed need to be reset to basic state knowingly according to the corresponding function.

Delete user data

- touch icon **2**




100%
Sewing "Personal Program" 5
Embroidery "My Designs" 0
Embroidery "Memory stick" 0
6
7
8
clr

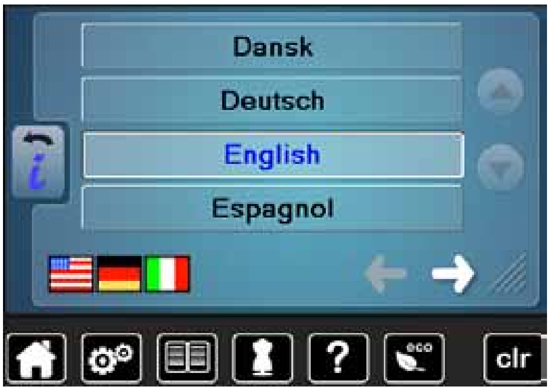
Choose from following options:

6 Sewing «Personal program»
7 Embroidery «My Designs»
8 Embroidery «Memory stick» (the Memory stick must be inserted in the sewing computer)

- touch the icon, whose data should be deleted
- confirm with ✓
- ► the data is deleted and the previous Display appears
- touch «Back»-icon
- ► selection menu appears

Information

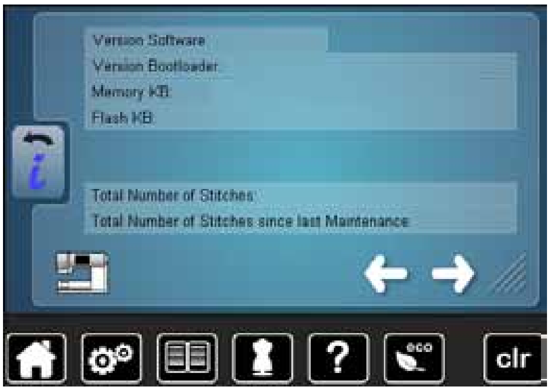
- touch «i»-icon


Dansk
Deutsch
English
Espagnol
clr

Language

- scroll through the languages by touching the arrow icons and select the language required

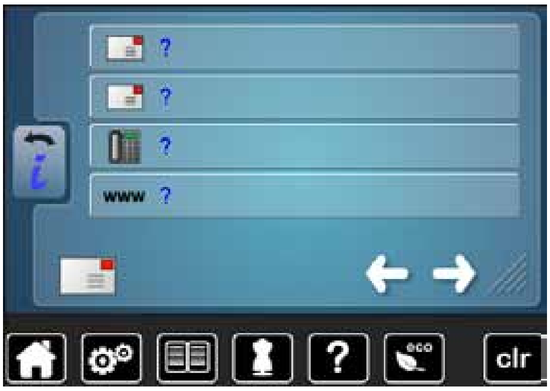
- touch icon


Version Software
Version Bootloader
Memory KB
Flash KB
Total Number of Stitches
Total Number of Stitches since last Maintenance

Version

- ► the present version of the sewing computer and the attached embroidery module are visible
- ► the total number of stitches and the number of stitches sewn since the last servicing by the dealer are displayed

- touch icon



Dealer details

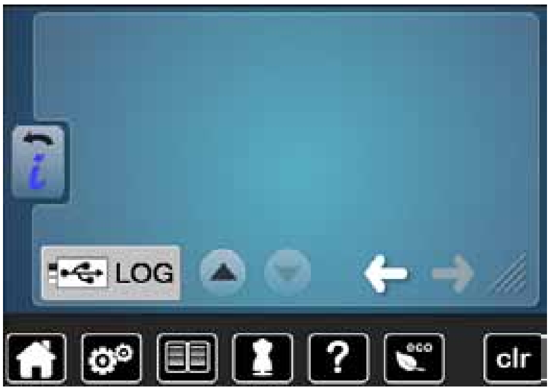
- touch respective icon

Following details of the BERNINA-dealer can be registered:

- store name
- address
- telephone number
- website or e-mail address

→

- touch icon



Service data

The service data of the present condition of the sewing-/embroidery computer can be saved on a memory stick and sent to the BERNINA-dealer:

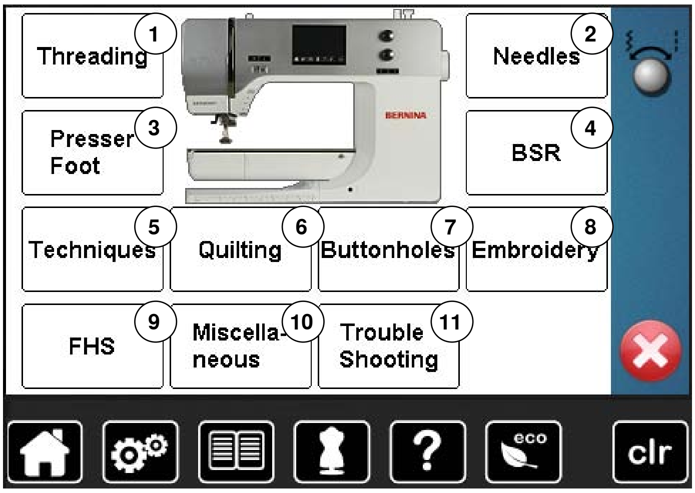
- insert memory stick to sewing-/embroidery computer
- touch «LOG»-icon
- ► data is saved on the memory stick
- remove memory stick

Tutorial

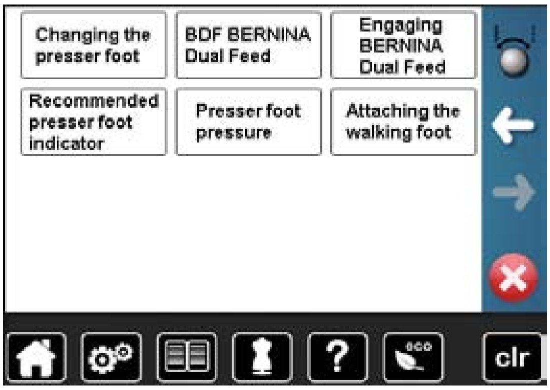
Overview Tutorial

The tutorial provides information and explanations about the different areas of sewing.

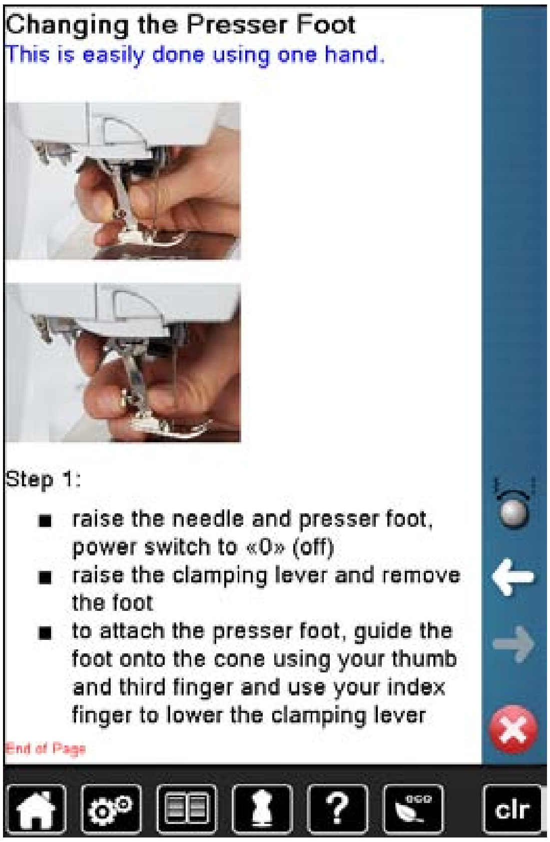
- touch «Tutorial»-button
- ► «Tutorial»-display appears


Threading
1
Needles
2
Presser Foot
3
BSR
4
Techniques
5
Quilting
6
Buttonholes
7
Embroidery
8
FHS
9
Miscella-neous
10
Trouble Shooting
11
BERNINA
eco
clr

1 Threading
2 Needles
3 Presser foot
4 BSR
5 Sewing techniques
6 Quilting
7 Buttonholes
8 Embroidery
9 Free Hand System (FHS)
10 Miscellaneous
11 Troubleshooting


Changing the presser foot
BDF BERNINA Dual Feed
Engaging BERNINA Dual Feed
Recommended presser foot indicator
Presser foot pressure
Attaching the walking foot
eco
clr

- select desired topic, e.g. presser foot
- ► topic overview about the presser foot appears
- select desired topic, e.g. changing the presser foot



Changing the Presser Foot

This is easily done using one hand.

Step 1:

- raise the needle and presser foot, power switch to «0» (off)
- raise the clamping lever and remove the foot
- to attach the presser foot, guide the foot onto the cone using your thumb and third finger and use your index finger to lower the clamping lever

End of Page

► information on the desired topic is shown

● scroll through the topics using the knobs or the finger

→

● touch «Next»

► the next page appears

←

● touch «Back»

► the previous page appears

● touch ✕

► the «Tutorial»-display closes

► the previous Display appears

Creative consultant

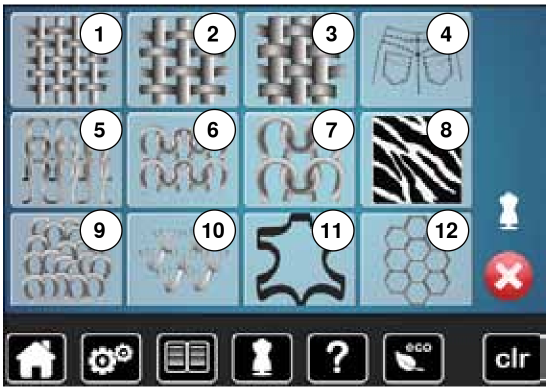
Overview Creative consultant

The creative consultant provides information and help with various sewing techniques. After selecting the fabric and the desired sewing technique suggestions for suitable needles, presser feet etc. are displayed.

► presser foot pressure and upper thread tension are set automatically

- touch «Creative consultant»-button

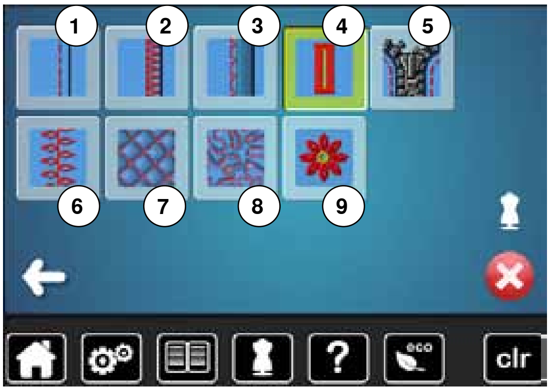
► «Creative consultant»-display appears



1 Light weight woven
2 Medium weight woven
3 Heavy weight woven
4 Jeans
5 Light weight knit
6 Medium weight knit
7 Heavy weight knit
8 Fur
9 Toweling
10 Fabric with a pile
11 Leather and Vinyl
12 Tulle and Laces

Overview Sewing techniques

- touch icon of the desired material, e.g. light weight woven

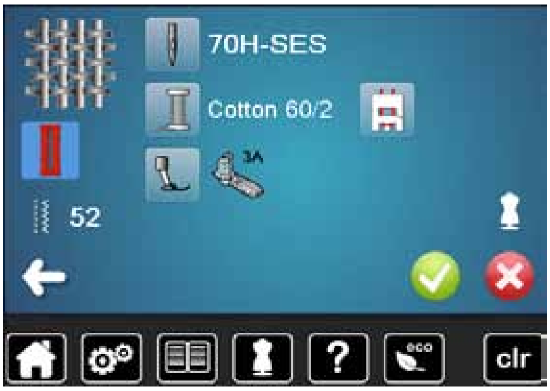


The optional sewing techniques are displayed.

1 Seams
2 Overcasting
3 Blind hem
4 Buttonhole
5 Zipper
6 Decorative stitching
7 Machine quilting
8 Free-motion stitching
9 Appliqué

- select the desired sewing technique, e.g. buttonhole

If the desired sewing technique is not in the list, choose a similar sewing technique.



► recommendations for the selected material and the desired sewing technique is displayed

- confirm with ✓

► display with the programmed stitch patterns appears

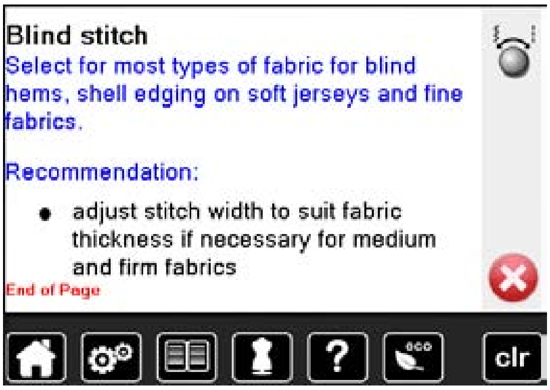
Leaving the sewing consultant

- touch ✕

Help program

The Help program provides information about individual stitch patterns and function icons in the Display.

- touch «Help program»-button
- select the desired stitch pattern or the desired function



Blind stitch

Select for most types of fabric for blind hems, shell edging on soft jerseys and fine fabrics.

Recommendation:

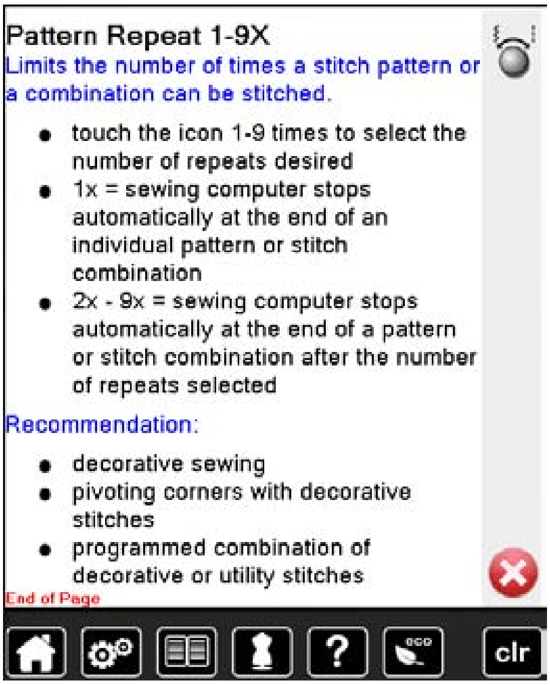
- adjust stitch width to suit fabric thickness if necessary for medium and firm fabrics

End of Page

Stitch patterns

The Display shows the following information:

- stitch pattern name
- suitable materials
- recommendation



Pattern Repeat 1-9X

Limits the number of times a stitch pattern or a combination can be stitched.

- touch the icon 1-9 times to select the number of repeats desired
- 1x = sewing computer stops automatically at the end of an individual pattern or stitch combination
- 2x - 9x = sewing computer stops automatically at the end of a pattern or stitch combination after the number of repeats selected

Recommendation:

- decorative sewing
- pivoting corners with decorative stitches
- programmed combination of decorative or utility stitches

End of Page

Functions

The Display shows the following information:

- function name
- function explanation
- recommendation

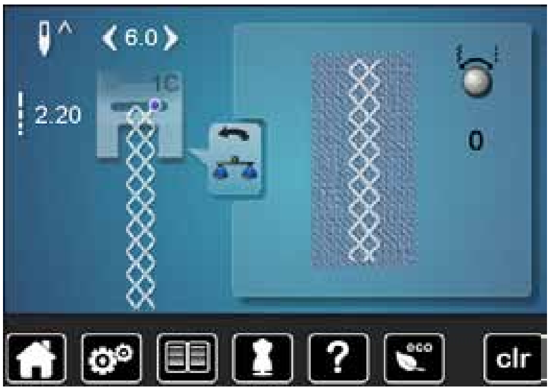
- touch ✕
- the Help program is closed
- the previous Display appears

Balance

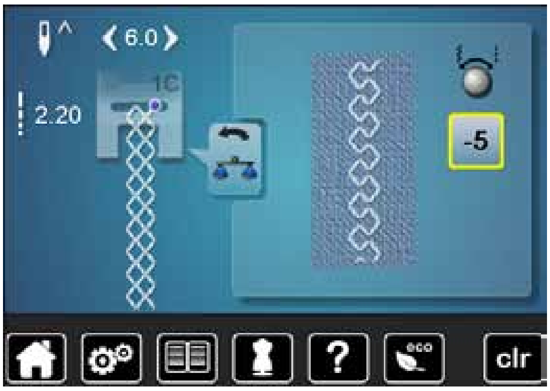
Practical and decorative stitches

The sewing computer is tested and optimally set before it leaves the BERNINA factory. Different fabrics, threads and stabilizers can affect programmed stitches so that they are not sewn out properly. These effects can be corrected with the electronic Balance so that the stitch formation can be adjusted where necessary to suit the material.

- touch «i»-icon
- touch «Balance»-icon



- ► in the left part of the Display the stitch pattern is shown as it is set originally (programmed)
- ► in the right part of the Display any alterations are directly visible



Corrections

The stitch sewn on the fabric (e.g. the Honeycomb stitch) opens up and it does not look correct:

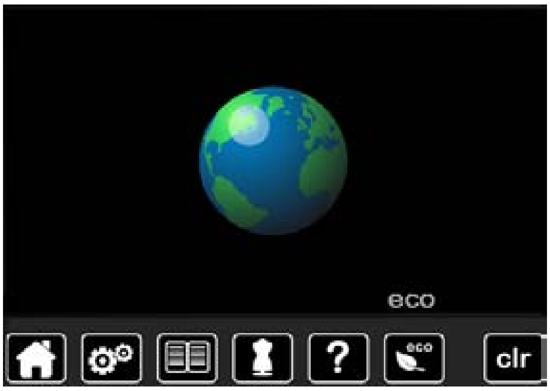
- adjust the stitch length by turning the stitch width or stitch length knob, until the stitch in the right part of the Display is identical with the stitch on the fabric
- ► the alteration is shown with a number in the yellow-framed icon
- touch «Back»-icon 2x
- ► alterations are saved
- ► the previous Display appears

Reset settings

- touch «i»-icon
- touch yellow-framed «Balance»-icon
- touch yellow-framed icon
- ► basic setting is reset

eco description

When work is interrupted for longer periods, the sewing-/embroidery computer can be put into energy-saving mode.



Activating eco

- touch «eco»-button
- ► the Display gets dark
- ► power consumption is reduced and the sewing light turned off

The energy-saving mode also acts as a child safety feature. The Display is inactive and the sewing-/embroidery computer cannot be started.

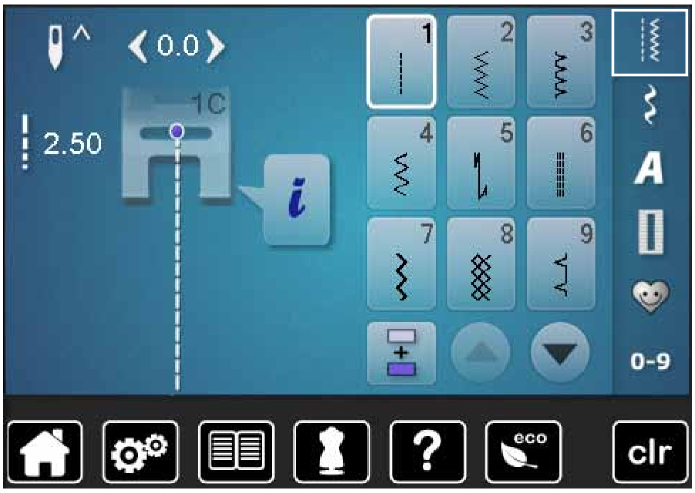
Deactivating eco

- touch «eco»-button
- ► the sewing-/embroidery computer is ready for use

Notes

Practical stitches

Overview Practical stitches



- touch «Practical stitch»-button
- ► the practical stitches are visible in the Display
- further practical stitches are visible by scrolling

1 **Straight stitch**
For non-elastic materials; all straight stitch work, such as seams, topstitching, sewing zippers

2 **Zig-zag**
Zig-zag work such as overcasting edges, attaching elastic and lace

3 **Vari overlock**
For fine jerseys; stretch overlock seams, hems and stretch seams

4 **Running stitch**
Most types of fabric; Mending, patching, reinforcing seams, etc.

5 **Securing program**
For all materials; secures the beginning and end of seams by straight stitching

6 **Triple straight stitch**
Reinforced seams in heavy fabrics, visible hems and seams

7 **Triple zig-zag**
Reinforced seams in heavy fabrics; visible hems and seams

8 **Honeycomb stitch**
For all types of jersey and smooth materials; visible seams in lingerie, clothing, linen, mending etc.

9 **Blind stitch**
For most types of materials; Blind hems; shell edging effect on soft jerseys and fine material; decorative seams

10 **Double overlock**
For any knit materials; overlock seam = sewing and finishing in one step

11 **Super stretch stitch**
For highly elastic fabrics; Highly elastic open seam for all types of clothing

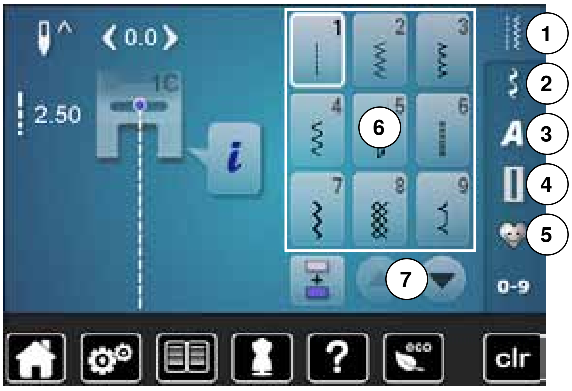
12 **Gathering stitch**
Most types of fabric; Gathering with shirring elastic. Butted seams = butting two pressed edges and sewing together, decorative stitches

13 **Stretch overlock**
For medium weight knits, toweling and firm woven; Overlock seams, flat joining seams

14 **Tricotstich**
For jersey materials; visible hems, visible seams in lingerie, sweaters, mending jersey

15	**Universal stitch** For firm fabrics such as felt and leather; flat joining seams, visible seams, attaching elastic, decorative seams
16	**Sewn out zig-zag** Edge finishing and reinforcing, attaching elastic, decorative seam
17	**Lycra stitch** All two-way stretch fabrics; flat joining seams and hems, reinforced seaming on underwear
18	**Stretch stitch** For highly elastic fabrics; open seam for sportswear
19	**Reinforced overlock** For medium-weight knitware and toweling; overlock seams, flat joining seams
20	**Knit overlock** For knit material, hand- and machine made items; overlock seam = sewing and finishing in one step
21	**Basting stitch** Basting seams, hems, etc. temporarily
22	**Simple darning program** Automatic darning of fine to medium weight materials
23	**Reinforced darning program** Automatic darning of firm materials
24	**Bartack program** Reinforcing pocket openings, sewing belt loops etc.
25	**Bartack program** Reinforcing pocket openings, sewing on belt loops, securing zippers and seam ends
26	**Large fly stitch** For medium weight to thick materials; reinforcing pocket openings, zippers and slits
29	**Blindstitch narrow** For blind hems in fine materials
31	**Triple Straight Stitch with Long stitch** Reinforced seams in heavy fabrics, visible seams and topstitching
32	**Single straight stitch** As a connecting stitch between two individual decorative stitch patterns in a combination
33	**Three single straight stitches** As a connecting stitch between two individual decorative stitch patterns in a combination

Stitch pattern selection

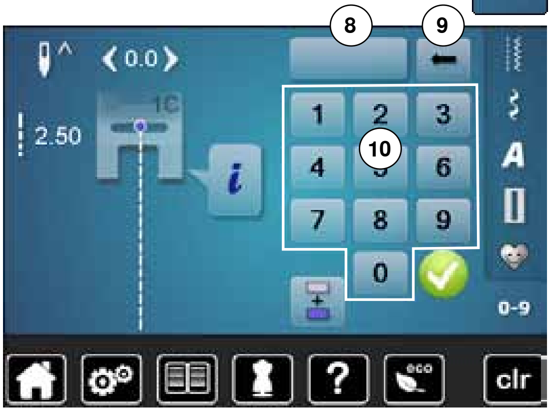


Selecting stitch pattern

- select the desired main category **1-5**

1 Practical stitches
2 Decorative stitches
3 Alphabets
4 Buttonholes
5 Personal program/Memory

- ► the available stitch patterns are visible in the Display portion **6**
- select desired stitch pattern
- further stitch patterns are visible when scrolling **7**



By stitch number

- touch «0-9»-button

- ► numbers for entering are visible in the Display portion **10**
- enter stitch number
- ► the entered stitch number appears in the icon **8**
- touch icon **9**
- ► last digit is deleted
- touch icon **8**
- ► complete number is deleted
- confirm with ✓

Cancelling

- touch «0-9»-button
- ► the previous Display appears

An invalid stitch number will be indicated in icon **8** with 3 question marks.

Customizing stitch pattern individually

According to material and purpose a stitch pattern can be altered individually. The alterations described here are applicable for all practical and many decorative stitches.

The personal memory is unlimited; it can hold as many stitch alterations as needed:
- Stitch length
- Stitch width
- Needle position
- Pattern Extend
- Mirror images
- Long Stitch function
- Thread tension
- Balance
- Pattern repeat 1-9x

Temporary Altered Stitch Memory

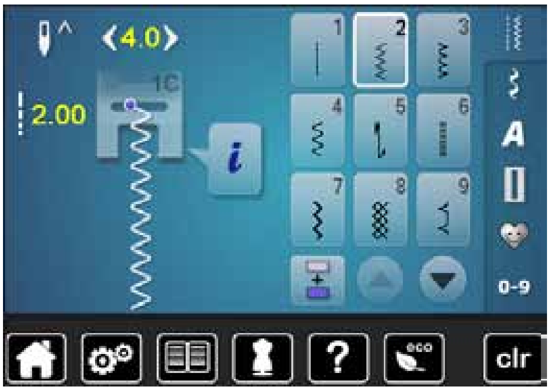
Any altered stitch width and stitch length is automatically saved.

Example:
- sew with an altered stitch (e.g. zig-zag)
- select and sew another stitch, e.g. straight stitch
- when selecting the individually altered zig-zag again, your alterations are still active

Return to basic settings
Individual stitch patterns can be reverted to basic settings manually.
- ● touch stitch width/stitch length icon and in the respective Display the yellow-framed icon or
- ● press the «clr»-button
- ► any altered values of the **active** stitch return to basic setting
- ● switch off the sewing computer
- ► any alterations of all stitches are deleted

Personal memory permanent

The basic settings programmed by BERNINA can be altered and saved and remain active even when the sewing computer is switched off.

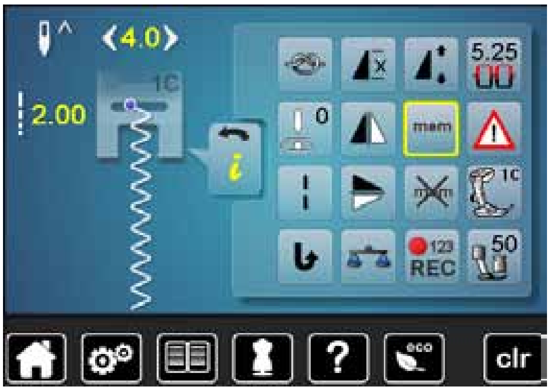

4.0
2.00
1C
1
2
3
4
5
6
7
8
9
A
0-9
clr

Altering basic settings

- select stitch pattern, e.g. zig-zag
- alter stitch width and stitch length via the knobs

Saving alterations

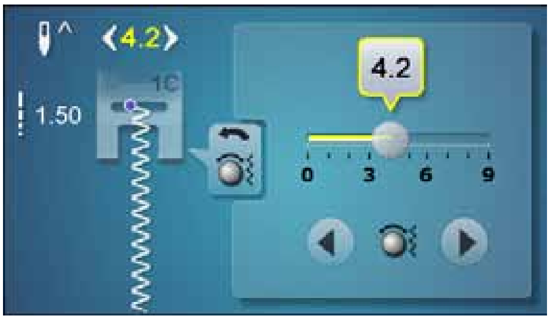
- touch «i»-icon
- touch «mem»-icon
- touch «Back»-icon
- ► the alterations are saved


4.0
2.00
1C
5.25
0
mem
1C
123
REC
50
clr

Back to basic settings

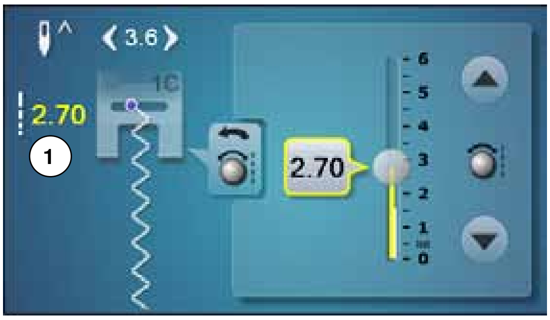
- touch «i»-icon
- touch «memX»-icon
- touch «Back»-icon
- ► the basic setting is reset

Altering stitch width and stitch length

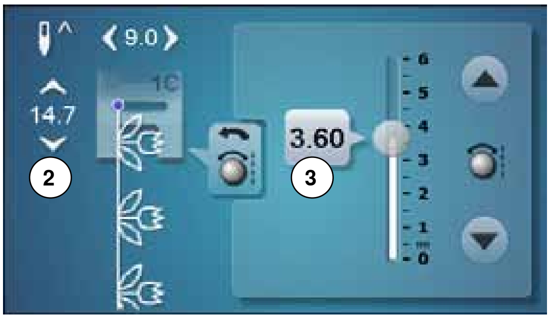


- turn the knobs or
- touch stitch width or stitch length Display
- touch the arrow icons in the respective Display or
- move the round knob in the Display using the finger

Can be altered while sewing.



When sewing practical or quilting stitches the actual stitch length **1** is displayed.

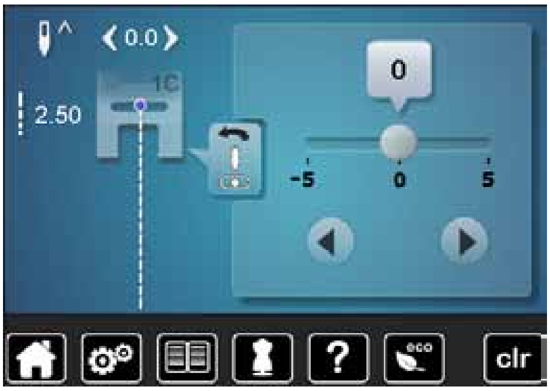


With other stitch patterns, including alphabets, the overall length of a stitch pattern **2** is displayed. The actual stitch length **3** is visible when the stitch length Display is opened.

Altering needle position

- touch «Moving»-buttons for needle position or

- touch «i»-icon
- touch «Needle position»-icon



- keep «Moving»-buttons or arrow icons pressed
- ► quick movement of the needle
- move the bar in the Display using the finger

11 needle positions in total (5 left, 5 right, 1 center = 0).

Examples of application Practical stitches

Straight stitch

Reverse pattern foot No. 1C/1D

Straight stitch No. 1

After turning on the sewing computer the straight stitch will appear.
- the needle is up

Application
Suitable for all fabrics.

Adjust the stitch length to suit the fabric
E. g. use a longer stitch length (approximately 3-4mm) with denim, a shorter length with fine fabirc (approx. 2-2.5mm).

Adjust the stitch length to suit the thread
E. g. use a longer stitch length thread when using cordonnet thread for topstitching (approx. 3-5mm).

Activate needle stop down
Prevents the fabric from shifting when you adjust or pivot the sewing project.

Triple straight stitch

Reverse pattern foot No. 1C/1D

Triple straight stitch No. 6

Open seam
Durable seam for firm or dense materials such as denim and corduroy.

For firm or densely woven materials
A Jeans needle and Jeans foot No. 8 (optional accessory) will help when sewing denim or canvas.

Decorative top stitch
Lengthen stitch and use the triple straight stitch for decorative topstitching.

Triple Zig-Zag

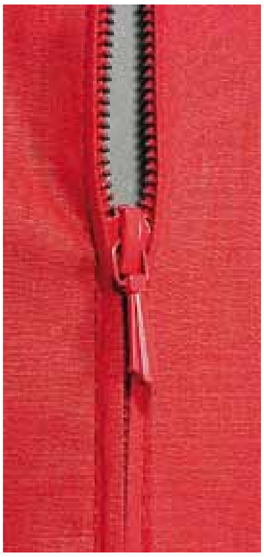
Reverse pattern foot No. 1C/1D

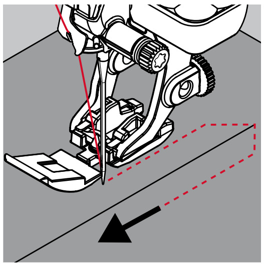
Triple zig-zag No. 7

In firm materials, particularly for denim, deckchair covers, awnings.

Seams on often washed items. Finish raw edges first. Use Jeans needle for very firm materials.

Zipper



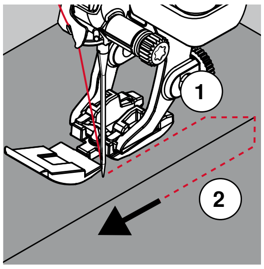


Zipper foot No. 4D

Straight stitch No. 1

Preparation
- close seam to the zipper beginning
- sew securing stitches
- baste seam closed and clean
- finish the seam allowance
- iron the seam
- open the zipper
- baste the zipper: baste or pin zipper in place so that fabric folded edges meet over the center of the zipper

Sewing in the zipper
- open zipper a little
- move needle position to the right
- start sewing from top left
- position the foot so the needle stitches along the edge of the zipper coils
- stop in front of the pull (needle position down)
- raise the presser foot
- close the zipper again
- continue to sew, stop in front of the base of the zipper, needle position down
- raise the presser foot
- turn the sewing project
- sew across the seam, stop with needle position down
- raise the presser foot
- turn sewing project again
- sew the second side from bottom to top



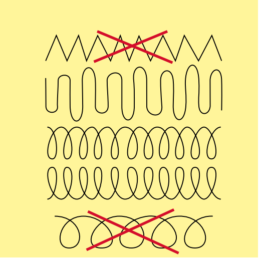
Variation: Sew both sides of zipper from bottom to top
Suitable for all fabrics with nap or grain (e.g. velvet).
- prepare zipper as described above
- start sewing in the seam of the zipper end and sew first side from bottom to top, needle position on the right
- sew diagonal along the edge of the zipper coils
- first side **1** sew from bottom to top
- move needle position to the left
- second side **2** sew in the same way from bottom to top

Sew around the zipper pull
- – sew up to about 5cm away from the zipper pull
- – stop with the needle down, raise the presser foot, open the zipper, finsih sewing (use Free Hand System)

Seam begin
- – hold thread firmly when starting to sew = pull fabric slightly to the back (fewer stitches) or
- – sew about 1-2cm reverse first, and continue to sew as usual

Zipper or fabric is thick or densely woven
For even stitch formation use a 90-100 needle.

Manual darning



Darning foot No. 9 (optional accessory)

Straight stitch No. 1

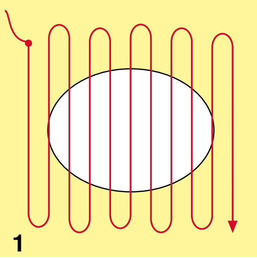
Holes or worn areas
«Replacing» threads along the lengthside and crosswise in every material.

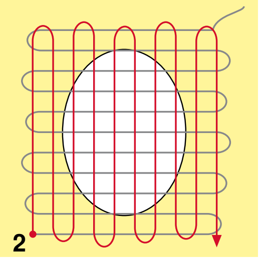
Preparation

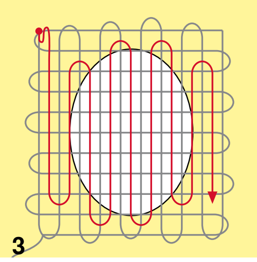
- lower the feed dog
- attach the Slide-on table
- hoop the fabric into a round embroidery hoop (optional accessory)
- ► the darning area stays evenly taut and cannot be distorted

Sewing

- – work from the left to the right, guide the fabric evenly without using pressure
- – move in curves when changing direction on top and on bottom. Avoid points as this can cause holes and thread breakage
- – sew different length. The thread is better spread over the fabric







1 Sew the first rows to cover the hole

- first rows just beyond the worn area and not too close together
- work the rows in irregular lengths
- turn work by a quarter turn -90°

2 Sew over the first rows

- first rows not too close
- turn fabric by half turn -180°

3 Finish darning the hole

- sew another loose row

Poor stitch formation

- – if the thread is lying on top, slow down the fabric movement
- – if there are knots on the wrong side of the fabric, move the fabric more quickly

Thread breaks
Guide the fabric more consistently.

Automatic darning

Reverse pattern foot No. 1C
Buttonhole foot No. 3A

Simple darning program No. 22

Quick darning of holes or worn areas
Replaces threads along the lengthwise grain in all materials.

Preparation
- hoop light weight materials in a round embroidery hoop (optional accessory)
- ► the darning area stays evenly taut and cannot be distorted

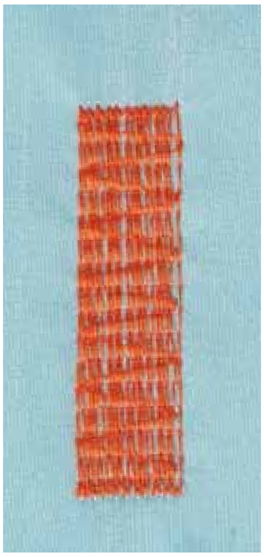
Darning with reverse pattern foot No. 1C
Start sewing top left.
- sew first row
- stop sewing computer
- press «Quick reverse»-button
- ► the length is programmed
- finish sewing the darning program
- ► the sewing computer stops automatically
- press the «clr»-button
- ► the program is cleared

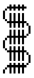
Darning with the buttonhole foot No. 3A
- for darning worn and damaged areas
- darning length max. 3cm
- same procedure as with Reverse pattern foot No. 1C

Reinforcement
Use fine material or (adhesive) interlining as a backing.

If the darning becomes distorted
Correct with the Balance function (more about Balance-Function see page **59**).

Reinforced darning, automatic





Buttonhole foot No. 3A

Reinforced darning program No. 23

Quick darning of holes or worn areas
Replaces threads along the lengthwise grain in all materials.

Preparation

- hoop light weight materials in a round embroidery hoop (optional accessory)

► the darning area stays evenly taut and cannot be distorted

Darning with the buttonhole foot No. 3A
Insert the needle in the top left of the worn area.

- sew first row
- stop sewing computer
- press «Quick reverse»-button

► the length is programmed

- finish sewing the darning program

► the sewing computer stops automatically

- press the «clr»-button

► the programmed settings are cleared

If the darning does not cover the whole worn or damaged area
Reposition the work under the foot to continue covering the worn or damaged area. Begin sewing; the program will repeat as often as desired (the length is saved).

Per «Direct entry length» (see page **36**) a darning length up to 30mm can be programmed.

Finishing edges

Reverse pattern foot No. 1C

Zig-zag No. 2

- for all fabrics
- for finishing raw edges
- elastic seams
- decorative sewing

Finishing edges

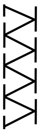
- guide edge of fabric into the center of the presser foot
- do not select too wide a stitch
- do not select too long a stitch
- needle goes into fabric on one side and over the edge into the air on the other side
- the edge of the fabric should lie flat and not roll
- use darning thread for fine materials

Satin stitch

- dense, short zig-zag (stitch length 0.5-0.7mm)
- use satin stitch for appliqué, embroidery, etc

As a variation the satin stitch No. 1354 can be used.

Double overlock



Reverse pattern foot No. 1C
Overlock foot No. 2A (optional accessory)

Double overlock No. 10

Closed seam
Double overlock seam in loose knits and cross seams in knits and jerseys.

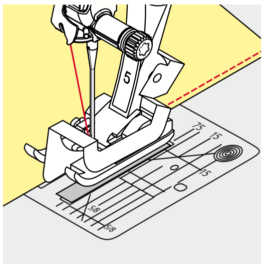
Knits and jersey
- use a new Jersey needle to prevent damaging the loops
- if necessary loosen presser foot pressure

Sewing stretch materials
If necessary use a stretch needle (130/705H-S).

Top stitching edges

Blindstitch foot No. 5
Reverse pattern foot No. 1C
Edge stitch foot No. 10/10C/10D (optional accessory)

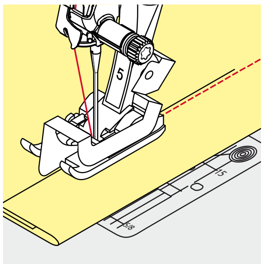
Straight stitch No. 1



Narrow edgestitching

Outer edges

- place edge of fold left against the guide on the blindstitch foot
- select the needle position left in the desired distance to the edge

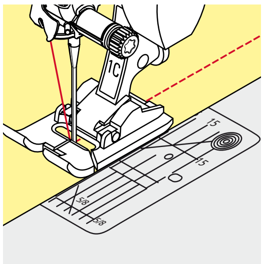


Hem edges

- place edge of fold (inside upper edge of hem) right against the guide on the blindstitch foot
- select needle position to the right to sew along the upper edge

Blindstitch foot No. 5
Needle position left or far right.

Reverse pattern foot No. 1C and edge stitch foot No. 10/10C/10D (optional accessory)
Any needle position possible.



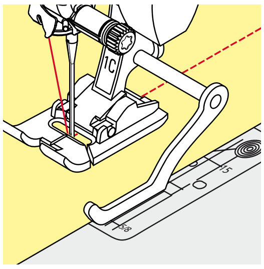
Wide edgestitching

Material guidance
Presser foot as guide:

- guide the folded edge along the edge of the presser foot

Stitch plate as guide:

- guide the folded edge along the marks on the stitch plate (1 to 2.5cm)

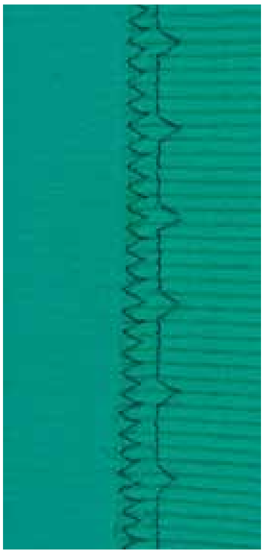


Seam guide as guide:
Presser foot

- loosen the screw on the back of the presser foot
- insert the seam guide into the hole of the presser foot
- adjust width as desired
- tighten the screw
- guide the folded edge along the seam guide

To sew parallel wider lines, guide the seam guide along a previously sewn line of stitches.

Blind hem



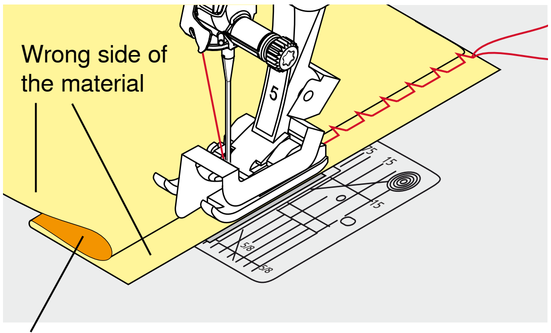
Blindstitch foot No. 5

Blindstitch No. 9

For invisible hems in medium to heavy weight cotton, wool and blended materials.

Preparation

- finish the raw edges
- fold the hem and baste or pin in place


Wrong side of the material
5
Right side of the material

- fold the fabric back over the right side of the fabric to expose the finished lower edge
- place under presser foot and
- move the folded edge against the metal guide on the presser foot

Sewing

The needle should just pierce the edge of the fold, as when hand blind-stitching.

- after sewing about 10cm, check both sides of fabric and adjust width again if necessary

Fine stitch width adjustment
Guide the folded edge evenly along the metal guide on the foot = even depth.

Visible hem

Reverse pattern foot No. 1C/1D

Tricot stitch No. 14

For visible, elastic hems in jersey, cotton, synthetic and mixed fibers.

Preparation

- iron the hem, baste if necessary
- reduce the presser foot pressure if necessary

Sewing

- sew the hem at preferred depth on the right side
- trim excess fabric from the wrong side

Securing program

Reverse pattern foot No. 1C

Securing program No. 5

- for all fabrics
- secures beginning and end of seam

Sewing long seams with straight stitch
Even securing by defined stitch count.

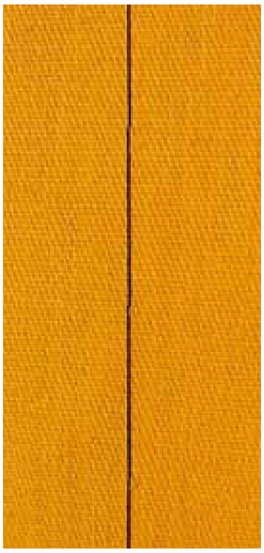
Beginning to sew

- ● press the foot control
- ► the sewing computer secures automatically when beginning to sew (5 stitches forward, 5 stitches in reverse)
- ● sew seam with straight stitches in desired length

Ending the seam

- ● press «Quick reverse»-button
- ► the sewing computer secures seam automatically (5 stitches in reverse, 5 stitches forward)
- ► the sewing computer stops automatically at the end of the securing program

Basting stitch



Reverse pattern foot No. 1C/1D

Basting stitch No. 21

- straight stitch, sews out every fourth stitch, i.e. longest stitch possible is 24mm, when the stitch length is set at 6mm. Recommended stitch length 3.5-5mm
- for work which requires a very long stitch
- basting seams, hems, Quilts etc.
- temporary joining
- easy to remove

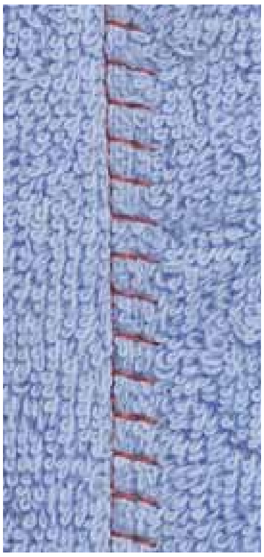
Preparation

- ● pin work at a right angle to basting direction
- ► to prevent the layers from slipping

Securing/fixing the thread
Sew 3-4 securing stitches at the begin and at the end.

Thread
Use a fine darning thread for basting as it is easier to remove.

Flat joining seam



Reverse pattern foot No. 1C

Stretch overlock No. 13

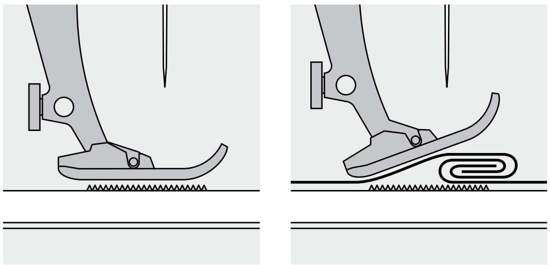
Ideal for fluffy or thick materials such as terry cloth, felt and leather etc.

Sewing

- overlap fabric edges
- sew along the fabric edge
- the needle should sew over the edge of the top layer on the right side

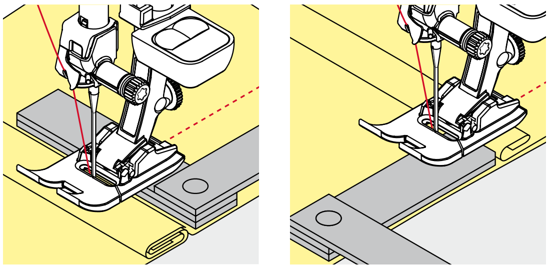
► very flat durable seam

Height compensation of uneven layers



The feed dog works accurately when the foot is level.

If the foot is at an angle, e.g. when sewing over thick to thin or vice-versa, the feed dog cannot grip and feed the fabric. The fabric might jam.

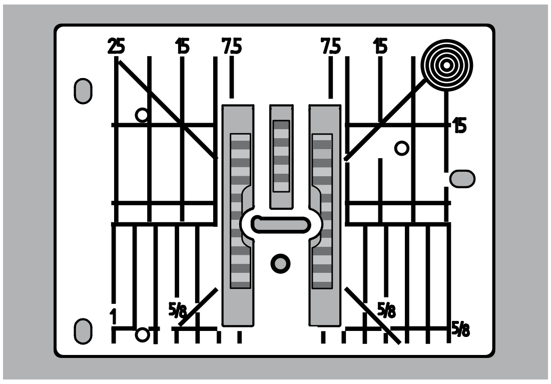


To solve this problem, place one, two or three compensating plates as required behind the needle under the presser foot to level it.

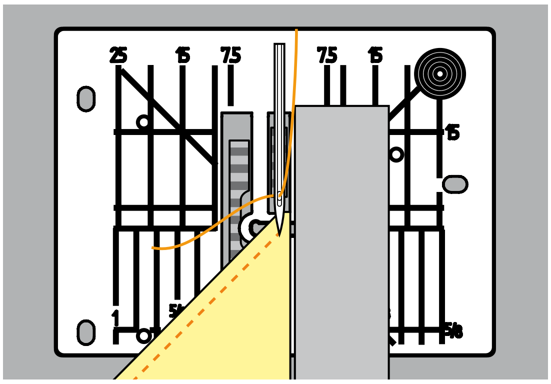
To correct the height in front of the foot, place one or more plates under the foot close to the needle. Sew until the foot is level again and remove the plates.

Needle stop down.

Sewing corners



Due to the width of the stitch plate hole the outer feed dog rows are relatively far apart.



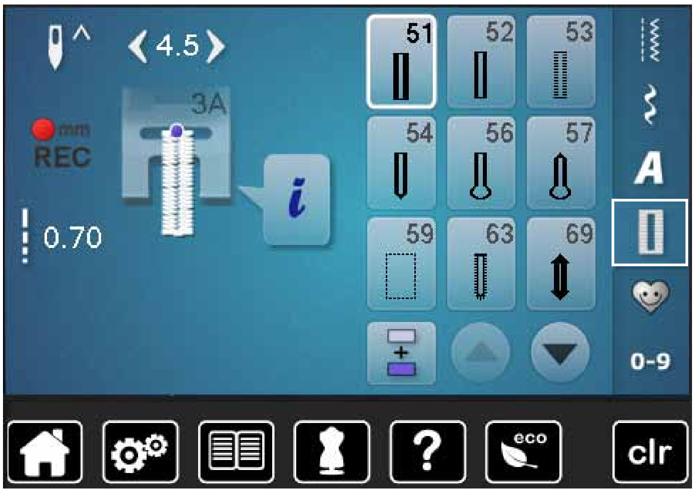
When sewing corners only a small section of the fabric is actually on the feed dog. Therefore it cannot grip the fabric well.
Place one or more plates of the height compensation tool parallel to the presser foot close to the edge of the fabric.

► the fabric is fed evenly

Needle stop down.

Buttonholes

Overview Buttonholes

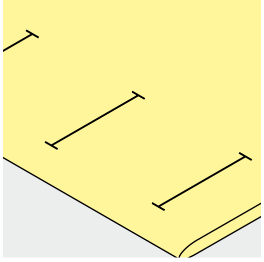


Buttonholes are not only practical closures, they can also be used as a decorative effect. All buttonholes can be programmed and sewn in different ways.

- touch «Buttonhole»-button
- scroll to see more buttonholes

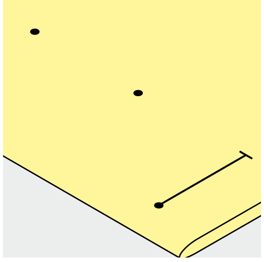
51	**Standard buttonhole** For light to medium weight fabrics; blouses, shirts, trousers, bedlinens, etc.
52	**Narrow buttonhole** For light- to medium weight fabrics; blouses, dresses, children's and baby clothes, crafts
53	**Stretch buttonhole** For any highly elastic jersey made from cotton, wool, silk and synthetic fibers
54	**Round buttonhole with normal bartack** For medium- to heavy weight materials: dresses, jackets, coats, rainwear
56	**Keyhole buttonhole** For heavy weight, non-stretch materials; jackets, coats, leisure wear
57	**Keyhole Buttonhole with Pointed Bartack** For firmer, non-stretch materials: jackets, coats, leisure wear
59	**Straight-stitch buttonhole** Program for staystitching buttonholes, for pocket openings, reinforcing buttonholes; especially for buttonholes in leather and imitation leather
60	**Button sew-on program** For buttons with 2 and 4 holes
61	**Eyelet with small zig-zag** Openings for cords and narrow ribbons, decorative work
62	**Straight-stitch eyelet** Openings for cords and narrow ribbons, decorative work
63	**Heirloom buttonhole** For light- to medium weight woven fabrics; blouses, dresses, leisure wear, bed linen
69	**Decorative buttonhole with double pointed bartack** For decorative buttonholes in firmer, non-elastic fabrics

Important information



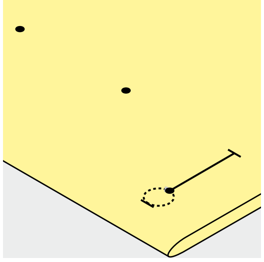
Marking the length of manual buttonholes

- mark the buttonhole length in the desired position
- use buttonhole foot No. 3C (optional accessory)



Marking the length of automatic buttonholes

- mark the length of just one buttonhole
- ► after sewing the first buttonhole the length is programmed
- mark only the beginning of all subsequent buttonholes
- use automatic buttonhole foot No. 3A



Marking the length of keyhole buttonholes

- mark the bead length only
- ► the correct length eye will be added when the buttonhole is sewn
- ► after sewing the first buttonhole the length is programmed
- mark only the beginning of all subsequent buttonholes
- use automatic buttonhole foot No. 3A

Test sewing

- always sew a test sample of the same fabric and
- stabilizer to be used for the project
- select the buttonhole type you intend to use
- sew the buttonhole in the same direction on the fabric (horizontal or vertical, with or against the grain)
- cut the buttonhole open
- push the button through the buttonhole
- adjust the buttonhole length if necessary

To adjust the bead width

- alter the stitch width

To adjust stitch length

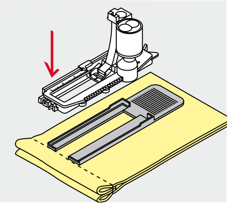
Stitch length adjustments affect both buttonhole beads.

- ► spacing between the stitches

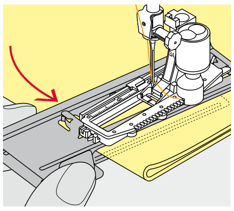
After stitch length adjustment:

- re-program the buttonhole

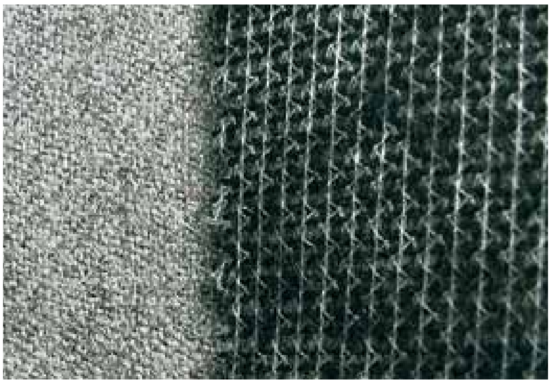
If a buttonhole is to be sewn at right angles to the seam, we recommend the use of the height compensation plates (optional accessory). Place the plates from the back between fabric and bottom of slide foot up to the thick part of the fabric and push to front.



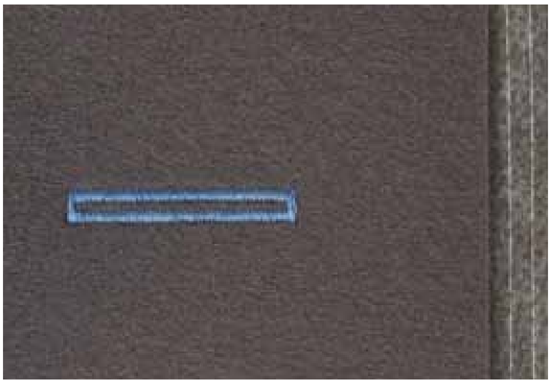
When sewing a buttonhole in difficult materials, we recommend to using the Compensation plate for buttonholes (optional accessory). It can be used along with buttonhole foot No. 3A.



Stabilizer

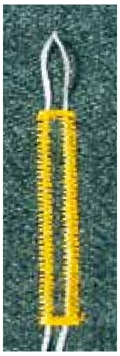
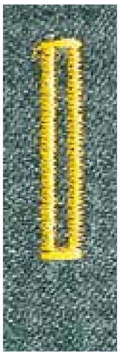


- interfacing provides durability and stability to the buttonhole
- choose the interfacing according to the material being used



- when using thick or fluffy materials an embroidery stabilizer can be used
- ► therefore the fabric feeds better

Cords

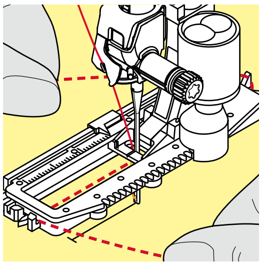
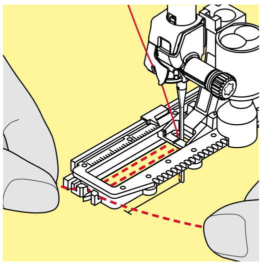



Generally

- – cords reinforce buttonholes and enhance their appearance
- – mainly suitable for buttonhole No. 51
- ● position the work accordingly

Ideal cords

- – Perle cotton No. 8
- – strong hand-sewing thread
- – fine crochet yarn

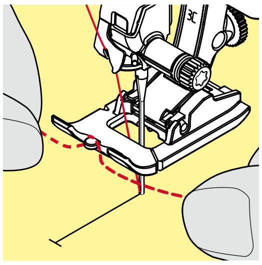
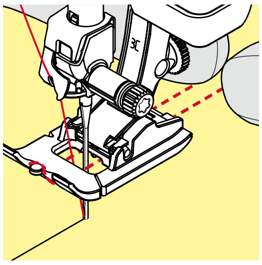



Cord with the automatic buttonhole foot No. 3A

- ● raise the buttonhole foot No. 3A
- ● insert the needle at the beginning of the buttonhole
- ● guide the cord on the right side under the buttonhole foot No. 3A
- ● hook the cord over the pin at the back of the buttonhole foot No. 3A
- ● pull the cord on the left side under the buttonhole foot No. 3A to the front
- ● pull the cord ends into the slits
- ● lower the buttonhole foot No. 3A

Sewing

- ● sew the buttonhole in the usual manner
- ● do **not** hold the cord
- ► the buttonhole will sew over the cord, covering it

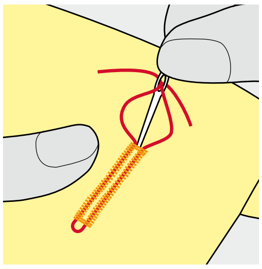



Cord with the buttonhole foot No. 3C (optional accessory)

- ● raise the buttonhole foot
- ● insert the needle at the beginning of the buttonhole
- ● hook cord over the pin in the middle of the buttonhole foot (at the front)
- ● pull both cord ends under the buttonhole foot sole to the back and
- ● place both ends of the cord in the grooves on the sole
- ● lower the buttonhole foot

Sewing

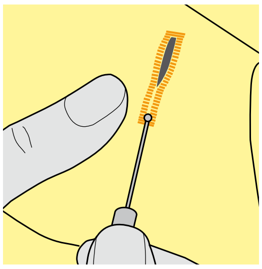
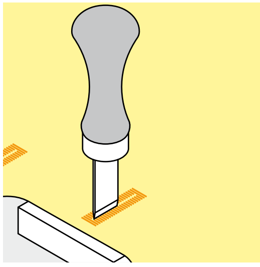
- ● sew the buttonhole in the usual manner
- ● do **not** hold the cord
- ► the buttonhole will sew over the cord, covering it



Fixing the cord

- ● pull the cord through the buttonhole until the loop disappears into the end of it
- ● pull the ends of the cord through to wrong side of the fabric, using a hand stitching-needle
- ● knot or secure with stitches

Before cutting the buttonhole open
Place a pin in each end of the buttonhole to prevent accidental cutting into ends of buttonhole.

Cutting buttonholes open with the seam ripper

- ● cut the buttonhole from the ends to the middle

Cutting open buttonholes with the buttonhole cutter (optional accessory)

- ● place the fabric on the wood
- ● place the cutter in the centre of the buttonhole
- ● press down on the cutter with your hand

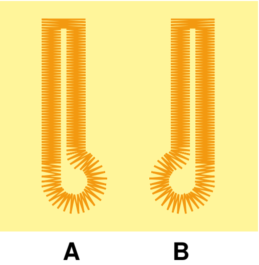
Altering the balance

- touch «i»-icon
- touch «Balance»-icon

Balance with direct entry length buttonholes
The balance alterations have the same effect on both beads.

Balance with direct entry length keyhole or round buttonholes
The balance alterations have the same effect on both beads.
The keyhole or eye is balanced as follows:

- sew straight stitches forward until
- ► the sewing computer changes to the keyhole or eye, then
- stop the sewing computer
- touch the «Balance»-icon
- turn the stitch length-knob until the picture in the right portion of the Display is identical with the sewn buttonhole



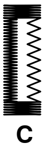
The keyhole is distorted to the right **A**:

- turn stitch length knob to the left

The keyhole is distorted to the left **B**:

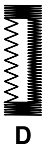
- turn the stitch length-knob to the right
- touch «Back»-icon and complete the buttonhole

Balance for manual keyhole or round buttonhole
Any balance alteration affects both beads differently:



Left bead too dense **C**:

- turn the stitch length-knob to the left
- ► the left bead is elongated, the right bead is shortened



Left bead too wide **D**:

- turn stitch length-knob to the right
- ► the left bead is shortened, the right bead is elongated

The keyhole or eye is balanced as follows:
The keyhole is distorted to the right **A**:

- turn the stitch length knob to the right

The keyhole is distorted to the left **B**:

- turn the stitch length knob to the left

Balance for manual standard buttonhole
The balance alterations have the same effect on both beads.

Balance for stitch counter buttonhole
The balance has a different effect on both beads (see picture of the manual buttonhole).

- re-program the buttonhole after each alteration in balance

Clear balance

- touch the yellow-framed icon in the special «Balance»-display or
- press the «clr»-button
- ► «clr» also deletes the programmed buttonhole!

Recommendation
Test-sewing of the buttonhole on the original material.

In all Direct entry length and manual buttonholes each individual buttonhole sequence can be balanced separately.
In stitch counter buttonholes the balance affects both beads differently (left and right): When altering the bead the keyhole or eye are automatically altered accordingly.

Programming Buttonholes

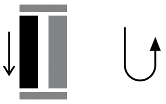
Standard and stretch buttonhole with auto-length, automatically

Buttonhole foot No. 3A

The lens on the automatic buttonhole foot No. 3A automatically registers the length of the buttonhole for exact duplication.
For buttonholes of 4-31mm, depending on the buttonhole type.

The slide foot must lie perfectly flat on the fabric! If the slide foot rests on a seam allowance, the length cannot be measured accurately.

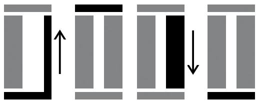
Automatic standard and stretch buttonhole No. 51, 52, 53



1

Programming the buttonhole

1
- sew first bead forward
- stop the sewing computer
- press the «Quick reverse»-button
- ► «auto» and the programmed length (in mm) appears in the Display
- ► the buttonhole length is programmed



2 3 4 5

The sewing computer sews automatically:

2 the straight stitches in reverse
3 the first bartack
4 the second bead forwards
5 the second bartack and securing stitches
- ► the sewing computer stops and returns automatically to buttonhole begin

Auto buttonhole

- ► all subsequent buttonholes will be sewn to exactly the same length (no need to press the «Quick reverse»-button)
- the programmed buttonholes can be saved in the long-term memory (see page **90**)
- press the «clr»-button
- ► the programmed settings are cleared

Exact duplication
The auto function ensures that each buttonhole will be exactly the same length as the previous one.

Sewing speed
- sew at moderate speed for best results
- sew all buttonholes at the same speed for a consistent bead density

Automatic with direct legth entry

Buttonhole foot No. 3A

Programming the buttonhole length

Buttonholes can be sewn to a specific length with the buttonhole foot No. 3A.
Buttonhole length = cutting length in mm.

- select the desired buttonhole
- touch «i»-icon
- touch «Direct entry length»-icon

Determining buttonhole length

- enter the buttonhole length using the multifunction knobs (stitch width or stitch length knob)
- ► the length entered appears on the left of the button
- ► the number on the right of the button is the exact button size
- touch «Back»-icon
- ► the length entered is saved
- ► «auto» and the programmed length is shown on the left side in the Display

Back to the buttonhole menu

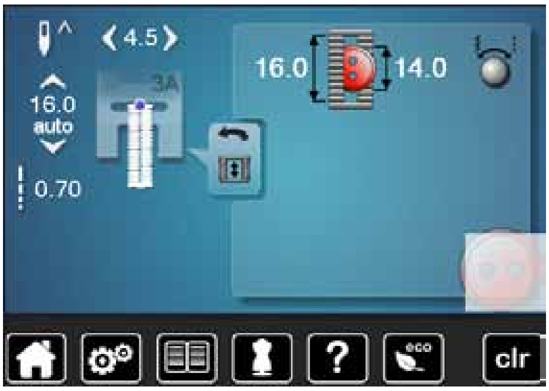
- touch «Back»-icon
- ► the «Buttonhole»-display appears

Automatic with button measuring

Buttonhole foot No. 3A

Determining button size

The sewing computer calculates the length of the buttonhole directly from the diameter of the button. 2mm are automatically entered for the button thickness.



- hold the button on the bright field in the lower right corner of the Display
- adjust the bright field to the button size using the stitch width or stitch length knob
- ► the button size is displayed in mm on the right of the button between the arrows (e.g. 14mm)
- remove the button from the Display
- touch «Back»-icon
- ► the length entered is saved
- ► «auto» and the programmed length is shown on the left side in the Display

Corrections for thick buttons

Match buttonhole length to buttonhole thickness (raised buttons, etc.) e.g. buttonhole length + 1cm (incl. 2mm) if button height is 1cm.
The button slides easily through the buttonhole.

Back to buttonhole begin

- touch «Pattern begin»-icon
- ► the sewing computer sets the program to the start of the buttonhole again

Deleting saved buttonholes

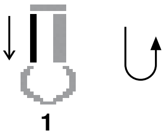
- press the «clr»-button or touch «recording»
- ► «auto» goes off and «REC» appears
- a new buttonhole length can be programmed

Automatic round and keyhole buttonhole

Buttonhole foot No. 3A

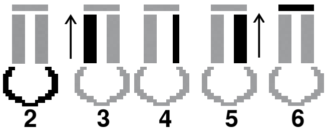
The slide foot must lie perfectly flat on the fabric! If the slide foot rests on a seam allowance, the length cannot be measured accurately.

Automatic round and keyhole buttonhole No. 54, 56, 57



Programming buttonholes

1
- ● sew straight stitches forward
- ● stop the sewing computer
- ● press «Quick reverse»-button
- ► «auto» and the programmed length (in mm) appears in the Display
- ► the buttonhole length is programmed



The sewing computer sews the following automatically:

2 the eye
3 the first bead in reverse
4 the straight stitches forward
5 the second bead in reverse
6 the bartack and securing stitches
- ► the sewing computer stops and returns automatically to buttonhole begin

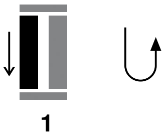
Auto-buttonhole

- ► all subsequent buttonholes will be sewn to exactly the same length (no need to press the «Quick reverse»-button)
- ● the programmed buttonholes can be saved in the long-term memory (see page **90**)
- ● press «clr»-button
- ► the programmed settings are cleared

Exact duplication
The auto function ensures that each buttonhole will be exactly the same length as the previous one.

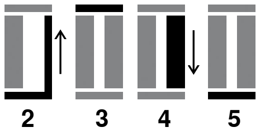
Double sewn keyhole buttonholes
- – keyhole buttonholes can be sewn twice on thick fabrics - use a longer stitch length for the first run
- – after sewing the first buttonhole, do not move the work
- – reduce the stitch length manually and sew the buttonhole again

Decorative buttonhole with double pointed bartack No. 69



Programming the buttonhole

1
- ● sew the first bead forward
- ● stop the sewing computer
- ● press «Quick reverse»-button
- ► «auto» and the programmed length (in mm) appears in the Display
- ► the buttonhole length is programmed



The sewing computer sews autmatically:

2 straight stitches in reverse
3 the upper bartack
4 the second bead forward
5 the lower bartack and the securing stitches
- ► the sewing computer stops and returns automatically to buttonhole begin

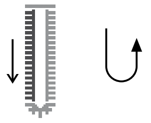
Auto buttonhole

- ► all subsequent buttonholes will be sewn to exactly the same length (no need to press «Quick reverse»-button)
- ● the programmed buttonholes can be saved in the long-term memory (see page **90**)
- ● press the «clr»-button
- ► the programmed settings are cleared

Heirloom Buttonhole

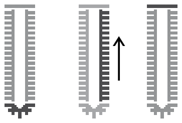
Buttonhole foot No. 3A

Heirloom buttonhole No. 63



Programming the buttonhole

1
- sew first bead forward
- stop the sewing computer
- press «Quick reverse»-button
  - ► «auto» and the programmed length (in mm) appears in the Display
  - ► the buttonhole length is programmed



The sewing computer sews the following automatically:

2 the round part
3 the second bead in reverse
4 the bartack and the securing stitches
- ► the sewing computer stops and returns automatically to buttonhole begin

Auto buttonhole

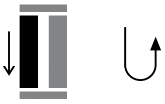
- ► all subsequent buttonholes will be sewn to exactly the same length (no need to press the «Quick reverse»-button)
- the programmed buttonholes can be saved in the long-term memory (see page **90**)
- press «clr»-button
- ► the programmed settings are cleared

Stitch counter buttonhole

- touch «i»-icon
- touch «REC»-icon

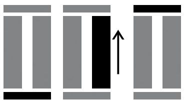
Buttonhole foot No. 3C (optional accessory)

All buttonhole types



Programming the buttonhole

1
- sew first bead forward
- stop the sewing computer
- press «Quick reverse»-button



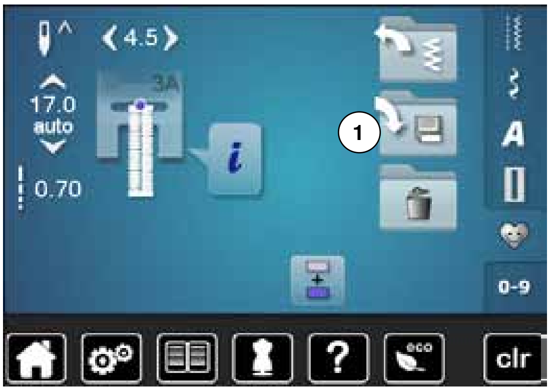
2 sew lower bartack and
3 sew second bead in reverse
- stop the sewing at the first stitch
- press «Quick reverse»-button

4 the sewing computer sews the upper bartack, the securing stitches and stops automatically
- ► «auto» appear in the Display
- ► the buttonhole length is programmed
- ► each subsequent buttonhole the programmed number of stitches are sewn

– the first bead (left) is sewn forwards, the second bead (right) is sewn in reverse

Buttonhole in long term memory

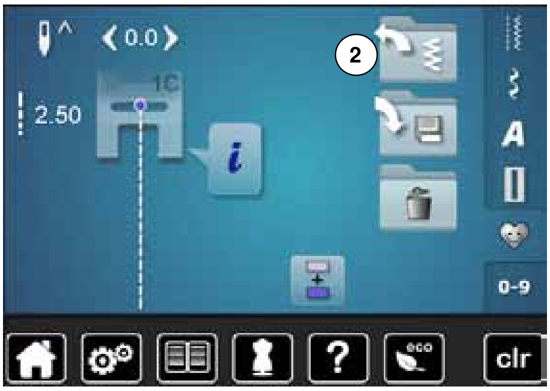
- touch «Memory»-button


4.5
17.0
auto
0.70
3A
1
0-9
eco
clr

Programming the buttonhole

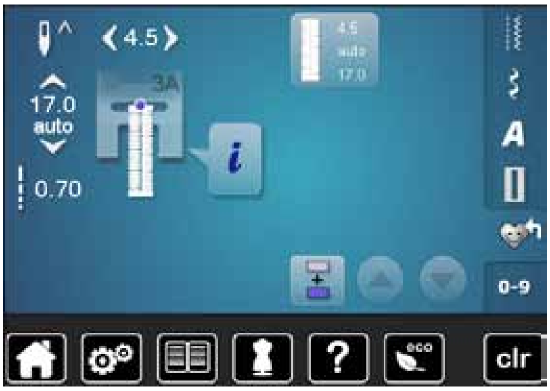
- touch «Save»-icon **1**
- ► the «Save»-display appears
- touch «Save»-icon
- ► the buttonhole is now saved in long term memory

- touch «Memory»-button


0.0
2.50
1C
2
0-9
eco
clr

Selecting a saved buttonhole

- touch folder **2**

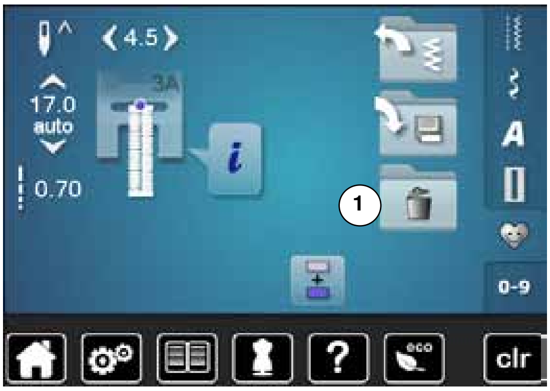

4.5
17.0
auto
0.70
3A
0-9
eco
clr

- select buttonhole

Altering saved buttonhole

- touch «i»-icon
- touch «Direct entry length»-icon
- alter the length of the saved buttonhole
- touch «Back»-icon twice
- reprogram the buttonhole as described

- touch «Memory»-button



Deleting a saved buttonhole

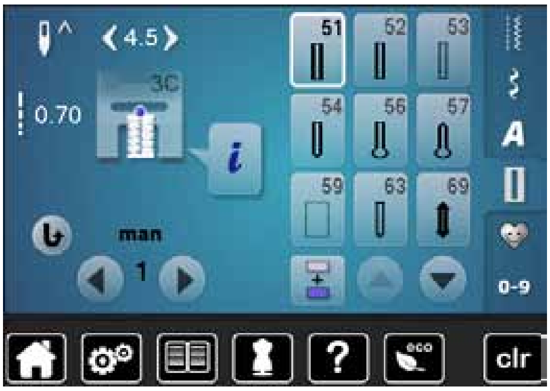
- touch «Delete»-icon **1**
- ► the saved buttonholes appear
- select desired buttonhole
- confirm with ✓
- ► the buttonhole is deleted

7- or 5-step-buttonhole, manually

Buttonhole foot No. 3C (optional accessory)

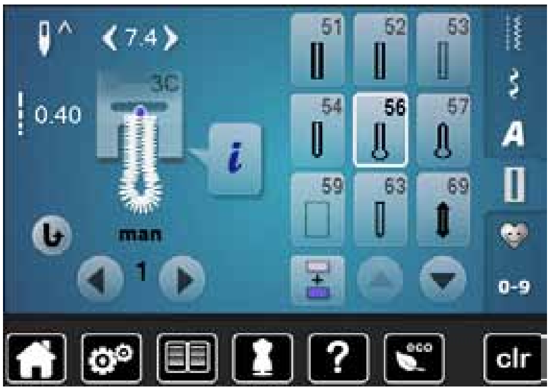
- select the desired buttonhole
- touch «i»-icon
- touch «man»-icon

The length of the beads is manually determinded when sewing. Bartack, eye and securing stitches are pre-programmed. The individual steps can also be selected by scrolling, by using the arrow icons or by touching the «Quick reverse»-button.



Sewing 7-Step buttonhole

- step **1** is activated for buttonhole begin
- step **2** is actived when beginning to sew
- sew first bead
- stop the sewing computer at desired length of the bead or to the end of the length marking
- select step **3**
- sewing computer sews straight stitches in reverse
- stop sewing computer at the height of the first stitch (buttonhole begin)
- select step **4**
- the sewing computer sews top bartack and stops automatically
- select step **5**
- the sewing computer sews the second bead
- stop the sewing computer at the height of the first bead
- select step **6**
- the sewing computer sews bottom bartack and stops automatically
- select step **7**
- sewing computer secures stitches and stops automatically



Sewing 5-Step buttonhole

- step **1** is activated for buttonhole begin
- step **2** is activated when beginning to sew
- sew first bead
- stop the sewing computer at desired length of the bead or at the end of the length marking
- select step **3**
- the sewing computer sews the eye or the keyhole and stops automatically
- select step **4**
- the sewing computer sews the second bead in reverse
- stop the sewing computer at the height of the first stitch (buttonhole begin)
- select step **5**
- sewing computer sews the top bartack and secures stitches automatically

Straight stitch buttonhole No. 59

– The same programming procedure as with the auto buttonhole program (see page **85**)

– Buttonholes No. 59 with the straight stitch is recommended for soft, loosely woven fabrics and for buttonholes that will receive excessive wear. The straight stitch buttonholes also reinforce, vinyl and felt

Button sew-on program

- touch «Buttonhole«-button
- touch «Button sew-on program»-icon

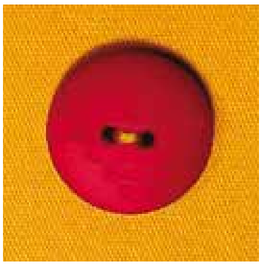
Darning foot No. 9 (optional accessory)
Button sew-on foot No. 18 (optional accessory)

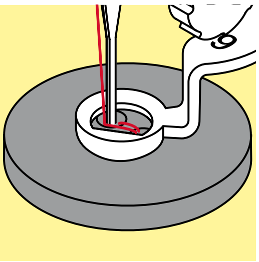
Button sew-on program No. 60

For buttons with 2 and 4 holes.

Preparation

- lower the feed dog





Sewing on Buttons

Buttons sewn on for decorative purposes only are stitched without a thread shank. «Shank length» = distance between button and fabric; can be adjusted with Button sew-on foot No. 18.

Sewing on buttons with darning foot No. 9 (optional accessory)

- select button sew-on program
- check distances between holes with the handwheel
- adjust stitch width if necessary
- hold the threads when starting to sew
- sew the first securing stitches into the left hole
- sew program
- ► sewing computer stops automatically when program is completed and is ready for the next button

Beginning and ending threads

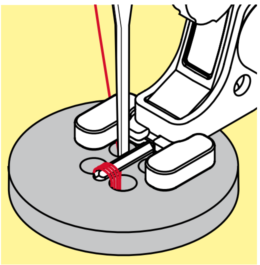
The threads are secured and can be trimmed.

For a increased stability

- pull on both bobbin threads until the ends of the upper threads are visible on the wrong side
- pull the threads out and knot the ends additionally
- trim the threads

Sewing on buttons with foot No. 18 (optional accessory)

- set the shank length with the screw on the foot
- select button sewing-on program and continue as with foot No. 9 (optional accessory)



Sewing on a 4-Hole button

- sew the front holes first
- carefully move the button forward
- sew the back holes with the same program

For a increased stability the button sew-on program can be sewn twice.

Eyelet program

- touch «Buttonhole»-button
- touch «Eyelet program»-icon

Reverse pattern foot No. 1C
Open embroidery foot No. 20C

Eyelet with small zig-zag No. 61
Straight stitch eyelet No. 62

Sewing eyelets

- select eyelet
- position fabric under the presser foot and sew eyelet program
- ► sewing computer stops automatically and is at the beginning of the eyelet program again

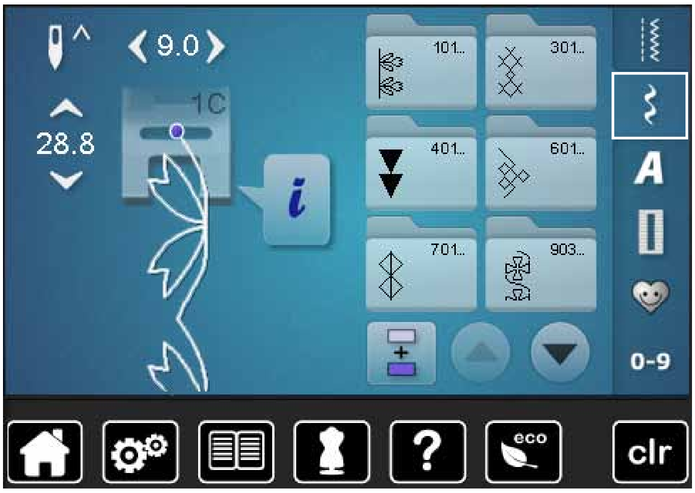
Punching eyelets

- use an awl, punch pliers or a hole punch to open the eyelet

> Adjust the roundness of the eyelet if necessary with balance.
> For increased stability sew the eyelet twice.

Decorative stitches

Overview Decorative stitches



- touch «Decorative stitches»-button
- ► display shows an overview of the categories
- select the desired category
- ► the desired category is activated
- select the desired stitch pattern

Application

Depending on the type of material, simple or more complex decorative stitches should be selected to best suit the material.

- decorative stitches which are programmed with simple straight stitches, are particularly appropriate for light weight materials, e.g. decorative stitch No. 101
- decorative stitches which are programmed with triple straight stitches or with a few satin stitches are particularly appropriate for medium weight materials, e.g. decorative stitch No. 107
- decorative stitches which are programmed with satin stitches are particularly appropriate for medium weight materials, e.g. decorative stitch No. 401

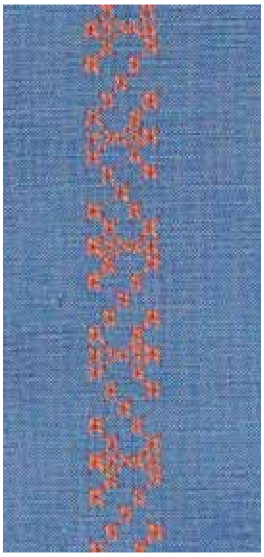
Categories
Cat. 100 = Florals
Cat. 300 = Cross stitches
Cat. 400 = Satin stitches
Cat. 600 = Ornamental stitches
Cat. 700 = Heirloom stitches
Cat. 900 = Novelty
Cat. 1300 = Quilt stitches

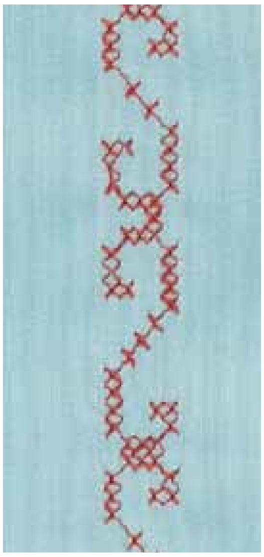
Perfect stitch formation

- use the same thread color for upper and lower thread
- reinforce the fabric on the wrong side using stabilizer
- use an additional, water-soluble stabilizer on the right side of pile or longfiber materials (e.g. wool, velvet etc.) which can be easily removed after sewing

Examples of application Decorative stitches

Cross Stitches





Reverse pattern foot No. 1C/1D or
Open embroidery foot No. 20C or 20D (optional accessory)

Cross stitch

- cross stitching is a traditional technique, and extends the range of decorative stitches
- if the cross stitches are sewn on fabric with a linen texture, they look like hand-stitched cross stitching

Application
- for home furnishings
- for trimmings on garments
- for embellishing in general

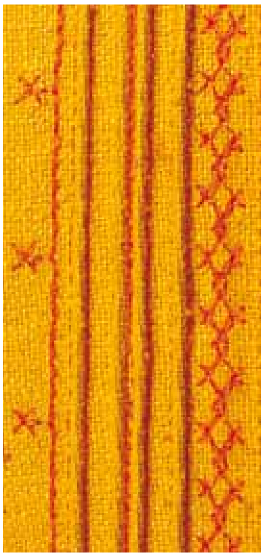
Sewing
Cross stitches of Category 300 can be stitched and combined like any other decorative stitches.

Sewing Trims
- select cross stitch
- stitch a row, using the seam guide or slide-on table seam guide (optional accessory)

It is important to stitch the first row in a straight line, as it will serve as a reference for the rows that follow.
- select new stitch pattern
- stitch a second row next to first at a distance of one presser foot‘s width, or using the seam guide
- repeat for the following rows of stitching

Use cotton embroidery thread for cross stitching
Stitch appears fuller.

Pintucks



Pintuck feet (optional accessory)

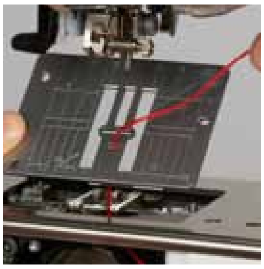
- No. 30 (3 grooves) = 4mm double needle: for heavy weight materials
- No. 31 (5 grooves) = 3mm double needle: for heavy to medium weight materials
- No. 32 (7 grooves) = 2mm double needle: for light to medium weight materials
- No. 33 (9 grooves) = 1 or 1.6mm double needle: for very light materials (without additional pintuck cord)
- No. 46C (5 grooves) = 1.6-2.5 mm double needle: for very light to medium weight materials

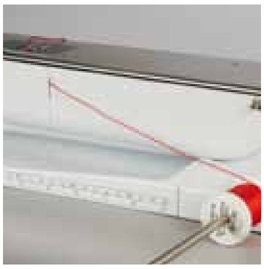
Straight stitch No. 1

- this technique reduces the size of the fabric (allow for enough fabric)
- pintucks are narrow stitched folds which are normally sewn on the fabric before cutting out the pieces for garments or other sewing projects
- for embellishing or in combination with other heirloom embroidery techniques

Corded pintucks

- pintucks may be sewn with or without cord
- cord pintucks for a raised effect and texture
- chose a cord that fits well into the grooves of the selected pintuck foot
- the cord must be colorfast and shrinkproof

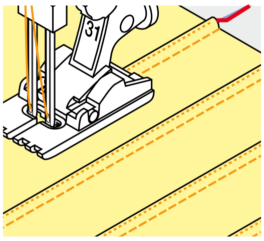




Inserting the cord

- remove the stitch plate of the sewing computer (see page **25**)
- open the bobbin door
- pull the cord through the hook opening from the bottom and through the opening of the stitch plate
- replace the stitch plate

- close the bobbin cover
- make sure that the cord slides within the thread slot of the bobbin cover
- place the cord spool on the arm of the Free Hand System
- check that the cord runs smoothly



Sewing pintucks

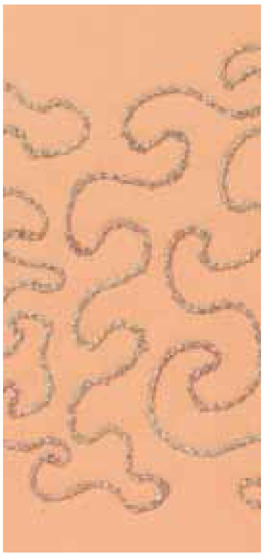
- sew first pintuck, marking the stitching line if necessary
- ► the cord will automatically feed into the pintuck

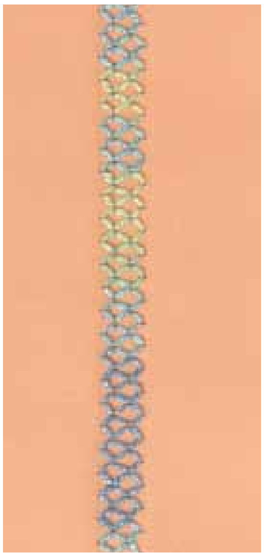
The cord lies on the wrong side of the material and is hold/sewn over by the lower thread.

- turn work if necessary
- place first pintuck in one of the side grooves in the presser foot (depending on the desired distance)
- sew second pintuck
- sew additional pintucks parallel to these two

If the thread doesn't slide smoothly past the bobbin cover, open the cover while sewing and turn off the lower thread indicator in the Setup Program.

Bobbin-Play sewing





ATTENTION!
For this application an accessory bobbin case is required.

Free motion sewing

The bobbin can be filled different thread material. For free-motion stitching to add texture. This method is similar to «normal» free-motion sewing, but is done on the **wrong side** of the fabric.

Reinforce the area to be sewn with embroidery stabilizer. The design can be drawn on the wrong side of the fabric. You can also draw the design on the front of the fabric, then follow the lines with a freely guided straight stitch and polyester, cotton or rayon thread. The rows of stitching are visible on the right side of the fabric, and serve as reference lines for the bobbin-thread sewing.

The BSR function can be used for bobbin-thread sewing. Guide your project at uniform speed evenly under the needle, follow the lines of the design. Remove the stabilizer after you finish sewing.

Sew a sample first to check what the result looks like on the wrong side of the fabric. Alter the upper thread tension if required.

Sewing decorative stitches

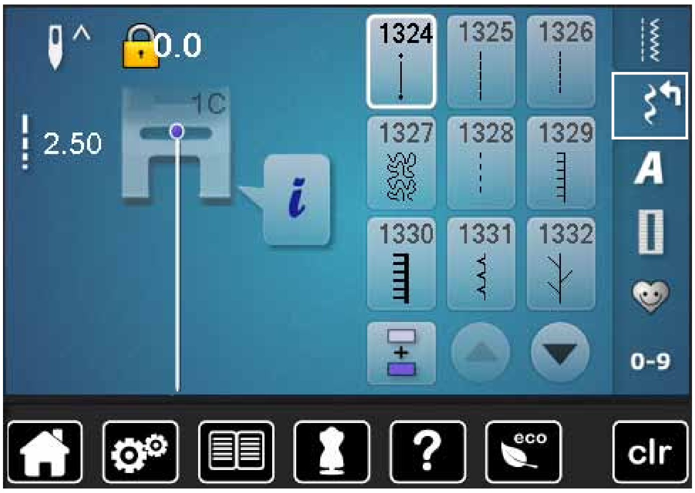
Not all decorative stitches are suitable for this technique. Simple decorative stitches provide best results. Avoid compact stitch types and satin stitches.

The Open Embroidery foot No. 20 or No. 20D (optional accessory) is ideal for this technique.

- adjust stitch length and width settings (widen, lengthen) so that nice results are also achieved when sewing with thicker threads
- the long stitch function produces another decorative effect
- alter the upper thread tension if required

Quilt stitches

Overview Quilt stitches



Various stitch patterns are available which are used especially in quilting, for patchwork or for appliqué.

- touch «Decorative stitch»-button
- ► display shows an overview of the categories

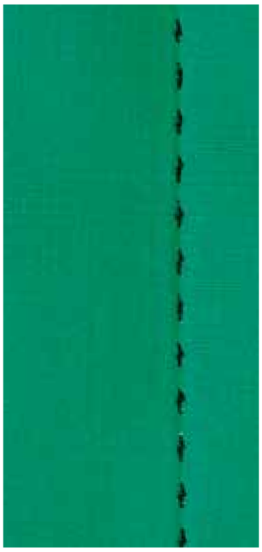
Cat. 1300 = Quilt stitches

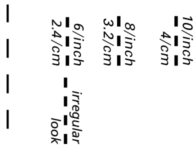
- select desired stitch pattern
- ► the stitch width cannot be altered with certain stitch patterns
- ► is indicated by a lock symbol

1324	**Quilters' securing program**
1325	**Quilting straight stitch**
1326	**Piecing stitch/Straight stitch**
1327	**Stippling stitch**
1328	**Handlook quilt stitch**
1329	**Blanket stitch**
1330	**Double blanket stitch**
1331	**Blind stitch (narrow)**
1332	**Feather stitch**
1333	**Feather stitch variations 1333-1338**
1339	**Decorative quilt stitches variations 1339-1345, 1351, 1355-1356, 1359**
1346	**Quilt stitch/Handlook quilt stitch variations 1346-1348, 1350**
1352	**Blanket stitch (dual)**
1353	**Double blanket stitch (dual)**
1354	**Satin stitch**

Examples of application Quilt stitches

Handlook quilt stitch





Reverse pattern foot No. 1C

Handlook quilt stitch No. 1328, 1346, 1347, 1348, 1350

Suitable for all fabrics and work which should look «hand sewn».

Thread
- Upper thread = Monofilament
- Lower thread = 30/2 cotton thread

Test-sewing
- ► the lower thread is pulled up by strong upper thread tension
- **one** stitch is visible (bobbin thread)
- **one** stitch invisible (monofilament) = hand-look effect

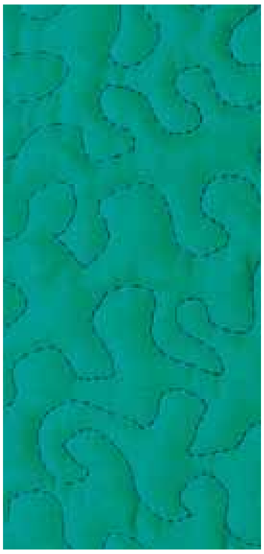
Upper thread tension
Depending on the fabric increase the tension (6-9).

Balance
Adjust stitch with the balance if necessary.

Perfect corners
- press «Needle stop»-button, needle down, press «Pattern end/ pattern repeat»-button, turn fabric
- when pivoting make sure that the fabric does not become distorted

Monofilament breaks
- sew more slowly
- reduce upper thread tension slightly

For free-motion quilting

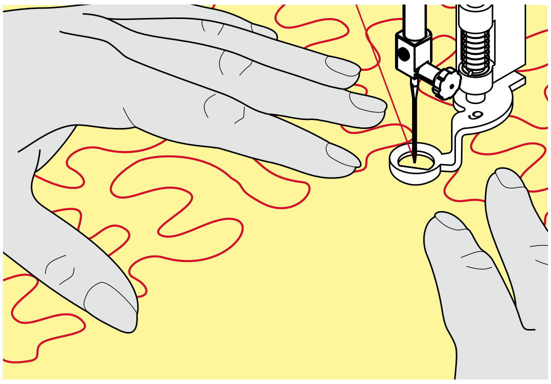


Darning foot No. 9 (optional accessory)

Straight stitch No. 1

For free-motion quilting
For all types of free motion quilting work.

Preparation
- pin top layer, batting and backing together, or baste if necessary
- attach slide-on table
- use the Free Hand System
- lower the feed dog



Holding the work
- hold the work with both hands like an embroidery frame, close to the presser foot

Quilt gloves with rubber fingertips will help when guiding the work.

Quilting a design
- quilt from the center outwards
- guide the work using smooth, round movements to form the design of your choice

Stipple quilting
- this technique covers the entire surface of the fabric with quilt stitches
- the lines of stitching are rounded and never cross one another

Free-motion quilting and darning
The two techniques are based on the same Free Motion principles.

Poor stitch formation
- if thread is lying on top of the fabric, slow down the movement of the material
- if there are knots on the wrong side of the fabric, move the material more quickly

Monofilament breaks
Reduce the motor speed and/or loosen the upper thread tension.

Thread breaks
Guide the fabric more consistently.

BSR (BERNINA Stitch Regulator)

Quilting with BSR

BSR-Function
The BSR presser foot reacts to the movement of the fabric under the foot and controls the speed of the sewing computer up to the maximum speed possible. The following applies: the faster the fabric is moved, the higher the speed of the sewing computer.
If the fabric is moved too fast, an accoustic signal (beep sound) is heard, if the Beeper is activated (see page **105**).

ATTENTION!
As long as the BSR presser foot is illuminated red, adjustments like threading and changing the needle, for example, must not be carried out, as the needle will engage while fabric is moved unintentionally! Without fabric feed the BSR mode is turned off after approx. 7 seconds and the red light goes off (mode 1).
Please refer to Safety Instructions!
By activating the BSR function the sewing computer sews either continuously at reduced speed (mode 1, standard), or as soon as the fabric is moved (mode 2).

BSR function with straight stitch No. 1
This function using the BSR presser foot, allows for free-motion quilting (sewing) using the straight stitch and a pre-selected stitch length up to 4mm. The regulated set stitch length is maintained within a certain speed, independent of the movement of the fabric.

BSR function with zig-zag No. 2
The zig-zag can be used e.g. for thread painting. The set stitch length will **not** be maintained when sewing with the zigzag stitch, but the BSR function simplifies the application.

There are:
Two different BSR modes
- **BSR 1-Mode** is the active standard
- the sewing computer runs continuously at a reduced motor speed, as soon as the foot control or the «Start/Stop»-button is pressed
- the speed of the sewing computer is regulated by the movement of the fabric
- through continuous needle movement, securing in the same position is possible without pressing an additional button

- **BSR 2-Mode** is activated by selecting the «BSR 2»-icon in the «BSR»-display
- the sewing computer will only engage if the foot control or the «Start/Stop»-button is pressed and the fabric is moved simultaneously
- the speed of the sewing computer is regulated by the movement of the fabric
- to secure press the «Securing function»-button
- by selecting the «BSR 1»-icon in the «BSR»-display Mode 1 is activated

For an even sewing start (the first stitch) the foot control must be pressed and the fabric moved simultaneously. This also applies for sewing points and straight stitching within a round form.

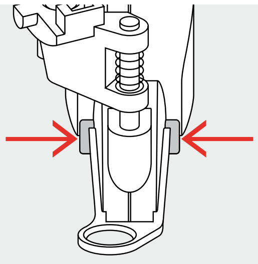
If the BSR function is deactivated and later re-activated without the sewing computer being switched off in between, the last selected BSR mode is active.

When exceeding a certain speed, adhering to regular stitch length cannot be guaranteed.

Make sure that the lens on the bottom of the BSR foot is clean (no fingerprints, etc.). Clean lens periodically with soft, slightly damp cloth.

Preparation

- lower the feed dog
- presser foot pressure may be reduced depending on the material type and thickness
- attach slide-on table
- use the Free Hand System

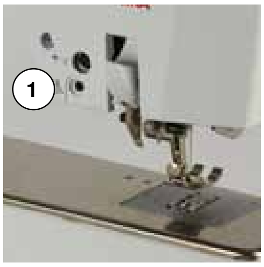


Remove presser foot sole

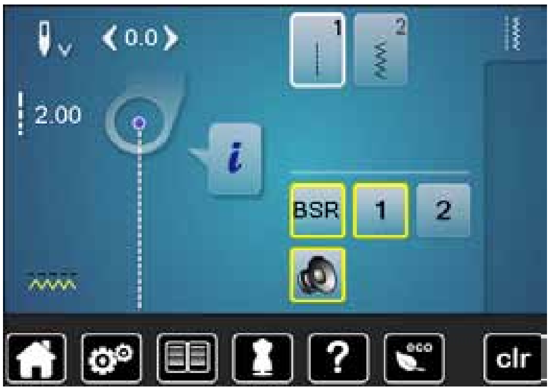
- press both buttons together
- slide the sole downwards out of the groove

Attaching the presser foot sole

- slide the desired sole up in the groove until it clicks into its place



- attach the BSR Presser Foot to the sewing computer
- plug the cable in the outlet **1** provided



► «BSR»-display is opened automatically
► BSR 1 mode is engaged
- set the desired stitch length
  – the standard stitch length is 2mm
  – when sewing small forms and stipplings, stitch length of 1-1.5mm is suggested

Functions in the BSR mode

Needle stop down (standard)

► the arrow points down on the «BSR»-display
► the sewing computer stops with needle down, when taking foot off foot control or when the «Start/Stop»-button is pressed

Needle stop up

● touch the «Needle stop»-icon in the Display
► the arrow points up
► the sewing computer stops with needle up, when taking foot off foot control or when the «Start/Stop»-button is pressed

Raise or lower the needle

● press «Needle stop»-button
► to raise or to lower the needle

Securing with the «Start/Stop»-button (only Mode 1)

● place the fabric under the presser foot
● lower the presser foot
● press the «Needle stop»-button twice
► the lower thread is brought up
● hold upper and lower thread
● touch «Start/Stop»-button
► BSR mode is activated
● sew 5-6 securing stitches
● touch «Start/Stop»-button
► the BSR mode is stopped
● cut threads
● touch «Start/Stop»-button
► BSR mode is activated
● continue the stitching process

Securing function (only Mode 2)

● press the «Securing function»-button
● press either the foot control or the «Start/Stop»-button

By moving the fabric some short securing stitches are sewn, then the set stitch length will be activated and the securing function will be automatically deactivated.

Free motion quilting (only Mode 2)

► the BSR mode is activated
● freemotion quilting can be sewn
● by touching the securing function button is pressed during free hand quilting, a short securing stitch sequence is sewn and
► the sewing computer stops
► the BSR mode is deactivated

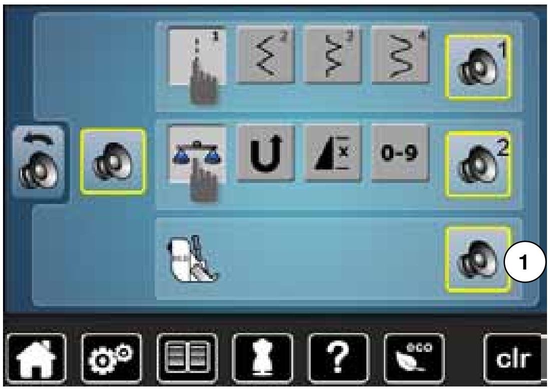
Free motion quilting without BSR activation

● touch «BSR»-icon
● the BSR mode is deactivated

Normal freemotion quilting can now be sewn with the BSR foot, without automatic regular stitch length.

Beeper (audio signal) activation/deactivation

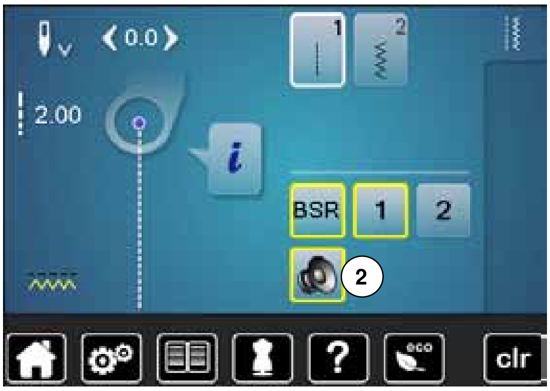
- touch «Setup»-button
- touch «Audio setting»-icon



Selecting sound for BSR in the Setup Program

- ► one sound is set as default (active)
- touch the icon **1** showing the loudspeaker for BSR
- ► the loudpseaker is highlighted in red
- ► the sound for the beeper is inactive

The loudspeaker is gray when the sound for the Beeper is active.



Selecting sound for BSR in the «BSR»-display

- touch the icon with the loudspeaker
- ► the loudspeaker is highlighted in red
- ► the sound for the beeper is inactive

The icon with the loudspeaker is gray and yellow-framed when the sound for the Beeper is active.

The sound selection icon **2** is only visible if the sounds are turned on in the Setup Program.

Activating the BSR Sewing Function

1. Option:

BSR-Function via the foot control

- plug in the foot control
- press the foot control
- ► presser foot is lowered
- press the foot control again
- ► BSR mode starts
- ► a red light appears on the presser foot
- press foot control while sewing
- – the speed of the sewing computer is regulated by the movement of the fabric
- release the foot control
- ► the BSR mode is stopped

2. Option:

BSR-Function via the «Start/Stop»-button

- touch «Start/Stop»-button
- ► presser foot is lowered
- press «Start/Stop»-button again
- ► BSR mode starts
- ► a red light appears on the presser foot
- – the speed of the sewing computer is regulated by the movement of the fabric
- press the «Start/Stop»-button again
- ► the BSR mode is stopped

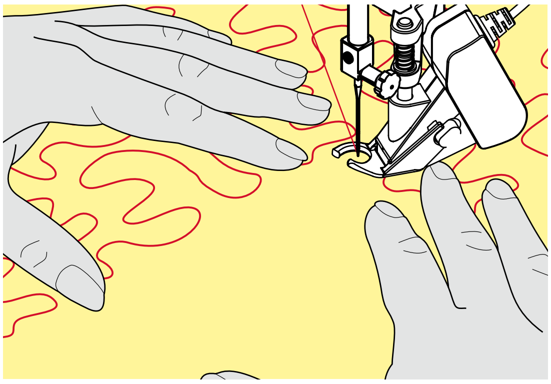
Deactivating the BSR Sewing Function by using the «Start/Stop»-button

Mode 1

If the fabric is not moved for approx. 7 seconds, the BSR mode is deactivated and the red light on the presser foot goes off.

Mode 2

If the stitching process is ended by no longer moving the fabric, **one** additional stitch is made, depending on the needle position. The sewing computer always stops with needle up, even if the arrow on the «BSR»-Display points down.



Holding the work

- hold the work with both hands like an embroidery frame, close to the presser foot
- – abrupt movements (slowing down resp. speeding up) can result in slightly too short or too long stitches
- – continuous movement (no abrupt movements) will provide best results
- – do not pivot the fabric while sewing

> Quilt gloves with rubber fingertips will help when guiding the work.

Application example:

- – BSR with zig-zag No. 2
- – the zig-zag can be used for thread painting
- – areas can be filled and therefore forms or pictures can be created

BSR Function deactivation

- pull out the plug of the BSR presser foot connection cable on the sewing computer
- remove the BSR foot

BERNINA Dual Feed

ATTENTION!

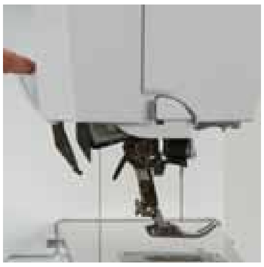
Only use «D» presser feet with cut-out at the center back.
If an incorrect presser foot is attached, the sewing computer will not start with the dual feed engaged. An error message will appear.

With the BERNINA Dual Feed the top and bottom layer of fabric are fed simultaneously, the even feeding enables perfect matching of striped and checkered patterns.

Presser Feet Selection

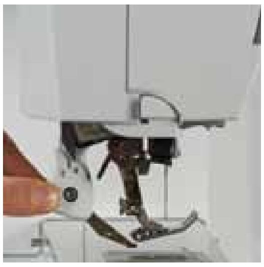
- Reverse pattern foot 1D
- Zipper foot 4D

More «D» presser feet are listed in the enclosed accessories catalogue.



Switching On BERNINA Dual Feed

- raise the presser foot
- pull dual feed down until it engages



Switching Off BERNINA Dual Feed

- raise the presser foot
- hold dual feed on holder with two fingers, pull it down,
- then push backward, slowly letting it slide upward

Fabrics

Difficult-to-work-with fabrics (with a nap, slippery, sticky etc.):
- velvet, normally sewn with the grain
- towelling
- Jersey, especially when sewing it crosswise to knit
- fake fur or coated fake fur
- fleece-types of fabrics
- batted fabrics
- stripes and checks
- curtain fabrics with pattern repeats

«Sticky» Fabrics:
- imitation leather, coated fabrics (Dual Feed presser foot with sliding sole)

Application

Sewing:
- all sewing techniques on difficult fabrics, e.g. hems, zippers

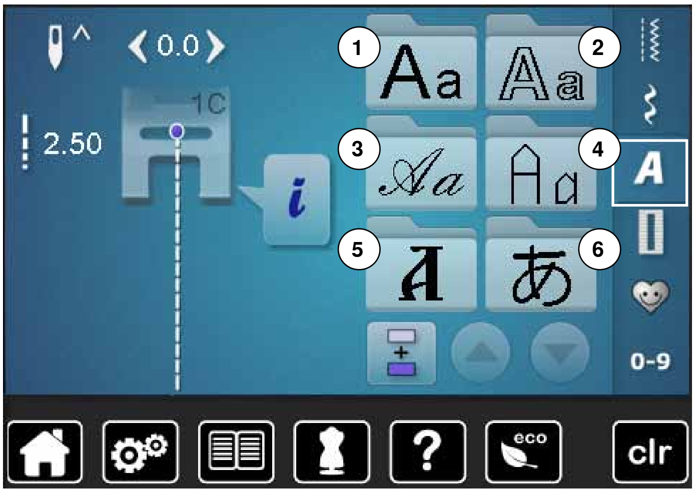
Patchwork:
- accurate stripes and blocks
- decorative stitches up to 9mm stitch width

Appliqués:
- open embroidery foot 20D (optional accessory)
- sewing on ribbons and bias-binding

Presser foot pressure
Adjust the presser foot pressure to the fabric. The thicker the fabric the lower the presser foot pressure.

Alphabets

Overview Alphabet

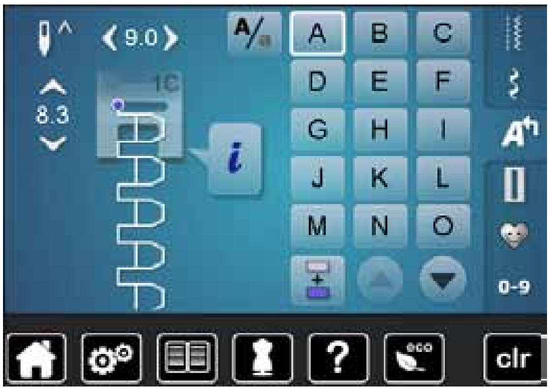


Block-, Double Block-, Script and Quilt Text alphabet and Cyrillic can be sewn in two different sizes.
Block-, Double Block-, Script-, Quilt Text alphabet and Cyrillic can also be sewn in lower case.
Numbers and special characters are located at the end of the upper case.

- touch «Alphabet»-button
- ► the Display shows the overview with the different alphabet types

1	Block alphabet
2	Double Block
3	Script (Italics)
4	Quilting Text
5	Cyrillic
6	Hiragana

- select desired alphabet



Lettering

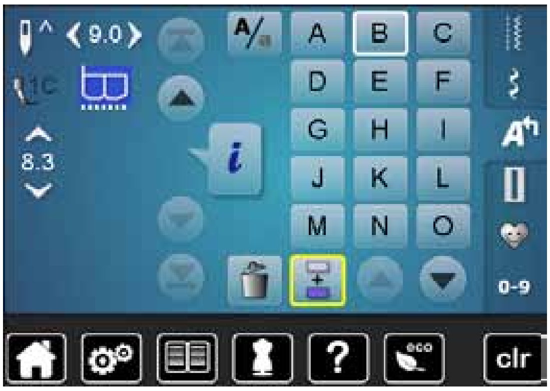
- all capital letters, numbers, punctuation marks and special characters can be viewed using the arrow icons

Perfect stitch formation

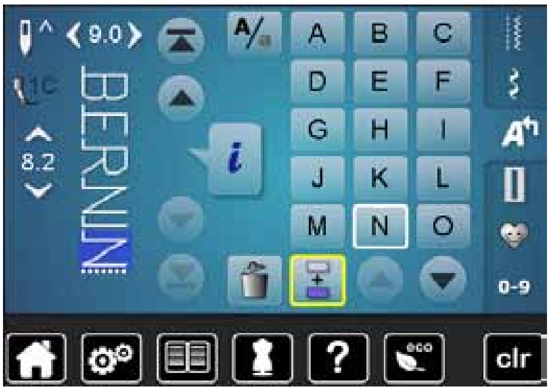
- use the same thread color for upper and lower threads
- reinforce the fabric with embroidery stabilizer on the wrong side
- use an additional, water-soluble stabilizer on the right side of pile or napped fabrics (e.g. wool, velvet etc.)
- for lightweight fabrics more simple lettering types programmed with straight stitches are suitable (such as double block letters)

Combining lettering

Individual letters and rows of the same letter of the same alphabet are sewn in single mode.
Letters for names, addresses, words, etc. are combined and sewn in combi mode.



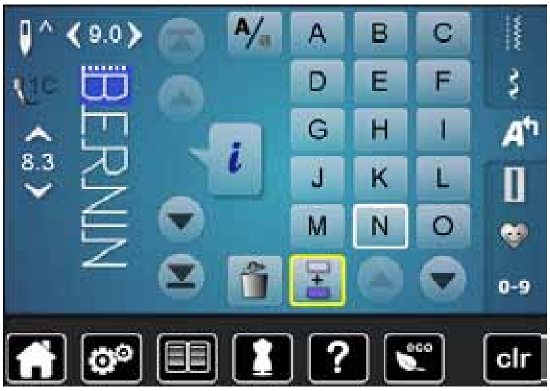
- touch «Combi mode»-icon
- touch the icon with the desired letter
- ► the letter appears in the Stitch altering area
- ► the cursor is below the letter



Selecting the next letter

- touch the required icon
- ► the next letter appears in the Stitch altering area etc.

Correcting the combination



Inserting lettering
A letter is always inserted above the cursor.
Inserting an additional letter at the beginning of a pattern combination:

- move the cursor up by using the arrow icons

Activating desired place:

- select or scroll to required letter in the Stitch altering area
- select new letter
- ► letter is inserted above cursor

Deleting Letters
A letter is always deleted above the cursor.
Activating desired place:

- select or scroll to the required letter in the Stitch altering area
- touch «Delete»-icon
- ► letter is deleted

Saving and deleting combinations see page **116, 120**.

Alphabet in combination with functions

Select lower case

- touch the «Upper/Lower case»-icon
- ► the lower case «a» is highlighted in black and jumps to the upper left corner of the icon
- ► the lower case is activated
- touch the «Upper/Lower case»-icon again
- ► the upper case «A» is highlighted in black and jumps to the upper left corner of the icon
- ► upper case is activated again

Change size

- touch «i»-icon
- touch «Lettering size»-icon
- ► the icon with the number **2** turns blue
- ► the font size is reduced
- touch the «Lettering size»-icon again
- ► larger size is activated again (number 1 is highlighted in blue)

Personal program

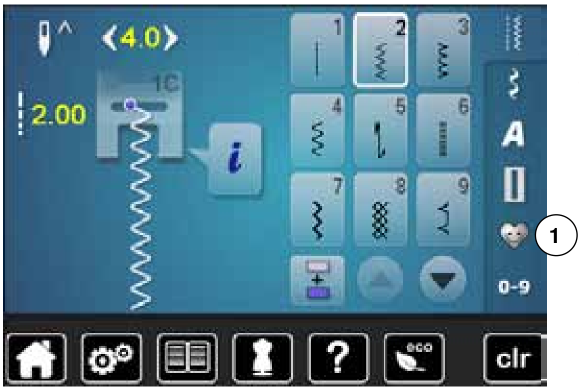
Creating a Personal Display

Use the Personal program to create a file with stitches you use most for a special project. Stitch patterns as well as their alterations are saved in the Personal program.

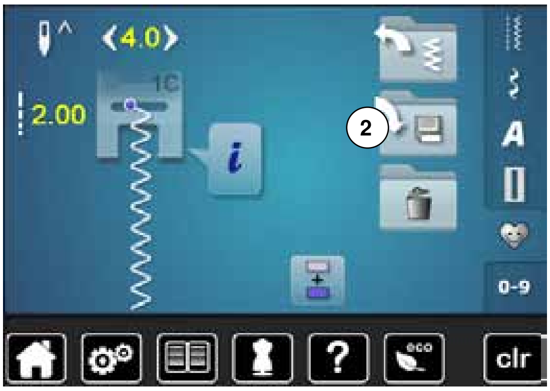
The following alterations can be saved:
- Stitch width
- Stitch length
- Needle position
- Thread tension
- Mirror image
- Pattern extend
- Long stitch
- Balance
- Pattern repeat 1–9x

If the memory has already been filled with embroidery motifs and stitch pattern combinations, no further stitch patterns can be saved in the Personal program. An appropriate message appears. The content in the memory must first be deleted to ensure there is sufficient free space.

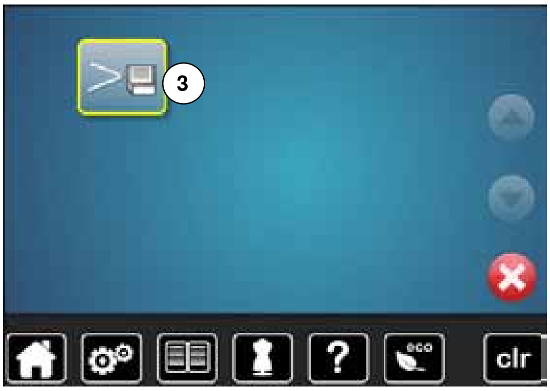
Preparing stitch patterns



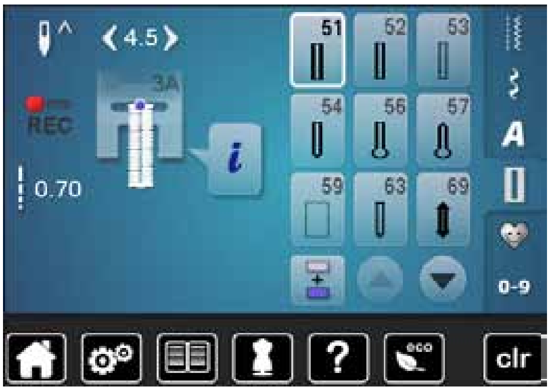
Programming/Saving first stitch pattern
- select e.g. the zig-zag in the «Practical stitch»-display
- make alterations
- touch «Personal program»-button **1**



- touch «Save»-icon **2**



- touch «Save»-icon **3**
- ► the altered zig-zag is saved
- ► the Display closes

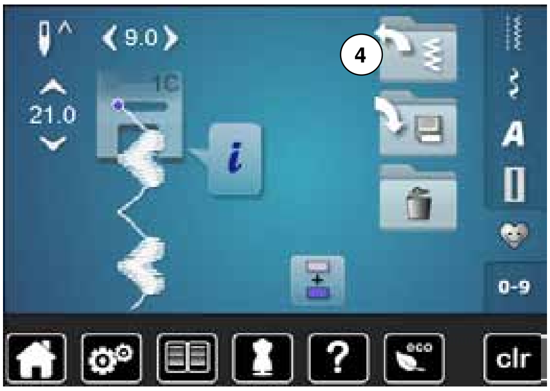

4.5
3A
REC
0.70
51
52
53
54
56
57
59
63
69
A
0-9
clr

Programming/Saving second stitch pattern

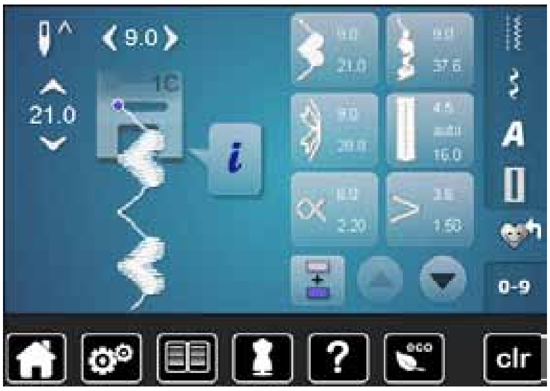
- touch «Buttonhole»-button
- select standard buttonhole No. 51
- save the stitch pattern as desribed above
- save any other stitch pattern in the same way

Stitch pattern selection in the Personal program

- touch «Personal program»-button


9.0
1C
21.0
4
A
0-9
clr

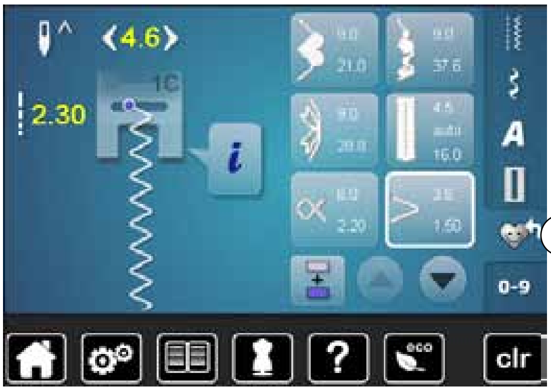
- touch «Open»-icon **4**


9.0
1C
21.0
A
0-9
clr

«**Personal**»**-display**

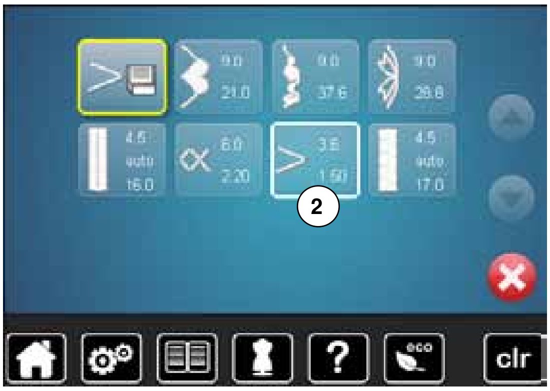
- ► the programmed stitch patterns are displayed in pictures as well as with stitch width and stitch length
- further stitch patterns can be scrolled by using the arrow icons

Alterting/Overwriting stitch patterns

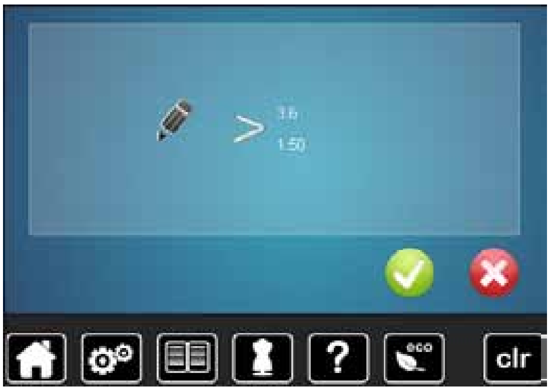


Selecting stitch pattern

- touch «Personal program»-button **1**
- select zig-zag
- make alterations
- ► stitch width and stitch length are altered (yellow numbers)
- touch «Personal program»-button
- touch «Save»-icon

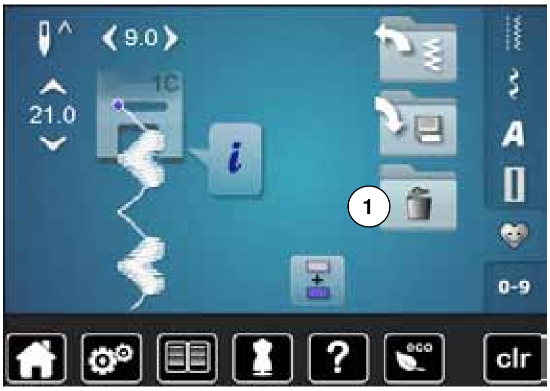


- select zig-zag **2**



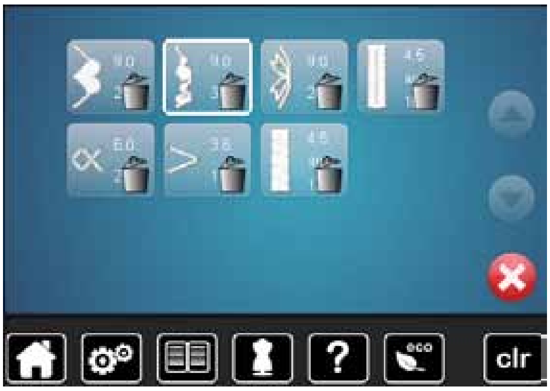
- confirm with ✓
- ► the alterations are saved

Deleting stitch patterns

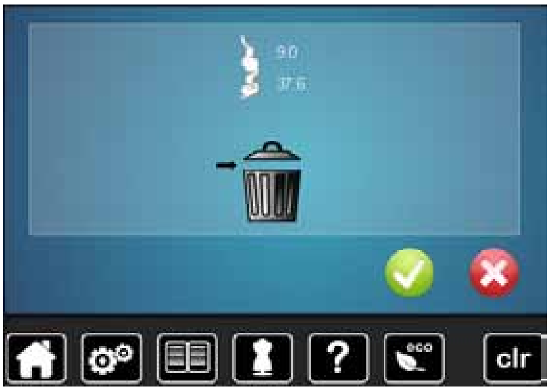

9.0
21.0
1C
1
0-9
clr

Selecting stitch pattern

- touch «Personal program»-button
- touch «Delete»-icon **1**


9.0
9.0
9.0
4.5
6.0
3.6
4.5
clr

- select the stitch pattern to be deleted



- confirm with ✓
- ► stitch pattern is deleted
- ► the remaining stitch patterns are moved by one position

Combi mode

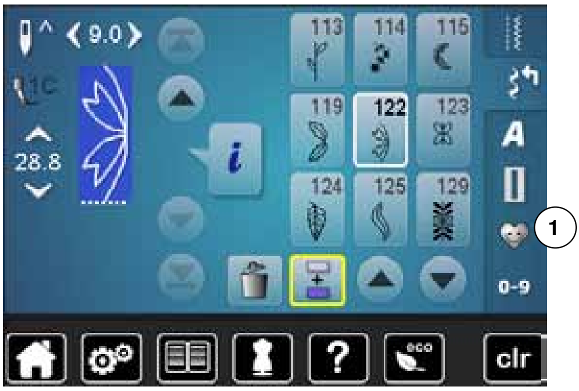
The sewing-/embroidery computer has a memory system where both, the sewing and embroidery memories are saved.

In the sewing memory stitch patterns, lettering and numbers can be combined and saved.

In the sewing memory each «Drawer» can store a maximum of 70 stitch patterns as long as there is sufficient free space (capacity) available. If the storage space (but not all drawers) is full, there may be too many embroidery designs in the memory.

The memory is long-term, i.e. contents are kept until they are deleted. A power cut or switching off the sewing-/embroidery computer does not have any effect on the stored contents.

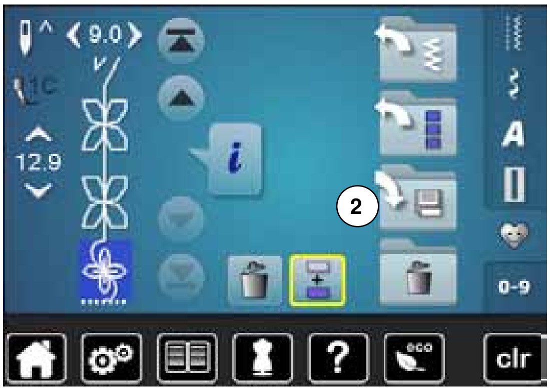
Creating stitch combinations



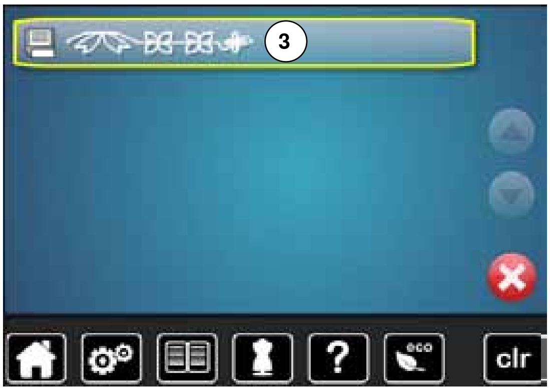
Programming and saving

- touch «Decorative stitch»-button
- select category
- touch «Combi mode»-icon
- select the desired stitch pattern directly or type in the number
- make any alteration concerning stitch length, stitch width, needle position etc.
- select another stitch pattern

- touch «Memory»-icon **1**



- touch «Save»-icon **2**

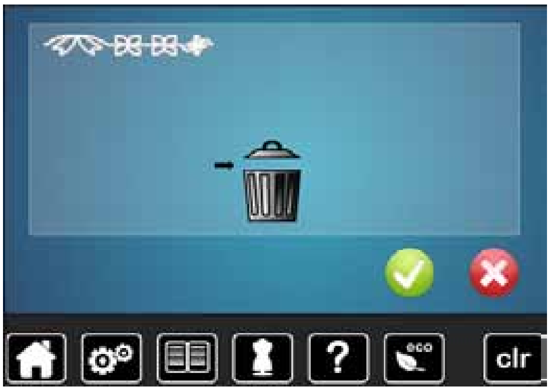


- touch «Save»-icon **3**
- ► the combination is saved
- ► the Display closes

Deleting Stitch Patterns

Deleting individual stitches

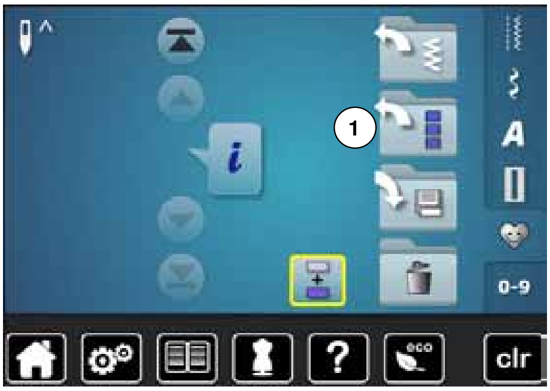
- touch the «Delete»-icon
- ► stitch pattern above the cursor are deleted
- touch the «Delete»-icon as many times until the stitch altering area is empty



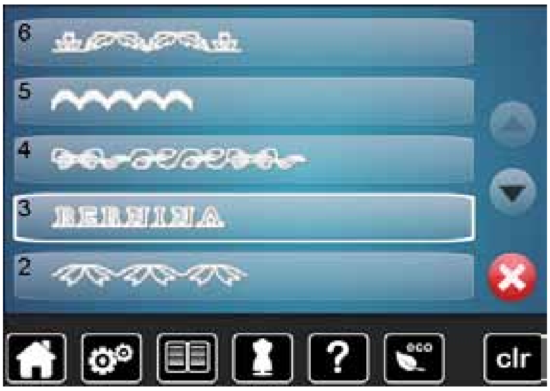
Deleting entire combination

- touch «i»-icon
- touch «Edit the complete combination»-icon
- touch the «Delete»-icon
- confirm with ✓
- ► the stitch altering area is empty
- touch «Back»-icon
- a new pattern combination can be programmed

Opening a saved combination

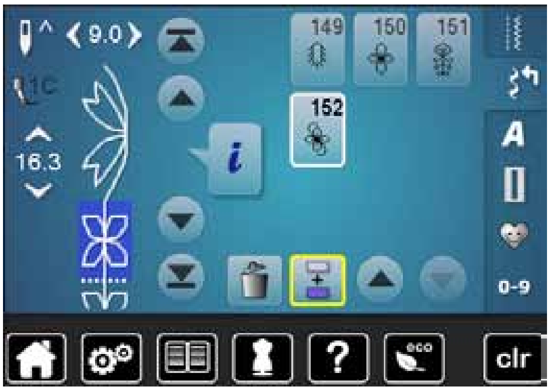


- touch «Memory»-button
- touch «Open»-icon **1**



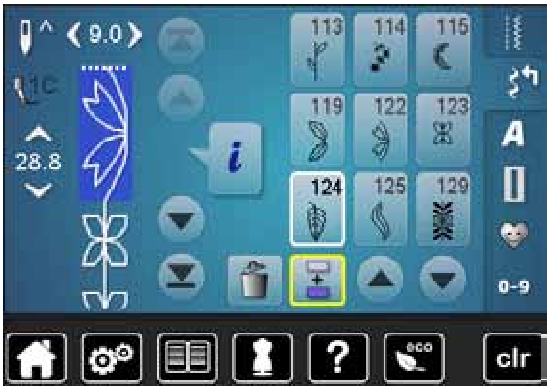
- ► a summary of the saved combinations appears
- touch the desired drawer
- ► the saved combination appears in the stitch altering area

Correcting a stitch pattern combination

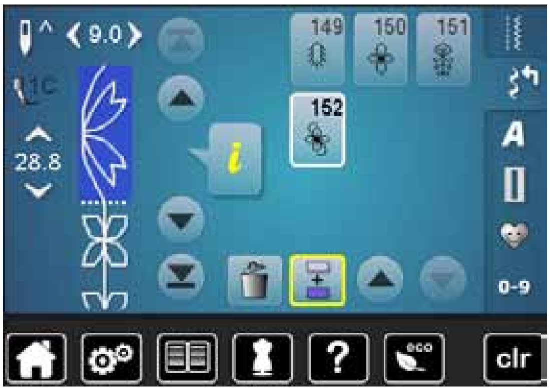

9.0
16.3
149
150
151
152
0-9
clr

Inserting a stitch pattern

- select the desired position in the combination
- select the new stitch pattern
- ► the new stitch pattern is inserted below the selected stitch pattern


9.0
28.8
113
114
115
119
122
123
124
125
129
0-9
clr

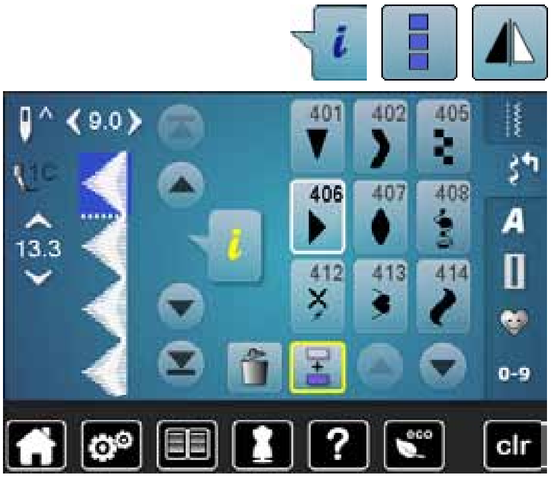
To insert a stitch pattern at the beginning of a combination the cursor must be positioned above the **first** stitch pattern.


9.0
28.8
149
150
151
152
0-9
clr

Altering stitch patterns

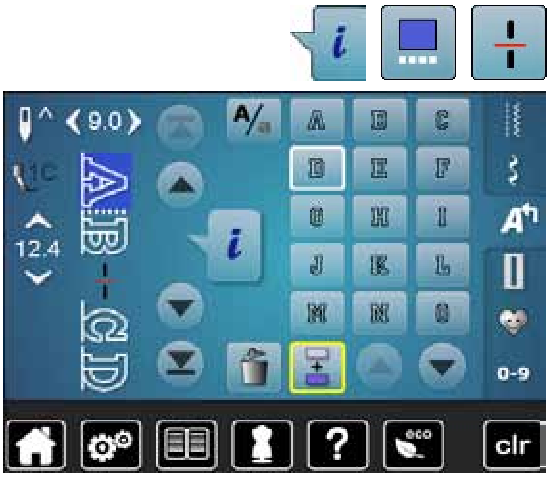
- select the desired stitch pattern in the combination
- touch «i»-icon
- select desired function, e.g. Mirror image left/right
- ► the stitch pattern is mirrored left/right
- touch «Back»-icon

The alterations always affect the stitch above the cursor. Saved stitch combinations can be altered or corrected in the same way. To make corrections and alterations permanent, the combination must be saved again afterwards.



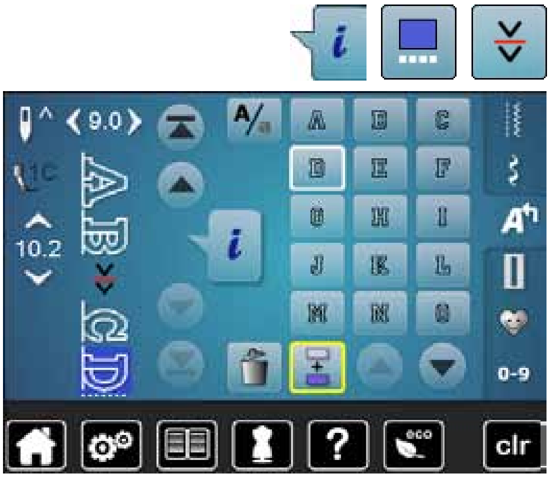
Mirroring complete combinations

- touch «i»-icon
- touch «Edit complete combination»-icon
- touch «Mirror image»-icon
- ► the complete combination is mirrored
- touch «Back»-icon twice



Combination subdivider 1

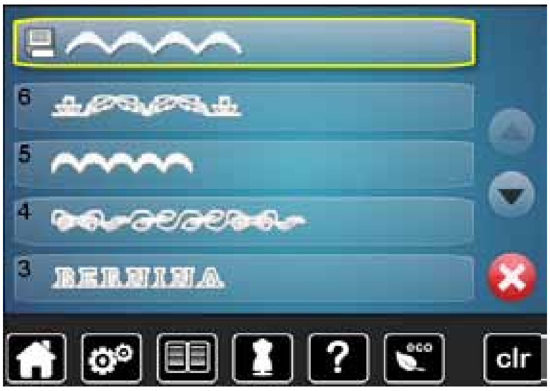
- touch «i»-icon
- touch «Edit combination at cursor position»-icon
- touch «Subdivide combination 1»-icon
- a combination can be subdivided into several sections with the «Subdivider 1»-function
- ► only the section where the cursor is positioned is sewn
- to sew the next section, the cursor must be placed in the respective section



Interrupting a combination

- touch «i»-icon
- touch «Edit combination at cursor position»-icon
- touch «Subdivider 2»-icon
- a combination can be interrupted at any position using «Subdivider 2»-function
- sew the first section
- ► the sewing computer stops automatically when it reaches the programmed function
- reposition the fabric
- sew the next part etc.

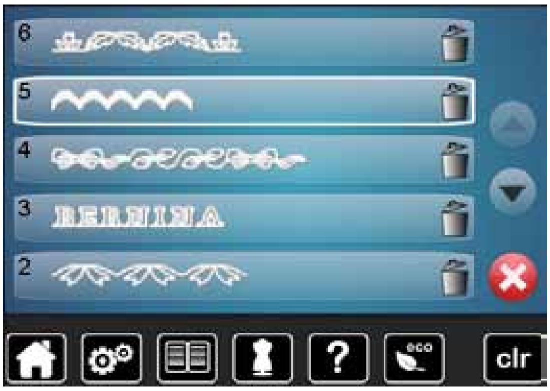
Stitch pattern combination



Overwriting

- program a new stitch combination
- touch «Memory»-button
- touch «Save»-icon
- select the drawer to be overwritten (e.g. 3)
- confirm with ✓

Touch ✗ to cancel the overwriting procedure.



Deleting

- touch «Memory»-button
- touch the «Delete»-icon
- select the Drawer to be deleted (e.g. 5)
- confirm with ✓

Touch ✗ to cancel the deleting procedure.

Contents Embroidery

Accessory 123

- Standard Accessory 123

Embroidery module 124

- Detail view 124

Important embroidery information 125

- Embroidery threads 125
- Lower threads 125
- Choosing the embroidery motif 126
- Embroidery test 126
- Scaling/Sizing motifs 126
- Different stitch types 127
  - Underlay stitches 127
  - Satin stitch 127
  - Step stitch 127
  - Connecting Stitches 127

Preparing for embroidery 128

- Attaching the Module 128
- Embroidery foot/Embroidery needle 129
- Straight-/CutWork stitch plate 129
- Threading upper and bobbin thread 129
- Embroidery hoop 130
  - Center determination 130
  - Using the embroidery hoop 130
  - Embroidery template 130
  - Hooping the material 130

Stabilizer 131

- Stabilizers 131
- Adhesive Spray 131
- Iron-on interfacing 132
  - Paper-backed adhesive stabilizer 132
  - Water soluble stabilizer 132

Functions 133

- Overview «Function»-buttons embroidery computer 133
  - «Start/Stop»-button 133
  - «Presser foot position»-button 133
  - Automatic thread cutter 133
  - Stitch width and stitch length knob 133
  - Speed control 133

Overview Display 134

- Entry to Embroidery mode 134
- Embroidery Alphabet 135
- BERNINA motif 136
- My Design 136
- Embroidery motif from USB-Stick (optional accessory) 137

«Edit»-display 138

- Overview «Edit»-display 138
- General Functions 138
- Overview Embroidery menu 142
- Overview Selection menu 145
- Overview Color Display 146

Embroidery motifs 147

- Selecting an embroidery motif 147
- Alphabets 147
  - Selecting alphabet 147
  - Entering/Correcting lettering 147
  - Deleting lettering 147
  - Corrections 147
- BERNINA motifs 148
- My Designs 148

Motifs in combination with functions 149

- Move motif 149
- Enlarging or reducing motif proportionally 149
- Rotate motif 149
- Mirroring motifs 150
- Motif Center 150
- Absolute embroidery check 151
- Select Hoop 151
- Zoom 152
- Moving the Motif 152
- Motif size and embroidery time 152
- Motif colors 153
- Changing the thread brand 153
- Embroidering motifs in one color 154
- Basting 154
  - Deactivating basting 154

Saving Motifs 155

- Embroidery computer memory 155
- Stick 156

Overwriting motifs 157

Deleting saved single motif 158

Deleting all saved motifs 159

Starting to embroider 160

- Select hoop 160
  - Attaching the embroidery hoop 160
  - Attach the hoop to the embroidery arm 160
  - Removing the hoop 160
- Embroidery menu 161

Embroidering using the «Start/Stop»-button on the headframe **161**
- Interrupting the process 161
- Completing the color 161
- Changing color 161
- «Embroidery»-display 161

Embroidering with foot control **162**
- Interrupting with the foot control 162
- Completing the color 162
- Changing color 162
- «Embroidery»-display 162

Thread breakage when embroidering **163**

Upper or lower thread breaks **163**

Embroidery sequence control when thread breaks **163**

Cleaning **164**

Troubleshooting **166**

Overview Stitch patterns **171**

Practical stitches **171**

Buttonholes **171**

Decorative stitches **171**

Quilt stitches **173**

Alphabets **174**

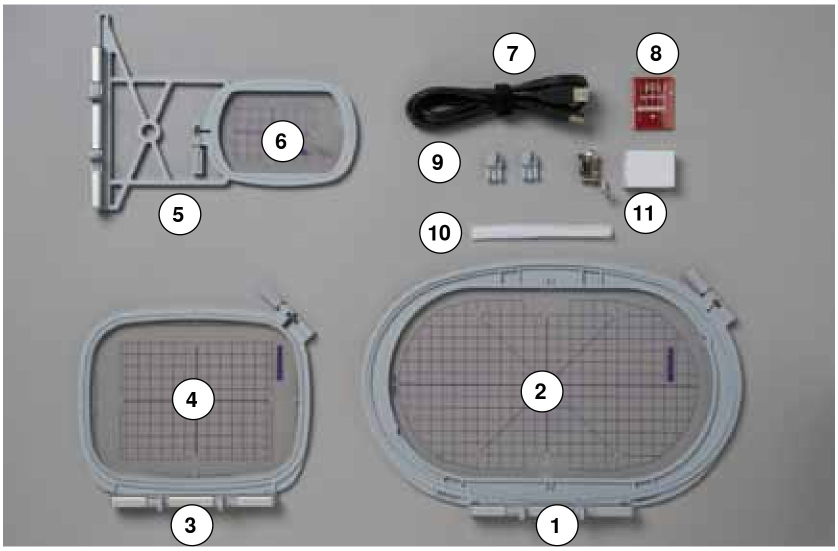
Overview Motifs **177**

Alphabets **185**

Index **186**

Accessory

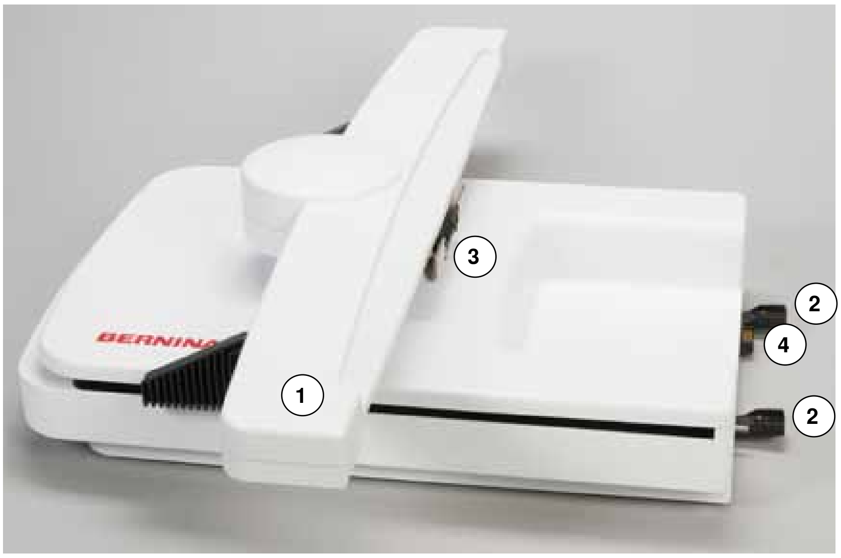
Standard Accessories



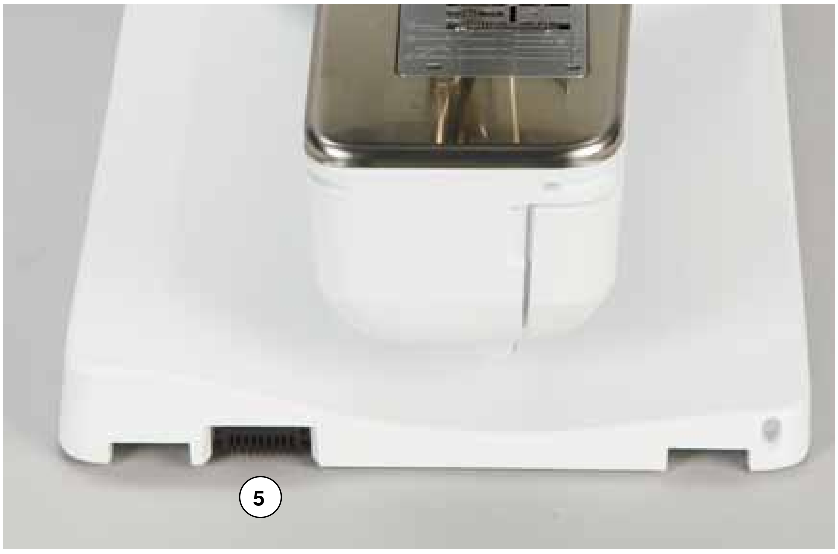
1	Embroidery hoop oval, 145x255mm
2	Embroidery template for embroidery hoop oval, VAR 00
3	Embroidery hoop medium, 100x130 mm
4	Embroidery template for medium embroidery hoop
5	Embroidery hoop small, 72x50mm
6	Embroidery template for embroidery hoop small, blue
7	USB connecting cable
8	Embroidery needle pack (SUK)
9	Template holder
10	Net for thread spool, white
11	Embroidery foot No. 26

Embroidery module

Detail view



1 Embroidery arm
2 Sewing computer guide rails
3 Bracket for attaching embroidery hoop
4 Connection to the sewing computer



5 Connection for embroidery module

Important embroidery information

Embroidery threads

A good quality thread is essential for embroidery to avoid poor stitch quality, thread breakage, etc.

Embroidery is particularly effective if you use 40wt glossy rayon or polyester embroidery threads as upper threads. They are available in a wide range of colors for beautiful embroidery.

Polyester threads
Polyester with a brilliant sheen is a hard wearing colorfast thread and has a high tensile strength which is suitable for all types of embroidery.

Rayon threads
Rayon is a soft viscose fiber with a brilliant sheen and suitable for fine, delicate embroidery, or items that will not receive excessive wear and tear.

Metallic threads
Metallic thread is a light- to medium weight thread suitable for special effects in embroidery. Reduce the speed and upper thread tension when embroidering with metallic threads.

Embroidery needle
- correct size thread must correspond with correct size needle
- replace the needle regularly

Use the vertical spool pin and attach the supplemental thread guide (optional accessory) when using guide eyelet for metallic and silk thread. A Metafil 130/705H-MET need is recommended for embroidering with metallic threads.
Adjust upper thread tension and reduce the embroidery speed.

Lower threads

Bobbin Fill (special bobbin thread)
Bobbin Fill is an especially soft and light polyester thread suitable for bobbin thread. This special bobbin thread ensures a steady thread tension and an optimal intertwining of the upper and bobbin thread.

Darning and embroidery thread
Fine mercerized cotton thread which suits for embroidering on cotton.

In most cases, bobbin thread for embroidery is either white or black. Some special cases require same thread in top and bobbin.

Choosing the embroidery motif

Simple motifs with a low stitch count are suitable for embroidery on fine material. Large-scale, densely embroidered motifs (e.g. with multiple color and embroidery direction changes) are suitable for medium and heavy weight material.

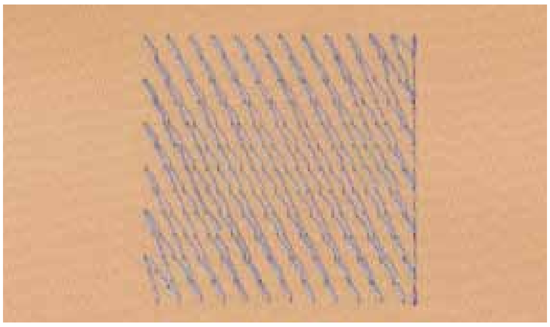
Embroidery test

Always test stitch the embroidery motif on the same type material. Use the same stabilizer as will be used on the finished project. Changes colors, stabilizer type or needle if needed to suite the motif/fabric combination.

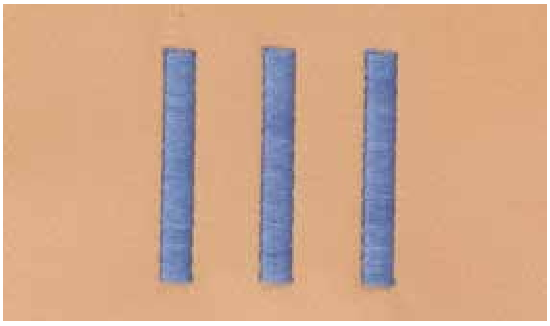
Scaling/Sizing motifs

Motifs can be scaled/sized using the on-screen icons or with the BERNINA Embroidery Software on the PC. Increasing/decreasing in a range of +/- 20 % provides the best results.

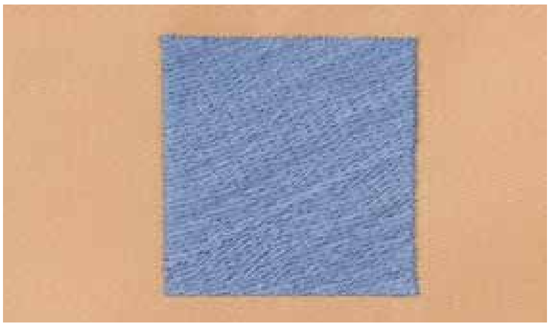
Different stitch types



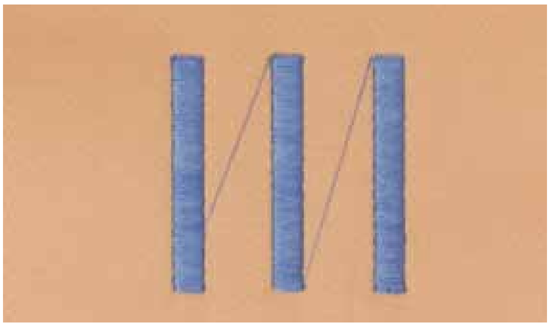
Underlay stitches
Underlay stitches are the foundation of a motif and are used to stabilize the base material and hold it in shape. They also prevent the covering stitches of the motif from sinking into the knit or the nap of the material.



Satin stitch
The needle moves left to right and vice versa. The result is a very dense, covering zig-zag stitching to fill the shape. Satin stitching fills are ideal for narrow and small shapes. Satin stitching is, however, not suitable for larger areas, since wide stitches are too loose and do not cover the fabric properly. In addition there is the danger that with too long stitches the threads could catch on something which would damage the embroidery.



Step stitch
A fill stitch with stitches of specified length sewn in rows used primarily to fill large areas quickly.

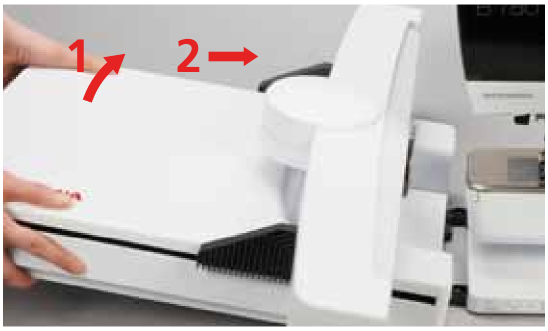


Connecting Stitches
Jump stitches which are used to get from one part of the motif to the next. Before and after the jump stitch securing stitches are sewn. Jump stitches are trimmed before the next color starts to embroider.

Preparing for embroidery

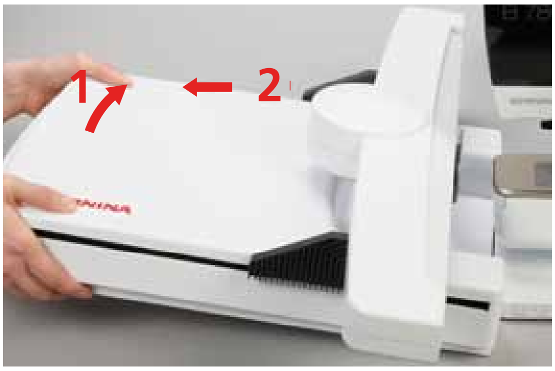
Attaching the Module

ATTENTION!
The slide-on table must not be attached while the embroidery module is being attached or removed.
When attaching the embroidery module ensure that all the units are on the same even surface.
The embroidery computer may run at high speeds when embroidering. Therefore the two units must be placed on a stable surface or the motor speed reduced when embroidering.
Make sure that there is enough space around the sewing computer and embroidery module to allow the unimpeded movement of the embroidery arm!
Always separate the sewing computer and the embroidery module from one anotherbefore transporting – do not transport as a single unit.



Attaching the Module to the Sewing computer

- lift the embroidery module on the left and
- carefully slide it from left to right into the sewing computer connection

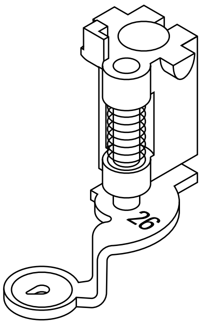


Removing the Module from the Sewing computer

- lift the embroidery module on the left and carefully pull out and off to the left

Attach slide-on table
The slide-on table can only be attached with the embroidery module arm to the far left. If necessary, use the «Park Module» function to move it, see page **140**.

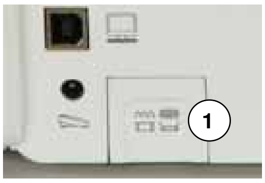
Embroidery foot/Embroidery needle



Embroidery needle
Embroidery needles (130/705 H-SUK) provide a larger eye and are slightly rounded. This avoids thread abrasion when using Rayon- and cotton embroidery thread.

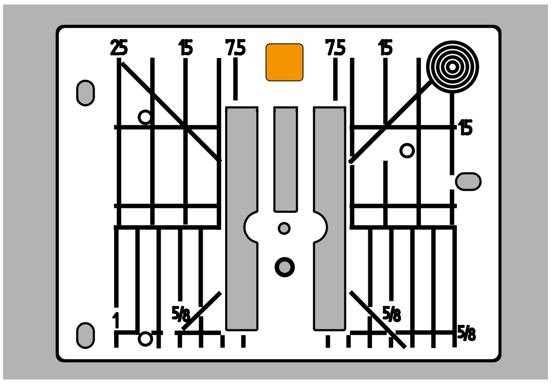
- use SUK-needles
- depending on the embroidery thread use a size No. 70-SUK to No. 90-SUK needle
- exchange the needle regularly

Preparation
- attach embroidery foot No. 26 to the embroidery computer
- raise the presser foot
- raise the needle



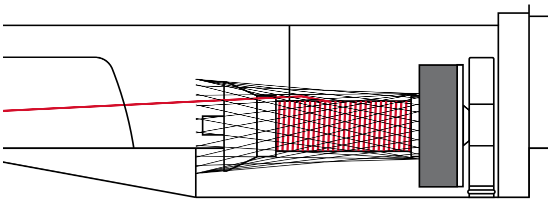
Lowering the feed dog
- press «Feed dog»-button **1**
- ► the feed dog is lowered

Straight-/CutWork stitch plate (optional accessory)



The straight-/CutWork stitch plate has a small needle hole in the needle insertion area. The small needle hole supports the fabric. This optimizes the stitching results.
- remove the standard stitch plate (see page **25**)
- replace it with the straight-/CutWork stitch plate

Threading upper and bobbin thread



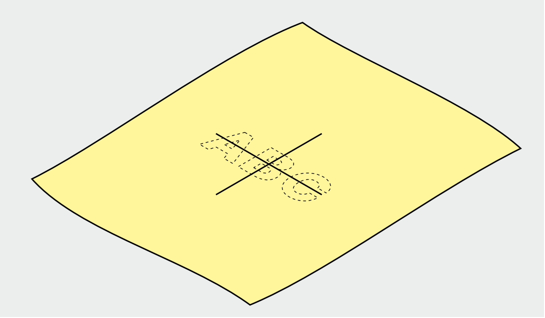
Threading upper thread
- place foam pad on the spool holder
- attach thread spool
- when using Rayon or slippery embroidery threads, slip the net over the upper thread spool
- ► this will feed the needle thread more evenly

Spool pin
When using metallic or specialty threads, using the vertical spool pin and the use the special eye (optional accessory) for metallic and silk threads.

Threading bobbin thread
- thread the lower thread for embroidering in the same way as for sewing, see page **21**.

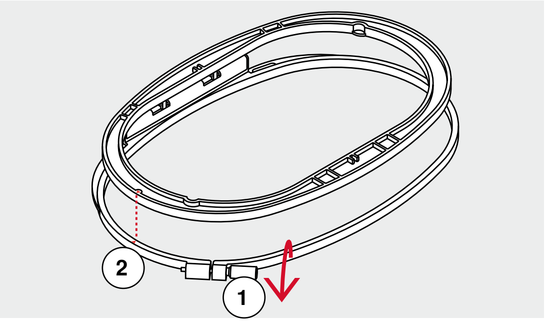
Insert the bobbin case and close the bobbin cover to activate the lower thread indicator (must be activated in the Setup-Program).

Embroidery hoop



Center determination

- determine the location of the center of the design within the fabric
- mark the material with fabric marker or chalk



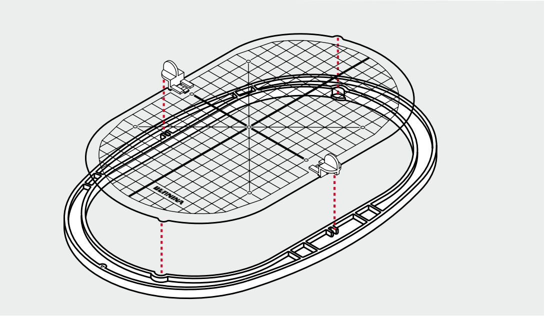
Using the embroidery hoop

- loosen the screw **1** of the outer hoop if necessary
- remove the inner hoop

Match the arrows **2** of both hoops.

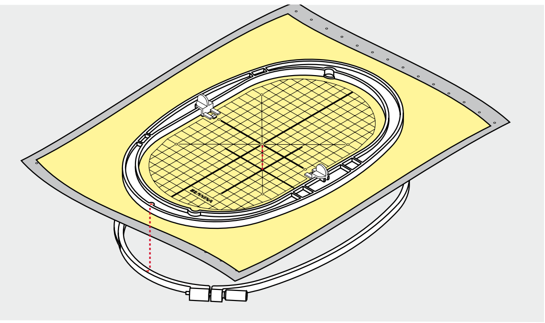
The arrows are

- on the oval and medium hoop at the center front
- on the small hoop to the right side
- on the Mega Hoop and Jumbo-Hoop (optional accessory) at the center front



Embroidery template

- there is an embroidery template for each hoop
- the embroidery area is marked in 1cm squares
- the center and end point are marked with holes
- for transferring marks to the material
- attach the embroidery template holder
- place the template in the inner hoop, so the BERNINA logo is at the front edge (by the arrows) and can be read
- ► in this position the embroidery template clicks into the inner hoop



Hooping the material

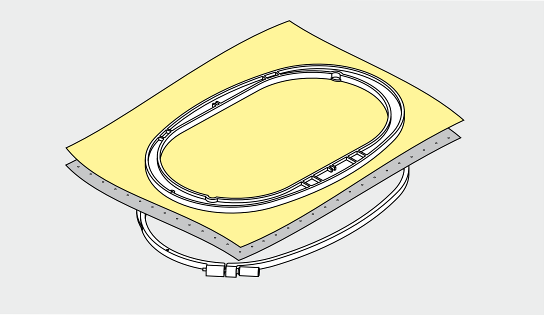
- place the material under the inner hoop
- line up the marked center point on the center of the template
- place the material and inner hoop on the outer hoop

Match the arrows of both hoops.

- fit hoops into each other; ensure that the material does not move
- hoop the material to be embroidered tightly
- tighten the screw
- remove the template from the hoop by using the template holder

Stabilizer

Stabilizers



Tear-away stabilizers

- excess is easily torn away
- one or more layers can be used
- available in different weights
- for more stability, apply to the wrong side of the material with temporary adhesive spray before hooping
- carefully tear away excess stabilizer from the back of the embroidery after stitching
- motifs are not skewed
- stabilizer will remain under larger embroidered areas

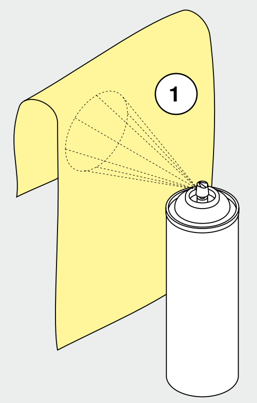
Application:
For all woven materials and materials without stretch.

Cut-away stabilizers

- one or more layers can be used
- available in light and heavy weight
- for more stability, apply to the wrong side of the material with temporary adhesive spray before hooping
- carefully cut away from the back of the embroidery after stitching
- motifs are not skewed
- stabilizer will remain under larger embroidered areas

Application:
For all elastic materials.

Adhesive Spray



Avoid using spray adhesive next to your embroidery system.

- at a distance **1** of 25-30cm
- use adhesive spray carefully
- spray the stabilizer and adhere to the wrong side of the material carefully smoothing material so there are no puckers

Application:

- stretch and knitted material: to retain shape
- smooth material: to avoid slipping of material layers
- appliqués can be exactly positioned
- material pieces: position material pieces on stabilizer, e.g. pocket flaps
- napped materials (i.e. velvet) that should not be clamped in the hoop because of the possibility of getting hoop marks
- to fix parts to be embroidered

Spray starch for additional stiffening

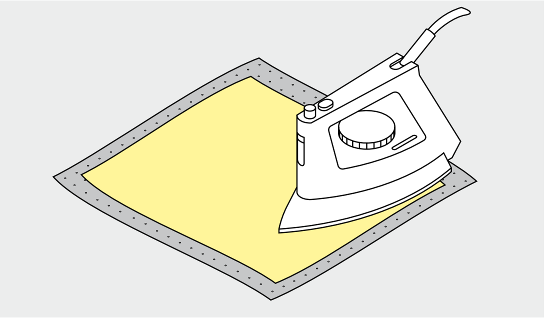
Spray starch is ideal for additional stiffening fine, soft or loosely woven materials.

- spray the area to be embroidered
- let dry; or press gently with a warm iron if necessary

Always use an additional stabilizer such as water soluble stabilizer on the wrong side of the material.

Application:
Ideal for fine, loosely woven materials, e.g. batiste, fine linen, etc.

Iron-on interfacing



Iron-on interfacings are available in a variety of weights. Iron-on interfacings should be selected to suit the material being used. Use an iron-on interfacing which is easily removable from the material.

- iron-on interfacings are pressed (fused) to the wrong side of the material

Application:
To provide body and shape for materials onto which motifs will be placed, use in conjunction with appropriate stabilizer.

Paper-backed adhesive stabilizer

- place stabilizer in hoop, paper side up
- use a pointed object (e.g. scissors) to score the paper
- remove paper to reveal the self-adhesive surface
- ► the self-adhesive surface reveals
- position the material to be embroidered on the stabilizer and smooth in place

Application:
– intended for delicate materials such as jersey or silk etc.
– for hard to hoop materials and materials such as velvets

Make sure that the adhesive residue on needle, stitch plate and hook area is removed.

Water soluble stabilizer
Water soluble stabilizer looks like plastic wrap. Dissolve stabilizer in warm water when the embroidery is complete. Water soluble stabilizers are ideal protection for materials with a thick or looped pile such as toweling. This prevents the threads from sinking into the material and prevents the material from showing through the embroidery stitches.

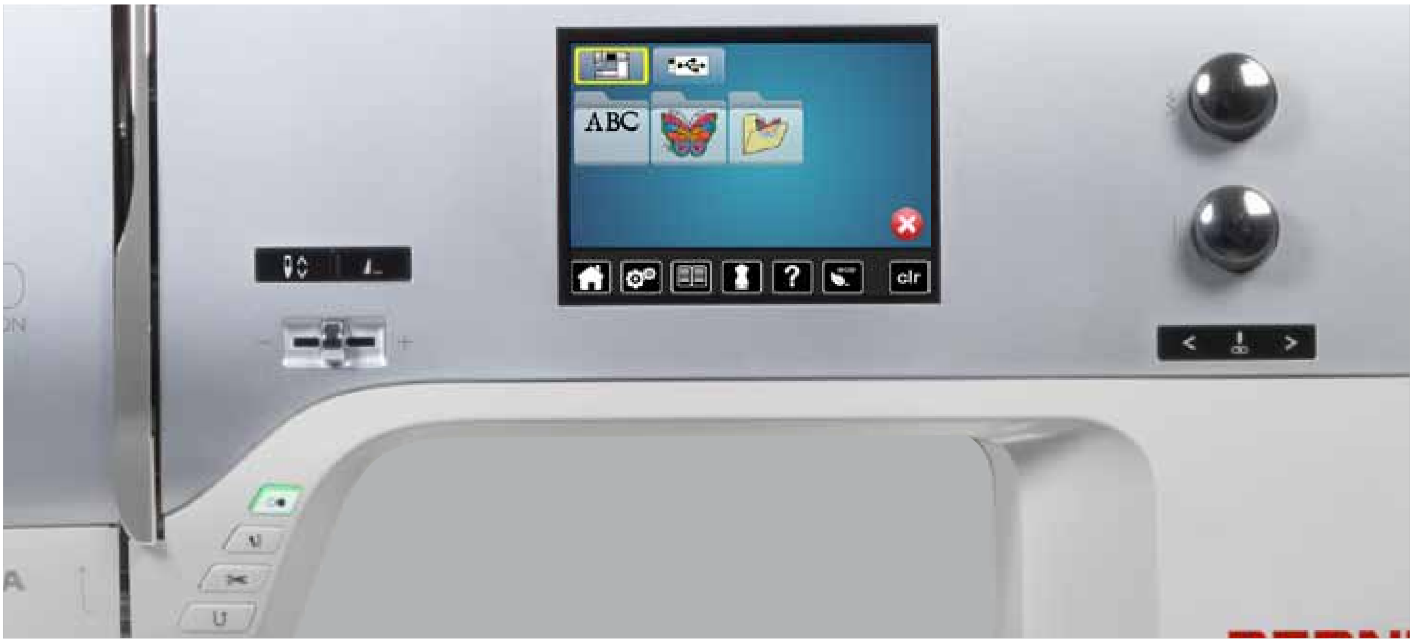
- place on top of the material
- place all the layers together into the embroidery hoop
- use adhesive spray to fix stabilizer if necessary
- for material with a pile, reinforce with additional, suitable stabilizer on the wrong side
- after dissolving lay the motif down flat and let dry

Application:
– ideal for toweling, velvet, bouclé etc.
– ideal for fine, sheer materials such as organdy, batiste, etc.
– for lace embroidery

For lace embroidery place one or two layers of water soluble stabilizer in hoop (as the motif is not embroidered on any material, only the thread embroidered motif is left). Embroidery motifs must be combined with short stitches otherwise the individual motifs may fall out.

Functions

Overview «Function»-buttons embroidery computer



«Start/Stop»-button
Press the button to start or stop the embroidery computer.

«Presser foot position»-button

- press the button
- ► the presser foot is lowered a bit and lifted again for easy positioning of the material
- ► the presser foot is lowered on the fabric when start sewing
- press button again
- ► presser foot is lifted

«Automatic thread cutter»-button

- press button
- ► the upper and the lower thread are cut automatically

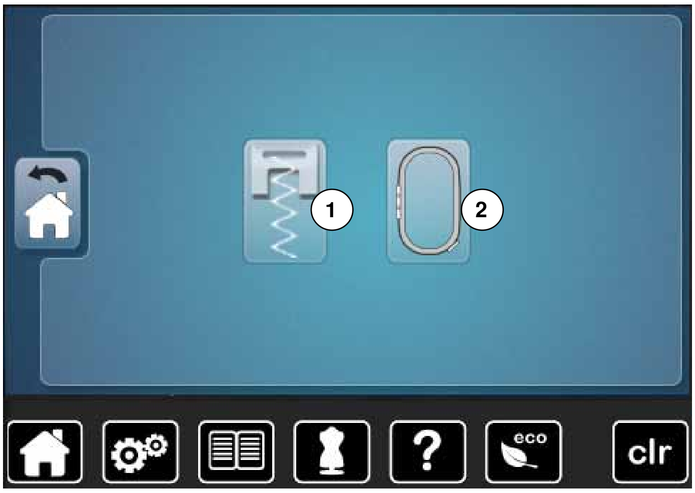
Stitch width and stitch length knob
The knobs provide different functions and are used to edit the motifs, e.g. altering motif size, to rotate the motif etc. A message appear to indicate the knobs must be used.

Speed control
The sewing and embroidering speed is infinitely variable with the slide.

Overview Display

Entry to Embroidery mode

- press «Home»-button

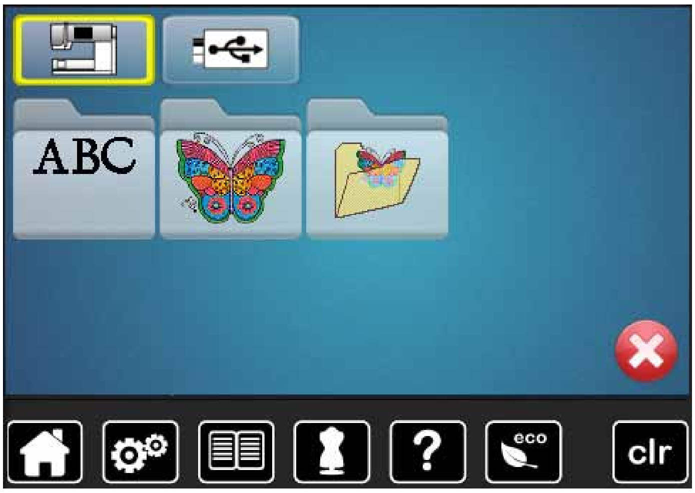


Embroidery mode

- touch «Embroidery mode»-icon **2**
- ► the «Embroidery»-display appears

Sewing mode

- press «Sewing mode»-icon **1**
- ► the «Sewing»-display appears



Embroidery computer
To select embroidery motifs from the folders «Alphabets», «Motifs», or «My Designs».

USB-Stick (optional accessory)
To select embroidery motifs which are saved on the USB stick.

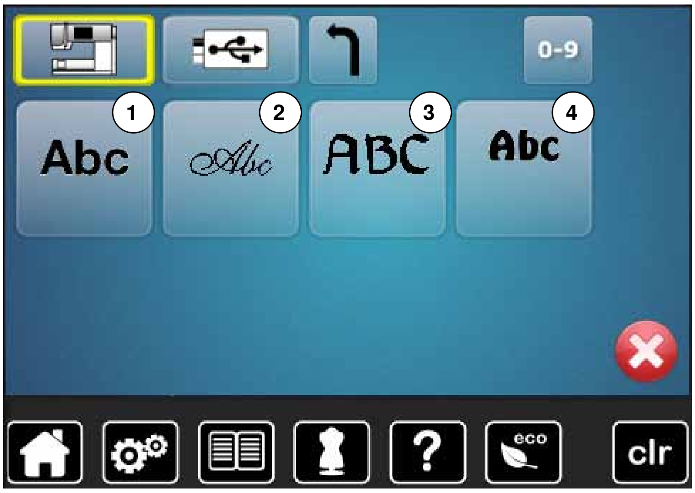
ABC **Alphabets**
To select built-in alphabets.

Embroidery motifs
To select built-in embroidery motifs.

My Designs
To select saved embroidery motifs.

Embroidery Alphabet

- touch «Alphabet»-icon


0-9
1
2
3
4
Abc
Abc
ABC
Abc
eco
clr

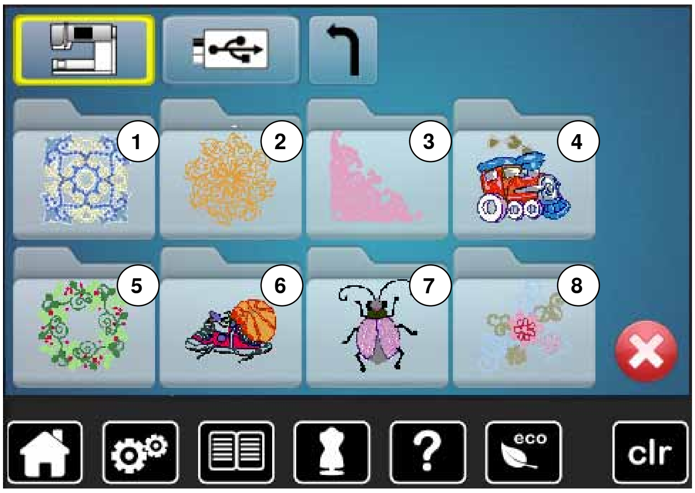
- select desired alphabet

1	Swiss Block
2	Anniversary
3	Guinevere
4	Drifter

Return to selection menu
Back to the «Selection»-display.

BERNINA motif

- touch «Embroidery motif»-icon

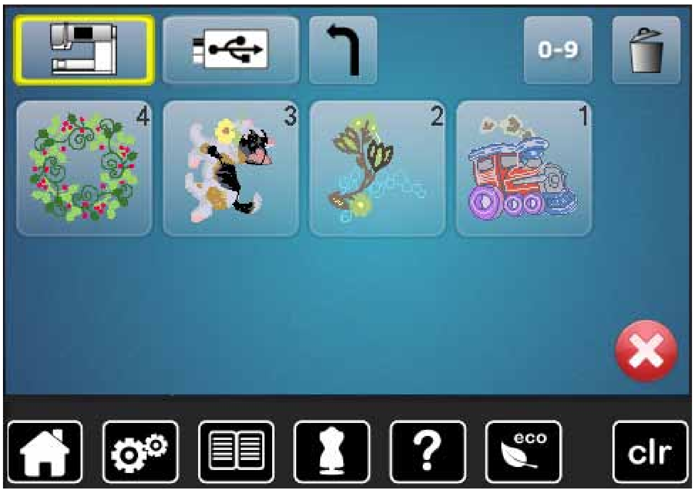


- select desired embroidery motif folder

1 Embellishment
2 Quilting
3 Borders and Lace
4 Children
5 Seasons
6 Sports and Hobbies
7 Animals
8 Flowers

My Design

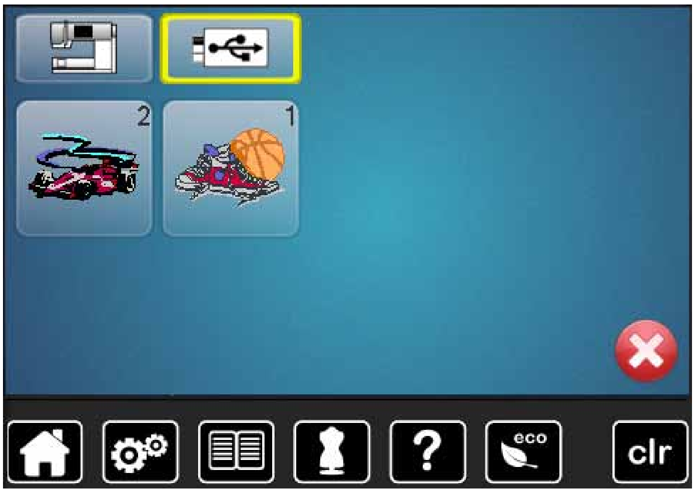
- touch «My Design»-icon



- touch the desired motif

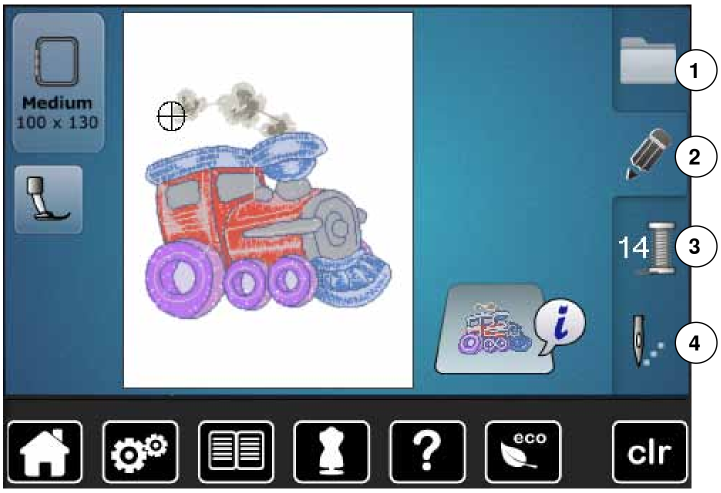
Embroidery motif from USB-Stick (optional accessory)

- insert USB-Stick
- touch «USB-Stick»-icon



- touch the desired motif

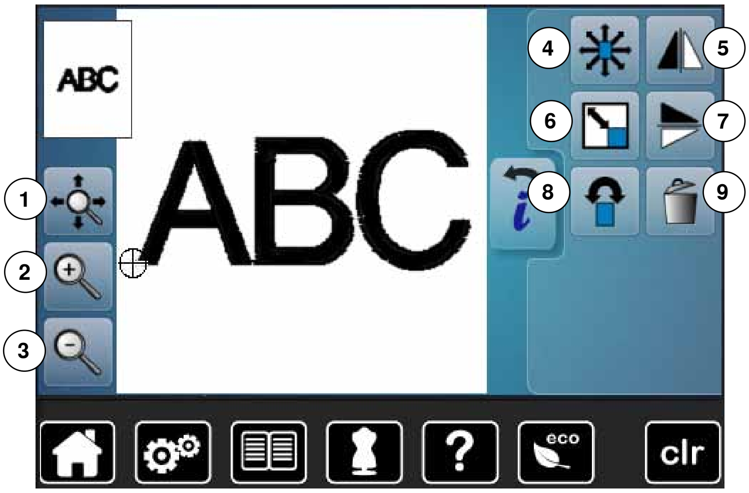
«Edit»-display



1 Selection
2 Edit
3 Color Numbers
4 Embroidery Menu

Overview «Edit»-display

- select alphabet or motif
- touch «i»-icon



Some functions feature tips for the operating of the stitch width and stitch length knobs.

Functions

1 Moving the view of the motif within the hoop
2 Zoom plus
3 Zoom minus
4 Move motif
5 Mirror Image (left/right)
6 Enlarging or reducing motif proportionally
7 Mirror Image (down/up)
8 Rotate motif
9 Deleting motif

General Functions

Information
- touch the button
- ► another Display is opened

Back
- touch the button
- ► goes back to the previous Display
- ► any alterations are accepted

Confirming selection
- touch the button

Alteration/Selection is activated or confirmed.

Leaving the active Display
- touch the button
- ► the Display is closed
- ► the previous Display appears

Moving the view of the motif within the hoop
The embroidery motif can be moved within the hoop to any direction using the finger directly in the Display.

Zoom plus
- touch icon 1-5x
- ► the displayed embroidery is enlarged by one step

Zoom minus
- touch icon 1-5x
- ► the Display of the enlarged motif is reduced by one step

Moving the motif
Display of the alteration in 1/10mm.

- turn stitch width knob
- ► the motif is moved in sideways (horizontally)
- turn stitch length knob
- ► the motif is moved lengthwise (vertically)
- turn stitch width and stitch length knob
- ► the motif is moved diagonally (the same number is in both icons)

By using the finger the motif can also be moved to any direction, directly in the Display.

Mirror image (left/right)
The motif is mirrored horizontally (left/right).

Altering the motif proportionally
Displayed alteration in %.

- turn stitch width knob to the right
- ► the motif is enlarged
- turn stitch width knob to the left
- ► the motif is reduced

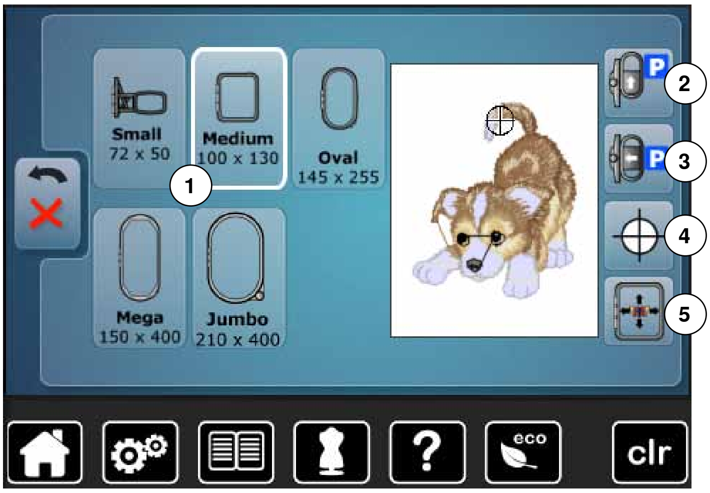
Mirror image down/up
The motif is mirrored vertically (down/up).

Rotate motif
Display of position in degrees (°).

- turn stitch width knob to the right
- ► the motif rotates to the right
- turn stitch width knob to the left
- ► the motif rotates to the left
- touch «+90»-icon 1-4x
- ► the motif rotates to the right in 90°-steps (0°, 90°, 180°, 270°, 360°)

Deleting motif
Active embroidery motif is deleted.

- touch «Hoop size»-icon



Functions

1 Select Hoop Menu
2 Move hoop to back
3 Parking the module
4 Motif center
5 Virtual positioning

Select hoop menu

- ► the optimal hoop for the motif selected is displayed
- touch the button
- ► the Display with the Select Hoop and further functions appear

Move hoop to back

- ► the hoop moves vertically to the far back

Better access for changing the bobbin.

Parking the embroidery module

- remove embroidery hoop
- ► the embroidery arm travels horizontally to the left to the park position
- change to the sewing mode

Sewing is possible even with the embroidery module attached.

Motif center

The exact motif center is indicated by the cursor.
The embroidery hoop is moved until the needle is positioned exactly in the center of the embroidery motif when the function «Virtual positioning» is activated.

Virtual Positioning

Icon is inactive = if the motif is repositioned, the hoop does not move.

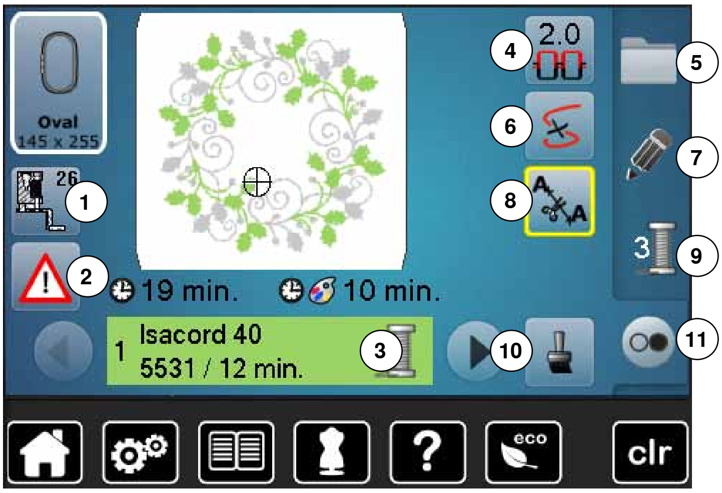
- touch the button

If the motif is repositioned, the hoop simultaneously moves along with it to the new position.
This function is only visible when an embroidery hoop is attached.

Notes

Overview Embroidery menu

- press «Embroidery menu»-button


Oval
145 x 255
26
19 min.
10 min.
1
Isacord 40
5531 / 12 min.
2.0
3
eco
clr
1
2
3
4
5
6
7
8
9
10
11

With some functions the instruction to use the knobs appears.

Functions

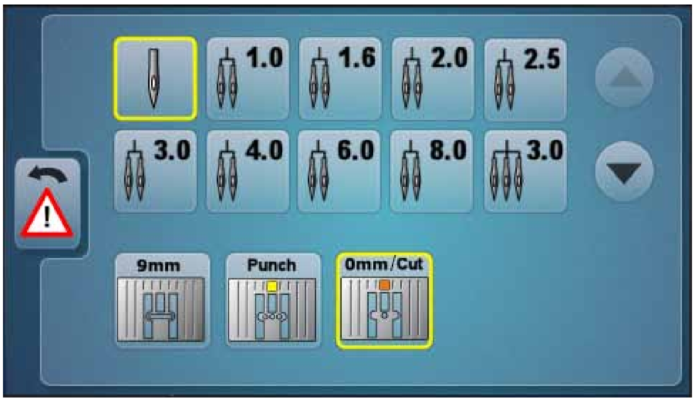
1 Presser foot indicator
2 Security program
3 Color information
4 Upper thread tension
5 Selection
6 Thread breakage
7 Edit
8 Cut jump stitches
9 Color numbers
10 Single/Multi-Color motif
11 «Embroidery menu»/«Start/Stop»-button

Presser foot indicator
Embroidery foot No. 26 is displayed by default.

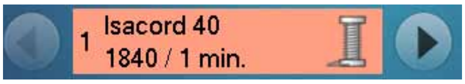
- touch the button
- ► further presser feet, such as e.g. free motion couching foot No. 43, are displayed and can be selected
- attach and select the appropriate presser foot for the project

Security Program

- touch the button


1.0
1.6
2.0
2.5
3.0
4.0
6.0
8.0
3.0
9mm
Punch
0mm/Cut

- touch desired «Needle»- and/or «Stitch plate»-icon
- ► if the «Security»-icon is yellow-framed, the correct stitch plate is not attached or selected


1
Isacord 40
1840 / 1 min.

Color information
Information about the active color.

- touch arrow icons left/right
- ► the current color is changed
- ► the hoop moves to the first stitch of the current color

The active color can also be embroidered individually or in another sequence.

Upper thread tension
Altering Upper thread tension.

► the respective value is visible in the icon

Selection

- select new motif
- save motifs
- delete motifs

Thread breakage
In the left Display the motif is shown in the normal size.
In the right Display the motif is enlarged.

Edit
In this Display the motif can be edited.

Cut jump stitches
By default the function is active (yellow-frame). Jump stitches are automatically cut.

- touch the button
- jump stitches must be trimmed manually

Color numbers
Display of the motif color numbers.

- touch the button

► Display providing the color information to the selected motif is opnened

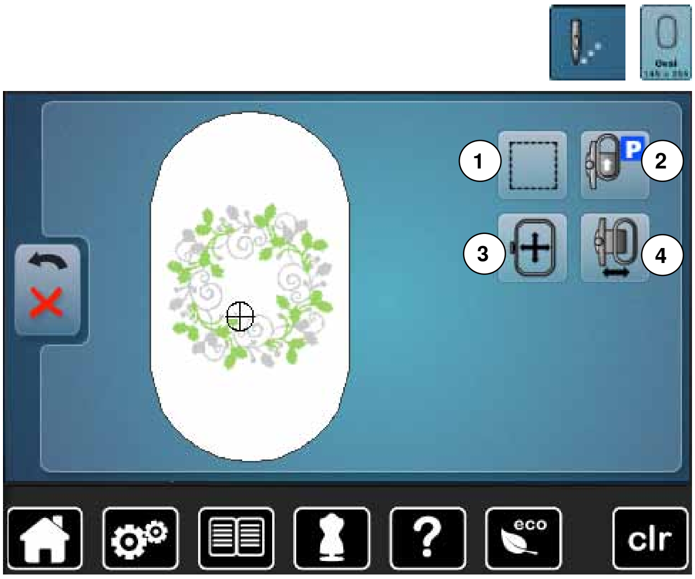
Single/Multi-Color Motif
If the icon is active, the entire motif will be embroidered in one color (without stopping).
If the icon is inactive, the colors will be embroidered individually.

Embroidery menu/Start/Stop
The alternating blinking symbols indicate:

► the «Embroidery»-display is opened

► the embroidery computer is ready to embroider

The embroidery computer must be started by pressing the «Start/Stop»-button on the headframe.



With some functions the instruction to use the knobs appears.

Functions

1 Basting
2 Moving Hoop to Back
3 Moving hoop by using the knobs
4 Embroidery hoop movement

Basting
- touch the button
- ► the embroidery motif is outlined with a straight stitch
- touch icon again, the symbol changes
- ► the basting is now done along the hoop
- touch the icon again
- ► Basting box function is switched off

Move hoop to back
- ► the hoop moves vertically to the far back

Better access for changing the bobbin.

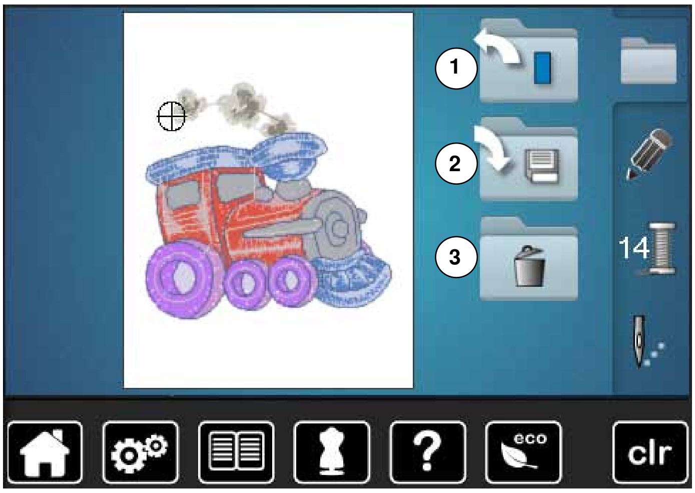
Moving the hoop

If the fabric has to be re-hooped when stitching a large embroidery motif (e.g. lettering, borders etc.), the hoop has to be moved to the last stitch of the already embroidered part with the stitch width and stitch length knob.
- ► the movement is displayed in the icons

Moving the hoop to the left
- ► the hoop moves horizontally to the center
- touch ✕
- press «Start/Stop»-button
- ► the hoop moves back to the previous position

Overview Selection menu

- press «Selection»-button



Functions
1 New motif
2 Saving motif
3 Deleting motif

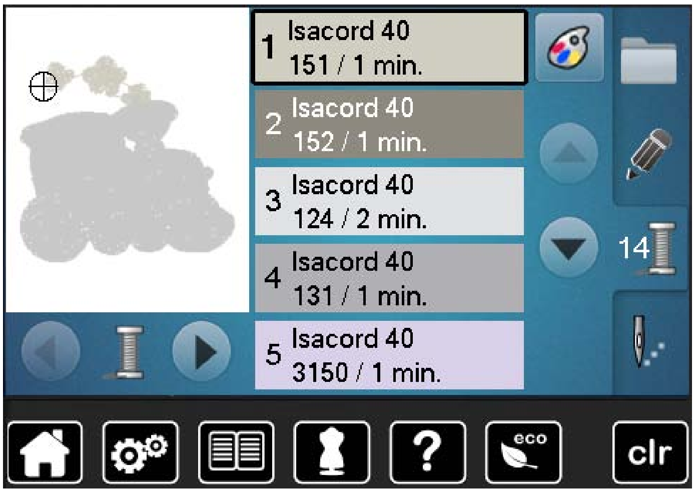
New Motif
- ► the overview of the previous Display is opened (Alphabet, Motifs, My Designs)
- select the desired motif

Saving Motif
- ► the «Save»-display is opened

Deleting Motif
- ► the «Delete»-display is opened

Overview Color Display

- press «Color number»-button



1 Isacord 40 151 / 1 min.

2 Isacord 40 152 / 1 min.

3 Isacord 40 124 / 2 min.

4 Isacord 40 131 / 1 min.

5 Isacord 40 3150 / 1 min.

Changing the thread brand

- ► the Display showing different thread brands is opened

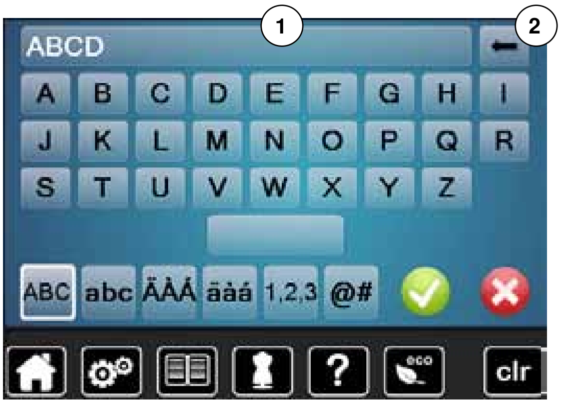
Embroidery motifs

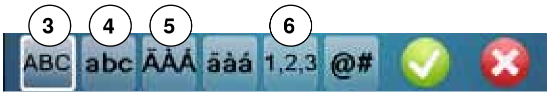
Selecting an embroidery motif

Various embroidery motifs from the «Alphabets», «Motifs» and «My Designs» files can be selected.

Alphabets

Selecting alphabet
- touch «Alphabet»-icon
- ► the various alphabet types are visible in the Display
- touch the desired «Alphabet»-icon





Entering/Correcting lettering
- ► the Display showing the keyboard is opened
- the «ABC»-icon (upper case) is active automatically
- select desired lettering

The space bar is at the bottom of the letter keys.
- ► letters appear in the text bar **1**
- confirm with ✓

Deleting lettering
- touch text bar **1**
- ► all entered text is deleted

Corrections
- touch the icon **2**
- ► the entered text is deleted from right to left

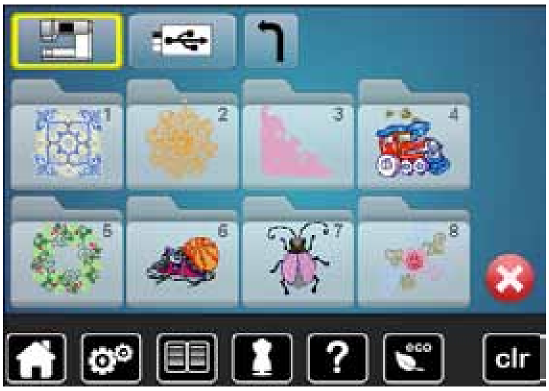
3 «ABC» upper case characters (standard)
4 «abc» lower case characters
5 «Ä À Á», «ä à á» and «@ #» upper and lower special characters
6 «1,2,3» numbers and mathematical characters

> If all the lettering cannot be displayed in the hoop, rotate the lettering by 90°. There is then more room for the lettering in the entire length of the embroidery hoop.
> If this does not help, decrease the lettering size or reduce the number of letters.

BERNINA motifs

All BERNINA embroidery motifs can either be embroidered as-is, or changed using the various functions offered by the embroidery computer.

- touch «Motif»-icon



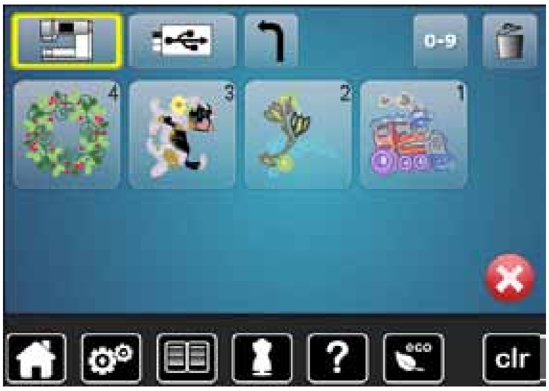
Motif overview
The motifs are displayed in folders according to topics.

- select folder
- select desired motif

My Designs

All embroidery designs can either be embroidered as-is, or edited using the various functions offered by the embroidery computer.

- touch «My Design»-icon



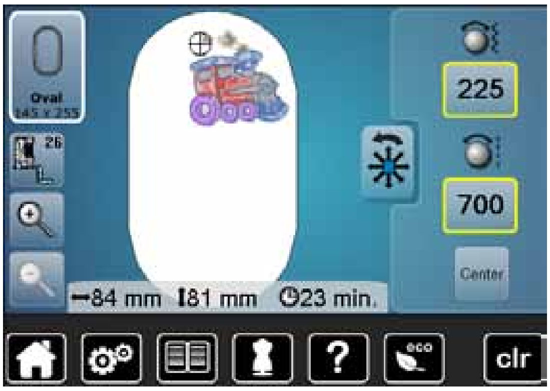
Motif Overview

- select the desired motif touching the icon or via «0-9»-icon

Motifs in combination with functions

To activate the functions touch the appropriate icon and make alterations with the stitch width and stitch length knobs.

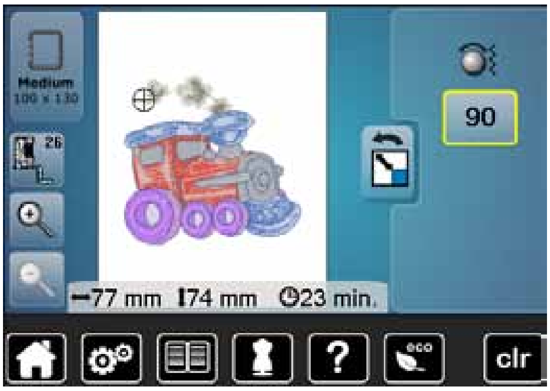
Move motif



- touch «i»-icon
- touch «Move motif»-icon

- turn stitch width knob
- ► the motif is moved horizontally
- turn stitch legth knob
- ► the motif is moved vertically
- ► the alteration is displayed in the icons in 1/10mm
- turn stitch width and stitch length knob
- ► if both icons display the same number, the motif has been moved diagonally
- touch the yellow-framed icon or the «Center»-icon
- ► the motif is repositioned to the center of the hoop

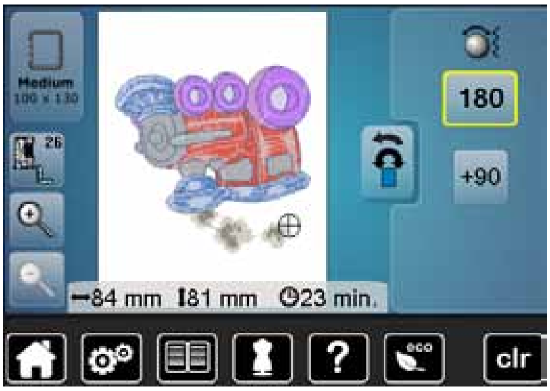
Enlarging or reducing motif proportionally



- touch «i»-icon
- touch «Enlarging or reducing motif proportionally»-icon

- turn stitch width knob to the right
- ► the motif is enlarged
- turn stitch width knob to the left
- ► the motif is reduced
- ► the alteration is displayed in the icon in percent (%)
- touch yellow-framed icon
- ► the size of the motif is reset to basic setting

Rotate motif

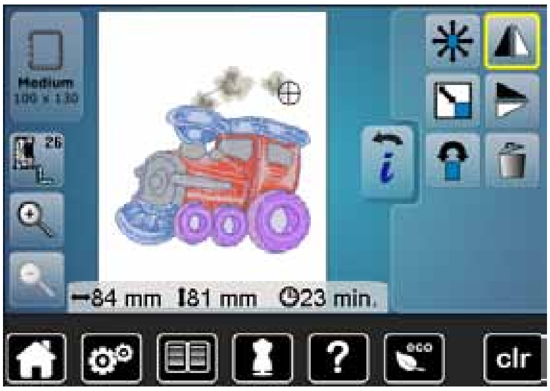


- touch «i»-icon
- touch «Rotate motif»-icon

- turn stitch width knob to the right
- ► the motif rotates to the right
- turn stitch width knob to the left
- ► the motif rotates to the left
- ► the postion is displayed in the icon in degrees (°)
- touch yellow-framed icon
- ► the position of the motif is reset to basic setting (0°/360°)
- touch «+90»-icon 1-4x
- ► the motif rotates in 90°-steps (0°, 90°, 180°, 270°, 360°)

Mirroring motifs

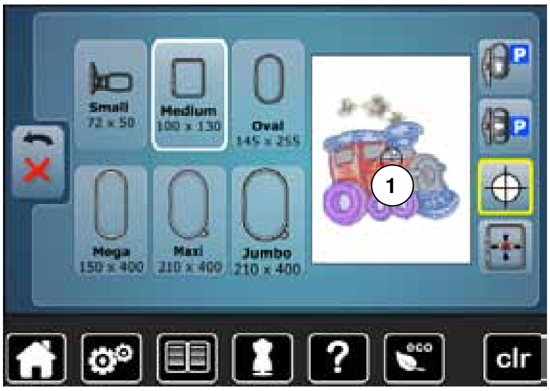
● touch «i»-icon


Medium
100 x 130
26
84 mm
81 mm
23 min.
clr

● touch «Mirror image left/right»-icon
► the motif will be mirrored horizontally
● touch «Mirror image down/up»-icon
► the motif will be mirrored vertically

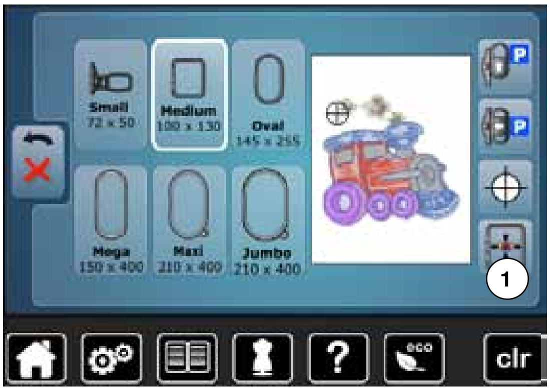
Motif Center

● touch «Select hoop»-icon
● touch «Motif center»-icon


Small
72 x 50
Medium
100 x 130
Oval
145 x 255
Mega
150 x 400
Maxi
210 x 400
Jumbo
210 x 400
P
P
1
clr

► center of motif **1** is shown in the the Display
► the hoop is moved until the needle is exactly in the center of the motif
● touch «Motif center»-icon again
► the first stitch of the motif will be marked again in the Display

Absolute embroidery check


Small
72 x 50
Medium
100 x 130
Oval
145 x 255
Mega
150 x 400
Maxi
210 x 400
Jumbo
210 x 400
1
eco
clr

By using a blunt pen any position within the motif can be selected directly in the «Edit»-Display.

- select and edit motif
- attach the respective hoop

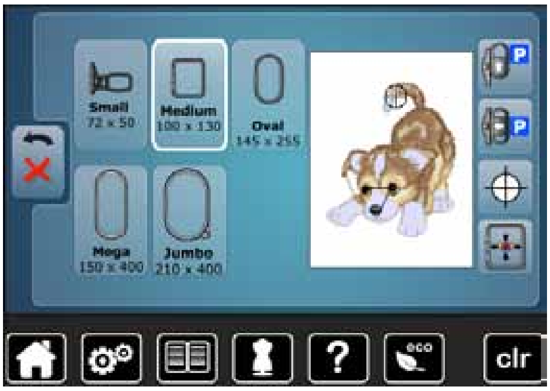
The «Motif center» icon must be deactivated in order to utilize Absolute check.

- check the motif within the hoop by using a blunt pen
- select any point in the motif by using a blunt pen
- ► the cursor (marking the needle position) moves to the selected area
- ► if the icon «Virtual positioning» **1** is activated (yellow-framed), the hoop is moved to position the needle over the selected area

> If the thread breaks, the blunt pen can also be placed on the area of the Display where the thread broke. The hoop moves to that area.

Select Hoop

- select «Select hoop»-icon


Small
72 x 50
Medium
100 x 130
Oval
145 x 255
Mega
150 x 400
Jumbo
210 x 400
eco
clr

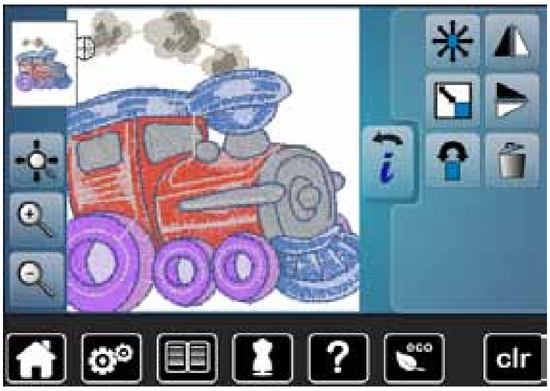
For best embroidery results always use the smallest hoop possible for the motif.

- select desired hoop
- ► the selected hoop is highlighted in white
- touch «Back»-icon
- ► the Display is closed
- ► the motif appears in the selected hoop

Zoom

- touch «i»-icon
- touch «Zoom+»-icon 1-5x

► the view of the motif is enlarged by one step



- touch «Zoom-»-icon 1-5x

► the enlarged view of the motif is scaled-down by one step

Moving the Motif

- touch «Move»-icon

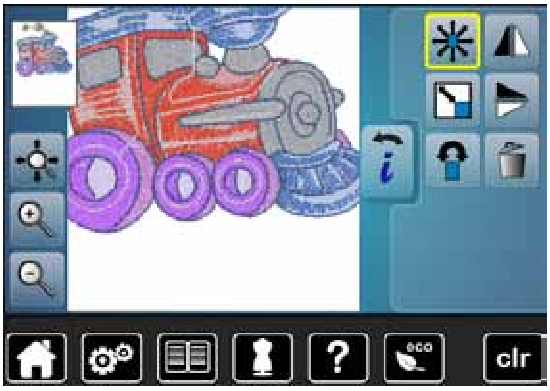
Icon inactive:

- the position of the motif can be moved to any position **within** the hoop directly in the Display by using the finger

Icon active (yellow-framed):

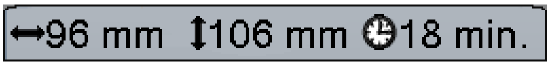
- the view of the motif can be moved to any position the hoop directly in the Display by using the finger

► the embroider position is not changed



Motif size and embroidery time

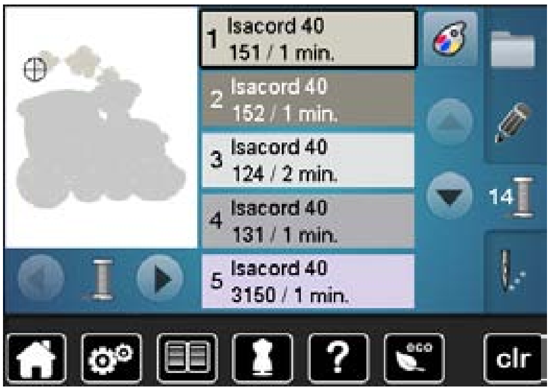
- touch «i»-icon



↔96 mm ↕106 mm ⏱18 min.

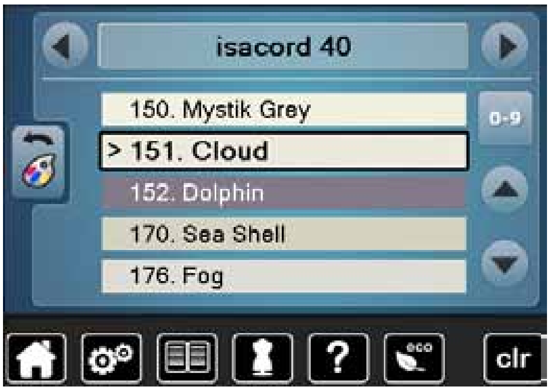
Width and height of the embroidery motif is displayed in millimeters (mm). The embroidery time is displayed in minutes.

Motif colors


1 Isacord 40 151 / 1 min.
2 Isacord 40 152 / 1 min.
3 Isacord 40 124 / 2 min.
4 Isacord 40 131 / 1 min.
5 Isacord 40 3150 / 1 min.

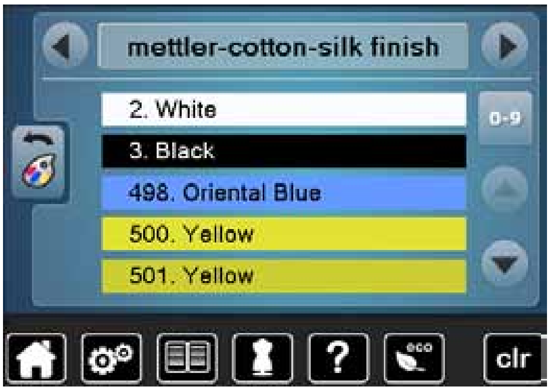
Changing motif colors

- touch «Color number»-icon in the Display
- scroll with the arrow icons, if necessary, until the color to be changed appears
- select the color to be changed (e.g. 1)


isacord 40
150. Mystik Grey
> 151. Cloud
152. Dolphin
170. Sea Shell
176. Fog

- touch «Thread color»-icon
- scroll with the arrow icons until the desired color appears
- select the desired color or
- touch «0-9»-icon and
- enter the color number via the keyboard
- touch the white X to close the 0-9 window and confirm the selected color
- select color icon
- ► the new color is reallocated
- ► the altered color is displayed

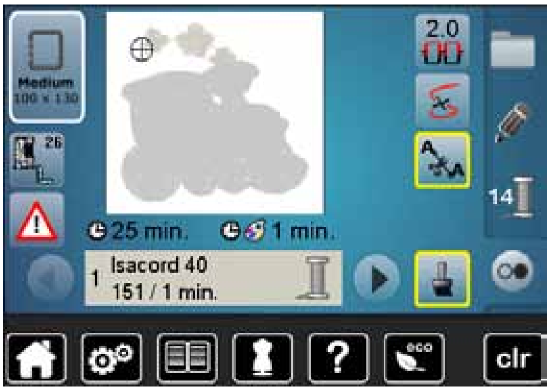
Changing the thread brand


mettler-cotton-silk finish
2. White
3. Black
498. Oriental Blue
500. Yellow
501. Yellow

- touch «Thread color»-icon
- scroll with the arrow icons left or right until the desired thread brand appears
- touch «Thread brand»-icon
- ► the thread brand in the Display changes and the new thread details appear
- touch «Back»-icon
- ► the altered thread details are displayed

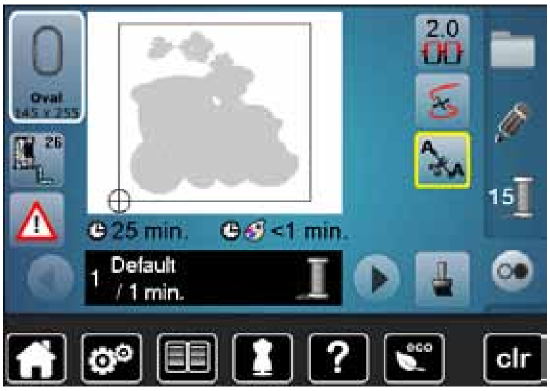
Different thread brands can be assigned to the motif.
- scroll to the desired thread brand
- do **not** touch icon
- scroll to the desired color
- touch the icon

Embroidering motifs in one color


Medium
100 x 130
26
2.0
14
25 min.
1 min.
1
Isacord 40
151 / 1 min.
clr

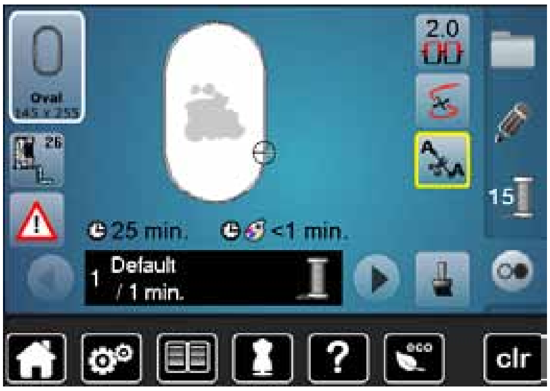
- press «Embroidery menu»-button
- touch «Single/Multi-Color Motif»-icon
- ► the function is activated
- ► the embroidery computer embroiders the complete motif and stops when finished

Basting


Oval
145 x 255
26
2.0
15
25 min.
<1 min.
1
Default
/ 1 min.
clr

- press the «Embroidery menu»-button
- touch the «Select hoop»-icon
- touch «Basting»-icon

The embroidery motif is outlined with a straight basting stitch.
This serves as an additional anchoring of the project so that the fabric and stabilizer are adhered.


Oval
145 x 255
26
2.0
15
25 min.
<1 min.
1
Default
/ 1 min.
clr

- touch «Basting»-icon again
- ► the symbol changes

The basting is now done along the hoop.

Deactivating basting

- touch the icon again
- ► Basting stitches are deactivated

This function remains active even if a new motif is selected.

Saving Motifs

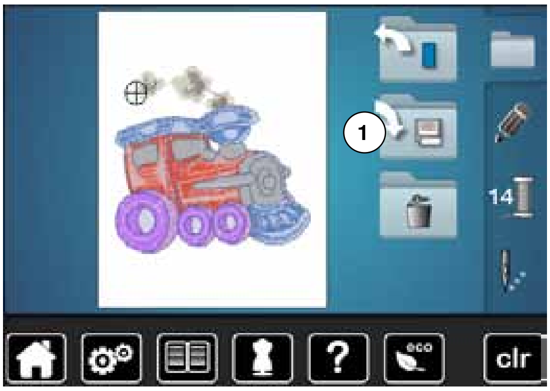
Embroidery motifs from the embroidery computer, the USB stick or designs created in the BERNINA Embroidery Software can be altered in different ways, then saved.
Embroidery motifs can either be saved in the embroidery computer memory or on an USB Stick.

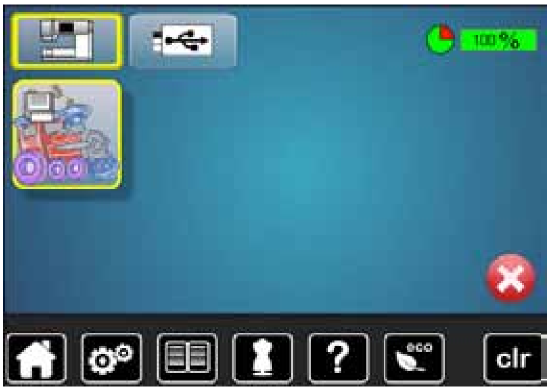
> Embroidery motifs which were altered in size and saved are regarded as new motifs when they are recalled. That is why all percentages say 100%, and the former alteration can no longer be seen.

Embroidery computer memory

- select desired motif
- alter if desired

- press «Selection»-button
- touch «Save»-icon **1**

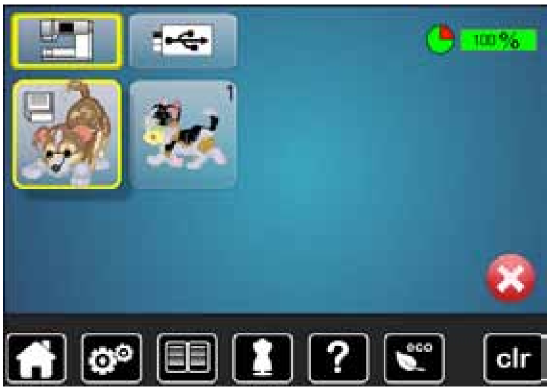




The motif to be saved is displayed in a yellow frame.

► «Embroidery computer»-icon is active
► the «My Designs» folder is opened automatically
► the system memory capacity (free capacity) is displayed in percent (%) in the green bar
- select the motif to be saved
► the embroidery motif is saved in numerical order in the «My Designs» folder
► the «Edit»-display appears again

USB stick



The motif to be saved is displayed in a yellow frame.

- insert USB stick
- touch «USB stick»-icon
- ► the system memory capacity (free capacity) is shown in percentage (%) in the green bar
- select the motif to be saved
- ► the motif is saved on the stick

Empty USB sticks are available as optional accessory at the BERNINA-dealer.
Sticks of other brands are unlikely to be supported, especially sticks providing a large memory capacity.

Overwriting motifs

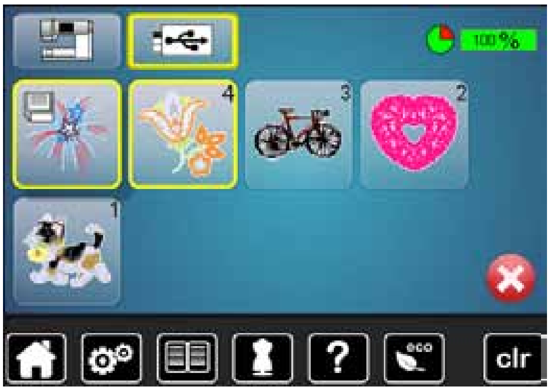
Saved motifs in the memory or on an USB Stick can be overwritten directly by another motif.

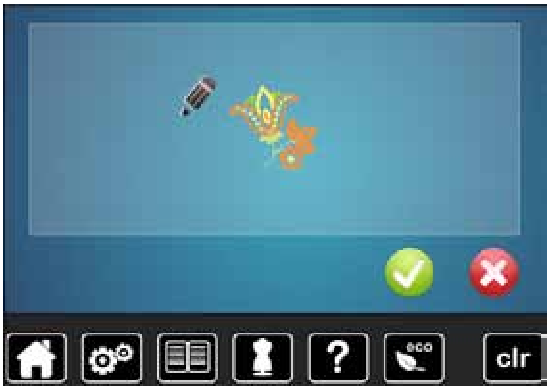
- select desired motif

- insert BERNINA USB-Stick
- press «Selection»-button
- touch «Save»-icon

The motif to be saved is displayed in a yellow frame.

- touch «Embroidery computer»-icon or «USB-Stick»-icon
- select the motif to be overwritten

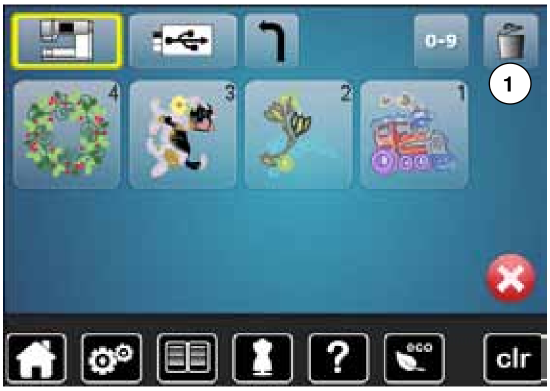




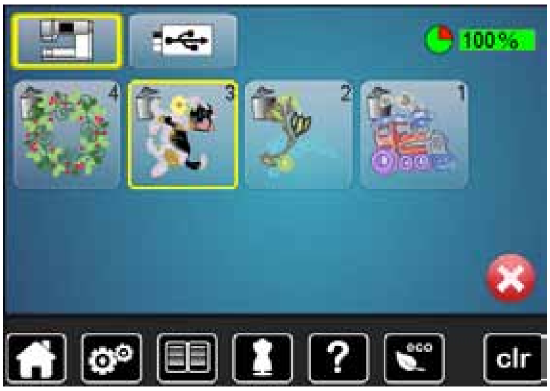
- confirm with ✓
- ► the motif is now saved at the previously selected position

Deleting saved single motif

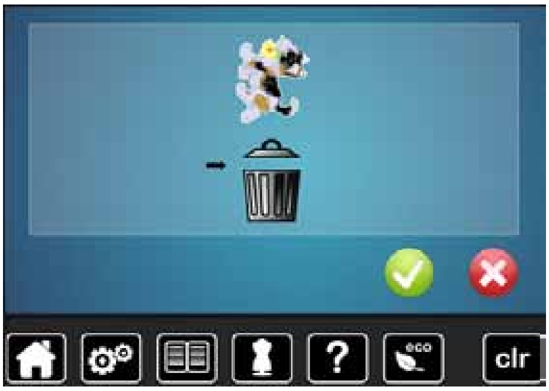
- insert USB stick
- touch «USB stick»-icon or
- touch «Embroidery computer»-icon or
- touch «My Design»-icon


0-9
1
4
3
2
1
eco
clr

► touch «Delete»-icon **1**


100%
4
3
2
1
eco
clr

- select the motif to be deleted



- confirm with ✓

► the motif is deleted

Cancelling deleting

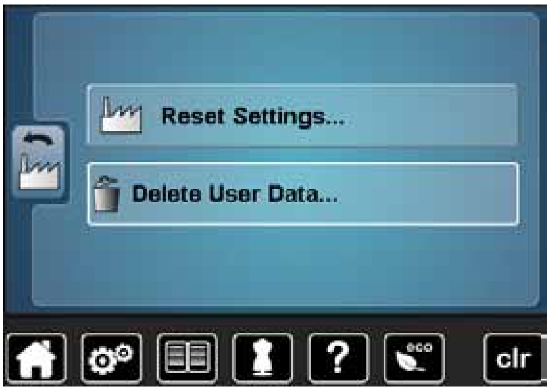
- touch ✕

► the deleting is cancelled, the previous screen appears

Deleting all saved motifs

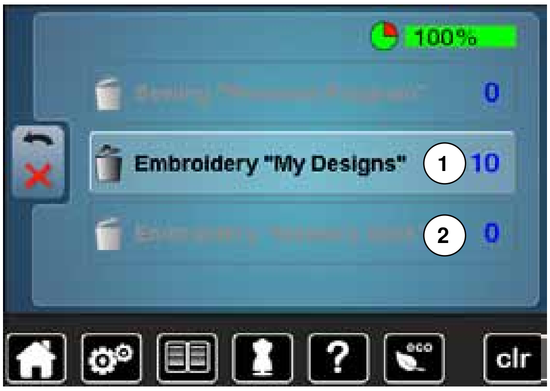
It is possible to delete the content of the folder «My Designs» or the USB stick all at once.

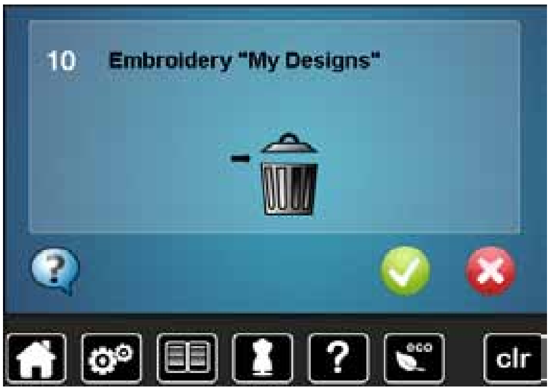
- press «Setup»-button
- touch «Basic settings»-icon
- touch «Delete user data»-icon


Reset Settings...
Delete User Data...
clr

When embroidering there are two options to choose from:
1 My Designs
2 USB stick (the stick must be inserted)

- touch the button of which the data should be deleted


100%
0
Embroidery "My Designs"
1
10
2
0
clr


10
Embroidery "My Designs"
clr

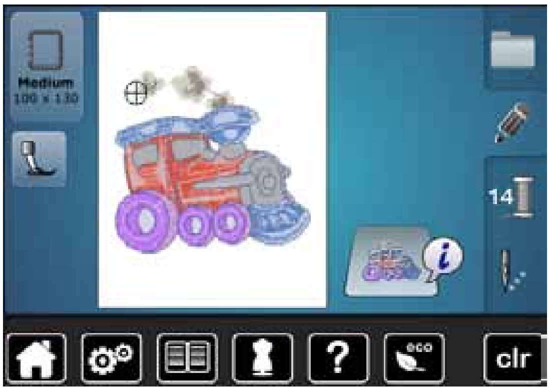
- confirm with ✓
- ► the data is deleted

Cancelling deleting

- touch ✕
- ► the deleting is cancelled, the previous screen appears

Starting to embroider

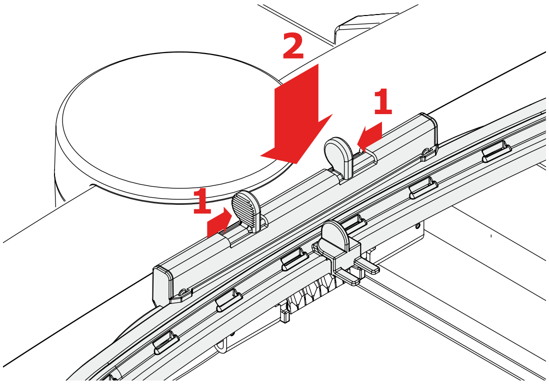
Select hoop



- select motif
  - ► the selected motif is displayed in the optimal (the smallest) hoop
  - ► the «Select hoop»-icon displays the recommended hoop
- attach the recommended hoop

Attaching the embroidery hoop

- raise needle and embroidery foot
- hold the hoop with the right side of the fabric up and the attaching mechanism to the left

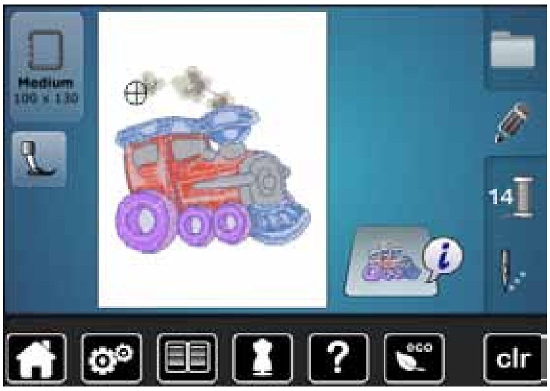


Attach the hoop to the embroidery arm

- guide the hoop underneath the embroidery foot
- press the attaching mechanisms of the hoop toward each other
- position the center points of the hoop (small attachment clamps) over the bracket of the embroidery arm
- press down until it clicks in position
- release the attaching mechanism of the hoop

Removing the hoop

- press both of the attaching mechanisms of the hoop toward each other
- lift the hoop up to remove

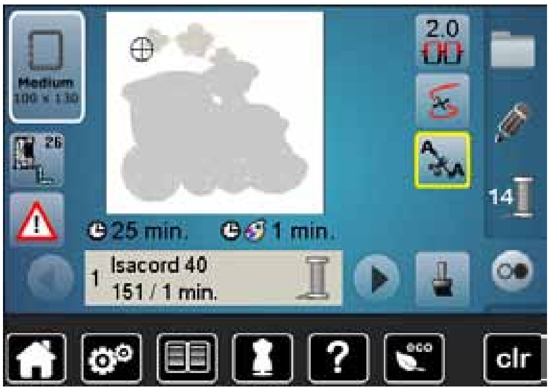


- press «Embroidery menu»-button or «Start/Stop»-button on the headframe
  - ► the hoop moves
  - ► the hoop is read

Calibrating the embroidery hoop see page **48**.

As soon the «Embroidery menu»-button has been pressed, made alterationen will not be visible anymore when going back to the «Edit»-display. The «Information»-icon turns blue again, the function icons are no longer yellow-framed and the setting is at 100%.

Embroidery menu



- embroidery menu is opened
- the motif is ready for embroidering

Embroidering using the «Start/Stop»-button on the headframe

- press the «Start/Stop»-button on the headframe, until the embroidery computer starts
- the embroidery computer sews approximately 7 stitches and stops automatically
- a Display indicates that the thread tail has to be cut at the beginning of the motif
- raise the presser foot
- cut the thread tail at the beginning of motif
- lower the presser foot
- press the «Start/Stop»-button on the headframe and continue embroidering

Interrupting the process

- press «Start/Stop»-button on the headframe
- the embroidery computer stops

Completing the color

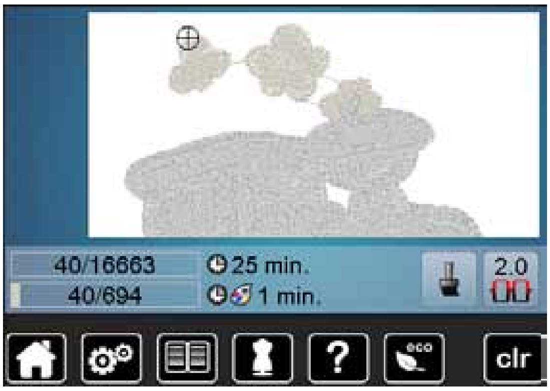
- press «Start/Stop»-button on the headframe
- the embroidery computer embroiders all the sections in the color activated
- the embroidery computer stops automatically when complete
- both threads are automatically cut

Changing color

- the embroidery computer switches automatically to the next color
- change color of the upper thread accordingly
- embroider with the new color

«Embroidery»-display

- after starting the motif the «Embroidery»-display appears



Embroidering with foot control

When embroidering with the foot control always keep it depressed.

- press the foot control
- ► the embroidery computer sews approximately 7 stitches and stops automatically
- ► a Display indicates that the thread end has to be cut after the start of embroidering
- release the foot control
- raise the presser foot
- cut the thread tail at the beginning of motif
- lower the presser foot
- press the foot control and continue embroidering

Interrupting with the foot control

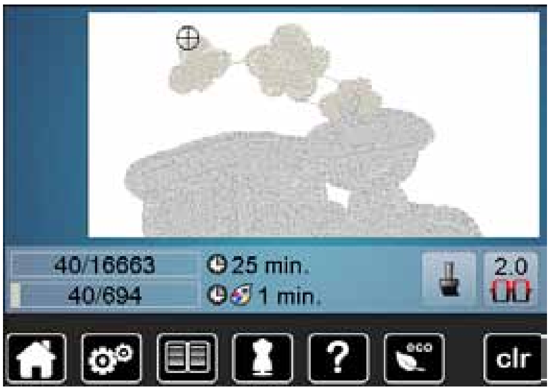
- release the foot control
- ► the sewing computer stops

Completing the color

- press the foot control
- ► the embroidery computer embroiders all the sections in the color activated
- ► the embroidery computer stops automatically when complete
- ► both threads are automatically cut

Changing color

- ► the emboidery computer switches automatically to the next color
- change color of the upper thread accordingly
- embroider with the new color



«Embroidery»-display

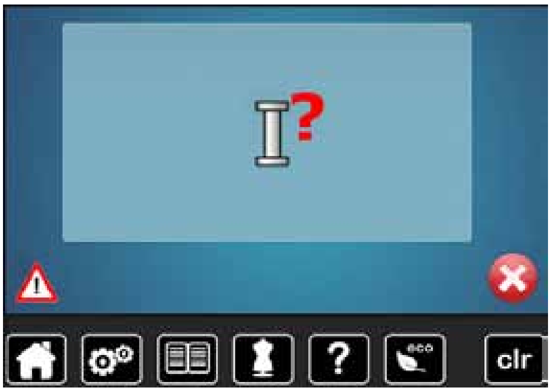
- ► after starting the motif the «Embroidery»-display appears

Embroidering via the foot control is recommended to embroider a small sequence.

Thread breakage when embroidering

The upper or lower thread may occasionally run out or break when you are embroidering. When this happens, the embroidery computer stops automatically, provided that the thread and bobbin indicators are activated in the setup program.

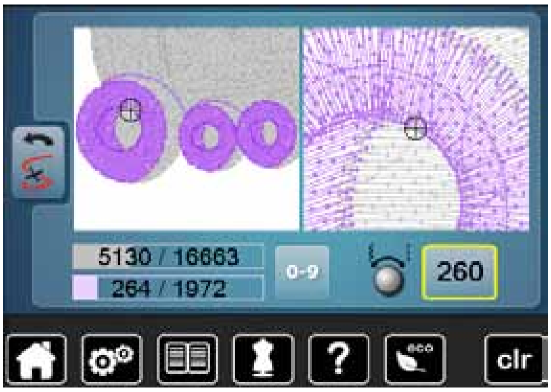
Upper or lower thread breaks



- ► the embroidery computer stops automatically
- ► an animation is displayed
- ● check upper thread
- ● rethread needle
- ● check lower thread
- ● refill or rethread bobbin

Embroidery sequence control when thread breaks

- ● touch «Thread breakage»-icon

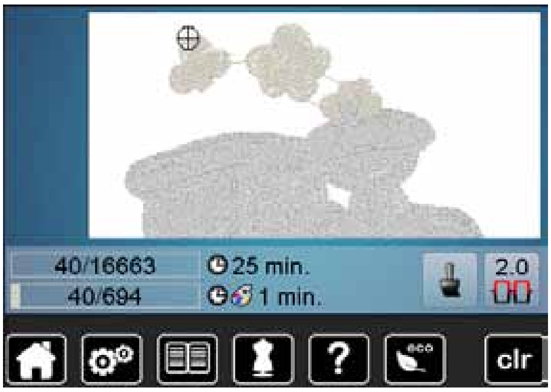


In the left portion of the Display the active color of the motif is shown in original size and in the right portion enlarged. This makes it easier to check the embroidery sequence.

- ► the message to operate the stitch width and stitch length knobs appears
- ● turn the knobs to the left or to the right
- ► the hoop moves along the embroidery sequence backwards or forwards
- ● turn the stitch width knob slowly
- ► the hoop is moved stitch by stitch
- ● turn the stitch length knob slowly
- ► the hoop is moved in big steps
- ► the number in the yellow-framed icon indicates the current position within the motif by stitch number
- ● via the «0-9»-icon a position can be entered directly
- ● position the needle back far enough so that it will resume stitching several stitches before the thread breakage

Returning to original position

- ● touch «Back»-icon
- ► the Display is closed



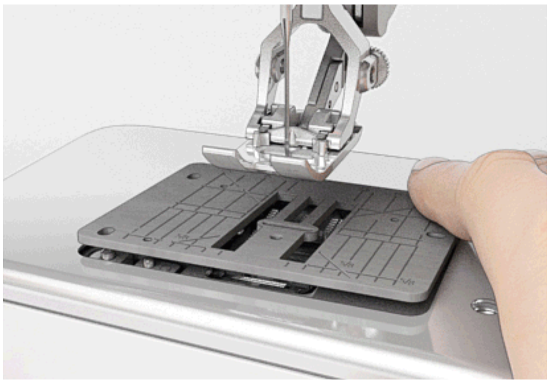
Resuming embroidering

- ● press «Start/Stop»-button or the foot control

Cleaning

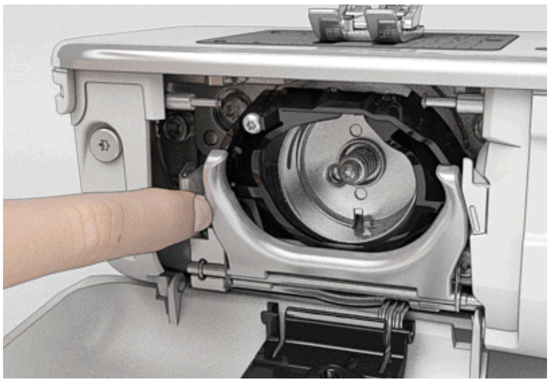
ATTENTION!
Disconnect plug from the socket before cleaning or lubricating!
Never use alcohol, petrol, white spirit or any type of solvent to clean the sewing computer!

Cleaning the Display and the sewing computer
Wipe with a soft, damp cloth.



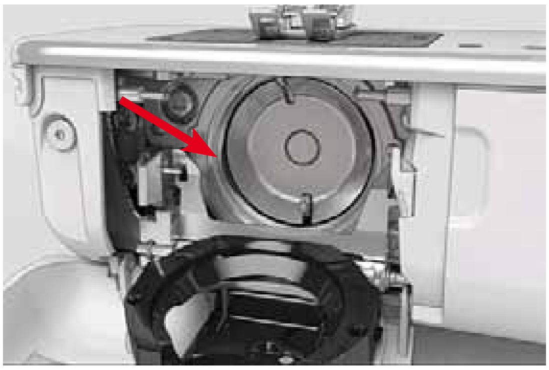
Feed dog area
Clean the sewing computer after every use - remove any lint from under the stitch plate and in the hook area.

- turn power switch to «0» (off)
- remove plug from electrical outlet
- remove presser foot and needle
- open the bobbin door
- press the stitch plate down at the right back corner until it flips up
- remove the stitch plate
- clean the area with the lint brush
- replace the stitch plate

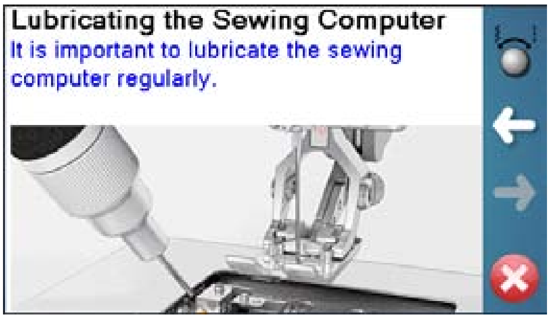


Cleaning the hook

- turn power switch to «0» (off)
- remove plug from electrical outlet
- remove bobbin case
- push release lever to the left
- flap down fastening bracket along with the black hook race cover
- remove the hook



- clean the hook race; do not use any pointed objects
- hold the hook at the pin in the center with two fingers
- lead the hook, lower edge ahead, angular top-down behind the hook race cover
- position the hook with the two lugs meeting the openings in the hook, the colored mark on the hook driver should be visible through the hole in the hook
- insert the hook
- ► the hook is magnetic and therefore fastened to correct position
- close the hook race cover and the fastening bracket, release bracket must engage
- as a check, turn the handwheel
- insert the bobbin case

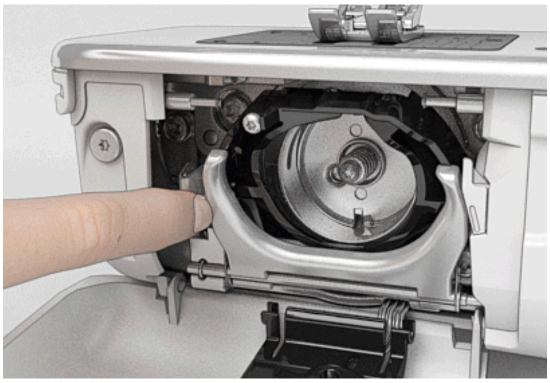


Lubricating the Sewing Computer

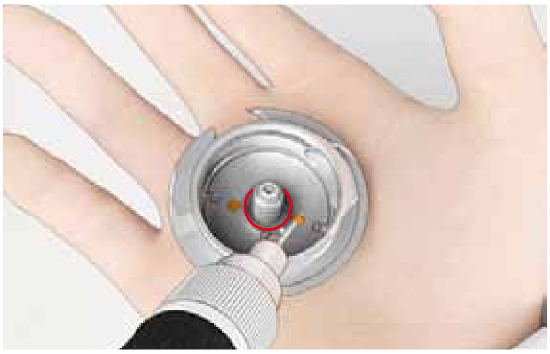
It is important to lubricate the sewing computer regularly.

Lubricating

- turn power switch to «0» (off)
- remove plug from electrical outlet
- remove the stitch plate
- refill the oil depot using BERNINA-oil
- replace the stitch plate



- remove bobbin case
- press release bracket to the left
- flap down the fastening bracket along with the black hook race cover
- remove the hook



- fill as much BERNINA-oil into both oil depots so that the felts are damp
- insert the hook
- close hook race cover and fastening bracket, release bracket must engage
- as a check, turn the handwheel
- insert the bobbin case
- close the bobbin cover

ATTENTION!

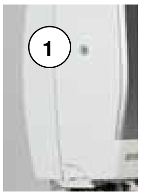
To provide a good sewing quality, the surface of the hook sleeve (marked in red) MUST remain free of oil. Otherwise clean with a cloth.

Troubleshooting

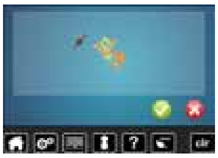
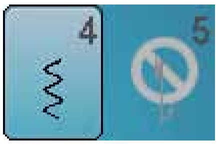
In most cases you will be able to identify and remedy faults by checking the following.

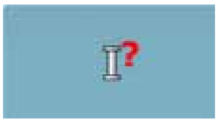
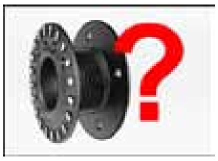
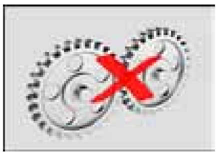
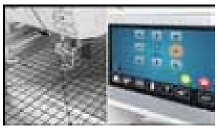
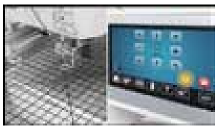
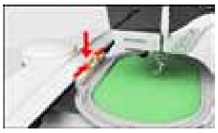
Check if:

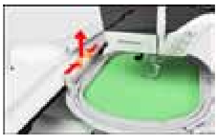
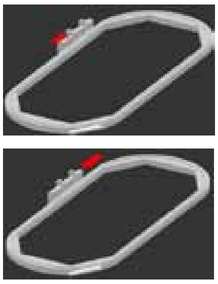
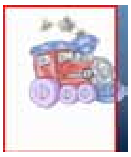
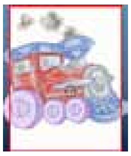
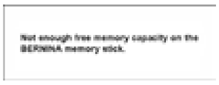
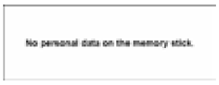
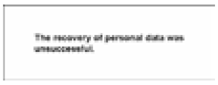
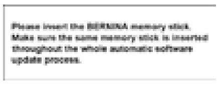
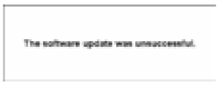
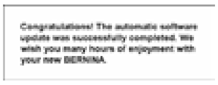
- the upper and lower threads are threaded correctly
- the needle is inserted correctly
- the needle size is correct - check the needle/thread table page **16**
- the needle tip and shaft are undamaged
- the sewing computer is clean - brush out any thread lint
- the hook race is clean
- any threads are trapped between the tension discs or under the bobbin case spring

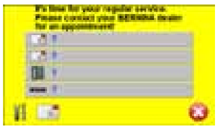
Fault	Cause	Repair
Uneven stitch formation	– Upper thread too tight/too slack	• reduce/increase upper thread tension
	– Needle blunt or bent	• use new BERNINA quality needle
	– Poor quality needle	• use new BERNINA quality needle
	– Poor quality thread	• use quality thread (Isacord, Mettler, Gütermann etc.)
	– Needle/thread combination is incorrect	• match the needle to the thread size
	– Incorrectly threaded	• check upper and lower thread
Skipped stitches	– Incorrect needle system	• use needle system 130/705H
	– Needle bent or blunt	• use new BERNINA quality needle
	– Poor quality needle	• use new BERNINA quality needle
	– Needle inserted incorrectly	• insert needle as far up as it will go
	– Incorrect needle point	• match the needle point to the texture of the material
Faulty stitching	– Remnants of thread between the tension discs	• fold a piece of thin material and slide the folded edge (not the raw edges) between the thread tension discs, moving the material back and forth to clean the right and left side of the thread tension
	– Incorrectly threaded	• check upper and lower thread
	– Remnants of thread under the bobbin case spring	• carefully remove any thread remnants from under the spring
Thread is caught in the area of the take-up lever	– Upper thread breaks 	If the upper thread breaks and the thread is trapped in the area of the take-up lever, proceed as follows: • turn power switch to «0» (off) • remove the screw **1** on the headframe with the angular Torx wrench • pull the headframe at the bottom slighty forward, flip it upwards a bit and remove it • remove remnants of thread • attach headframe and retighten screw
Upper thread breaks	– Incorrect needle/thread combination	• match the needle according to the thread
	– Upper thread tension too tight	• reduce upper thread tension
	– Incorrectly threaded	• check upper threading
	– Poor-quality or old thread	• use quality thread (Isacord, Mettler, Gütermann etc.)
	– Stitch plate or hook tip damaged	• take the sewing computer to the nearest authorized BERNINA dealer
Lower thread breaks	– Lower thread tension too tight	• increase the upper thread tension
	– Stitch hole in the stitch plate has been damaged	• take the sewing computer to the nearest authorized BERNINA dealer
	– Needle blunt or bent	• use new needle

Fault	Cause	Repair
Needle breaks	– Needle not correctly inserted – Fabric was pulled – Fabric was pushed when using thick material – Poor-quality thread, unevenly wound or knotted	• tighten the needle clamp screw • do not pull the fabric during sewing • use the correct presser foot for thick material (e.g. Jeans foot No. 8) use height compensating tool when sewing over a thick seam • use quality thread (Isacord, Mettler, Gütermann etc.) • always remove the hook after a needle breakage and check the magnetic back of the hook for broken off needle parts
Display is inactive	– Calibration data incorrect – ECO-function active	• re-calibrate the Display in the Setup Program • turn off ECO function
Stitch width not adjustable	– Setting activated in the security program	• deactivate setting
Sewing-/ Embroidery computer	– Sewing computer fails to run or runs slowly – Turn power switch to «0» (off)	• check the setting in the Setup Program • alter the speed control • place the sewing computer in a warm room one hour before use • turn the power switch to «I» (on) • take the sewing computer to the nearest authorized BERNINA dealer
Upper thread indicator does not respond	– Not activated in the Setup Program	• activate in the Setup Program
Lower thread indicator does not respond	– Not activated in the Setup Program	• activate in the Setup Program
Lower thread indicator reacts	– Thread used/broken	• wind thread and thread
Update error	– USB stick is not recognized – Update process is blocked (hourglass stays on Display) – Update-data aren't identified	• use a BERNINA USB stick • remove the stick and turn the sewing computer off and on again. Proceed with the update as indicated by the message • don't save update-data in a folder • unzip update-data
LED sewing light do not light up	– LED defective – Deactivated in the Setup-Program	• take the sewing-/embroidery computer to the nearest authorized BERNINA dealer • activate in the Setup Program

General Messages	Explanation	Repair
Sewing-/ Embroidery computer 	– Deleting or overwriting data, e.g. drawers	• confirm with ✓ or cancel with ✕
???	– Stitch number not known in direct entry	• check command entered and enter a new number
	– Stitch selection not possible in the combination mode	• make another selection

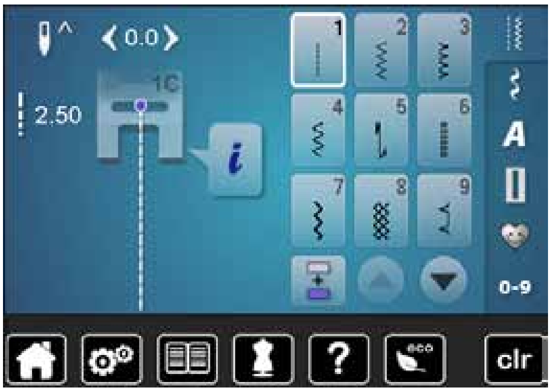
General Messages	Explanation	Repair
	– Lower feed dog	• press the «Feed dog»-button. The feed dog is lowered
	– Incorrect needle for the stitch plate selected	• check settings in securing program
	– Needle is not in the highest position	• turn handwheel
	– Upper thread used up	• attach new upper thread spool and thread
	– Lower thread indicator has reacted	• check lower thread and wind if necessary
	– Main motor is not running	• check hook system. Remove any thread lint from the hook area/bobbin case • remove the hook and check the magnetic back of the hook for broken off needle parts
 	– Needle position doesn‘t correspond to center of hoop	• adjust according to User Instructions page **48**
	– Embroidery module has not been attached yet – Embroidery module has not been correctly attached	• connect the embroidery module to the sewing computer • check the embroidery module connection
	– No embroidery hoop attached	• attach embroidery hoop
	– Because of vibrations the contact between the embroidery computer and the module is interrupted.	• attach the module again and switch the embroidery computer off and on again

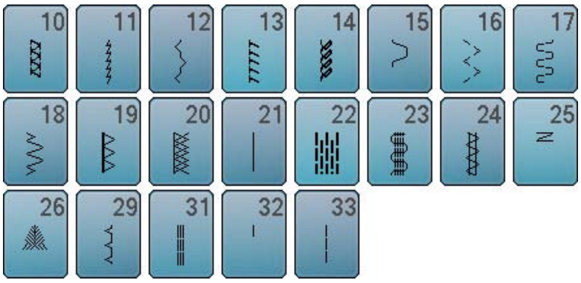
General Messages	Explanation	Repair
	– Embroidery hoop attached	• remove embroidery hoop
	– The embroidery process cannot proceed	• move Mega-Hoop to center position and resume embroidering
	– Embroidery motif is partly outside the hoop	• re-position the embroidery motif. The area within the hoop can be embroidered
	– Embroidery motif is too large	• reduce the motif size or attach a bigger hoop. The area within the hoop can be embroidered
 Not enough free memory capacity on the BERNINA memory stick.	– Less free space on the USB stick	• delete data from USB stick
 No personal data on the memory stick.	– No personal data available on the USB stick	• check that the USB stick is inserted correctly and re-start the sewing computer
 The recovery of personal data was unsuccessful.	– During the update process personal data was not saved on the USB stick	• the software was correctly updated. Personal data could not be recovered
 Please insert the BERNINA memory stick. Make sure the same memory stick is inserted throughout the whole automatic software update process.	– BERNINA USB stick is not inserted	• insert BERNINA USB stick and do not remove during the update process
 The software update was unsuccessful.	– New SW Version is not available on the stick	• save the new SW Version on the BERNINA USB stick and start the update again
 Congratulations! The automatic software update was successfully completed. We wish you many hours of enjoyment with your new BERNINA.	– Update successful	• the sewing-/embroidery computer has been provided with the latest software version

General Messages	Explanation	Repair
 Lubricating the Sewing Computer	– The sewing computer must be cleaned/lubricated	• when this message appears, the sewing computer must be cleaned/lubricated. This ensures proper functioning and a long operational life span of the sewing computer
	– It is time for the regular maintenance. Please contact your BERNINA dealer or your BERNINA service address	• the sewing-/embroidery computer must be taken to an authorised BERNINA dealer/servicing shop. The announcement appears after completing the programmed service interval. The message can be deleted temporarily by touching the field «ESC» but will reappear when the sewing-/embroidery computer is next restarted. Having cleared the announcement via the «ESC» three times, the announcement will appear as recently as the next service interval has been completed. Having your sewing/embroidery computer cleaned and serviced properly at the appropriate times ensures its proper functioning and long service life. Failure to do so may adversely affect service life and limit the guarantee. The charge for servicing is nationally regulated – consult your dealer or servicing shop for details

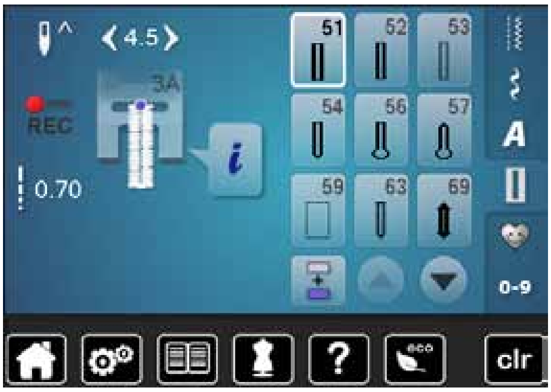
Overview Stitch patterns

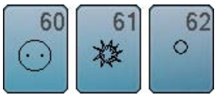
Practical stitches


0.0
2.50
1C
1
2
3
4
5
6
7
8
9
A
0-9
clr


10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
29
31
32
33

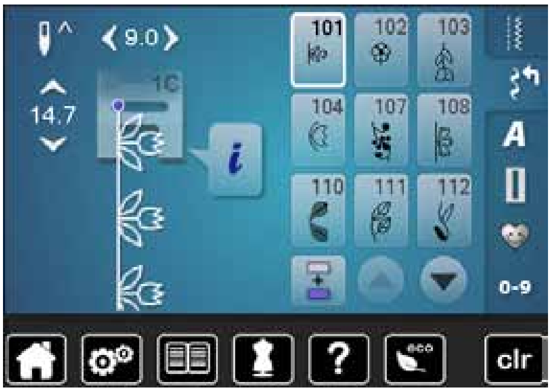
Buttonholes

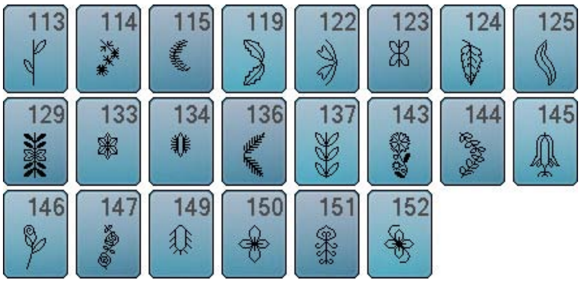

4.5
3A
REC
0.70
51
52
53
54
56
57
59
63
69
A
0-9
clr



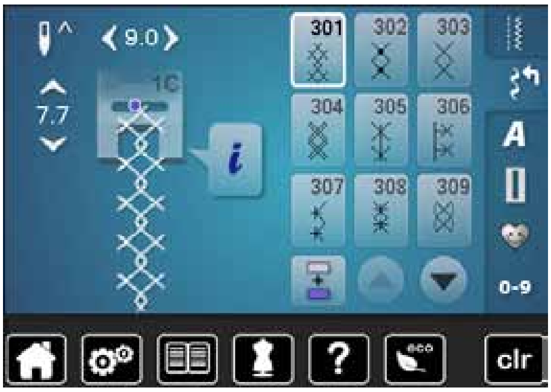
Decorative stitches

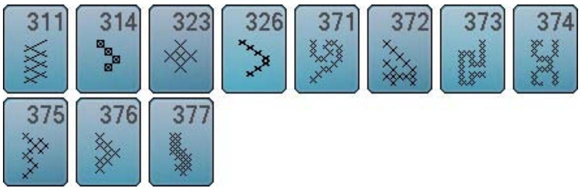
Florals


9.0
14.7
1C
101
102
103
104
107
108
110
111
112
A
0-9
clr

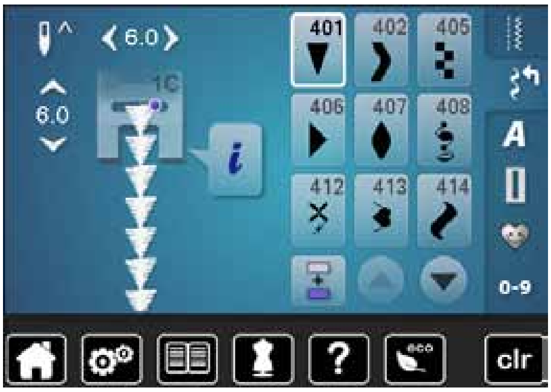

113
114
115
119
122
123
124
125
129
133
134
136
137
143
144
145
146
147
149
150
151
152

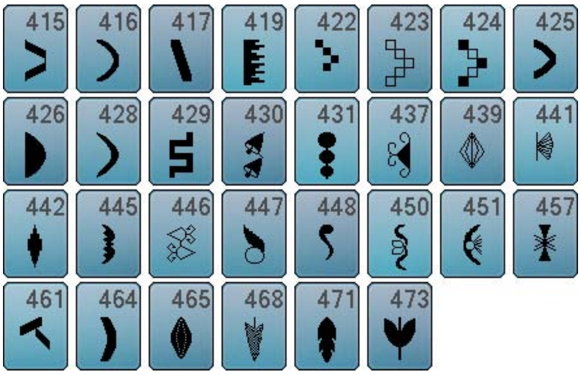
Cross stitches


9.0
7.7
1C
301
302
303
304
305
306
307
308
309
i
A
0-9
eco
clr

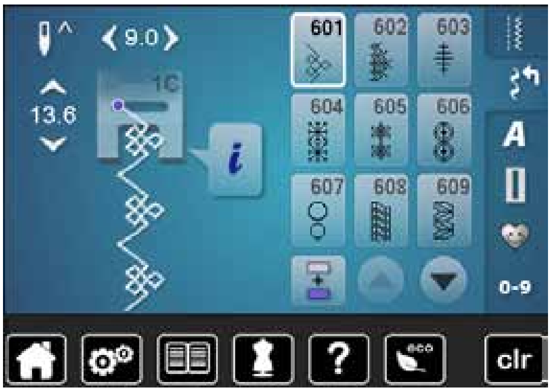

311
314
323
326
371
372
373
374
375
376
377

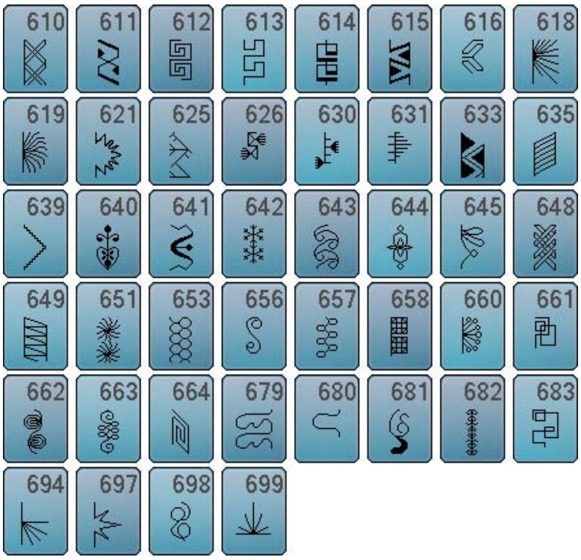
Satin stitches


6.0
6.0
1C
401
402
405
406
407
408
412
413
414
i
A
0-9
eco
clr

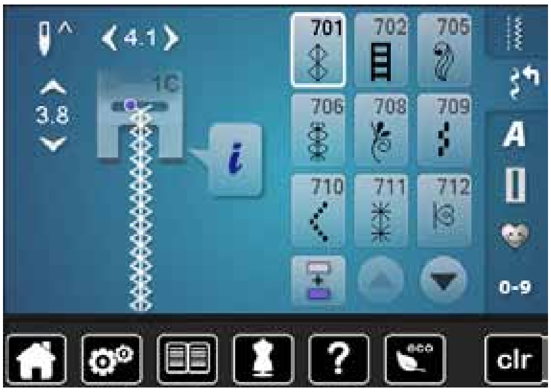

415
416
417
419
422
423
424
425
426
428
429
430
431
437
439
441
442
445
446
447
448
450
451
457
461
464
465
468
471
473

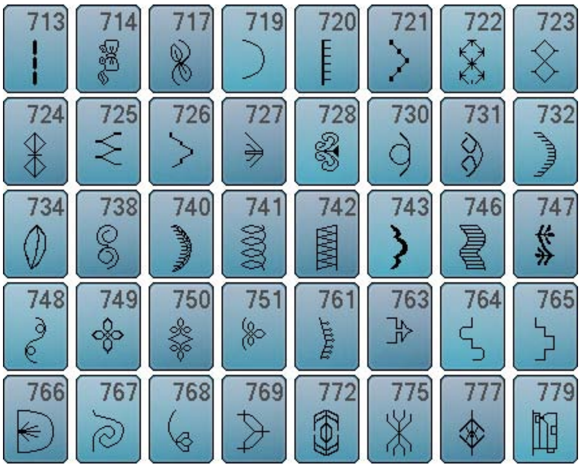
Ornamental stitches


9.0
13.6
1C
601
602
603
604
605
606
607
608
609
i
A
0-9
eco
clr

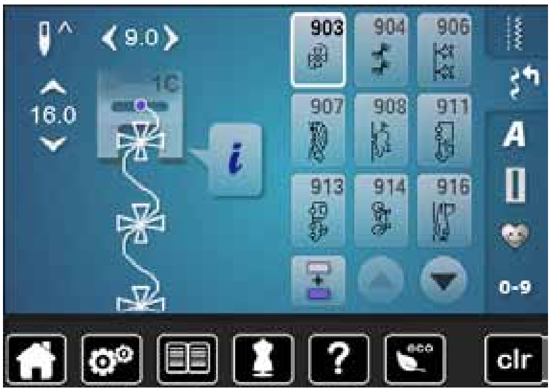

610
611
612
613
614
615
616
618
619
621
625
626
630
631
633
635
639
640
641
642
643
644
645
648
649
651
653
656
657
658
660
661
662
663
664
679
680
681
682
683
694
697
698
699

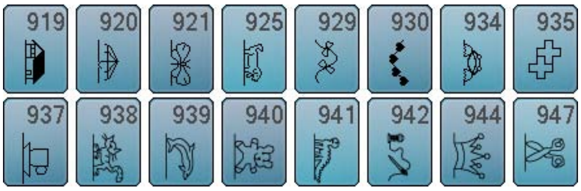
Heirloom stitches


4.1
3.8
1C
701
702
705
706
708
709
710
711
712
A
0-9
clr

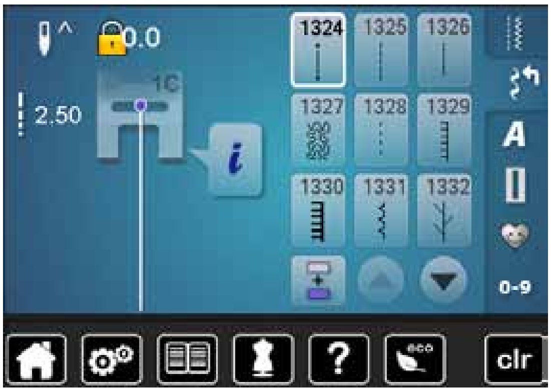

713 714 717 719 720 721 722 723
724 725 726 727 728 730 731 732
734 738 740 741 742 743 746 747
748 749 750 751 761 763 764 765
766 767 768 769 772 775 777 779

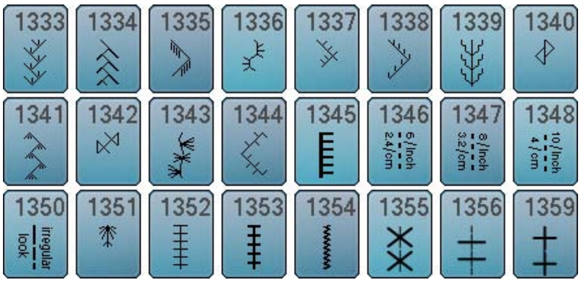
Novelty Stitches


9.0
16.0
1C
903
904
906
907
908
911
913
914
916
A
0-9
clr


919 920 921 925 929 930 934 935
937 938 939 940 941 942 944 947

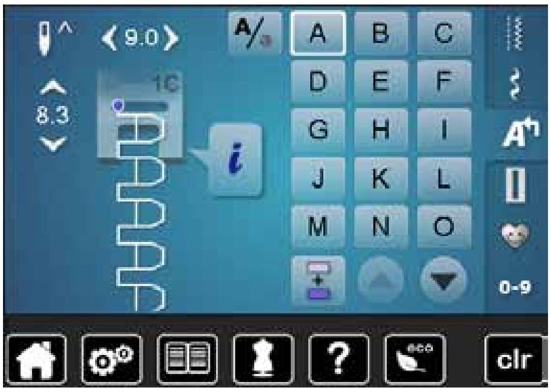
Quilt stitches

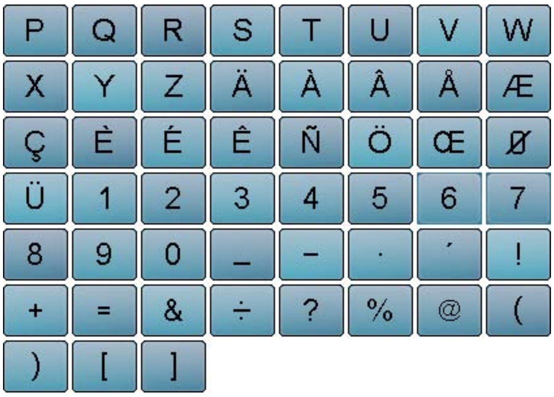

0.0
2.50
1C
1324
1325
1326
1327
1328
1329
1330
1331
1332
A
0-9
clr


1333 1334 1335 1336 1337 1338 1339 1340
1341 1342 1343 1344 1345 1346 1347 1348
6/inch 2.4/cm
8/inch 3.2/cm
10/inch 4/cm
1350 1351 1352 1353 1354 1355 1356 1359
irregular look

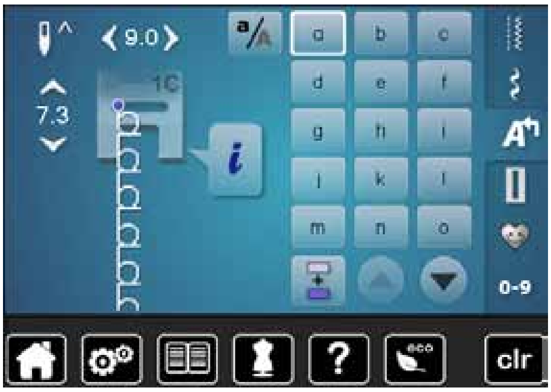
Alphabets

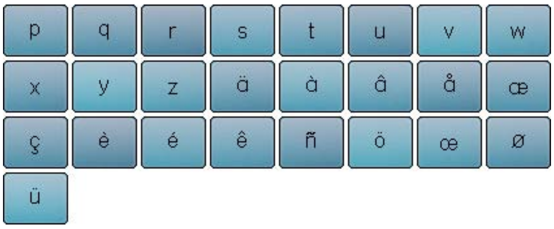
Block


9.0
8.3
A/a
A B C
D E F
G H I
J K L
M N O
0-9
clr



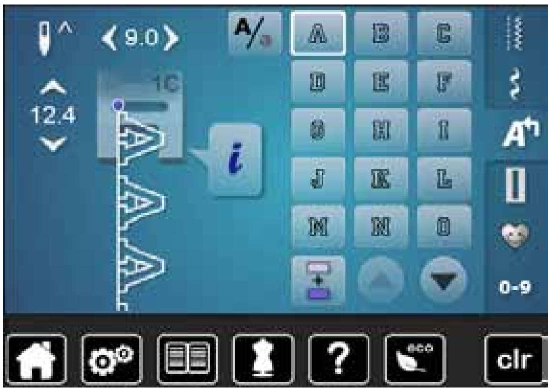
P	Q	R	S	T	U	V	W
X	Y	Z	Ä	À	Â	Å	Æ
Ç	È	É	Ê	Ñ	Ö	Œ	Ø
Ü	1	2	3	4	5	6	7
8	9	0	_	–	.	´	!
+	=	&	÷	?	%	@	(
)	[	]					

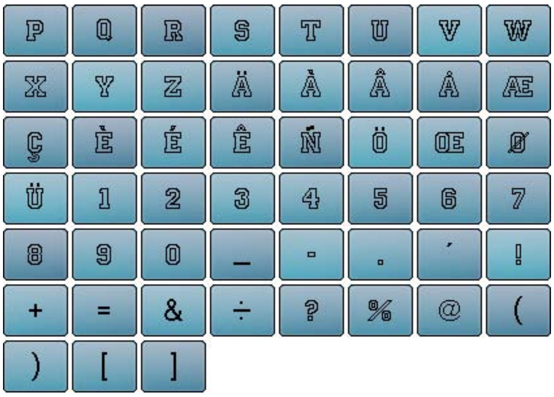

9.0
7.3
a/A
a b c
d e f
g h i
j k l
m n o
0-9
clr



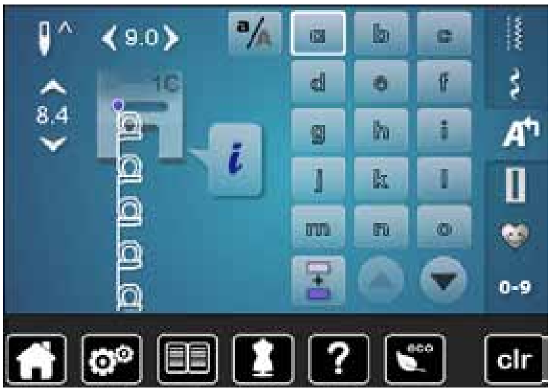
p	q	r	s	t	u	v	w
x	y	z	ä	à	â	å	æ
ç	è	é	ê	ñ	ö	œ	ø
ü							

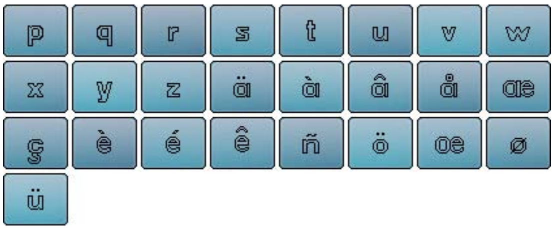
Double-Block


9.0
12.4
A/a
A B C
D E F
G H I
J K L
M N O
0-9
clr



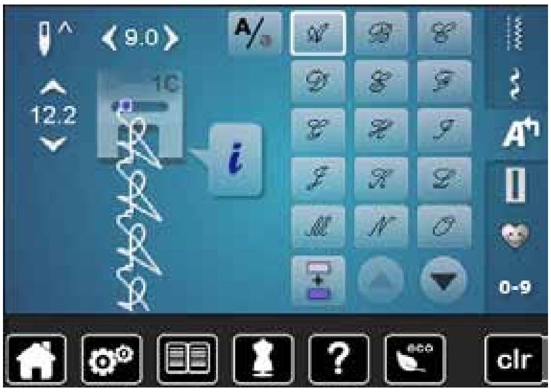
P	Q	R	S	T	U	V	W
X	Y	Z	Ä	À	Â	Å	Æ
Ç	È	É	Ê	Ñ	Ö	Œ	Ø
Ü	1	2	3	4	5	6	7
8	9	0	_	–	.	´	!
+	=	&	÷	?	%	@	(
)	[	]					

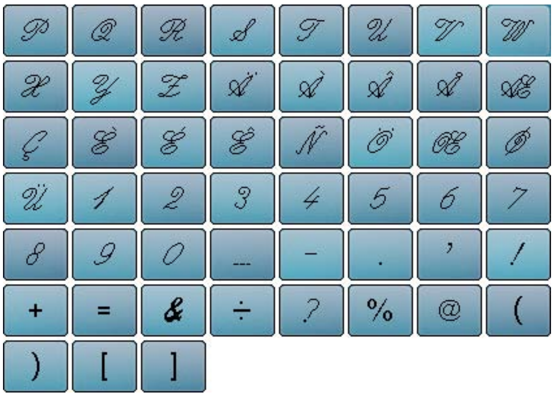

9.0
8.4
a/A
a b c
d e f
g h i
j k l
m n o
0-9
clr

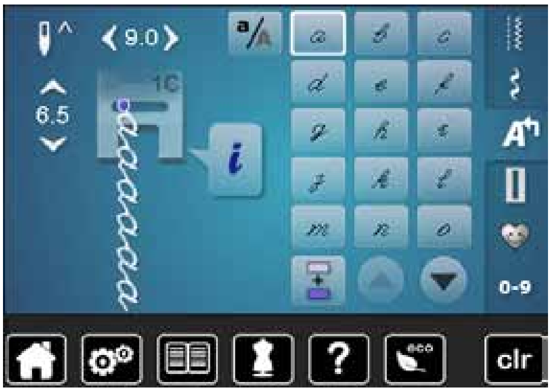


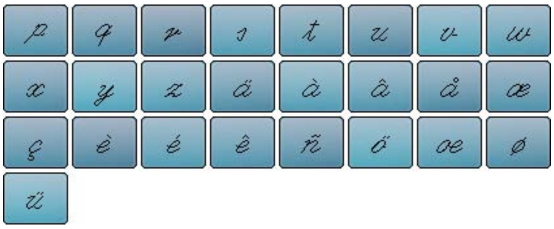
p	q	r	s	t	u	v	w
x	y	z	ä	à	â	å	æ
ç	è	é	ê	ñ	ö	œ	ø
ü							

Script

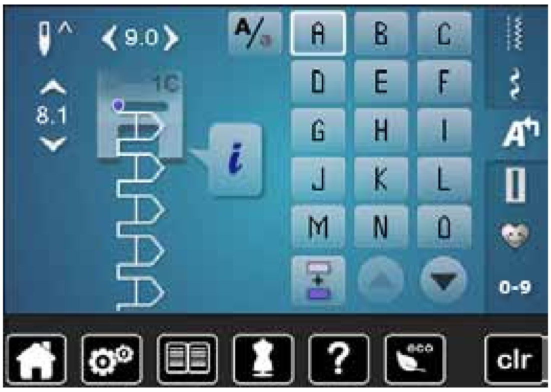

9.0
12.2
0-9
clr

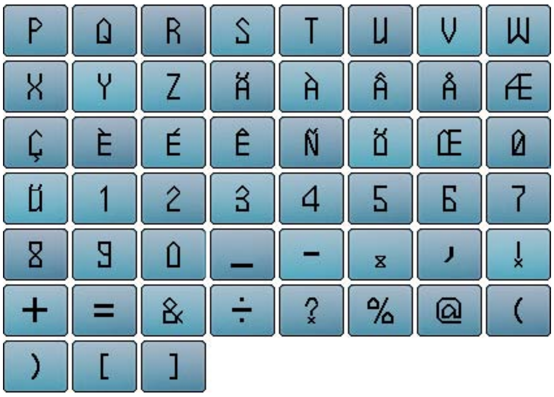


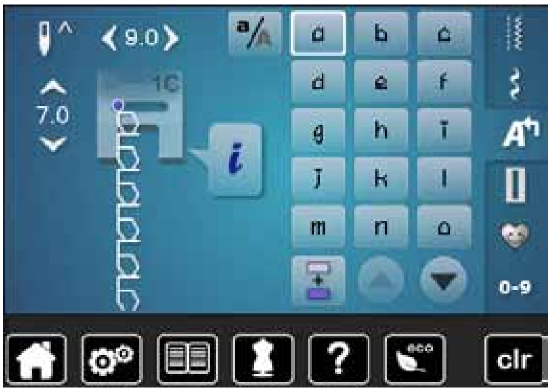


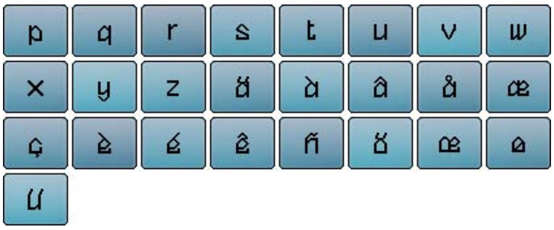


Quilting Text

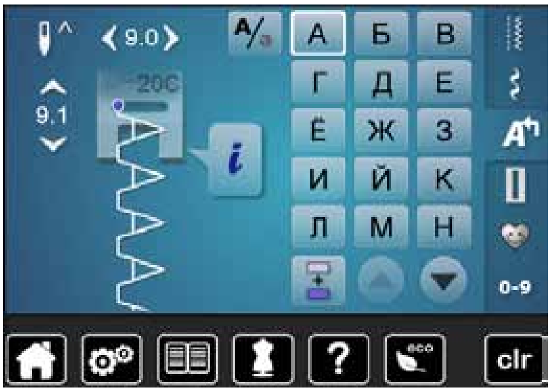


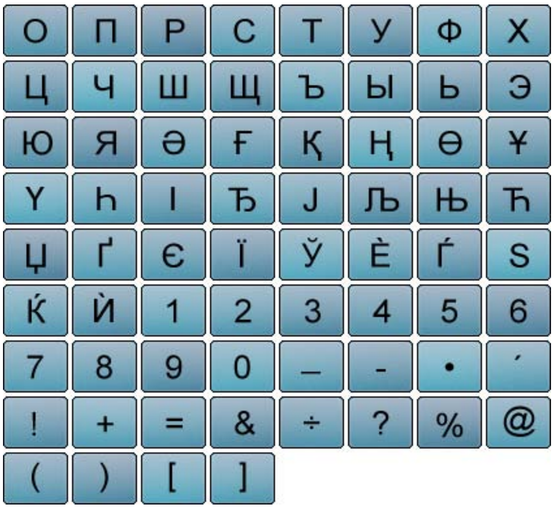




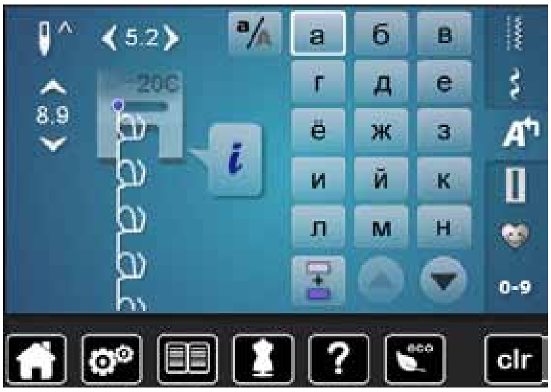


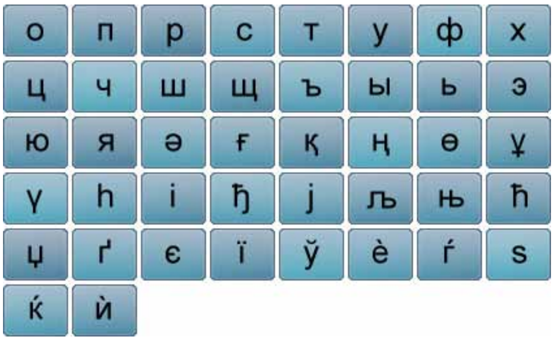
Cyrillic


9.0
9.1
20C
A/a
А Б В
Г Д Е
Ё Ж З
И Й К
Л М Н
0-9
clr
eco



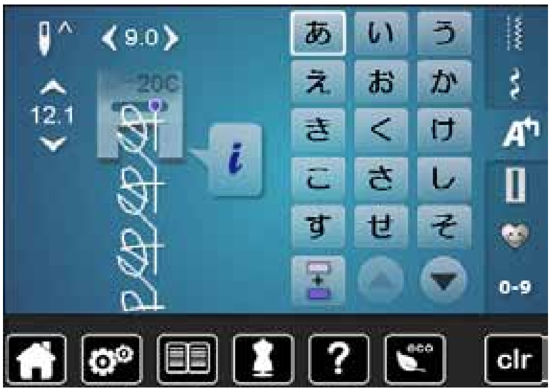
О	П	Р	С	Т	У	Ф	Х
Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э
Ю	Я	Ә	Ғ	Қ	Ң	Ө	Ұ
Ү	Һ	І	Ђ	Ј	Љ	Њ	Ћ
Џ	Ґ	Є	Ї	Ў	Ѐ	Ѓ	Ѕ
Ќ	Ѝ	1	2	3	4	5	6
7	8	9	0	_	-	•	´
!	+	=	&	÷	?	%	@
(	)	[	]				

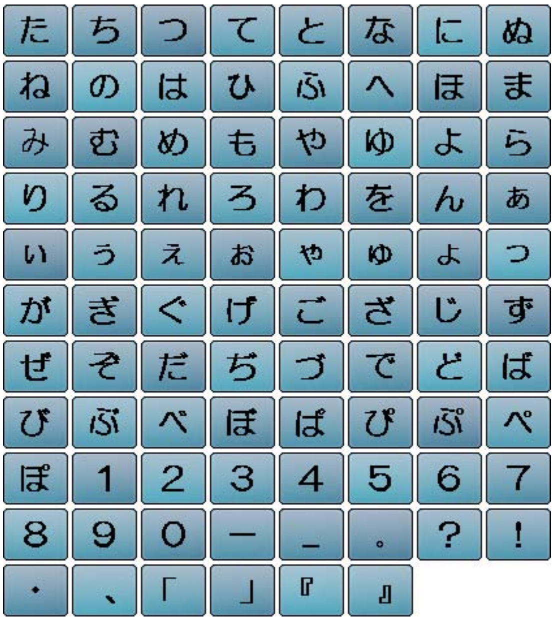

5.2
8.9
20C
a/A
а б в
г д е
ё ж з
и й к
л м н
0-9
clr
eco



о	п	р	с	т	у	ф	х
ц	ч	ш	щ	ъ	ы	ь	э
ю	я	ә	ғ	қ	ң	ө	ұ
ү	һ	і	ђ	ј	љ	њ	ћ
џ	ґ	є	ї	ў	ѐ	ѓ	ѕ
ќ	ѝ						

Hiragana

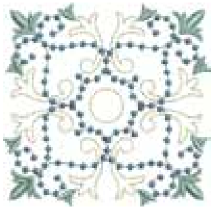

9.0
12.1
20C
あ い う
え お か
き く け
こ さ し
す せ そ
0-9
clr
eco



た	ち	つ	て	と	な	に	ぬ
ね	の	は	ひ	ふ	へ	ほ	ま
み	む	め	も	や	ゆ	よ	ら
り	る	れ	ろ	わ	を	ん	ぁ
ぃ	ぅ	ぇ	ぉ	ゃ	ゅ	ょ	っ
が	ぎ	ぐ	げ	ご	ざ	じ	ず
ぜ	ぞ	だ	ぢ	づ	で	ど	ば
び	ぶ	べ	ぼ	ぱ	ぴ	ぷ	ぺ
ぽ	1	2	3	4	5	6	7
8	9	0	ー	_	。	?	!
・	、	「	」	『	』		

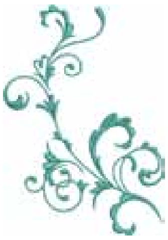
Overview Motifs

Embellishment



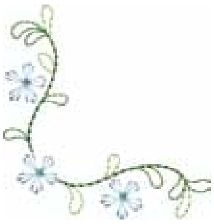
NB403

78.3mm 78.1mm



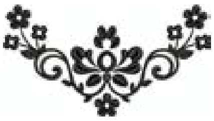
NB373

176.8mm 121.4mm



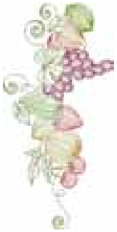
NB442

58.4mm 55.6mm



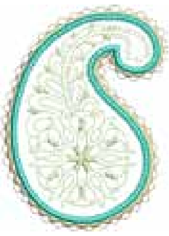
NB481

67.6mm 123.4mm



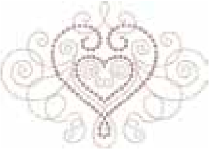
NB749

262.8mm 126.5mm



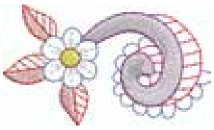
NA959*

103.7mm 75.6mm



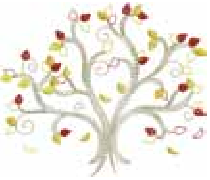
FB106

92.6mm 128.1mm



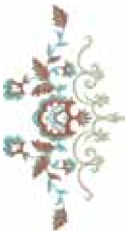
NB002

35.1mm 59.3mm



FQ870

105.1mm 122.1mm



WS655

222.3mm 116.5mm

Free Standing Lace

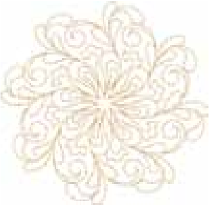
Basic CutWork

Fringes

Application

*** This design has special effects. For more information please go to www.bernina.com/7series**

Quilting

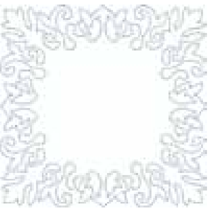


BD569

■

↕ 120.6mm

↔ 120.6mm

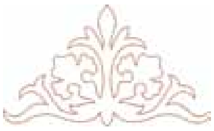


BD394

■

↕ 96.8mm

↔ 97.0mm

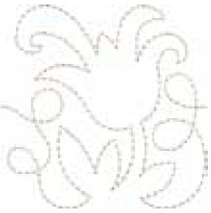


BD412

■

↕ 53.2mm

↔ 89.4mm

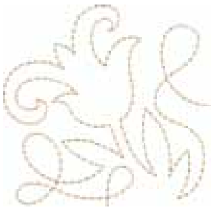


BD513

■

↕ 63.4mm

↔ 63.5mm

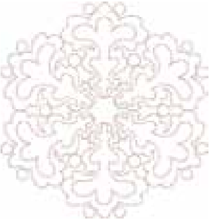


BD514

■

↕ 62.9mm

↔ 63.5mm

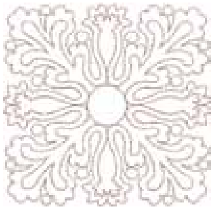


BD553

■

↕ 121.1mm

↔ 113.8mm

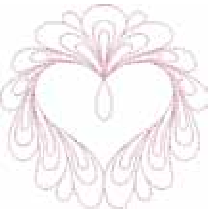


BD554

■

↕ 109.9mm

↔ 109.9mm

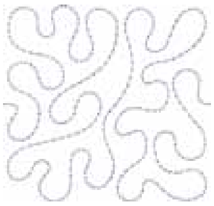


BD567

■

↕ 108.2mm

↔ 107.9mm

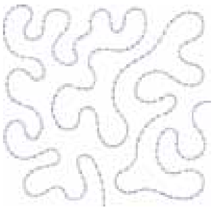


BD501

■

↕ 61.1mm

↔ 63.5mm



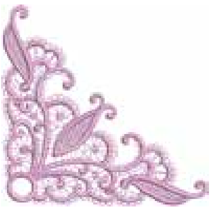
BD502

■

↕ 60.7mm

↔ 61.5mm

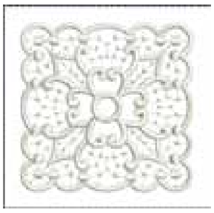
Borders and Lace



NX696

🟪

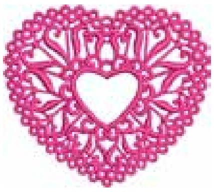
907mm 91.2mm



HG341

⬜ ⬛

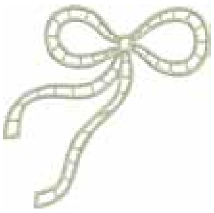
63.7mm 63.8mm



NX957

🟥

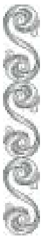
88.1mm 97.9mm



FB461*

⬛ ⬜

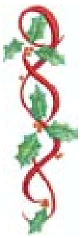
121.6mm 121.7mm ✂



NB520

⬜ ⬛

175.9mm 26.3mm



HG177

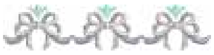
🟥 🟥 🟧 🟩 🟩 🟩 🟩

158.6mm 50.0mm

CM473

🟦 🟦

209.6mm 31.8mm



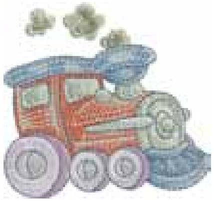
FB436

🟪 ⬜ 🟦

29.2mm 132.8mm

*** This design has special effects. For more information please go to www.bernina.com/7series**

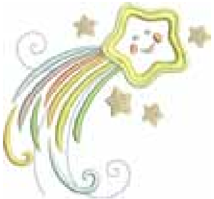
Children



CK970

■ ■ ■ ■ ■ ■ ■ ■
■ ■ ■ ■ ■ ■

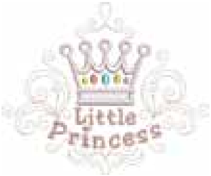
81.6mm
84.4mm



CK738

■ ■ ■ ■ ■ ■ ■ ■
■

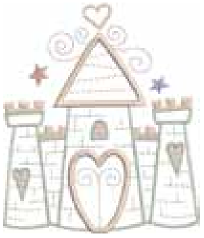
85.7mm
89.1mm



NB193

■ ■ ■ ■ ■ ■ ■ ■

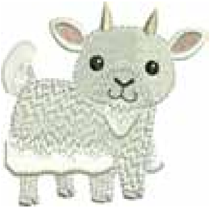
96.2mm
113.3mm



CM193*

■ ■ ■ ■ ■ ■ ■ ■
■ ■

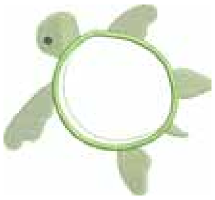
127.4mm
106.7mm
♥



CM220*

■ ■ ■ ■ ■ ■ ■ ■

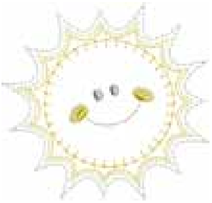
71.8mm
71.5mm
✂



CM362*

■ ■ ■ ■ ■ ■

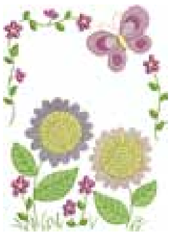
113.0mm
120.6mm
♥



CM376*

■ ■ ■ ■ ■ ■ ■

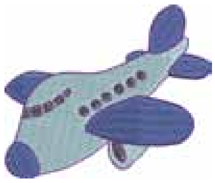
97.5mm
100.3mm
♥



CM348

■ ■ ■ ■ ■ ■ ■ ■
■ ■ ■

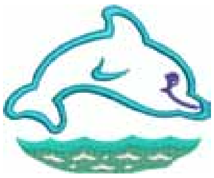
167.1mm
119.0mm



CK511

■ ■ ■ ■

64.6mm
76.2mm



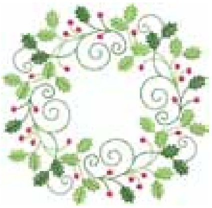
CK667*

■ ■ ■ ■ ■ ■ ■

823mm
99.8mm
♥

*** This design has special effects. For more information please go to www.bernina.com/7series**

Seasons

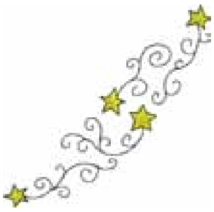


HG053

🟩 🟩 🟥

121.8mm

122.1mm

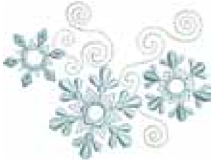


NB317

⬛ 🟨 🟧 ⬛

86.9mm

87.4mm

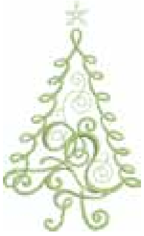


HE919

⬜ 🟦 🟦

69.2mm

89.1mm

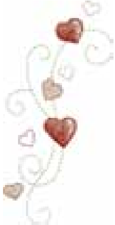


HG319

🟩

151.5mm

88.6mm

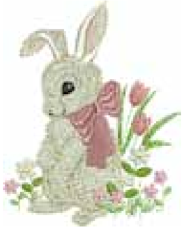


CM426

⬜ 🟥 🟥 🟥 ⬜

96.0mm

45.8mm

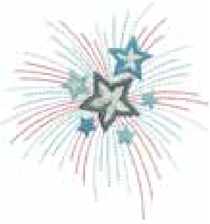


CM287

⬜ ⬜ 🟫 🟥 ⬛ 🟩 🟩 🟩
🟥 ⬜ 🟨 🟥 🟥 🟥

117.2mm

90.4mm

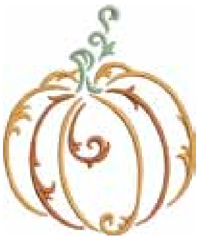


HG460

⬜ ⬜ 🟥 🟦 🟦 ⬜ 🟦

98.1mm

91.8mm



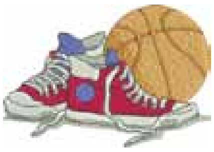
FQ749

🟧 🟫 🟩

94.8mm

77.6mm

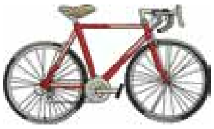
Sports and Hobbies



SR589

⬜🟧🟧🟧🟦🟥⬜⬛

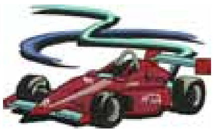
66.5mm
95.2mm



LT870

⬜⬜⬜🟥🟫🟫⬛⬜
⬜

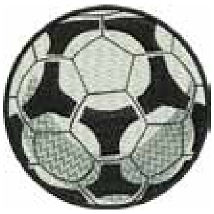
57.0mm
97.5mm



RC244

🟦🟦⬜🟦🟥🟥⬜
⬛⬜⬜

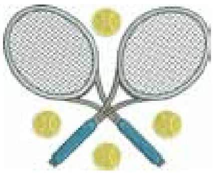
53.4mm
88.4mm



SP980

⬜⬜⬛

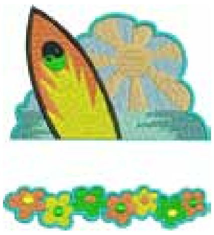
63.5mm
63.3mm



SP989

⬜⬜🟦🟦🟨🟨⬛

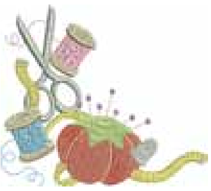
82.5mm
101.6mm



SR067

🟦🟧🟩🟩🟧🟨🟩⬛
🟦

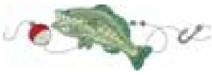
96.9mm
87.5mm



FB148

⬜🟨🟫🟪🟦🟫⬜🟥
🟩⬜🟪

89.5mm
101.1mm

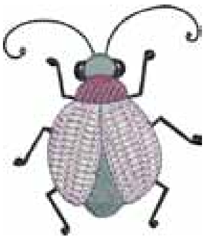


SR551

🟥🟥⬜🟨🟩🟩🟩🟩
⬜🟦

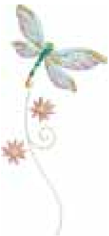
38.0mm
120.3mm

Animals



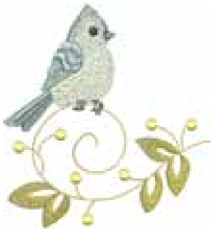
CM142

66.7mm
56.5mm



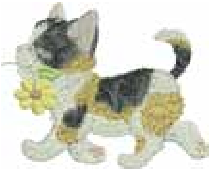
FQ624

144.2mm
64.5mm



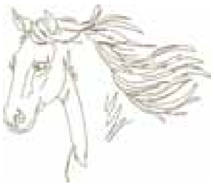
WP224

111.0mm
100.4mm



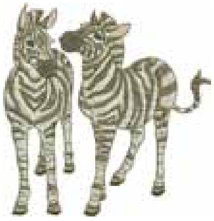
WP192

81.0mm
98.9mm



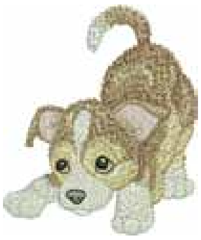
WS610

111.1mm
127.3mm



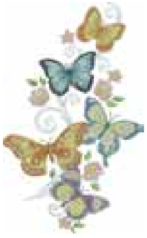
LJ599

98.0mm
93.2mm



WP325

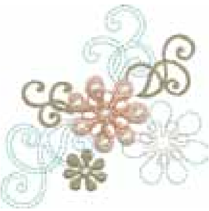
94.0mm
77.9mm



FQ617

198.3mm
118.0mm

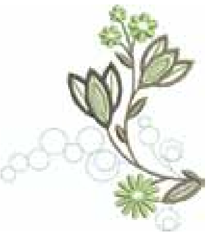
Flowers



NB209

🟦 🟫 🟥 🟧 ⬜

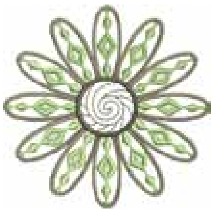
↕ 89.9mm ↔ 90.0mm



FQ722

🟦 ⬜ 🟩 🟫 ⬛

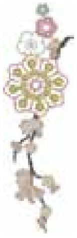
↕ 90.6mm ↔ 80.0mm



FQ733

⬜ 🟩 🟫 ⬛

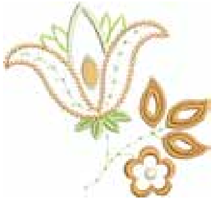
↕ 66.5mm ↔ 66.5mm



FB492

⬛ ⬜ 🟥 🟥 🟥 🟥 🟥 🟨
⬜ 🟨 🟥

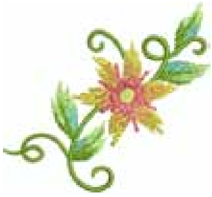
↕ 293.2mm ↔ 86.8mm



FP814

🟩 🟩 🟧 ⬜

↕ 84.4mm ↔ 88.0mm



FP246

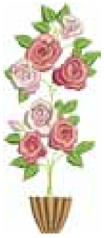
🟦 🟩 🟩 🟨 🟨 🟧 🟥

↕ 61.8mm ↔ 65.6mm

FQ562

🟩 🟪

↕ 156.3mm ↔ 90.3mm



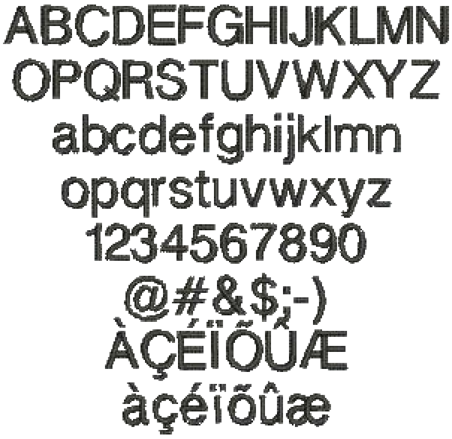
FQ801

🟩 🟩 🟫 🟥 🟥 🟥 🟥 🟥
🟥

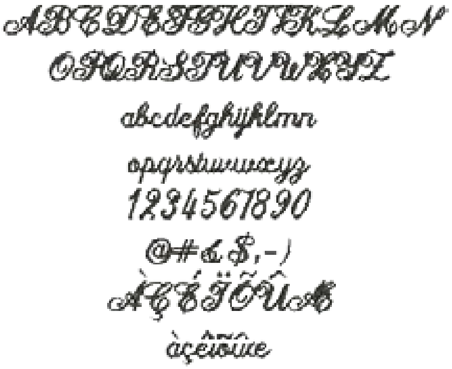
↕ 112.5mm ↔ 46.0mm

Alphabets

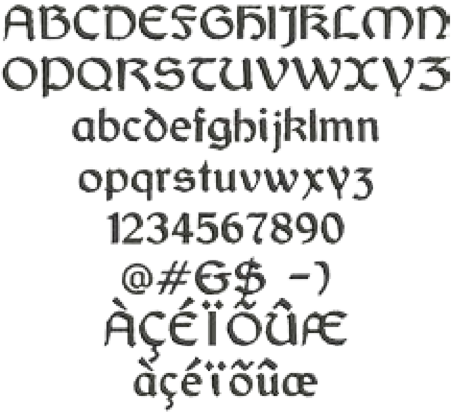
Swiss Block


ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmn
opqrstuvwxyz
1234567890
@#&$;-)
ÀÇÉÏÕÛÆ
àçéïõûæ

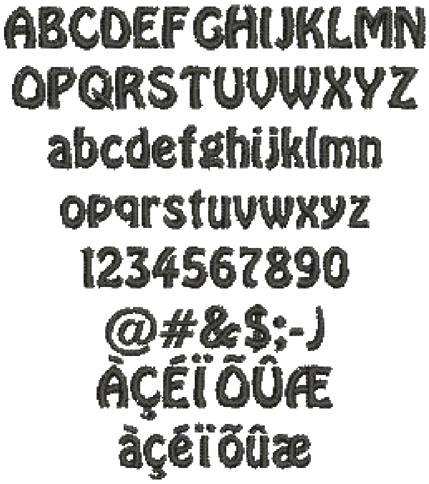
Anniversary


ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmn
opqrstuvwxyz
1234567890
@#&$,-)
ÀÇÉÏÕÛÆ
àçéïõûæ

Guinevere


ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmn
opqrstuvwxyz
1234567890
@#&$ -)
ÀÇÉÏÕÛÆ
àçéïõûœ

Drifter


ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmn
opqrstuvwxyz
1234567890
@#&$;-)
ÀÇÉÏÕÛÆ
àçéïõûæ

Index

A

Accessory
- Embroidery 123
- Presser feet 10
- Sewing 9-11
- Storage example 11

Accessory box 11

Adjusting
- Needle position 31, 35, 39, 40, 67
- Presser foot pressure 27
- Upper thread tension 26

Air vents 13

Alphabets
- Altering letter size 111
- Combining Lettering 110
- Correcting the combination 110
- Correction 147
- Deleting lettering 110
- Functions 38, 111
- Kinds of alphabets 109
- Lettering 109
- Main display/Menu selection 32
- Overview 109, 135
- Perfect Stitch Formation 109
- Selecting 109, 134
- Upper-/lower case lettering 111
- With functions 111

Altering
- Audio settings 49
- Brightness 45
- Display settings 45
- Embroidery settings 48
- Presser foot pressure 27
- Sewing light 45
- Upper thread tension 26, 46, 143
- Welcome text 45
- Winder speed 50

Altering embroidery settings 48

Altering pattern length 34

Altering stitch
- Length 67
- Width 67

Altering stitch density 35

Altering stitch length 67

Altering stitch width 67

Altering winding speed 44, 50

Attaching
- BSR presser foot sole 103
- Embroidery hoop 124, 160
- Embroidery module 128
- Presser foot 24
- Presser foot lifter 19
- Slide-on table 18
- Stitch plate 25

Audio settings
- Altering 49
- BSR 49
- Function 49
- Stitch patterns 49

B

Back-icon 34, 138

Balance
- Buttonhole 84
- Correcting 59
- Eyelet roundness 94
- Glossary 8
- Practical- and decorative stitches 59
- Reset to basic setting 59

Basic setting
- Embroidery settings 48
- Presser foot pressure 27
- Sewing settings 44, 46-47
- Thread tension 26

Basting stitch 63, 77

BERNINA Dual Transport 107-108

Bobbin case
- Inserting/removing 21

Bobbin cover 13

Bobbin winder pre-tension 13, 20

Brightness 45

BSR 102-106
- Attaching the presser foot to the sewing computer 103
- Beeper/Tonwahl 105
- Display 103
- Functions 104
- Modes 102
- Needle stop 104
- Preparation 103
- Removing/attaching presser foot sole 103
- Securing 104
- Starting/Leaving 106
- With straight stitch No. 1 102
- With zig-zag stitch No. 2 102, 106

Button sew-on program 80, 93

Buttonhole 80-94
- 5-steps, manual 92
- 7-steps, manual 92
- Adjusting the bead width 81
- Altering stitch length 81
- Automatic 85-89
- Automatic buttonhole foot No. 3A 10, 51, 85-89
- Automatic round and keyhole buttonhole 87
- Balance 84
- Button sew-on program 80, 93
- Cording 83
- Cutting open 83
- Decorative buttonhole 80
- Decorative buttonhole with double pointed bartack 88
- Duplicating 85
- Eyelets 80, 94
- Feed support 81
- Height compensation tool 81
- Heirloom buttonhole 80, 89
- Important Information 81
- In long term memory 90-91
- Keyhole buttonhole 80
- Manual 92
- Marking 81
- Narrow buttonhole 80
- Overview 80
- Programming 85-89
- Round buttonhole with normal bartack 80
- Stabilizer and interfacing 82
- Standard and stretch buttonhole 85
- Standard buttonhole 80
- Stitch counter buttonhole 89
- Straight stitch buttonhole 80
- Stretch buttonhole 80
- Test-sewing 81
- With direct length entry 86

C

Cable
- Connection 13, 18
- Plugging in 18
- Unwinding/winding 18

Calibrating
- Automatic buttonhole foot No. 3A 51
- Display 49
- Embroidery hoop 48

Carrying handle 13

Changing
- Bobbin case 21
- Needle 22
- Presser foot 24
- Stitch plate 25

Cleaning
- Display and Sewing Computer 164
- Feed dog area 164
- Hook 164
- Lubricating 165

Combi mode 116-120
- Correcting stitch pattern combination 118
- Creating stitch pattern combination 116
- Deleting stitch patterns 117
- Opening saved combination 117
- Overwriting stitch pattern combination 120
- Programming practical stitches/decorative stitches/ alphabets 116

Combination 40-43
- Combination repeat 43
- Combination subdivider (1) 42
- Combination subdivider (2) 42
- Deleting single stitch pattern 40
- Deleting the whole combination 43
- Mirror image left/right 43
- Securing 42

Compensating material 79, 81

Compensation
- Height of seam 79
- Layers 79

Connecting stitches 127

Connection
- BSR 13, 103
- Embroidery module 124
- Foot control 13, 18
- Optional accessory 13
- PC for embroidery software 13, 18
- Power cable 13, 18
- Presser foot lifter 13, 19
- USB 13, 18

Contents
- Embroidery 121-122
- Sewing 4-6

Cording
- Automatic buttonhole foot No. 3A 83
- Buttonholefoot No. 3C 83
- Fixing 83

Correcting
- Practical-/decorative stitches 59

Cover
- Thread take-up lever 13, 22

Creative consultant
- Leaving 57
- Overview 57
- Recommendations 57
- Sewing techniques 57
- Types of fabric 57

D

Darning
- Automatic 72-73
- Manual 71

Darning and embroidery thread 125

Darning hoop connection 13

Dealer details 54

Decorative stitches
- Application 95
- Categories 95
- Cross stitch 96
- Overview 95
- Pin tucks 97
- Selecting 95
- Sewing lower thread 98

Deleting
- Stitch patterns 138, 139, 145, 158, 159
- Stitch patterns 40, 43, 117, 120
- User data 52, 159

Details
- Accessory 9-11,123
- Embroidery module 124
- Sewing computer 12-13

Display
- Alphabets 32, 38-39, 109
- Altering settings 45-54
- Balance 59
- BSR 103
- Buttonholes 36-37, 80
- Calibrating 49
- Combi mode 40-43
- Creative consultant 57
- Decorative stitches 95
- Edit 138
- Embroidery Alphabet 135
- Embroidery mode 134
- Functions 34-43
- Help program 58
- Main display 32-33, 134-137
- Menu selection 32
- Overview 32-43, 134-140
- Practical stitches 62
- Quilt stitches 99
- Selecting the color 46
- Selection 32-33
- Setup 44-54
- Sewing 32-33
- Stitch pattern area 33
- Stitch pattern display 33
- Tutorial 55-56

Dual Transport 107-108

E

eco 13, 32, 60

Edit
- Altering embroidery motif proportionally 139
- Color number 138
- Deleting embroidery motif 139
- Display 138
- Embroidery menu 138
- Mirror image left/right 139
- Mirror image up/down 139
- Moving embroidery motif 139
- Moving the view of the motif within the embroidery hoop 138
- Overview 138
- Rotating embroidery motif 139
- Selection 138
- Zoom minus 138
- Zoom plus 138

Embroidery 121-163
- Alphabet 135
- Embroidery motifs 136
- Menu 161
- Start 160
- Thread breakage 163
- Via Foot control 162
- Via the «Start/Stop»-button 161

Embroidery computer
- «Function»-buttons 133
- Embroidery needle 123, 125, 129
- Embroidery threads 125
- Entry in embroidery mode 134
- Lowering the feed dog 129
- Memory 155
- Preparation 129
- Straight-/CutWorkstichplatte 129

Embroidery hoop
- Adjusting 48
- Basting box 144, 154
- Center determination 130
- Hoop selection/-display 140
- Hooping material 130
- Motif center 140
- Moving 144
- Parking the embroidery module 140
- Selection 48, 123, 140, 151, 160
- Using the hoop 130
- Virtual positioning 140

Embroidery menu
- Color information bar 142
- Color number 143
- Cutting connecting stitches 143
- «Embroidery menu»/«Start/Stop»-button 143
- Edit 143
- Overview 142
- Presser foot indicator 142
- Security program 142
- Selection 143
- Single- or multi-colored motif 143
- Thread breakage 143
- Upper thread tension 143

Embroidery module
- Attaching 128
- Detail view 124
- Overview 124
- Parking 128, 140
- Removing 128

Embroidery motifs
- Altering proportionally 139, 149
- Altering thread brand 146, 153
- By BERNINA 136, 148
- Check 151
- Colors 153
- Deleting 139, 145
- From USB-Stick 137
- Lettering 135, 138-139
- Mirror image 139, 150
- Motif center 150
- Motif size and embroidery time 152
- Moving 139, 149
- Moving the view of the motif 138, 152
- Opening 145
- Overwriting 157
- Rotating 139, 149
- Saving 145, 155-156
- Scaling/sizing 126
- Selecting 134, 143, 145
- Single- or multi-colored 143, 154
- Zoom 138, 152

Embroidery template 130

Embroidery test 126

Embroidery threads
- Lower threads 125
- Metallic threads 125
- Polyester threads 125
- Rayon threads 125

Embroidery-/Sewing computer
- Cleaning 164-165
- Lubricating 165
- Overview 12-13, 124
- Troubleshooting 166-170

Entry
- Embroidery mode 134
- Sewing mode 134

Environmental Protection 3

Examples of application
- Decorative stitches 96-98
- Practical stitches 68-79
- Quilt stitches 100-101

Eyelet
- With small zig-zag 80, 94
- With straight stitch 80, 94

F

Fabric
- BERNINA Dual Transport 108
- Center determination 130
- Hooping 130
- Needle and thread 14-16
- Transport 28

Fabric feed
- Feed dog 28

Feed dog
- Fabric feed 28
- Lowering 28, 129
- Position 28
- Ready to sew 28
- Symbol 13, 28, 129

Finishing edges 73

Foam pad 9

Foot control
- Cable unwind/wind 18
- Connection 13, 18
- Plugging in 18
- Raising and lowering the needle 18
- Sewing speed control 18

Front view
- Sewing computer 12

Function buttons 30-31, 133
- Automatic thread cutter 30, 133
- Nähfussposition 30, 133
- Needle position 31
- Needle stop 30
- Programmable pattern end / Securing 30
- Quick reverse 30
- Slide speed control 30, 133
- Start/Stop 30, 133
- Stitch width and stitch length knob 31, 133

Functions alphabets 38-39
- Altering pattern length 38
- Balance 39
- Basic setting stitch pattern 39
- Letter size with alphabets 39
- Mirror image left/right/down/up 39
- Needle position 39
- Pattern repeat 38
- Permanent sewing in reverse 39
- Presser foot indicator 39
- Presser foot pressure 39
- Saving stitch patterns 39
- Securing 38
- Security program 39
- Upper thread tension 38

Functions buttonholes 36-37
- Adjusting buttonhole length 36
- Balance 37
- Buttonhole slit width 37
- Manual buttonhole 36
- Presser foot indicator 37
- Presser foot pressure 37
- Programming buttonhole length 36
- Securing 36
- Security program 37
- Stitch counter buttonhole 36
- Upper thread tension 37

Functions combi-mode 40-43
- Altering pattern length 40
- Balance 41
- Combination repeat 43

- Combination subdivider 42
- Deleting 40
- Deleting the whole combination 43
- editing combination at cursor position 40
- Editing complete combination 41
- Kombinations-Unterbrechung 42
- Letter size with alphabets 41
- Long stitch 41
- Mirror image (left/right) of whole combination 43
- Needle position 40
- Permanent sewing in reverse 41
- Presser foot indicator 41
- Presser foot pressure 41
- Securing 42
- Security program 41
- Spiegeln links/rechts/unten/oben 40, 41
- Upper thread tension 40

Functions Sewing 34-35
- Altering pattern length 34
- Altering stitch density 35
- Balance 35
- Basic setting stitch pattern 35
- Long stitch 35
- Mirror image left/right/down/up 35
- Needle position 35
- Needle stop down/up 34
- Pattern begin 34
- Pattern repeat 34
- Permanent sewing in reverse 35
- Presser foot indicator 35
- Presser foot pressure 35
- Saving stitch patterns 35
- Securing 34
- Security program 35
- Stitch counter 35
- Upper thread tension 35

G

Glossary 8

Guidelines
- Material/Thread/Needle size 15

H

Handwheel 13

Height compensation of uneven layers 79

Height compensation tool 9, 79, 81

Heirloom buttonhole 80, 89

Help 58

Help program
- Functions 58
- Stitch patterns 58

Horizontal spool pin 13, 20, 22

I

Information 14-16, 33, 34, 44, 53, 54, 125-127, 138

Inserting
- Bobbin 21
- Bobbin case 21
- Needle 22
- Presser foot lifter 19
- Stitch plate 25

Inserting the bobbin 21

K

Key to Signs 8

Knob
- Stitch length/-width 13, 31

L

Leaving active display 34

Lettering
- Altering size 111
- Choosing lower case letters 111
- Combining 110
- Correcting the combination 110
- Overview 109, 135
- Types 109, 135

Long stitch 35

Long term memory
- Buttonhole 90

Lower thread
- Bobbin Fill 125
- Cutting 13, 21
- Darning and embroidery thread 125
- Free hand sewing 98
- Indicator 50
- Inserting the bobbin 21
- Sewing 98
- Threading 21, 129
- Winding 20
- Winding while sewing 20
- With decorative stitches 98

Lubricating 165

M

Main switch 13, 18

Maintenance
- See cleaning

Material, needle and thread 14-16, 125

Memory
- Embroidery computer 155
- Sewing computer 116-120

Menu selection
- Alphabets 32
- Buttonholes 32
- Decorative stitches 32
- Personal Program/Memory 32
- Practical stitches 32
- Stitch pattern selection via numbers 32

Metallic threads 125

Mirror image
- left/right/down/up 34-36, 38-39, 40-41, 43, 138-139

Monitoring settings
- Lower thread indicator 50
- Upper thread indicator 50

Motif colors
- Altering thread brand 153
- Embroidering single-colored 154
- Reallocating 153

Moving the needle position 67

N

Needle
- Changing 22
- Double-, triple needle 16, 23
- Embroidery needle 123, 125, 129
- Guidelines 15
- Holder 13
- Important sewing information 14-16
- Inserting/removing 22
- Needle-thread-combination 15
- Overview 16
- Position 13, 31, 35, 39, 40
- Raise/lower 18, 30, 34
- Stop down/up 30, 34
- Threading 24

Needle threader 13, 24

Needle, thread and material 14

Needle-thread-combination 15

O

Opening for darning hoop connection 13

Optional accessory
- Connection 13

Overlock
- Double overlock 74
- Stitches 62-63

Overview
- Alphabets 109, 135, 174-176
- Buttonholes 80, 171
- Creative consultant 57
- Decorative stitches 95, 171-173
- Display 32-43, 134-140
- Edit 138-139
- Embroiderey motifs 136, 177-184
- Embroidery menu 142-143
- Embroidery mode 134
- Function buttons 30-31, 133
- Functions alphabets 38-39
- Functions buttonholes 36-37
- Functions combi-mode 40-43
- Functions embroidery 138-140
- Functions Sewing 34-35
- Main display 34-35
- Needle 16
- Practical stitches 62-63, 171
- Quilt stitches 99, 173
- Setup Display 44
- Sewing computer 12-13
- Tutorial 55

P

Pattern begin 34

Pattern repeat 34

PC-connection 18

Personal memory
- Permanent 66
- Reset to basic setting 65
- Temporary 65

Personal program 112-115
- Altering/overwriting stitch patterns 114
- Creating personal display 112
- Deleting stitch patterns 115
- Preparing stitch patterns 112
- Preparing/programming stitch patters 112
- Stitch pattern selection in personal program 113

Polyester thread 14, 125

Power cable
- Connection 13, 18

Practical stitches 62-79
- Bartack program 63
- Basting stitch 63, 77
- Blind stitch 62, 76
- Blind stitch narrow 63
- Darning manual/automatic/reinforced 71-73
- Darning program 72, 73
- Double overlock 62, 74
- Gathering stitch 62
- Honeycomb stitch 62
- Jersey stitch 62
- Knit overlock 63
- Large Fly stitch 63
- Lycra stitch 63
- Reinforced darning program 63
- Reinforced overlock 63
- Running stitch 62
- Securing program 62, 77
- Selecting 62
- Sewn out zig-zag 63
- Simple darning program 63
- Single straight stitch 63

- Straight stitch 62, 68
- Stretch overlock 62
- Stretch stitch 63
- Super stretch 62
- Three single straight stitches 63
- Triple straight stitch 62, 68
- Triple straight stitch with longstitch 63
- Triple zig-zag 62, 69
- Universal stitch 63
- Vari overlock 62
- Zig-zag 62
- Zipper 70

Preparation
- Embroidery 128-132
- Embroidery computer 129
- Embroidery module 128
- Sewing computer 18-28

Presser foot
- As guide 75
- Attaching/Removing 24
- Changing 24
- Display 35, 37, 39, 41
- Overview 10
- Pressure 27, 35, 37, 39, 41
- Raise/lower 13, 18, 19, 30
- Standard Accessory 10

Presser foot lifter **9, 19**

Presser foot pressure
- Display 27
- Increase/loosen 27
- Saving 27

Q

Quick Reverse button **30**

Quilt stitches
- Blanket stitch 99
- Blanket stitch (dual) 99
- Blind stitch (narrow) 99

Decorative quilt stitch variations 99

- Double Blanket stitch (dual) 99
- Double blanket stitch 99
- Feather stitch 99
- Feather stitch variations 99
- Handlook quilt stitch 99
- Overview 99
- Patchwork stitch/Straight stitch 99
- Quilt stitch/Straight stitch 99
- Quilters' securing program 99
- Quiltstich/Hand look stitch variations 99
- Satin stitch 99
- Stippling stitch 99

Quilting
- Free-motion quilting 101
- Handlook quilt stitch 100
- Stipple quilting 101
- With BSR 102-106

R

Rayon threads **14**

Rayon threads **14, 125**

Rear thread guide **13, 20**

Removing
- Bobbin case 21
- Embroidery hoop 160
- Embroidery module 128
- Needle 22
- Presser foot 24
- Slide-on table 18
- Stitch plate 25

Reset
- Deleting user data 52
- Reset to basic setting 52

Reset to basic setting **52**

S

Safety Instructions **2-3**

Satin stitch **127**

Saving
- Presser foot pressure 27
- Stitch pattern combination 116
- Stitch patterns 112-113
- Stitch patterns 145, 155-156

Scrolling down/up **33**

Seam
- Blind 76
- Edges 75
- Visible 76

Seam guide
- As guide 75

Seam ripper **9, 83**

Securing **30**

Securing program **46, 62, 77**

Selecting
- Display color 46
- Language 53
- Stitch patterns 126
- Stitch patterns 33, 64

Selecting language **53**

Selection
- Scrolling down/up 33
- Single and combi mode 33

Service data **54**

Setting
- Confirming 34
- Deleting 34

Setup Program 44-54
- Audio System 49
- Basic setting 44, 52
- Beeper for BSR 49
- Brightness 45
- Brightness sewing light 45
- Calibrating automatic buttonhole foot No. 3A/ Cleaning/Packing position 51-52
- Calibrating display 49
- Display color 46
- Display settings 45
- Embroidery settings 48
- Information 53-54
- Monitoring settings 50
- Overview Display 44
- Reset 52
- Sewing light 45
- Sewing settings 46-47
- Update 50-51
- Updating sewing/embroidery computer 50-51
- Welcome text 45
- Winder speed 50

Sewing
- Accessory 9-11
- Alphabets 109
- Blind hem 76
- Buttonhole 80-94
- Combinations 116
- Corners 79
- Edges 75
- Eyelets 94
- Flat joining seam 78
- Function buttons 30-31
- Hem visible 76
- Quick reverse 30
- Sewing on a button 93
- Sewing techniques 57
- Zipper 70

Sewing corners 79

Sewing in reverse
- Permanent 35

Sewing in the zipper 70

Sewing light 45

Sewing on buttons 93

Sewing settings
- Altering upper thread tension 46
- Automatic securing program 46
- Automatic thread cutter 46
- Automatic thread cutter and securing stitches 47
- Presser foot in hover position 47
- Presser foot position when needle stop position down 47
- Sewing speed control 46

Sewing speed 18, 30, 48

Sewing-/Embroidery Computer
- Function buttons 30-31, 133

Single and combi mode 33

Slide-on table
- Attaching/removing 18, 128

Software version 53

Speed
- Foot control 18
- Regulating 13, 18, 30, 46, 133

Spool disc 9, 20, 22

Spool pin
- Horizontal 13, 20, 22, 129
- Vertical 13, 19, 23

Stabilizer
- Embroidery stabilizer 131
- Iron-on interfacing 132
- Spray adhesive 131
- Water soluble stabilizer 132

Stabilizer and interfacing 82

Standard Accessory 9-11, 123

Start-/Stop-Button 30, 133

Starting to embroider 160

Step stitch 127

Stipple quilting 101

Stitch pattern selection
- Direct 64
- Stitch number 64

Stitch patterns
- Adjusting individually 65
- Deleting 40, 43, 117, 120
- Display 33
- Personal memory 65-66
- Selecting 33, 64

Stitch plate
- As guide 75
- Inserting/removing 25
- Marking 25

Stitch selection
- Cancelling 64
- Direct 64
- Via stitch number 64

Stitch types
- Connecting stitches 127
- Satin stitch 127
- Step stitch 127
- Underlay stitches 127

Straight stitch 62, 68

Straight-/CutWork stitch plate 129

System settings
- Creative consultant 32, 57
- Deleting settings 32
- eco 32, 60
- Help 32, 58
- Home 32
- Setup Program 32, 44
- Tutorial 32, 55-56

T

Tension 26

Thread
- Breakage 163, 166
- Breaks 100, 101, 163, 166
- Embroidery threads 15, 100, 125, 129
- Important sewing information 125-127
- Important sewing information 14-16
- Needle / thread combination 15, 166

Thread cutter
- Automatic 13, 30, 46, 47, 48, 133
- Lower thread 13, 21
- On bobbin winder 13, 20
- On the head frame 13, 24

Thread cutter in hook opening 12-13, 21

Thread guide
- At the back 13, 22
- Bobbin case 21
- Eyelet 13, 20

Thread take-up cover 13, 22

Thread tension
- Back to basic setting 26
- Embroidery motif 143
- Upper thread 22, 26, 34, 35

Thread, needle and material 14

Threader 13, 24

Threading
- Double-/Triple needle 23
- Lower thread 21, 129
- Needle 13, 24
- Upper thread 22, 129

Threading the double needle 23

Threading the triple needle 23

Top stitching edges 75

Topstitching
- Edges 75
- Narrow/wide 75

Topstitching outer edges 75

Triple straight stitch 62, 68

Triple zig-zag 62, 69

Troubleshooting 166-170

Tutorial 32, 55-56
- BSR 55
- Buttonholes 55
- Embroidery 55
- Miscellaneous 55
- Needle 55
- Presser foot 55
- Presser foot lifter (FHS) 55
- Quilting 55
- Sewing techniques 55
- Thread/Threading 55
- Troubleshooting 55

Types of fabric 57

U

Underlay stitches 127

Update 50-51

Upper thread
- Indicator 50
- Tension 26, 35, 37, 38, 40, 46, 143
- Threading 22, 129

V

Vertical spool pin 13, 19

W

Welcoming text
- Entry/correction 45

Z

Zoom
- Minus 138, 152
- Plus 138, 152

Notes

Text
Herbert Stolz/Susanne Ribi

Graphics
www.sculpt.ch

Pictures
Patrice Heilmann, CH-Winterthur

Typesetting, Layout
Susanne Ribi

Copyright
2012 BERNINA International AG, CH-Steckborn

2014/02 en 034247.51.04

In partnership with

AMANN GROUP Mettler®

made to create BERNINA