Quick Reference Guide

T8 control unit

Version 1.2

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D-47800 Krefeld-Gartenstadt
Magdeburger Str. 38 - 40

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1. Basic information – T8 control unit

1.1 Operating elements and connectivity

1.1.1 Operating elements

The front panel of the T8 control unit comprises three distinct areas that are colored pale gray.

1. The display area with the menu keys, information key for calling help text, and the shift key for shortcuts and accessing functions with dual-assigned keys.

2. The cursor pad with keys for confirming (OK), exiting (ESC) and deleting (DEL), the cursor keys and the TAB key for navigating in dialogs.

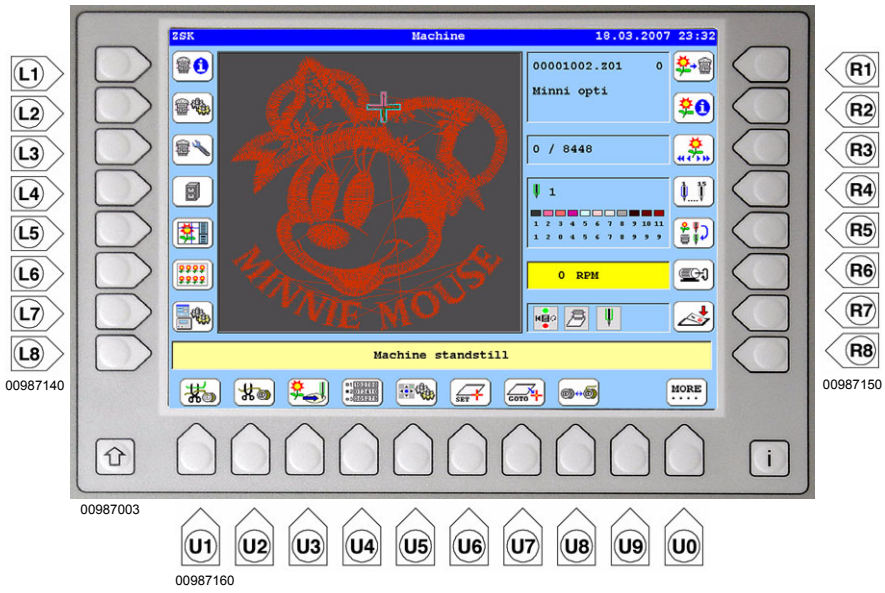
3. The machine control keypad with keys for moving the pantograph, starting and stopping the machine, reverse embroidery and jogging.

Figure 1.1:
T8 control unit,
operating elements

Menu keys

The menu keys are located to the left and right of and below the display; they are not inscribed. The keys are assigned various functions, depending on the context, by way of a symbol or text that appears next to the relevant key on the display. The symbol or text indicates the function that is triggered by the key in the current situation.
For the purposes of this guide and to facilitate a description of the operating procedures and associated keystrokes, the menu keys are also numbered.

Figure 1.2:
T8 control unit,
numbering of keys



The keys to the left of the display are numbered, from top to bottom **[L1]-[L8]**.

The keys to the right of the display are numbered, from top to bottom **[R1]-[R8]**.

The keys below the display are numbered, from left to right **[U1]-[U0]**.

Cursor pad

Figure 1.3:
T8 control unit,
cursor pad

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The cursor pad complements the menu keys with the following functions:

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Confirms a function, selection or setup dialog.

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Exits a menu item.
Abort a function or setup dialog.

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For moving between boxes in setup dialogs.

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Deletes characters in boxes.
Deletes the character to the left of the cursor.


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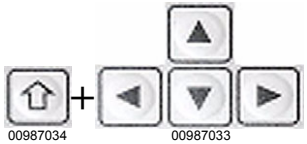
Cursor keys for navigating tables and lists.
[Cursor key] only → marker moves row by row (line by line).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[SHIFT] + [cursor key] → marker moves page by page.

Machine control keypad

There are two sides to the keypad, only one of which is active at a time. The keys on the left start and stop the machine, and those on the right control the movement of the pantograph. A green telltale indicates which side is active.

Press the **[ZSK]** key on the right keypad to switch between the start/stop and pantograph movement modes.


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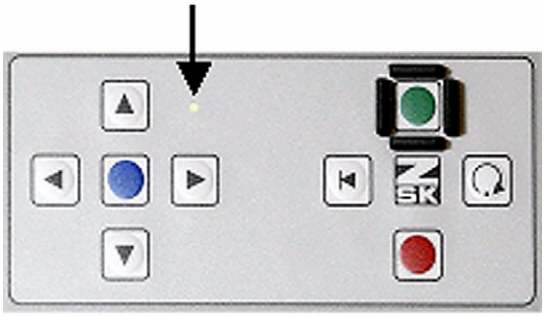
Left side activated (pantograph movement)

Figure 1.4:
T8 control unit,
machine control keypad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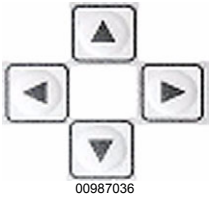
Arrow keys for moving the pantograph to set up the embroidery frame.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Blue appliqué key:
Moves the pantograph to the last embroidery position, typically after taking out the frame to change the embroidery material.


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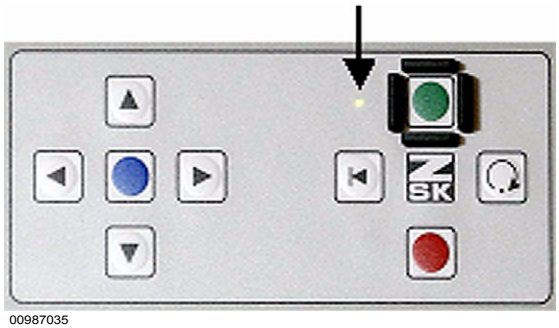
Right side activated (start/stop mode)

Figure 1.5:
T8 control unit,
machine control keypad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Starts the machine.


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Stops the machine.


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Embroiders back within the selected design.


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Executes individual stitches (jogging).

NOTE

Some machines, especially large multi-head machines, have additional machine control keypads located between the heads. These offer only the functions assigned to the right side of the keypad described before.


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Only the [ZSK] key on the control unit switches between the two keypad modes. When the start/stop mode is active, either the keypads between the heads or the keys on the control unit can be used to start and stop the machine.

Some larger machines are also equipped with an operating lever underneath the work table, which also supports the start/stop mode if the right side of the machine control keypad has been activated at the control unit.

Operating lever functions:

Move lever to the right:	Starts the machine
Move lever back and to the right:	Executes individual stitches (jogging)
Move lever to the left:	Stops the machine
Move lever back and to the left:	Executes reverse embroidery

1.2 Menu components and their use

The user software employs several typical components in its menus and dialogs. These are briefly described below and their use is illustrated by some typical dialogs.

Menu dialogs

The menu dialogs take you to the various sections of the user interface.
The buttons in these dialogs are assigned either symbols or text or a combination of symbols and text.

Figure 1.6:
T8 control unit,
machine basic screen

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Use the menu keys next to the symbols to trigger functions or open menus.

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Keys **[L1]-[L8]**

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Keys **[U1]-[U10]**

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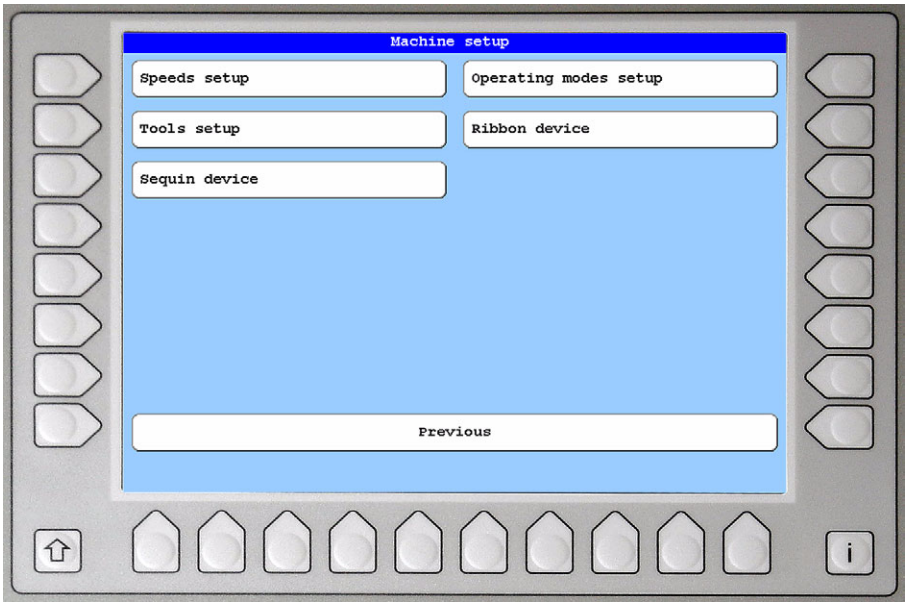
Keys **[R1]-[R8]**

The shortcut **[i] + [menu key]** calls a help function relating to the individual symbol. (For explanation see *Displaying help text for symbol buttons*).

Machine setup submenu

Figure 1.7:
T8 control unit,
machine basic screen,
submenu selection



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To open another submenu:

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Menu keys **[L1]-[L8]**

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Menu keys **[R1]-[R8]**

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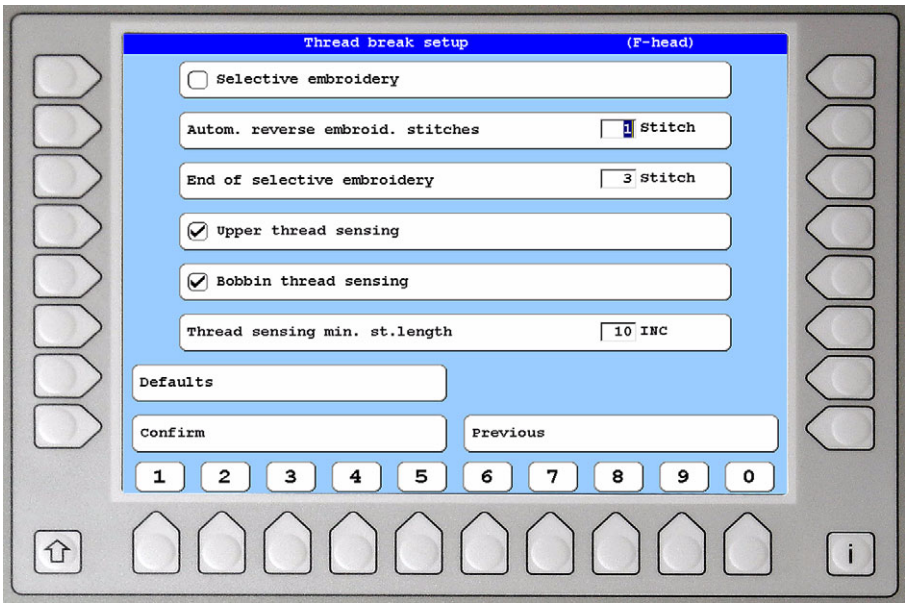
To exit a submenu, press the **[ESC]** key or the menu key next to **[L8/ R8 Previous]**.

Setup dialogs with number inputs and options

The setup dialogs influence the responses of the machine and control unit. The operator is typically presented with choices that are made by entering numbers or selecting and deselecting options.

Figure 1.8:
T8 control unit, machine basic screen, setup dialog



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Press menu key **[L7 Defaults]** to reset the menu to the ZSK works settings.

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Press the **[OK]** key or menu key **[L8 Confirm]** to accept entries.

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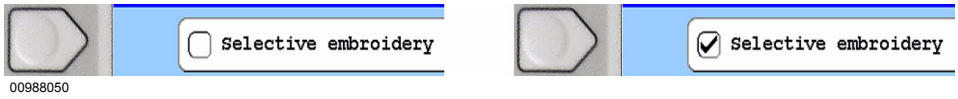
Press the **[ESC]** key or **[R8 Previous]** to abort an entry without saving.

Selecting and deselecting options

Figure 1.9:
T8 control unit,
languages,
select and deselect options



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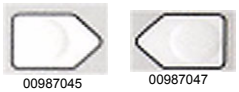
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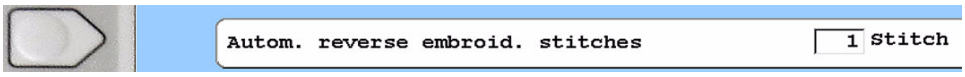
Pressing the menu key next to the option toggles between select and deselect.

Number inputs

Figure 1.10:
T8 control unit,
number inputs



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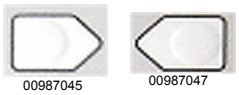
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Press the relevant menu key in the series
[L1]-**[L8]** or **[R1]**-**[R8]** to activate the box (blue highlight).


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Enter numerals with menu keys **[U1]**-**[U0]**.

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Press the **[DEL]** key to delete the character to the left of the cursor.


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Use the cursor keys to move among the individual numerals inside the box.

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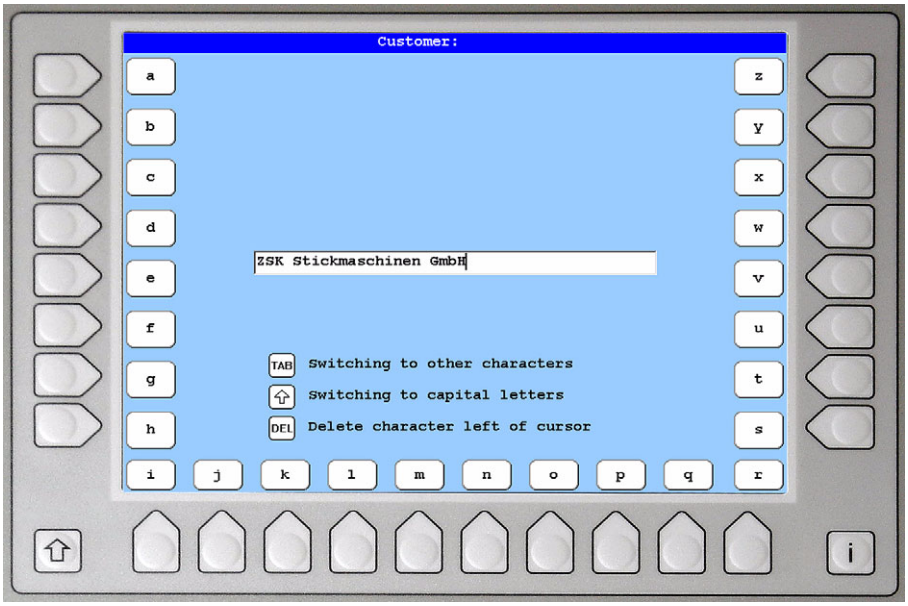
Press the **[TAB]** key to move to another box.

Entering text in setup dialogs

Text has to be typed in dialogs to enter design and directory names, use the search function in the directory, and to make entries when working in a network.

Figure 1.11:
T8 control unit, machine basic screen, letter inputs



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Press the **[OK]** key to accept entries.

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Press the **[ESC]** key to abort an entry without saving.

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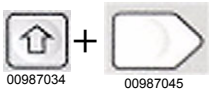
Press the **[TAB]** key to change the characters assigned to the menu keys.



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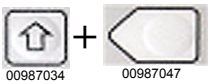

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Press **[SHIFT] + [menu key]** to enter capitals.

Press the **[DEL]** key to delete characters.

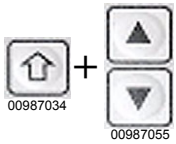
Use the **[cursor key left]**/**[cursor key right]** to move among the individual characters of the text entry.

Dialogs with lists/tables

Lists or tables are used whenever several text or picture items are to be selected in a dialog. Examples include the directory displays, the design table in the editor and design repetition environments, and individual setup dialogs.

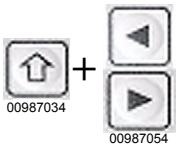
The **[cursor keys]** in combination with the **[SHIFT]** key are used to navigate within the lists or tables:

[Cursor key up]/**[cursor key down]** for selecting the previous/next row or line in the list/table.



[SHIFT] + [cursor key up]/**[SHIFT] + [cursor key down]** for scrolling page by page in the list/table.

[Cursor key left]/**[cursor key right]** for selecting the previous/next column in the list/table.

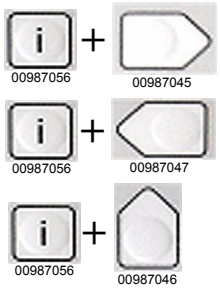


[SHIFT] + [cursor key left]/**[SHIFT] + [cursor key right]** for scrolling the display of lists/tables horizontally.

1.3 Displaying help text for symbol buttons

Especially in the basic screen, the T8 control unit depicts numerous symbol buttons. A help function has been implemented to help the user learn the symbols' meaning. The function of the individual buttons is described in plain text.

Activating help text



- Press and hold down the information key**[i]**.
- At the same time, press the menu key **[L1]**-**[L8]**, **[R1]**-**[R8]** or **[U1]**-**[U0]** next to the symbol for which you require an explanation.

Example - Help text for the symbol next to menu key **[R1]** in the basic screen.

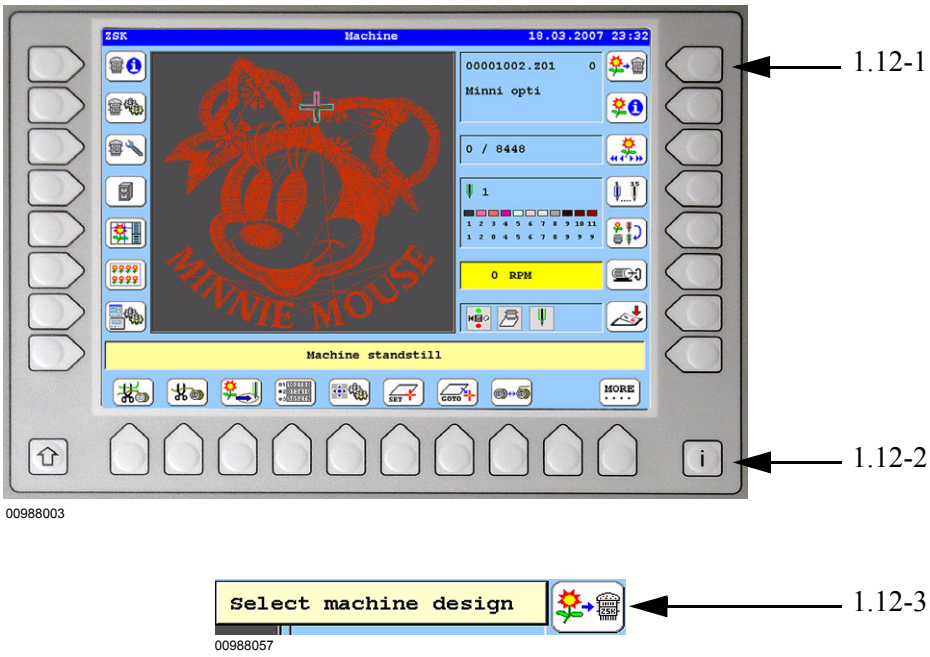


Figure 1.12:
T8 control unit, example: On-screen help text

- Press and hold down the information key **[i]** *(1.12-2)*.
- Then press menu key **[R1]** *(1.12-1)*.

→ The help text *(1.12-3)* remains in the display until the keys are released.

1.4 Interfaces and connectors

disk drive

Inserting a disk in order to load design data:

The disk drive is situated near the top of the housing on the right side; it is protected by flap.

Push back the flap and insert the disk with the sticker facing the front.

Figure 1.13:
T8 control unit,
disk drive

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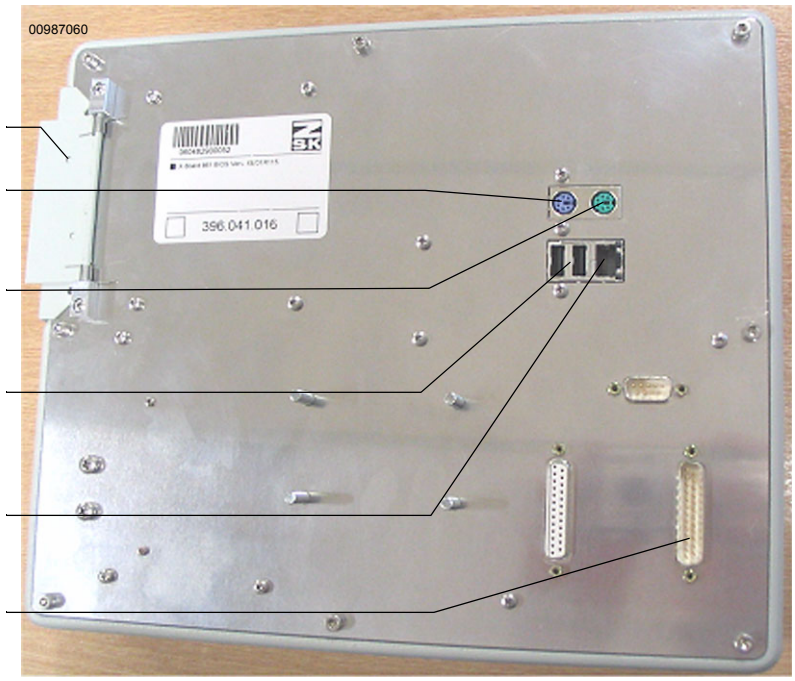
Back panel of the T8 control unit

Figure 1.14:
T8 control unit,
rear view



Disk drive
Connector for service purposes only

Mouse/trackball connector (optional)

2x USB port
(USB 1.1)

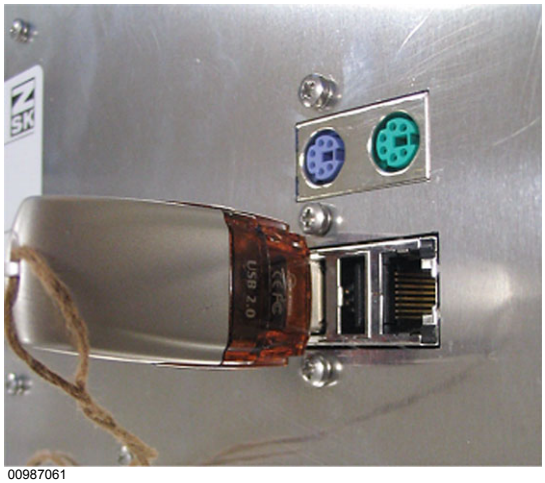
1x Ethernet connector
10/100 MBIT with RJ45

Machine interface

Inserting USB memory devices

The USB memory
can be inserted and removed while the control is operational. (Similar to disk media)

Figure 1.15:
T8 control unit,
USB connector



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Inserting an Ethernet cable with an RJ45 connector:

The type of Ethernet cable depends on the application:

- Direct network connection, e. g. with a laptop:

  → use a crosslink cable

- Use in a larger network with several users; control unit is connected to a network hub:

  → use a regular patch cable

The full manual contains further information on working with networks.

Figure 1.16:
T8 control unit,
RJ45 connector

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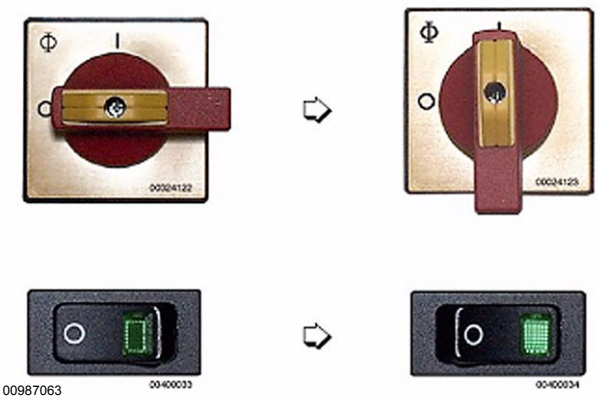
2. Switching on – basic screen

- Switch on the machine with the main switch.

Figure 2.1:
Machine,
switch on/off

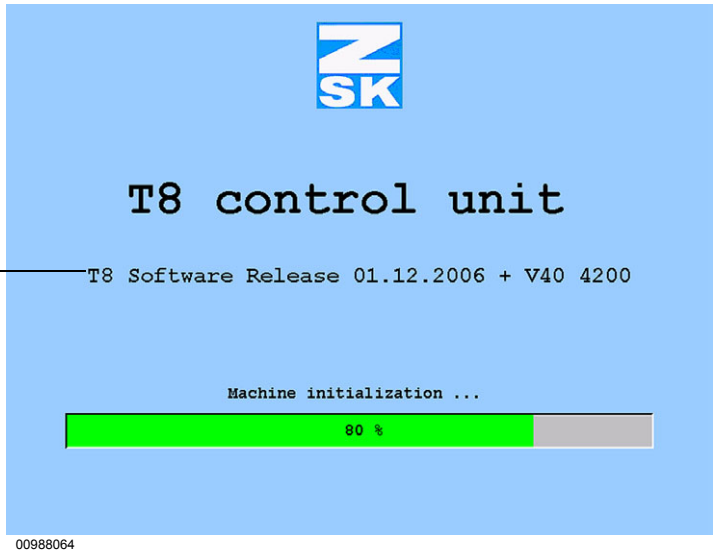


→ The control unit's software is loaded, and the system is checked and initialized.

→ While the control is powering up, the installed software version appears in the display.

Figure 2.2:
T8 control unit,
software version

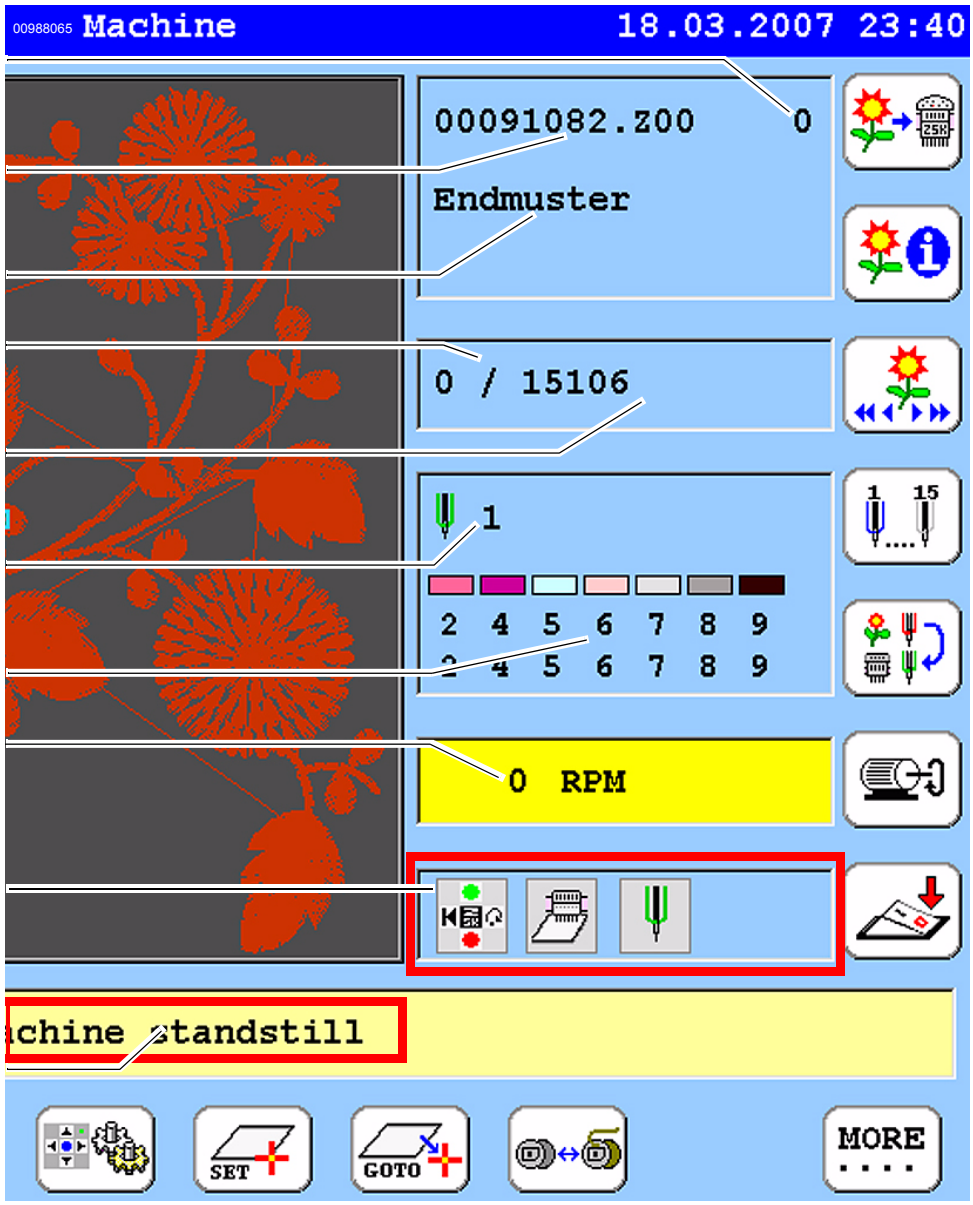
Software version



2.1 Basic screen structure and status displays

Once the system is running, the machine software's basic screen appears on the display. It shows the design that has been selected for embroidering and the current machine status. By way of the menu keys, the basic screen gives access to the principal machine control functions:

Figure 2.3:
Basic screen, devision



Number of completed design passes

Design number of selected embroidery design

Name of selected design

Current stitch number

Total number of stitches in design

Current needle number

Current needle assignment and corresponding design colors

Current embroidery speed

Display of current machine mode

Display of current machine operations and faults

Symbols used in the mode display and their meaning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Machine keypad for start/stop/reverse/jog active.


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Machine keypad for pantograph positioning (fast) active.


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Machine keypad for pantograph positioning (slow) active.

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Machine keypad for pantograph positioning (10 INC steps) active.

00987070

Machine keypad for pantograph positioning (1 INC steps) active.


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Machine configured for border frame embroidery.


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Machine configured for tubular system.


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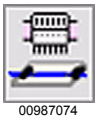
Machine configured for cap embroidery.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Machine configured for ribbon device.


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Machine configured for cylinder frame.

Embroidering with the F head


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Normal embroidery.


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Sequin embroidery.


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Boring


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Loop embroidery.

Embroidering with the W head (only for special machine types)


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Cord/tape stitch type.


00987081

Zigzag stitch type.

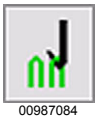

00987082

Coiling stitch type.


00987083

Embroidery stitch type.

Embroidering with the K head (only for special machine types)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Moss stitch type.


00987085

Chain stitch type.

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Monogram machine mode is activated.
The machine obtains monograms or design data from third-party software (e. g. GiS BasePac)

Display area for current machine operations and faults

Depending on their type, the messages displayed here are depicted in different colors.

Green background:	**Normal embroidery**
Machine is embroidering	During normal embroidery

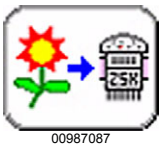
Yellow background:	**Typical special machine situation**
Machine standstill	After switching on the machine.
Machine stopped	When the machine is stopped by the operator.
End of design	Upon reaching the end of the embroidery design.
Design: stop	Upon reaching a stop function in the design data.
Trimming	During automatic trimming.
Needle change	During a change to a different needle.
Waiting for next design	When the monogram machine mode is activated.

Red background:	**Fault situation**
No design data available	Machine start initiated before an embroidery design was selected.
Frame limitation	Embroidery frame has reached one of the travel limits.
Thread break	Upon detection of a thread break.

More status and fault messages are contained in the full manual.

Overview of functions and menus in basic screen

Right menu keys [R1] to [R7]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[R1] Machine design

For selecting the embroidery design from disk, USB, memory or network by way of media selection submenus **[U1]** to **[U0]**.


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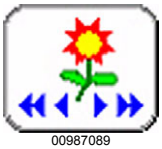
[R2] Design head

Displays the design head of the currently selected embroidery design. Shows parameters, such as dimensions, functions used etc.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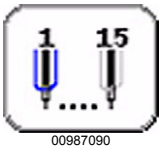
[R3] Approach stitch

Positioning within the design to a different stitch number. Setup dialog for entering/editing the current stitch number.



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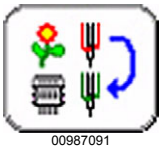
[R4] Manual needle change

Manual selection of a different embroidery needle; the available needle changes are presented by keys **[U1]** to **[U0]**. The needle change is performed the next time the machine is started.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[R5] Needle assignment

For assigning the embroidery design needles to the machine needles. The relevant setup dialog appears in the display.


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[R6] Speed

Changes the embroidery speed for the current stitch type; the available speed control options are presented by keys **[U1]** to **[U0]**.


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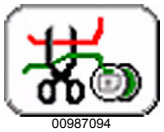
[R7] Switch off

Closes the user software before the machine is shut down.

Bottom menu keys [U1] to [U0]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[U1] Trimming upper/bobbin

Manual activation of the trimming function (upper and bobbin threads). The trimming operation is performed the next time the machine is started.


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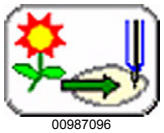
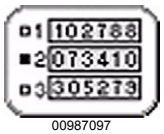
[U2] Trimming bobbin only

Manual activation of the trimming function (bobbin thread only). The trimming operation is performed the next time the machine is started.


00987096

[U3] Design range

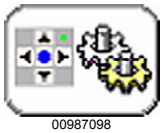
For checking whether the embroidery frame (pantograph) is properly set up for the design.



00987097

[U4] Machine data acquisition MDA

Activates, selects, resets job/user stitch counters.


00987098

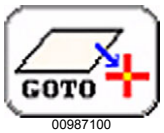
[U5] Pantograph configuration

For selecting manual pantograph positioning speed and embroidery application (border, tubular system, cap etc.).

00987099

[U6] Define reference point

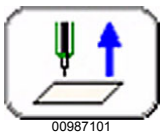
Saves current position of embroidery frame.



00987100

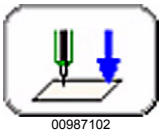
[U7] Approach reference point

Moves the embroidery frame to the most recently saved position.


00987101

[U8] Raise needle

Raises the needle (may not be available, depending on machine type).
[SHIFT] + [raise needle] = raises needle to travel limit, otherwise incrementally.


00987102

[U9] Lower needle

Lowers the needle incrementally (may not be available, depending on machine type).

00987103

[U0] More

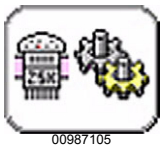
Gives access to additional machine functions, in particular for special devices such as rotary hook changer and bobbin changer etc.

Left menu keys [L1] - [L7]


00987104

[L1] Machine informations

Version display and display/input of machine information.


00987105

[L2] Machine setup

Menu for selecting/editing special machine settings, such as modes, speed, ribbon device, sequins etc.


00987106

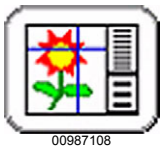
[L3] Service

Menus for service personnel and ZSK engineers.
Machine device/hardware testing, machine configuration.


00987107

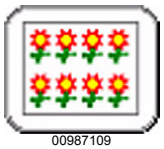
[L4] Design manager

Menus for loading/saving/deleting design data from/to disk, USB, network and memory during embroidery.


00987108

[L5] Editor

Editor menus for editing design data, modify, optimize, move start/end point, edit stitches.


00987109

[L6] Design repetition

Menus for creating/editing design repetition tables automatically or manually. Automatic: one design; manual: several designs can be combined.

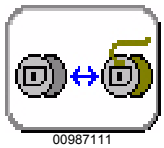

00987110

[L7] Software/hardware settings

Menus for customizing the control unit software/hardware. Adjustments: Language, system clock, network, user interface settings.

Additional menu keys

Depending on the machine type and installed special devices, these keys are presented either on the top tier in the basic screen or when menu key **[U0]** More is pressed.

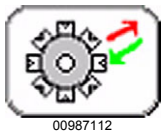

00987111

Rotary hook changer

Changes rotary hooks at all embroidery heads.

Bobbin change

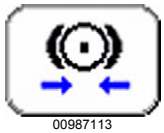
Changes Bobbin cases at all embroidery heads.


00987112

Bobbin change

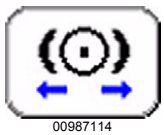
Magazine change

Position bobbin changer for magazine change.


00987113

Main shaft brake ON

Main shaft engaged by the main shaft brake.


00987114

Main shaft brake OFF

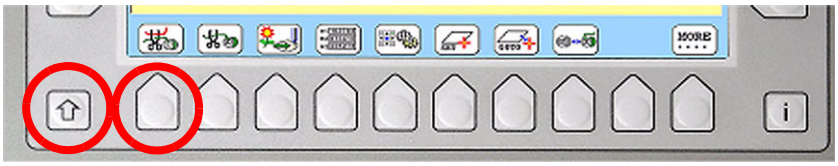
Releases the main shaft; deactivates main shaft brake

Changing language in basic screen

The basic screen has a concealed function for changing the language of dialog texts. If a language that you do not wish to use is set when the control is switched on, use this shortcut to activate the dialog that enables you to change it:

Figure 2.4:
T8 control unit, languages, changing

- Press and hold down the **[SHIFT]** key and then press menu key **[U1]**.



→ The dialog enabling you to change the language appears in the display.

- Select the desired dialog language with the cursor keys.

- Press the **[OK]** key to confirm.

→ All texts now appear in the selected language.

NOTE

The availability of various languages in this dialog depends on the software installed in the machine.

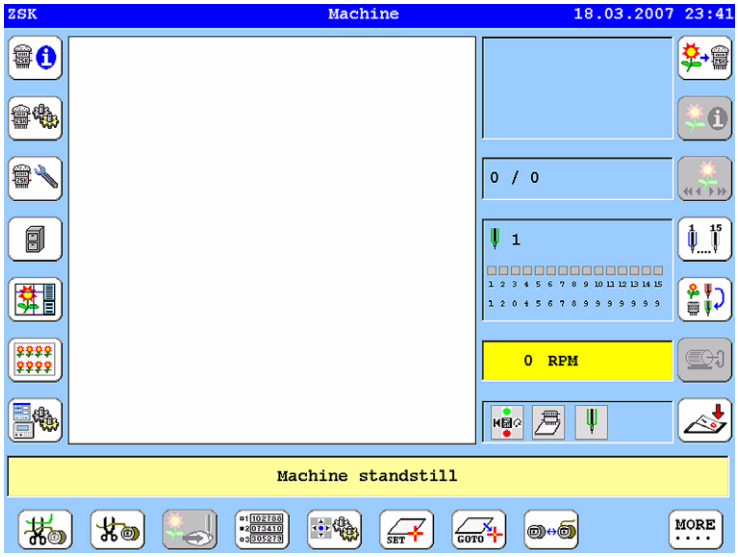
Chinese is available only in conjunction with the appropriate operating system.

3. Work procedures

3.1 Embroidering a design

The explanation below describes the procedure from loading a design from a ZSK transport code disk to the embroidery operation. If you wish to use a design from a USB memory device instead of a disk , the procedure is identical apart from the initial selection of the medium and design.

Step 1: Selecting medium from which design is to be loaded



00988116

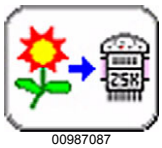
Figure 3.1:
Machine basic screen (empty)

The machine basic screen indicates that no design is currently selected for embroidering.

If a design is still assigned to the machine, it must be closed before you can follow the procedure described here.

Key sequence for closing a design: **[R1]**, **[U8]**, **[L8]**.

- Insert (disk) or connect (USB stick) the medium from which the design is to be loaded.
- Press key **[R1]** to select the design for the machine.


00987087

The assignment of menu keys **[U1]-[U0]** below the display changes to enable you to select the medium from which the design is to be loaded.


00987117

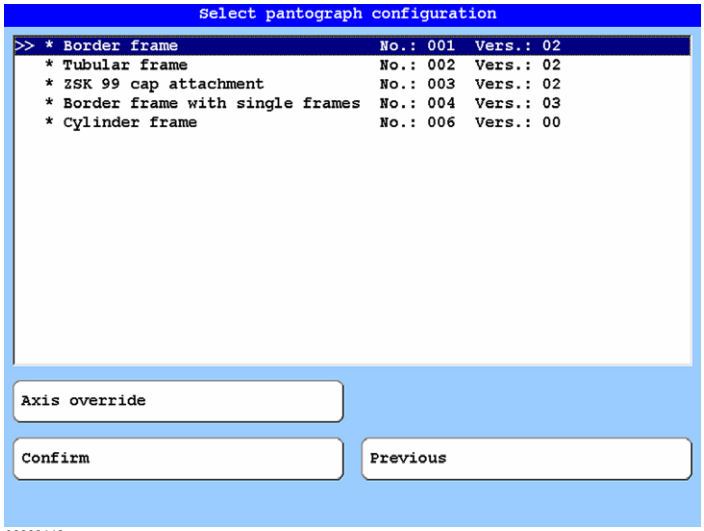
- For the disk drive, press key **[U3]**.

00987118

- For the USB stick, press key **[U4]**.

Step 2: Checking pantograph configuration

Figure 3.2:
Dialog:
Check pantograph configuration



00988119

→ You are asked whether the selected pantograph configuration matches the current machine setup (border, tubular system, cap etc.). The most recently used configuration is highlighted in blue and can be confirmed straight away.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- If you wish to use a different configuration, select it with the cursor keys.

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- Confirm either the most recently used configuration or the new one by pressing **[OK]** oder den Tasten **[L8]** or **[R8]**.

NOTE

The number of entries available for selection in the dialog depends on the machine type and its configuration. In some case, the dialog does not appear for one of the following reasons:

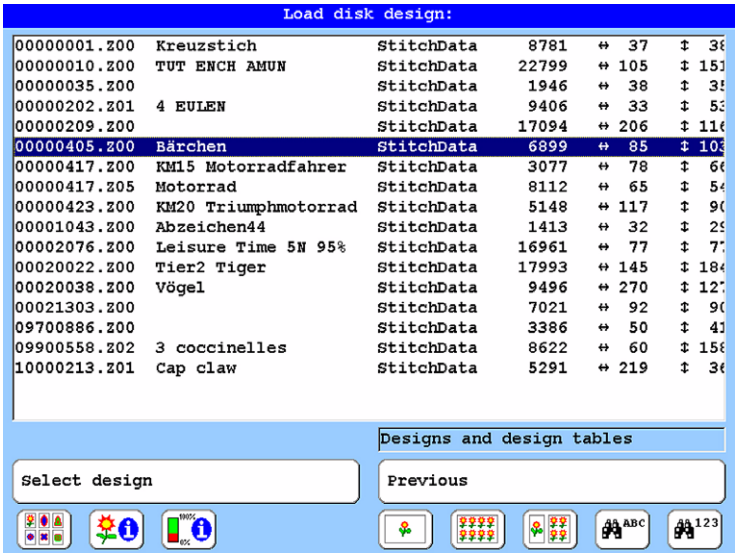
The machine supports only one pantograph configuration, in which case the dialog is superfluous.

The dialog has been deactivated under *Software/hardware settings > Software settings > Inquiry pantograph configuration*.

→ Once the disk format has been verified, the contents of the disk or USB stick are displayed in a directory.

Step 3: Selecting a design in the directory of the inserted disk

Figure 3.3:
Dialog:
Loading disk design (table)



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- Use the cursor keys to select the design.

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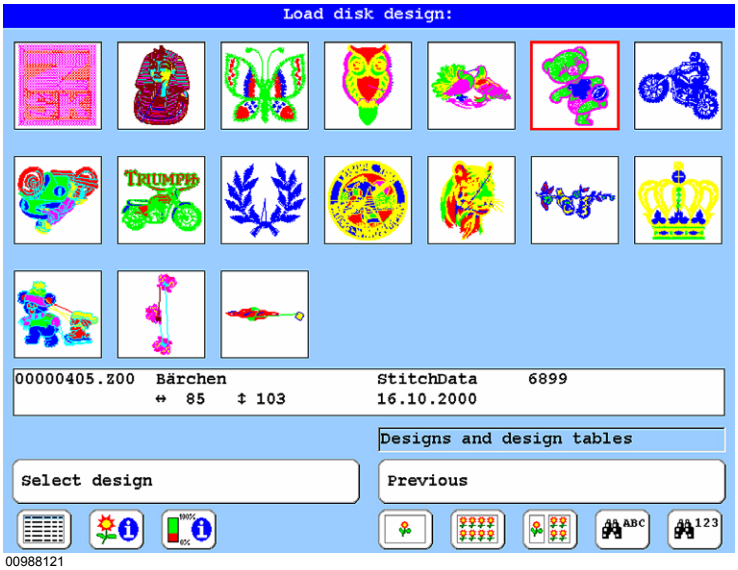
- Confirm the selected design with the **[OK]** or **[L8]** key.

NOTE

With ZSK transport code disks and other ZSK transport code media (USB, memory, network), the directory display can be switched from a table to a series of pictograms.
Press menu key [U1] to toggle between the table and pictogram directories.

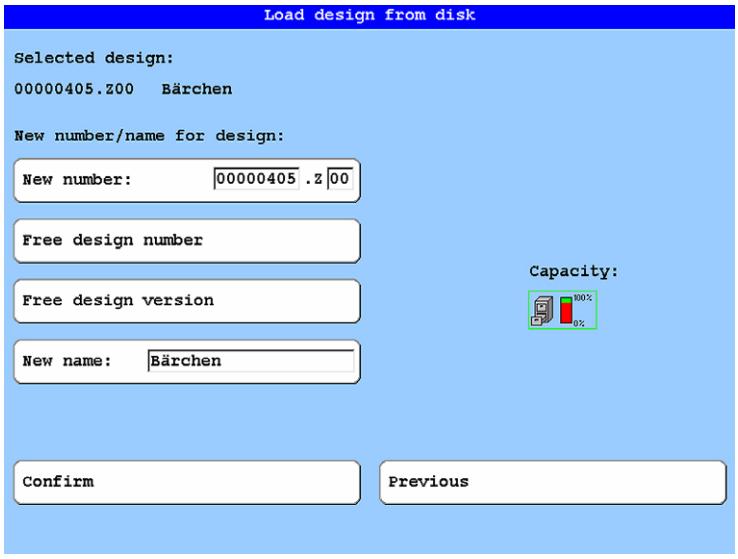
Figure 3.4:
Dialog:
Loading disk design (picto directory)



00988121

Step 4: Selecting number for saving design in memory

Figure 3.5:
Dialog:
Load design from disk



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- If the new number has not been allocated previously, confirm with the **[OK]** or **[L8]** key.

  → If the number is not available, a red highlighted message is issued and you have to search for or enter an unallocated number.

[L3] New number

The box is activated; enter the design number with numeral keys **[U1]-[U0]**.

[L4] Free design number

Triggers an automatic search for the next unassigned design number.

[L5] Free design version

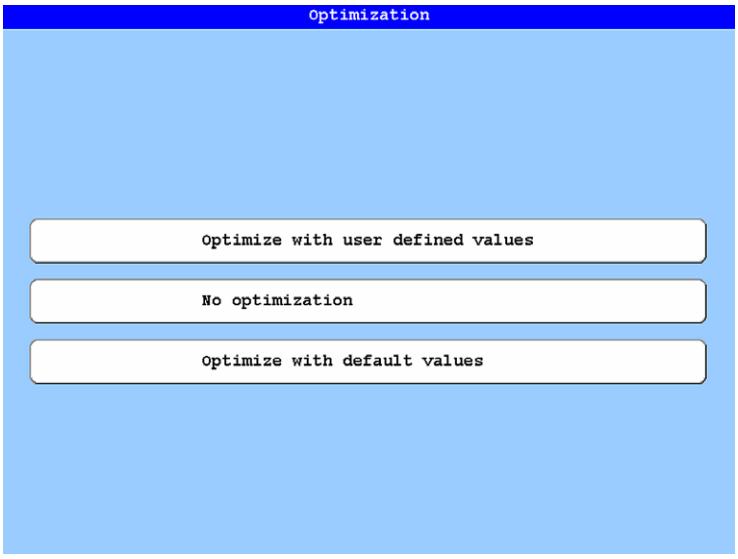
Triggers an automatic search for the next unassigned design version under the indicated design number.

NOTE

This inquiry can be automated under *Software/hardware settings > Software settings > Always ask for design number*. If this option is activated, the design number is issued automatically.
To simplify the loading operation, therefore, the inquiry routine described under Step 4 can be omitted.

Step 4: Selecting optimization method when design is loaded

Figure 3.6:
Dialog:
Optimizing



00988123

The appropriate design optimization method depends largely on the type (design data code) and origin (punch system) of the design being used.

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- For standard optimization, press the **[OK]** or **[L6]** key
  (in the present example, a transport code disk is being used).

[L4] Optimize with user defined values

You are asked to confirm the parameters to be used by the optimization routine. This option is to be used in particular with Tajima design data in the DST data format, for creating the necessary needle change and trimming commands (preset stop functions).

[L5] No optimization

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ZSK recommends at least using the option that optimizes the design with the default settings (key **[L6]**).
No optimization is therefore to be used only if the punch system delivers 100% ZSK-conformant design data that definitely do not require any form of modification.

[L6] Optimize with default values

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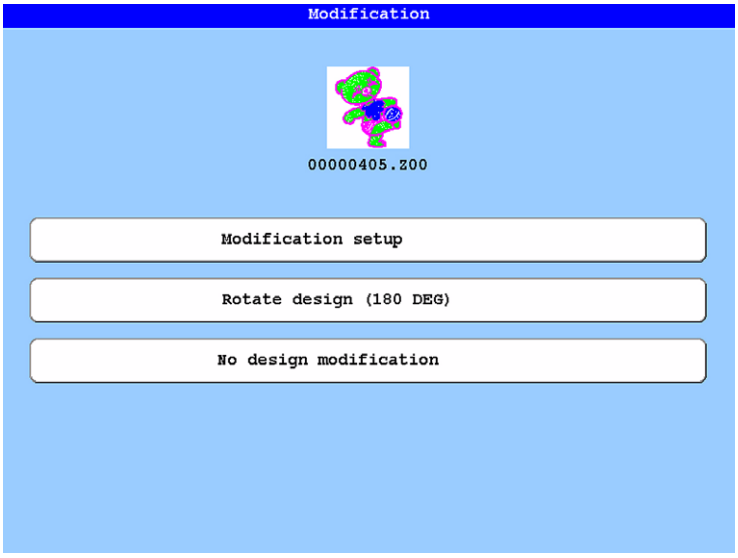
ZSK recommends this option for all designs that already contain all the necessary needle change and trimming commands; it ensures that any available improvements to the machining operation are exploited. (Key **[OK]** or **[L6]**).

NOTE

This inquiry can be automated by selecting the appropriate … *Optimization* … option under *Software/hardware settings* > *Software settings*>. You can thus select the optimization method to match the design data that you typically use.
To simplify the loading operation, therefore, the inquiry routine described under Step 5 can be omitted.

Step 6: Selecting modification method when design is loaded

Figure 3.7:
Dialog:
Modification



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The modification function allows the design to be rotated, mirrored and, within limits, enlarged or reduced in size when it is being loaded. The form of modification therefore depends, in particular, on the type of embroidery application.

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- If you do not wish to modify the design, press the **[OK]** or **[L6]** key.

[L4] Modification setup

You are asked to confirm the parameters to be used by the modification routine. This is the variant to be selected, in particular, for special applications that require rotation, mirroring or a size modification. Each of the options can be selected individually.

[L5] Rotate design (180 DEG)

The design is automatically rotated through 180 degrees during the loading operation.
This option is recommended for cap and tubular system embroidery if the design has not been prepared accordingly by the punch system.

[L6] No design modification

- Press key **[ESC]** or **[L6]** *No design modification*.

  → In this case, the design is not modified at all as it is being loaded.

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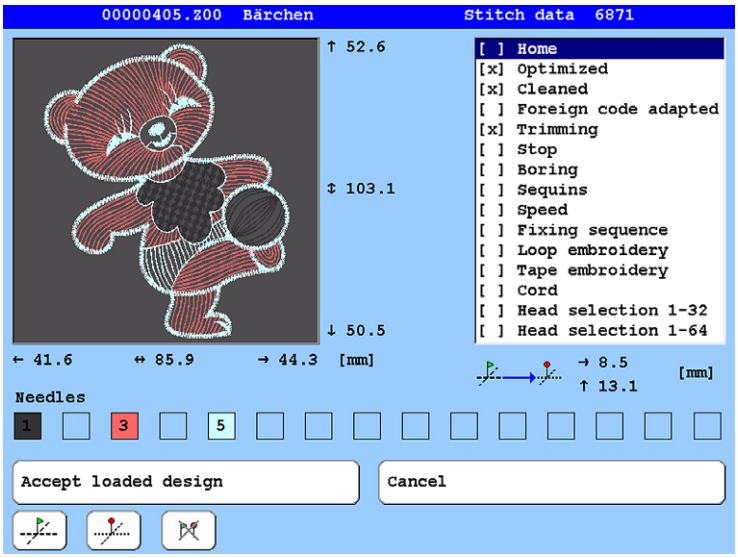
NOTE

This inquiry can be automated by selecting the appropriate *modification* option under *Software/hardware settings* > *Software settings* >. You can thus select the modification method to match the design data and embroidery applications that you typically use.
To simplify the loading operation, therefore, the inquiry routine described under Step 6 can be omitted.

Step 7: Confirming acceptance of loaded and, if applicable, optimized/modified design

For monitoring purposes, a graphic representation of the design is shown in the display before it is transferred to the machine.

Figure 3.8:
Dialog:
Transfer loaded design?



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- Press the **[OK]** or **[R7]** key to accept the design for embroidery.

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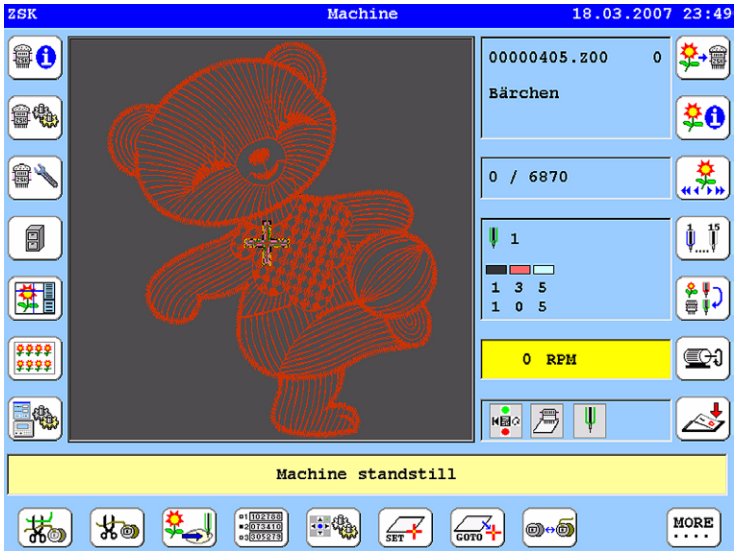
- Pressing **[ESC]** or **[R8]** aborts the loading operation; the design is not transferred to the machine.

Upon completion of the loading operation, the machine basic screen appears and depicts the selected design.

Figure 3.9:
Machine basic screen,
with loaded design

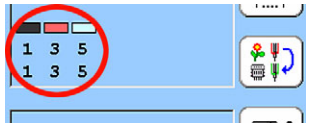


00988126

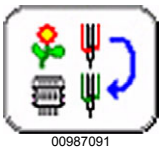
Step 8: Assigning needles

Here you need to check whether the yarn colors assigned to the needles on the machine correspond to the needle numbers used in the design. If this is not the case, you can use the needle assignment function to allocate the needle numbers contained in the design to the needles/yarn colors on the machine more appropriately.

Figure 3.10:
machine basic screen



The current assignment is depicted in the machine basic screen and in the setup dialog.

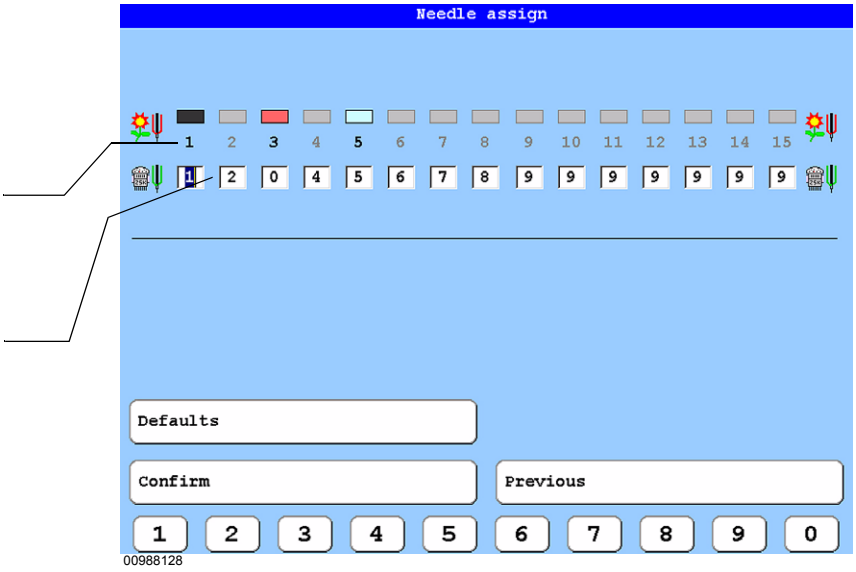


- Pressing key **[R5]** in the basic screen activates the needle assignment setup dialog.

Figure 3.11:
Dialog:
Needle assignment

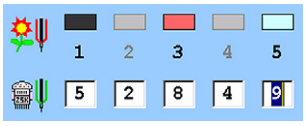
Needle change commands contained in the design

Corresponding needle numbers on the machine



In the present example, which contains three needle change commands (needle numbers highlighted in black in the first row), the assignment of the needles is to be changed as follows:

Figure 3.12:
Dialog:
Needle assignment



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Needle 1 in the design is to correspond to needle 5 on the machine.

Needle 3 in the design is to correspond to needle 8 on the machine.

Needle 5 in the design is to correspond to needle 9 on the machine.

- To make these changes, enter the new needle numbers with the numeral keys **[U1]-[U9]**.

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- To move to the next box, press **[TAB]** or key **[L3]**.

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- Confirm the new settings with the **[OK]** or **[L8]** key.

Step 9: Setting up embroidery frame and checking position with design range function


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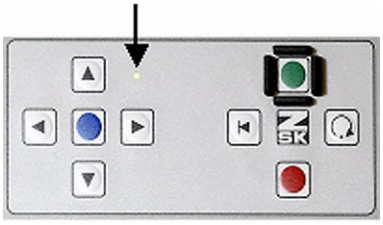
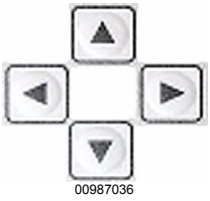
Figure 3.13:
Machine control keypad

- On the machine control keypad, press the **[ZSK]** key to activate the pantograph positioning keys on the left side.


00987035


00987036

- Use the pantograph positioning keys to position the embroidery frame underneath the embroidery head.

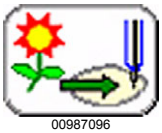
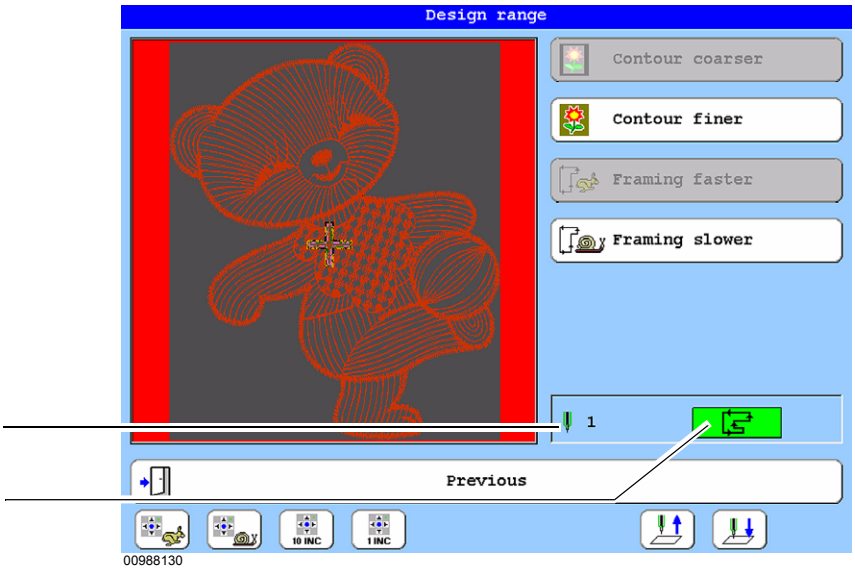

00987096

Figure 3.14:
Dialog:
Design range

- In the basic screen, press key **[U3]** to initiate the design range dialog.



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The status display shows the currently selected needle

Status symbol (green)

→ A frame is drawn around the embroidery design. After a short delay, the design range operation can be initiated. This is indicated by the green symbol in the dialog status box.


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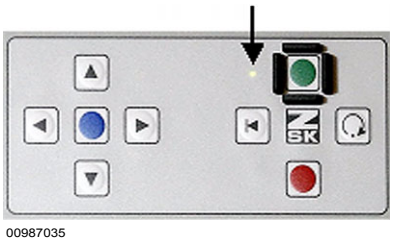
Figure 3.15:
Machine control keypad

- On the machine control keypad, press the **[ZSK]** key again to activate the machine start/stop mode (right side).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- Press the machine **[Start]** key to initiate the design range operation.

  → The machine traces the outline of the design with the embroidery frame. Watch carefully to check whether the position of the current needle (needle 1 in this case) coincides with the embroidery frame at any time while the frame is in motion.


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- The operation can be interrupted at any time by pressing the **[Stop]** key.

  → If you do not intervene, the contouring operation is concluded once the outline has been traced.

- To change the setup position, activate the left side of the machine control keypad again.
- Use the pantograph positioning keys to adjust the position of the frame. Then switch the machine control keypad back to the start/stop mode and perform the contouring operation again.
- Repeat the procedure as many times as necessary to eliminate all critical frame/needle positions when the machine traces the outline of the design.

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- Press **[OK]**, **[ESC]** or the **[L8]** key to exit the design range dialog.

The design range dialog offers auxiliary functions to simplify the checking operation if applicable.

The coarser or finer outline can be defined with **[R1]** and **[R3]** respectively.

[R1] Create coarser outline (contour coarser).

[R2] Create finer outline (contour finer).

The tracing or framing speed can be reduced or increased with **[R3]** and **[R4]** respectively. This allows you to examine the critical positions more closely.

[R3] Increase tracing speed (framing faster)

[R4] Decrease tracing speed (framing slower)

To facilitate a closer examination of critical positions, the embroidery needle can be lowered and raised with keys **[U8]** and **[U9]** respectively.

[U8] Raise needle incrementally; **[SHIFT]+[U8]** to raise to travel limit.

[U9] Lower needle incrementally.

Use keys **[U1]-[U4]** to adjust the speed and increments with which the embroidery frame is positioned.

[U1] Pantograph positioning at normal speed.

[U2] Pantograph positioning at slow speed.

[U3] Pantograph positioning in 10 INC steps.

[U4] Pantograph positioning in 1 INC steps.

Step 10: Embroidering loaded design, speed changes, repairing thread breaks

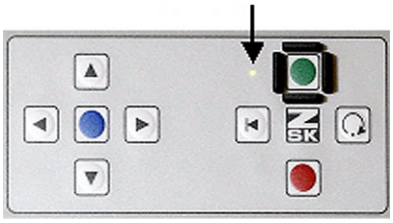
The start/stop mode (right side of machine control keypad) must be activated when the design is being embroidered.


00987040

Figure 3.16:
Machine control keypad


00987041

- Pressing the green **[Start]** key initiates embroidering.


00987035

- Pressing the red **[Stop]** key interrupts embroidering.

→ The current machine statuses are continuously updated in the relevant areas of the basic screen during the embroidery operation.

Adjusting the embroidery speed

In some circumstances, different materials and designs can require the embroidery speed to be adjusted. The basic screen offers various speed functions for this purpose.


00096000

- Press key **[R6]** to activate the speed functions.

→ This changes the assignment of functions to the menu keys **[U1]-[U0]**.

The speed function keys are assigned as follows:

00987131

[U1] Maximum speed

Sets the maximum available embroidery speed.

00987132

[U2] Minimum speed

Sets the minimum embroidery speed (200 rpm).

00987133

[U3] Increase speed

Incrementally raises the embroidery speed from the current speed.

00987134

[U4] Decrease speed

Incrementally reduces the embroidery speed from the current speed.

00987135

[U5] Activate special speed

Decreases the speed to the set special speed. The special speed is typically set to 400 rpm; it can be adjusted.

00987136

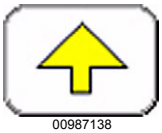
[U6] Normal speed

Deactivates the special speed and activates the normal set speeds


00987137

[U7] Speeds setup dialog

Calls the speed control dialog for setting individual speed limits for different embroidery situations.


00987138

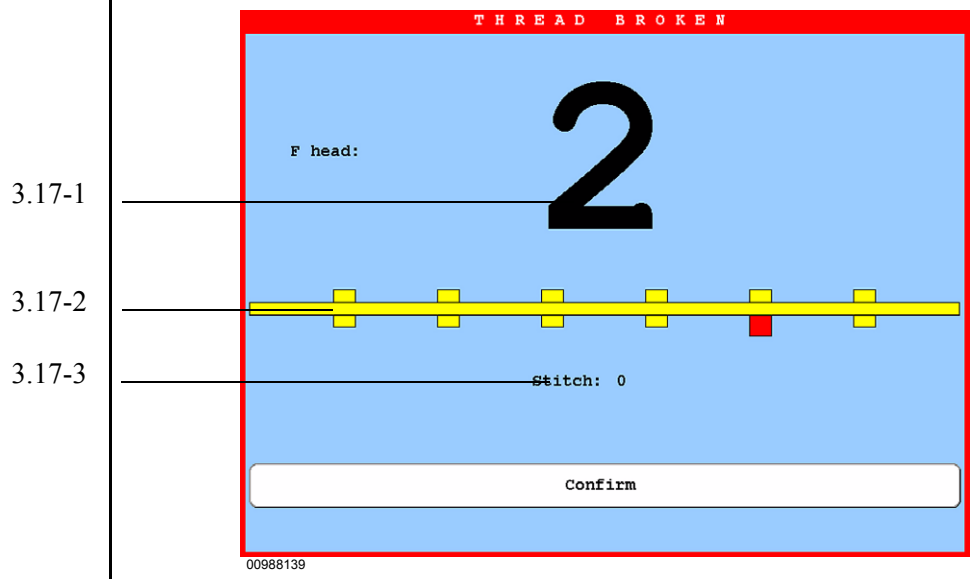
[U0] Previous

Resets keys **[U1]-[U0]** to their default assignment in the main screen.

Repairing thread breaks

The upper or bobbin thread can break while the machine is embroidering. The machine monitors thread breaks and activates a special display when one is detected:

Figure 3.17:
Dialog:
Thread break



Indication of the head number *(3.17-1)* at which a thread break has occurred. If a break has occurred at several heads, the head number is followed by a +.

Symbolic representation *(3.17-2)* of the affected head, indicating whether the upper or bobbin thread is broken.
- Yellow rectangles represent the heads.
- Red rectangles mark thread breaks.

Indication of the stitch number *(3.17-3)* at which a thread break has been detected.

Once the thread break(s) has (have) been repaired at the head(s), the embroidery operation can be restarted straight away with the **[Start]** key. The dialog is automatically cleared from the display.

00987029

00987030

- Alternatively, the dialog can be terminated be pressing **[OK]**, **[ESC]**, **[L8]** or **[R8]**.

NOTE

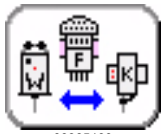
A thread break is also indicated by the relevant embroidery head's lamp.

Head lamp flashing rapidly: → Upper thread break detected
Head lamp flashing slowly: → Bobbin thread break detected

4. Machine setup

The machine setup section describes the current machine setting data as a function of the available embroidery heads.

4.1 General settings



00965100

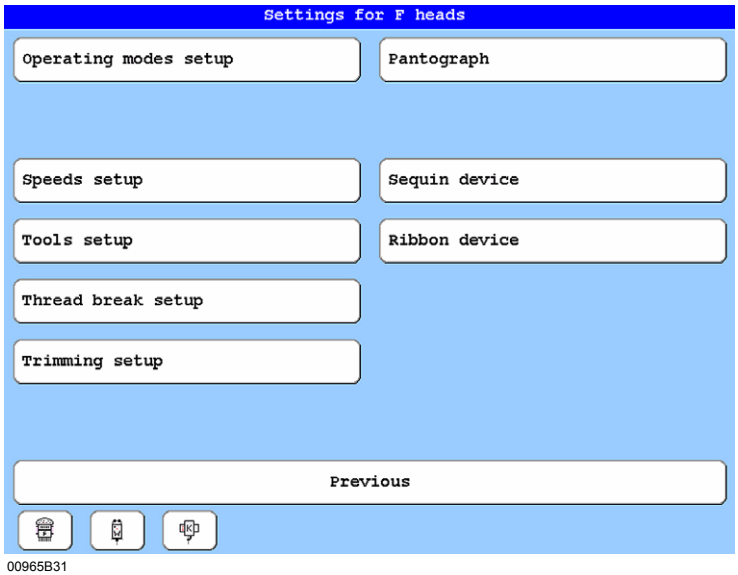
- Press **[L2] Machine setup** in the basic screen

→ The selection dialog for configuring the embroidery heads is opened.

The appearance of the ***Settings for ... heads*** dialog differs according to the type of machine.

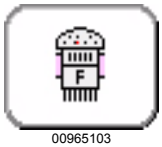
Depending on the specification and previous machine setup, it is possible that the setup dialog that first appears is one for different heads, in this case the ***Settings for F heads*** dialog, for example.

Figure 4.1:
Dialog,
Settings for F heads



00965B31

To change the setup data to a different head type, press one of the **[U1] - [U3]** selection keys at the bottom left of the screen.

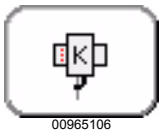


00965103

Press **[U1] F heads** to display the dialog ***Settings for F heads***.

00965109

Press **[U2] W heads** to display the dialog Settings for W heads.



00965106

Press **[U3] K heads** to display the dialog Settings for K heads.

NOTE

4.1.1 General explanation of recurrent key functions and dialog options

The following recurrent options, key functions and input routines are contained in all setup dialogs for F, W and K embroidery heads. Their settings and effect are therefore explained here only once.

4.2.1.1 Key functions

[L7] Defaults

Press the **[L7] Defaults** key/dialog option to reset all displayed option values to the works default settings. Then press the **[L8] Confirm** key to accept the reset option values.

[L8] Confirm

Press the **[L8] Confirm** key/dialog option to accept the changes to the displayed option values (including default) and, in most cases, to return to the entry dialog of the function.

[R8] Previous

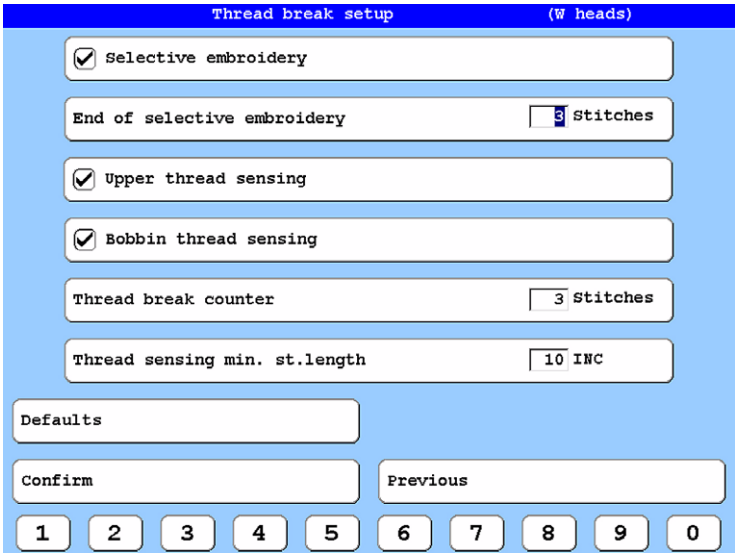
Press the **[R8] Previous** key/dialog option in all dialogs to close the relevant set-up dialog without accepting the changes made and, in most cases, to go back to the previous dialog level.

Activating/deactivating tools and options

- To activate/deactivate tools and options, press the appropriate **[Lx]/[Rx]** operator key.

Number inputs

Figure 4.2:
Example of number inputs, setting options



00988B36

- To change numerical values, activate the relevant box with the **[Lx]/[Rx]** keys and enter the value using the **[U1]-[U0]** keys.

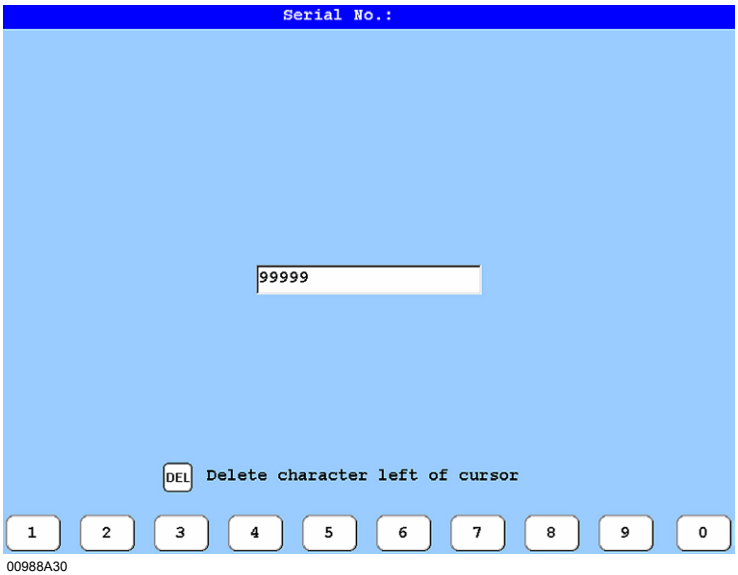
  The **[TAB]** key can also be used to move between boxes.

[U1] - [U0]

These keys are used to enter numbers (1-0).

In some cases a number input sub-dialog appears on the screen.

Figure 4.3:
Example of number inputs



00988A30

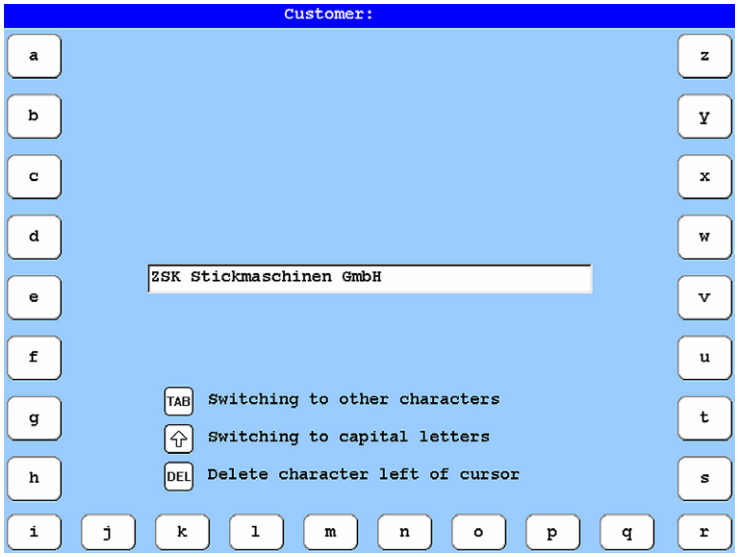
[U1] - [U0]

These keys are used to enter numbers (1-0).

Entering letters and symbols

Once an input option has been selected, a sub-dialog for entering text appears on the screen and the assignment of all the keys changes.

Figure 4.4:
Example of letter inputs



00988A31

[L1] - [L8] These keys are used to enter letters (a-h).

[U1] - [U0] These keys are used to enter letters (i-r).

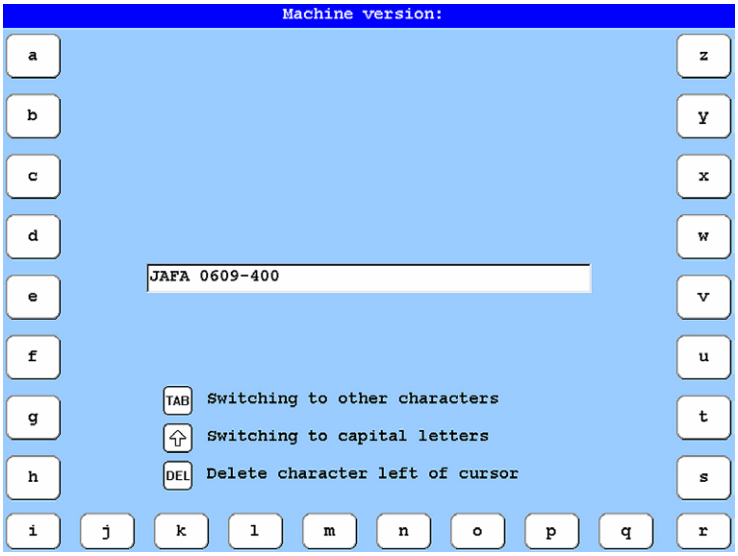
[R1] - [R8] These keys are used to enter letters (s-z).

[TAB] Press the **[TAB]** key to switch to symbol inputs.

[⇧] Press the **[⇧]** key to switch to upper-case inputs (capital letters).

[DEL] Press the **[DEL]** key to delete the character to the left of the cursor.

Figure 4.5:
Example of number and letter inputs



00988A31

[L1] - [L8] These keys are used to enter symbols.

[R1] - [R7] These keys are used to enter symbols.

[U1] - [U0] These keys are used to enter symbols/numbers (1-0).

[TAB] Press the **[TAB]** key to switch to letter inputs.

[⇧] Press the **[⇧]** key to switch to upper-case inputs (capital letters).

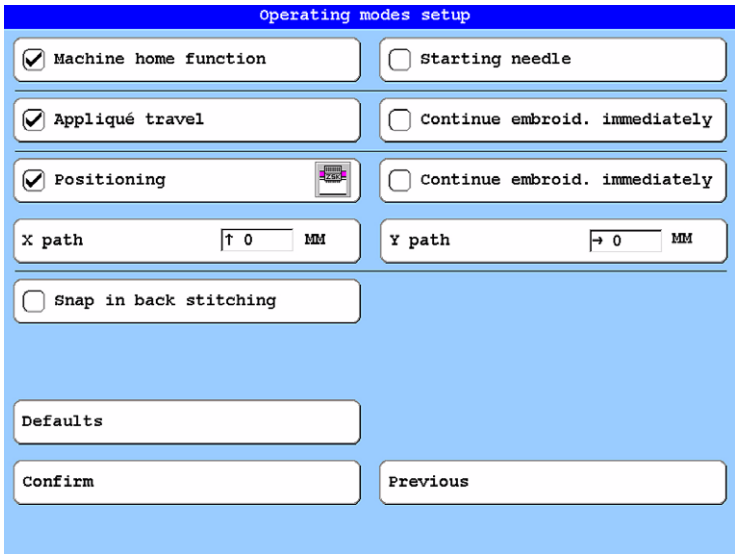
[DEL] Press the **[DEL]** key to delete the character to the left of the cursor.

4.3.1.2 Operating modes setup

The dialog Operating modes setup enables the user to activate and modify additional aspects of the embroidery machine's operating behavior.

- Press **[L1] Operating modes setup** to start the ***Operating modes setup*** dialog.

Figure 4.6:
Dialog:
Operating modes setup



00988B43

Home function

[L1] Machine home function

Activates/deactivates the home function mode.

With Machine home function selected, the pantograph automatically returns to the design start point on completion of the design, so that no positioning is required if the same motif is to be embroidered again. The design does not have to be home optimized. Activating the machine home function does not edit the design in the memory.

NOTE

The default setting is Machine home function off.

- To activate/deactivate the home function, press the appropriate **[L1]** operator key.

Appliqué travel

[L2] Appliqué travel

Activates/deactivates the appliqué travel mode.

With ***Appliqué travel*** switched on, the machine stops to attach an appliqué when a design stop command is encountered. Once the appliqué has been attached, the pantograph can be moved manually to cut off/tidy the appliqué. After this operation, use the appliqué button to move the pantograph back to its position before cutting/tidying and then resume embroidering. Further information on appliqué embroidery is contained in the chapter of the same name in the operator's guide that accompanies the machine.

NOTE

The default setting is Appliqué travel off.

- To activate/deactivate the home function, press the appropriate **[L2]** operator key.

Further information on ***appliqué embroidery*** is contained in the chapter of the same name in the operator's guide that accompanies the machine.

[R2] Continue embroid. immediately

Activates/deactivates the ***Continue embroid. immediately*** function.

- To activate/deactivate the function, press the appropriate **[R2]** operator key.

Deactivated: The machine responds in the usual way. The machine stops after reverse travel. Embroidering is then resumed by pressing the **[Start]** key or with the operating lever.

Activated: The machine starts automatically after reverse travel and embroidery resumes immediately.

positioning

[L3] Positioning

Activates/deactivates the positioning mode.

NOTE

The default setting is Positioning off.

- To activate/deactivate the positioning function, press the appropriate **[L3]** operator key.

[R3] Continue embroid. immediately

Activates/deactivates the ***Continue embroid. immediately*** function.

- To activate/deactivate the function, press the appropriate **[R3]** operator key.

Deactivated: The machine responds in the usual way. The machine stops after reverse travel. Embroidering is then resumed by pressing the **[Start]** key or with the operating lever.

Activated: The machine starts automatically after reverse travel and embroidery resumes immediately.

Determining the path to be traversed by the pantograph at the end of the design:

[L4] X path

Enter the X path in mm here.

[R4] Y path

Enter the Y path in mm here.

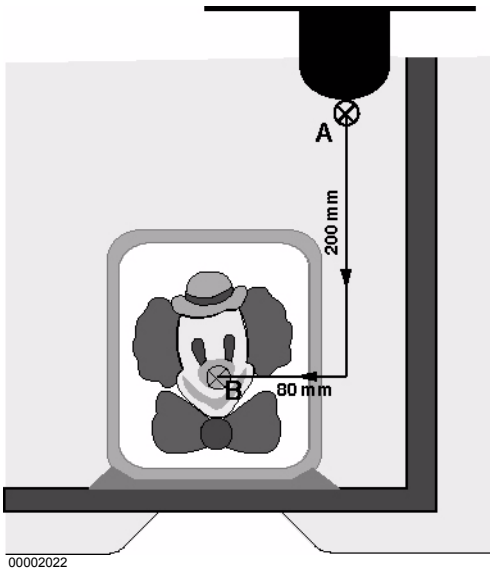
[U1], [U2]

Switches the entered path direction.

[U3] 0…9

Shows the U key assignments again for entering numerical values.

Example - positioning



In the example, the design is moved from embroidering position (A) to service position (B). The following distances have to be entered:

• X DIRECTION ↓ 200 mm

• Y DIRECTION ← 080 mm

The next time the machine is started, the work is moved back from position B to position A.

Enter the path to be traveled by the pantograph after embroidering; that is to say, the distance from the embroidering to the service position.

NOTE

The positioning function is useful only if the design start and end points are identical. To make these points coincide, switch on the machine home function.

Snap in back stitching

[L5] Snap in back stitching

Activates/deactivates the ***Snap in back stitching*** function.

- To activate/deactivate the function, press the appropriate **[L5]** operator key.

Deactivated: While the **[Back stitching]** key is pressed, the pantograph moves back towards already machined stitches. Release the **[Back stitching]** key to end this operation.

Activated: If the **[Back stitching]** key is pressed briefly, the pantograph moves back towards already machined stitches. Release the **[Back stitching]** key to end this operation. If the **[Back stitching]** key is held down for longer than approx. 0.5 s, the status is stored and back stitching continues to be executed even after the key has been released. To end back stitching, press one of the following keys: **[Stop]**, **[Jog]** or **[Back stitching]**.

Start needle

This option is envisaged for older designs that do not contain a change to the needle (color) for the first design section either at the start or at the end of the design.

[R1] Start needle

Activates/deactivates the start needle mode.

NOTE

If not already determined by the user, a start needle is usually added to designs that are loaded with normal optimization.

Using the start needle mode for normal designs gives rise to unexpected needle change operations at the beginning and end of designs.

For this reason, use this option only if the design does not correctly specify the start needle.

For designs that do not specify a start needle, the required needle has to be set manually at the start of the design.
The ***Start needle*** option provides support for such designs initially by saving the needle number set at the start of the design when the ***Start needle*** mode is activated. When the end of the design is reached after subsequent passes, the machine changes to the stored needle. This ensures that the correct needle is selected again for the following pass.

Example - start needle

The envisaged embroidery design is to use needle 3 from the start of the design. The design, however, contains only the subsequent needle changes to needle 4, 5, 6 etc..

- Select the design.
- Execute a manual needle change to needle 3.
- Activate the start needle mode.

→ The current needle = N3 is stored as the start needle.

- Embroider the design

As the design progresses, needles 4, 5, 6 etc. are used. When the end of the design is reached, the activated Start needle mode causes the machine to switch back to the stored needle 3, so that a new pass can be started correctly.

The functions **[L7] Defaults**, **[L8] Confirm** and **[R8] Previous** are explained under *General explanation of recurrent key functions and dialog options*.

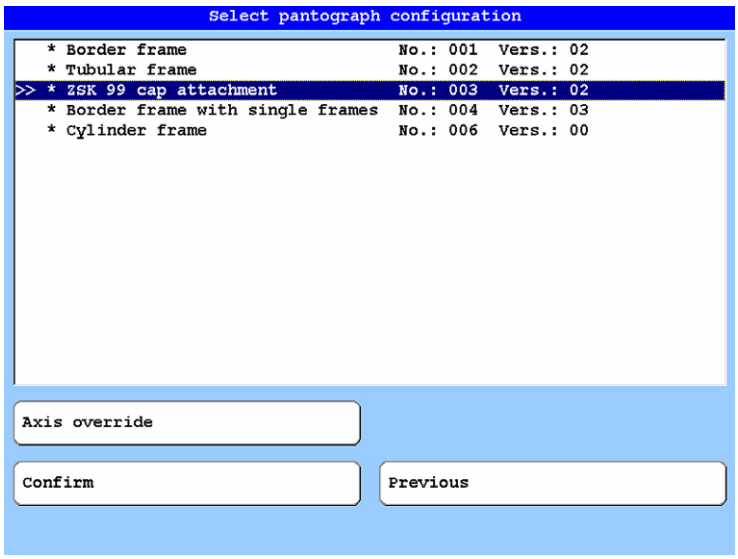
4.4.1.3 Pantograph

The way in which the pantograph moves has to be adjusted according to the selected mode (border frame, tubular system, cap attachment etc.). The adjustment is made by selecting the appropriate pantograph configuration. The ***Select pantograph configuration dialog*** includes an ***axis override*** option as well.

NOTE

The settings described below can be made only if a design is not selected in the machine.

- **Press [R1] Pantograph** to start the ***Select pantograph configuration*** dialog.

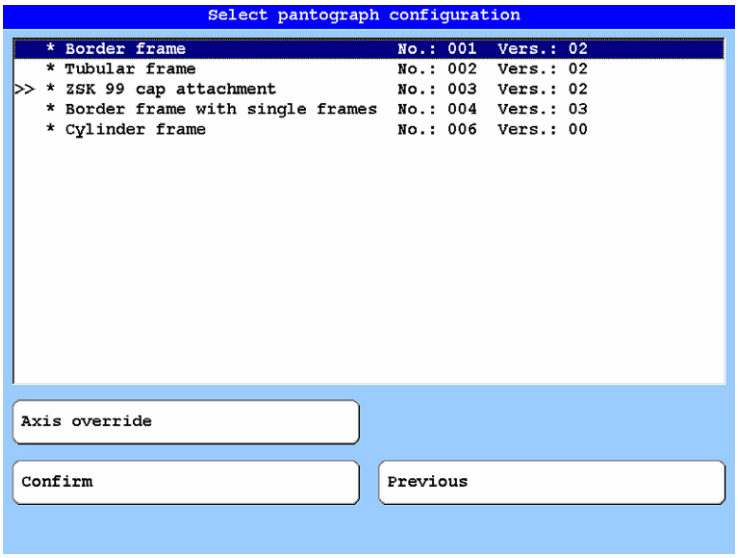


00988B44

Figure 4.7: Dialog: Select pantograph configuration

Select an appropriate pantograph application (in this example: Border frame *Fig. 4.8*).

Figure 4.8:
Dialog:
Select pantograph configuration



00988B45

[R8] Previous

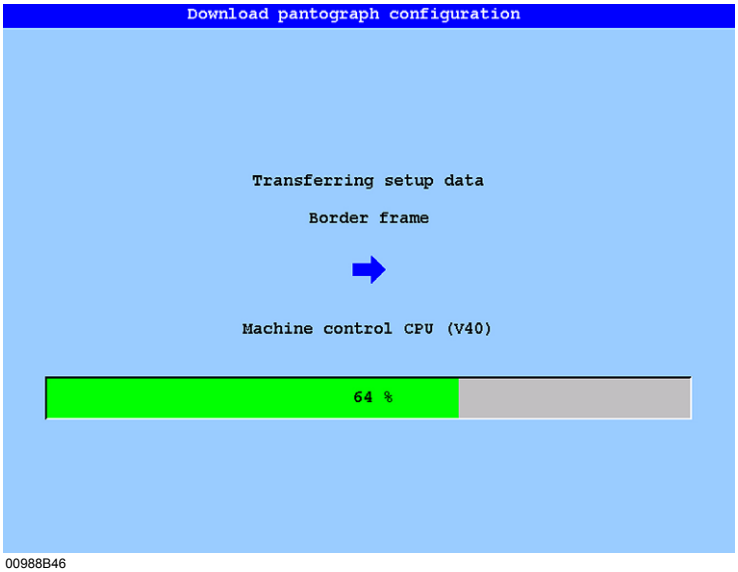
Closes the selection dialog and shows the ***Settings for F heads*** *Fig. 4.1* dialog again. Failing this, the previously active setup dialog for the F/W/K heads is shown again, depending on the head type. The current, unmodified pantograph settings remain in place.

If you made and confirmed changes in the "Axis override" setup dialog *Fig. 4.11* before pressing button **[R8] Previous**, the changes are accepted by the control even if you now press **[R8] Previous** without confirming a new pantograph configuration.

[L8] Confirm

Accepts the newly selected pantograph configuration (border frame in this case) and transfers the necessary setup data to the V40 control computer.

Figure 4.9:
Dialog:
Download pantograph configuration



00988B46

→ Once the transfer of setup data has been completed, the ***Settings for F heads*** *Fig. 4.1* dialog appears. Failing this, the previously active setup dialog for the F/W/K heads is shown again, depending on the head type.

NOTE

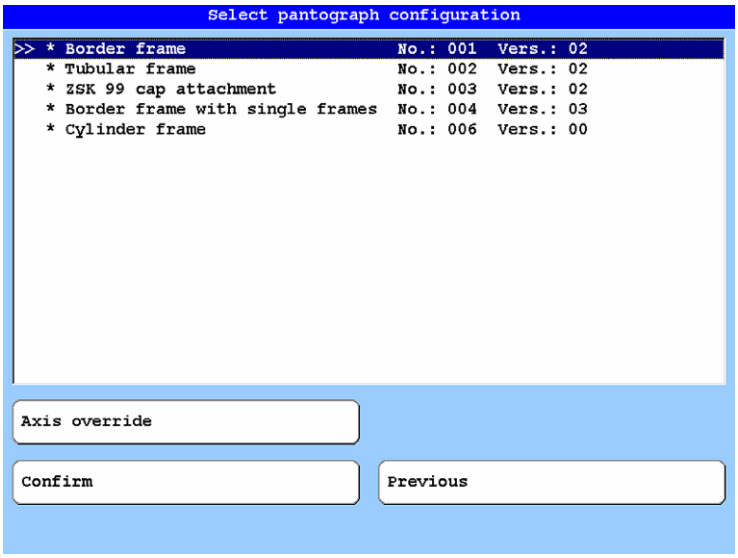
If axis override values have been edited for one or more pantograph configurations, you have to create a recovery disk after pressing [R8] *[Previous]*, selecting [L8] *[Confirm]* and completing the setup data download (see Saving recovery data).

Detailed instructions on creating a recovery disk are contained in chapter *Recovery disk* of this manual.

Axis override procedure

The axis override procedure harmonizes the finished embroidery for different ZSK machine types, including the alignment of ZSK machines with other manufacturers' machines. Besides the various pantograph configurations (border/cap/single frame) available to the user, he now has a further means of influencing the embroidered work.

Figure 4.10:
Dialog:
Select pantograph configuration



00988B47

[L7] Axis override

Starts the ***Axis override*** dialog.

NOTE

The settings described in this manual are intended only as examples for illustrative purposes. The machine settings required to produce satisfactory embroidery work are to be determined by trial and error.

The functions **[L8] Confirm** and **[R8] Previous** are explained under *General explanation of recurrent key functions and dialog options*.

Modifying axis override parameters

[L7] Axis override

Starts the ***Axis override*** dialog.

Figure 4.11:
Dialog:
Axis override

Information bar

The information bar in the setup dialog again indicates the pantograph configuration selected for the axis override parameter modifications that are about to be performed.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Override value height

[L2]/[R2] Override value height

The override value height lengthens or shortens the satin stitches in the design in the front-to-back embroidery direction.

In the first column of the dialog enter the appropriate sign to indicate the type of change you wish to implement. The + sign has the effect of lengthening and the - sign the effect of shortening the satin stitches in the front-to-back embroidery direction.

In the second column of the dialog enter the dimension by which the satin stitches are to be lengthened or shortened in the front-to-back embroidery direction. Enter the value in increments (INC) (1 INC = 0.1 mm).

The axis override value must be within the range -10 INC to +10 INC.

"For stitches up to" dialog

[L3]/[R3] for stitches up to

In this dialog enter the stitch length up to which the two previous settings are to be effective when the design is subsequently calculated. Stitches that exceed the dimension you enter here are not changed when the design is calculated. The valid range is from 5 INC to 127 INC.

Override value width

[L4]/[R4] Override value width

The override value height lengthens or shortens the satin stitches in the design in the side-to-side embroidery direction.

In the first column of the dialog enter the appropriate sign to indicate the type of change you wish to implement. The + sign has the effect of lengthening and the - sign the effect of shortening the satin stitches in the side-to-side embroidery direction.

In the second column of the dialog enter the dimension by which the satin stitches are to be lengthened or shortened in the side-to-side embroidery direction. Enter the value in increments (INC) (1 INC = 0.1 mm).

The axis override value must be within the range -10 INC to +10 INC.

"For stitches up to" dialog

[L5]/[R5]
for stitches up to

In this dialog enter the stitch length up to which the two previous settings are to be effective when the design is subsequently calculated. Stitches that exceed the dimension you enter here are not changed when the design is calculated. The valid range is from 5 INC to 127 INC.

NOTE

The parameter modifications required to produce the desired embroidery results are to be determined by trial and error.

In view of the variety of applications, there is no generally applicable default setting for the axis override parameters. For this reason these settings are not modified even in the event of a machine reset.

The parameters can be edited only if a design is not selected for the machine. If a design is assigned to the machine, the Axis override function can be used only to view the set parameters.

The set axis override parameters are used for the embroidering operation when the next design is selected.

4.5 Machine setup for F heads

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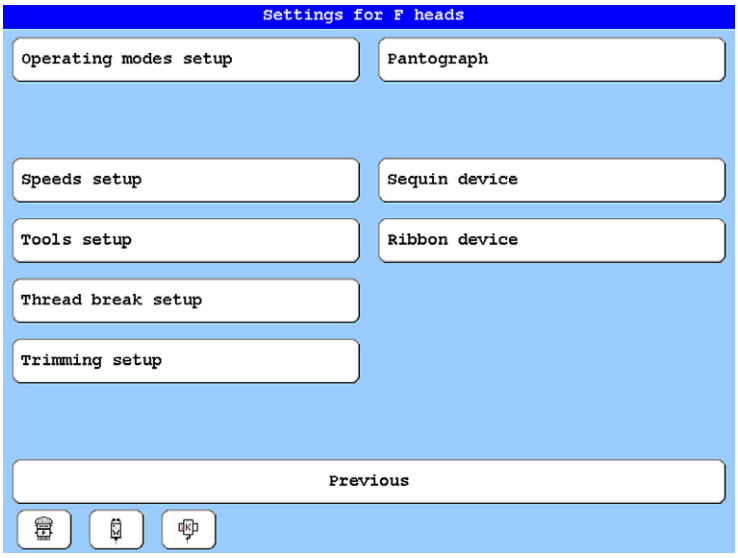
- Press **[U1] F heads** to display the setup dialog for the F heads.

Figure 4.12:
Dialog:
Settings for F heads



00988B31

[L1] Operating modes setup

Setup menu allowing additional aspects of the embroidery machine's operating behavior to be activated and modified.

[R1] Pantograph

Setup dialog allowing the way the pantograph moves to be adjusted.

Given their general applicability to all embroidery head types (F, K, W), functions **[L1] Operating modes setup** and **[R1] Pantograph** are explained in detail in chapters *Operating modes setup* and *Pantograph* of this operating manual

[L3] Speeds setup

Setup menu for speed response of F heads.

[L4] Tools setup

Setup menu for activating/deactivating the available special attachments.

[L5] Thread break setup

Setup menu to determine the machine response in case of a thread break at the F heads.

[L6] Trimming setup

Setup menu for response of the W-head thread trimmers.

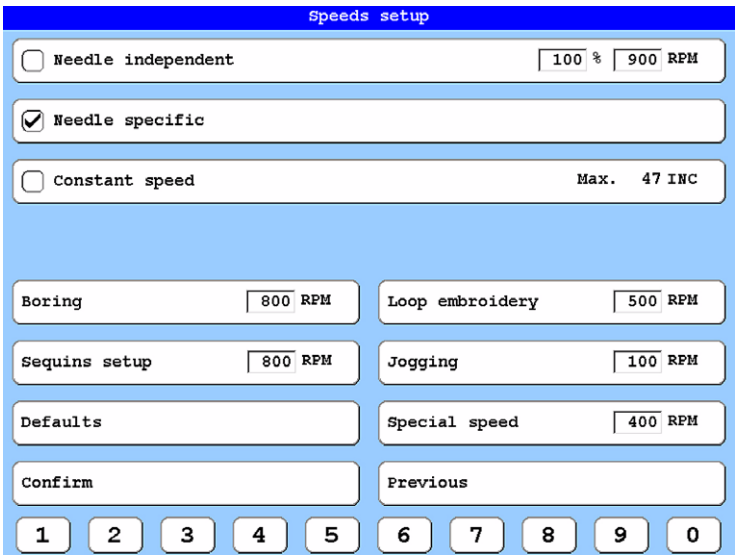
[R3] Sequins	Setup menu for the sequin devices.
[R4] Ribbon device	Setup menu for the ribbon device.

4.5.1 Speeds setup (F heads)

The **[L3] Speeds setup** function initiates a dialog in which the speed response of the machine with active F heads can be modified and adjusted according to the different embroidery situations and special needs.

- Press **[L3] Speeds setup** to open the ***Speeds setup*** dialog.

Figure 4.13:
Dialog:
Speeds setup (F heads)



The input fields for establishing the maximum speed limits for certain embroidery situations are described below. In the relevant circumstances the machine cannot exceed the speed limit stipulated here. The actual speed largely depends on additional factors, such as the stitch length, so that the entered maximum speed is not always reached.

[L1]/[R1] Needle independent

Enter the maximum speed for normal embroidering, valid for all needles. The value range is up to the maximum permissible speed of the machine (depends on machine type). Excessive values are not accepted.

[L2]/[R2] Needle specific

Activates/deactivates the function or opens the ***Needle specific speeds setup*** dialog.

The chapter entitled *Needle specific speed* contains a detailed description of the function.

[L3]/[R3] Constant speed

Activates/deactivates constant machine speed.

The chapter entitled *Constant speed* contains a detailed description.

[L5] Boring

Enter the maximum speed for boring sequences.

[L6] Sequins

Enter the maximum speed for attaching sequins. The maximum speed value that can be entered here depends on the version of the installed sequin attachment.

[R5] Loop embroidery

Enter the maximum speed for loop embroidery.

[R6] Jogging

Enter the jogging speed for the F head (manual slow speed).

[R7] Special speed

Enter a special speed for the F head. At any time during the embroidery operation the special speed can be selected with the function key sequence **[R6] Speeds setup**, **[U5] Special speed on** and deselected with **[R6] Speeds setup**, **[F6] Special speed off**.

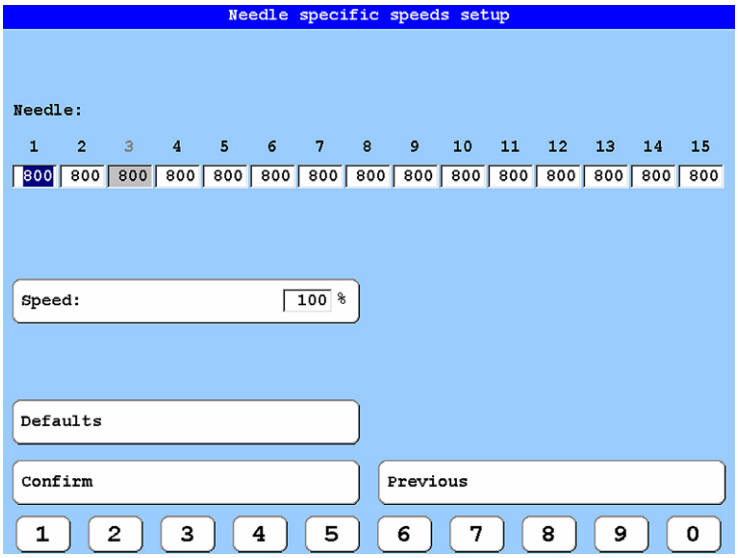
NOTE

We recommend that you work with the default speeds. Press the [L7] Defaults button to reset all the speeds to their default values.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Needle specific speed

Figure 4.14:
Dialog:
Needle specific speeds setup
(F heads)



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Enter the maximum speed for normal embroidering, valid for individual needles. The value range is up to the maximum permissible speed of the machine (depends on machine type). Excessive values are not accepted.

This method of setting speeds enables you to adjust the speed as best suited to different yarn types at the individual needles. By setting the speed appropriately for the individual needles, sensitive yarns such as lurex can be embroidered at reduced speed, while less sensitive yarns continue to be processed at high speed.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Constant speed

For compatibility reasons, this function remains available in the more recent software releases as well. It no longer corresponds to the state of the art, however, and is therefore to be used only in exceptional cases.

Once activated, the machine operates at a constant embroidery speed. Only designs with the maximum embroidery speed shown can be processed. Designs containing larger stitch lengths must be optimized in the editor to comply with the maximum stitch length before embroidering.

NOTE

Select and deselect the *Constant speed* function only if the Machine module has not been assigned a design.

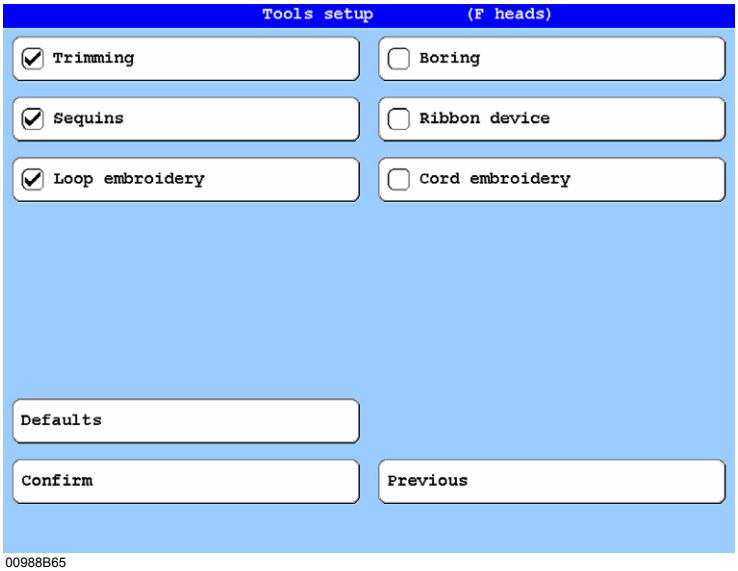
If a design is optimized when read in, a max. stitch length modified by selecting the constant speed is disregarded.

4.5.2 Tools setup (F heads)

The **[L4] Tools setup** function selects and deselects the machine's special attachments for the F heads.

- Press **[L4] Tools setup** to open the ***Tools setup dialog (F heads)***.

Figure 4.15:
Dialog:
Tools setup (F heads)



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NOTE

Only the tools that are available on the machine can be selected.

[L1] Trimming

Activates/deactivates the thread trimmer. With the thread trimmer selected, the machine executes all the thread trimming commands that are contained in the design.

[L2] Sequins

Activates/deactivates the sequin attachment for embroidering designs with sequins.

[L3] Loop embroidery

Activates/deactivates the loop attachment for embroidering designs with loops.

[R1] Boring

Activates/deactivates the borer for embroidering designs with bored holes.

[R2] Ribbon device

Activates/deactivates the reel-to-reel tape attachment for embroidering belt band, twill tape and Velcro tape.

[R3] Cord embroidery

Activates/deactivates the cord attachment for embroidering designs with cord.

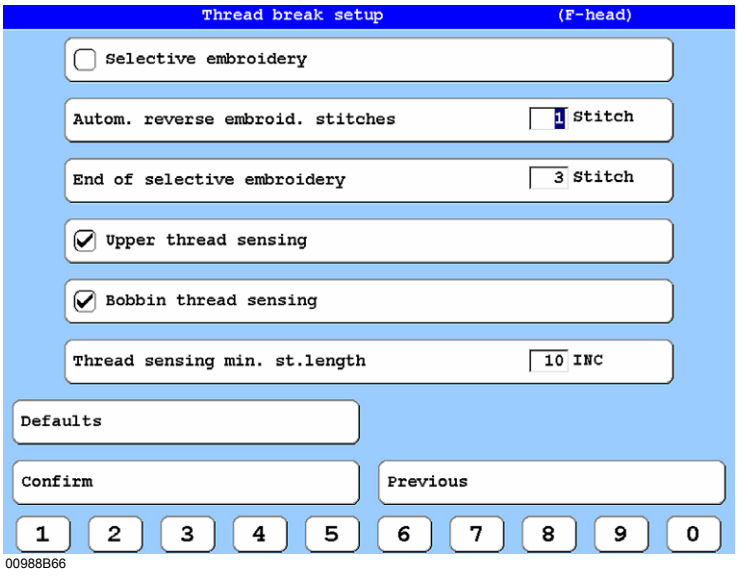
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.5.3 Thread break setup (F heads)

The **[L5] Thread break setup** function determines the machine's response in case of a thread break at the F heads.

- Press **[L5] Thread break setup** to open the ***Thread break setup dialog (F heads)***.

Figure 4.16:
Dialog:
Thread break setup
(F heads)



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[L1]/[R1] Selective embroidery

Activates/deactivates the selective embroidery function.

When the selective embroidery function is active, only the F heads affected by the thread break carry out embroidering when the machine restarts after a thread break and the subsequent reverse embroidery operation. The other F heads are re-engaged automatically when the restart point (end of selective embroidery) is reached. The thread trimmer is out of action during selective embroidery.

[L2]/[R2] Autom. reverse embroid. stitches

Enter the number of stitches to be automatically embroidered back by the machine when a thread break is detected.

[L3]/[R3] End of selective embroidery

Enter the number of stitches before a thread break location from which all switched-on heads are to embroider again after a selective embroidery operation.

[L4]/[R4] Upper thread sensing

Activates/deactivates the upper thread sensor.

If upper thread sensing is deactivated, the machine does not stop in the event of an upper thread break.

[L5]/[R5] Bobbin thread sensing

Activates/deactivates the bobbin thread sensor.

If bobbin thread sensing is deactivated, the machine does not stop if the bobbin is empty or in the event of an upper thread break.

[L6]/[R6] Thread sensing Min. stitch length

Enter the stitch length from which the thread sensing is to be activated.

Stitches in the design that are shorter than the set value in the X and Y direction (embroidery coordinates) are not monitored for thread breaks by the thread sensors.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Simulating a thread break to exclude an embroidery head from selective embroidery

You can also simulate a thread break and thus activate an embroideryhead for reverse embroidering at which no thread break has occurred:

- Switch on the embroidery head switch on the relevant head and then switch it off again.
- Start the machine.

  → The selected head engages in the selective embroidery operation alongside those at which an actual thread break was detected.

Example - thread break response

Schematic explanation of the terms “selective embroidery”, “automatic reverse embroidery stitches” and “restart point” (end of selective embroidery):

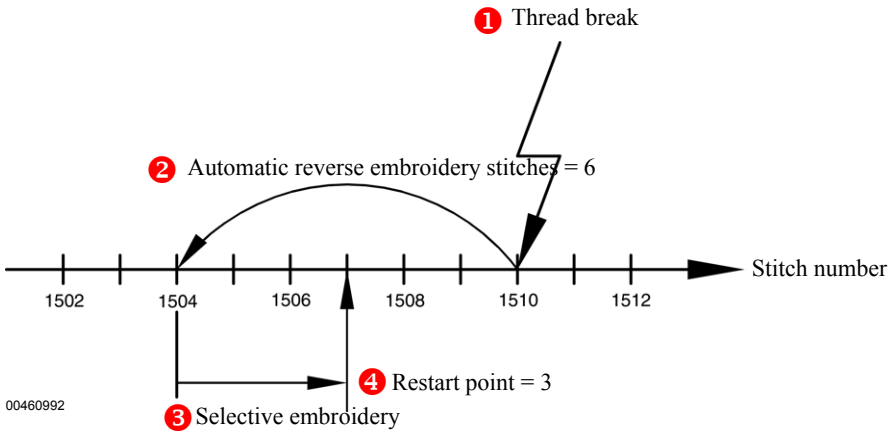


Figure 4.17: Schematic, Thread break setup (F heads)

1. - The machine detects a thread break at stitch 1510. The machine stops.

2.- The machine automatically embroiders back by the number of ***auto. rev. embr. stitches*** (in this example set to 6) and thus reaches stitch number 1504.

3.- If the ***Selective embroidery*** function is active, only the heads at which a thread break was detected execute embroidery the next time the machine is started. Selective embroidery takes place until the set restart point is reached (in this example the set value is 3) at stitch number 1507.

4.- From the ***Restart point*** (end of selective embroidery), all of the machine’s heads engage in embroidering again.

The range of the selective embroidery can be enlarged with additional manual reverse embroidery stitches.

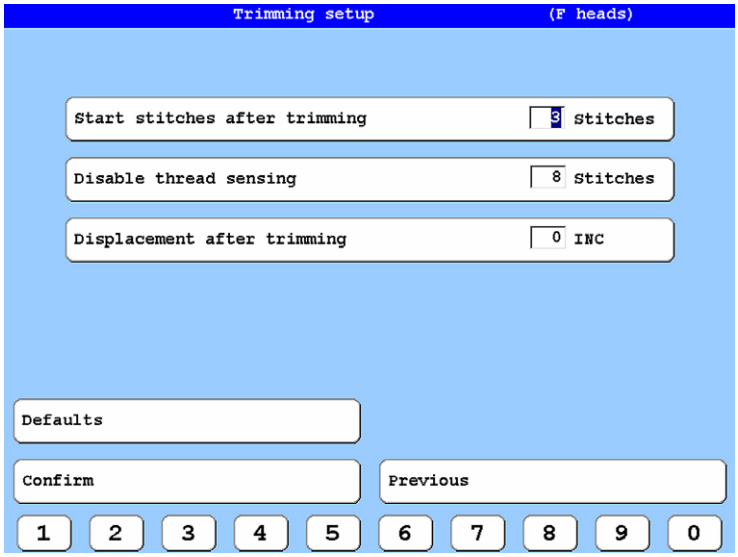
If ***Selective embroidery*** is deactivated, all of the heads re-engage in embroidering immediately the next time the machine starts after a thread break.

4.5.4 Trimming setup (F heads)

The **[L6] Trimming setup** function determines the machine's response in case of trimming at the F heads.

- Press **[L6] Trimming setup** to open the ***Trimming setup dialog (F heads)***.

Figure 4.18:
Dialog:
Trimming setup
(F heads)



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[L2]/[R2]
Start stitches

Number of start stitches executed before the machine returns to maximum speed after trimming.

[L3]/[R3]
Disable thread sensing

Number of stitches for which thread break sensing remains disabled after trimming in order to avoid erroneous stops caused by threads that have not yet been stitched.

[L4]/[R4
Displacement
after trimming

Path traversed by pantograph when trimming takes place.

This function is employed to avoid the false detection of bobbin thread breaks after thread trimming. In some circumstances (typically in case of small stitches before a trimming operation), bobbin thread breaks can be incorrectly identified after a trimming operation has been performed (bobbin thread becomes caught around the thread monitor wire). These incorrect stops can be avoided by setting a pantograph displacement path to be executed in a to-and-fro motion after the trimming operation.

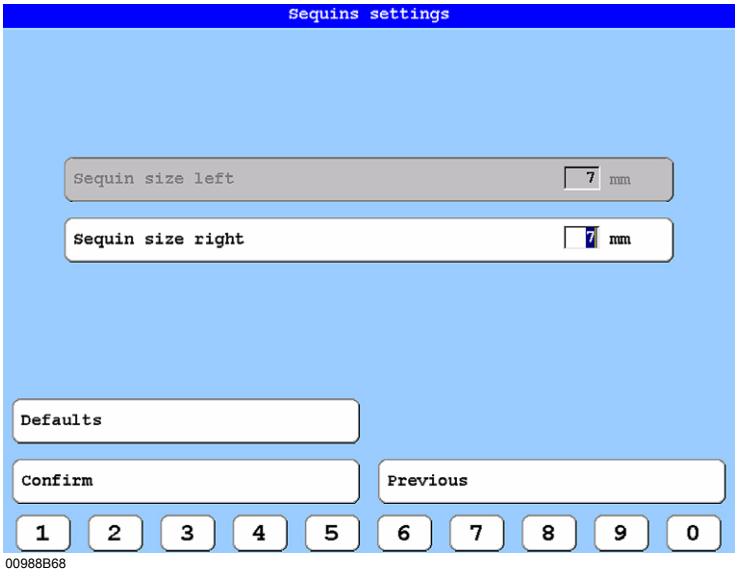
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.5.5 Sequins (F heads)

The **[R3] Sequins** function sets the machine's F head sequin devices.

- Press **[R3] Sequins** to open the ***Sequins settings*** dialog.

Figure 4.19:
Dialog:
Sequins settings
(F heads)



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[L3]/[R3]
Sequin size left

Enter the sequin size for the left sequin attachment.

[L4]/[R4]
Sequin size right

Enter the sequin size for the right sequin attachment.

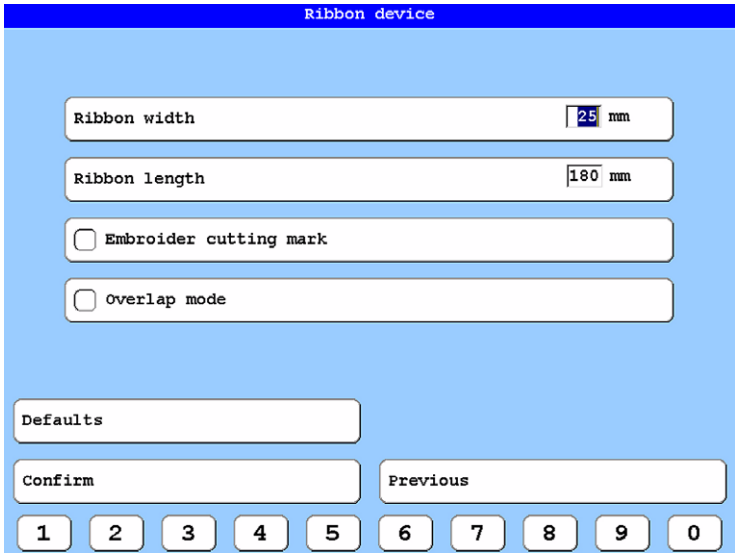
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.5.6 Ribbon device (F heads)

The **[R4] Ribbon device** function sets the machine's F head reel-to-reel tape attachments.

- Press **[R4] Ribbon device** to open the ***Ribbon device*** dialog.

Figure 4.20:
Dialog:
Ribbon device
(F heads)



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[L2]/[R2]
Ribbon width

Enter the width of the belt (tape) material that is to be used.

For mechanical reasons, the area available for embroidery is:

available area = tape width - (2 • 4 mm)

This provides a safety allowance of 4 mm at both the top and bottom edge of the backing material.

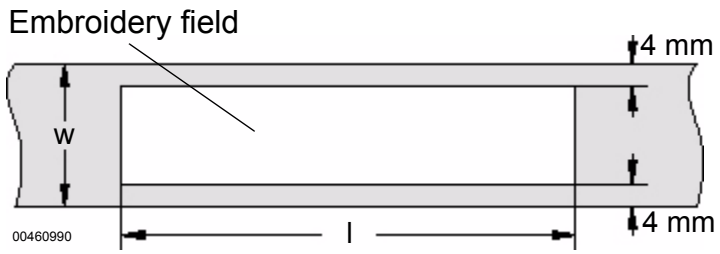
If the belt band (tape) width is set to 25 mm, therefore, the maximum design width is 17 mm.
The check performed when the design is selected assumes that the design start point is situated exactly in the middle of the design.

[L3]/[R3]
Ribbon length

Enter the length of the belt (tape) material that is to be used.

In the case of the belt band length, the whole of the area is available for embroidery. The length indicates the distance traveled by the belt (tape) upon completion of a design.

Figure 4.21:
Belt band attachment
(F heads)
Diagram:
belt width and length



l = belt length = section for one piece of embroidery
w = belt width

[L4]/[R4]
Embroider cutting mark

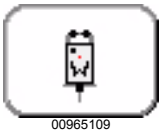
Activates/deactivates the embroider cutting mark function.
If this function is activated, a cutting mark is embroidered at the end of the embroidery field to facilitate the subsequent manual cutting of the tape.

[L5]/[R5]
Overlap mode

The overlap mode enables you to use suitable designs to execute overlapping embroidery on the backing material, typically for seamless, continuous designs.
If the design is to be used sensibly, its length must not exceed the mechanical limits of the reel-to-reel tape attachment. In each case the belt (tape) is advanced by the distance entered under belt band length.

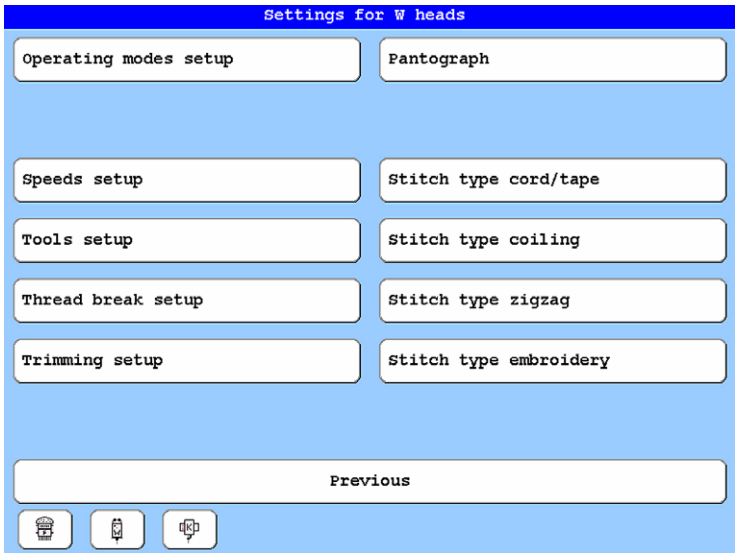
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.6 Machine setup for W embroidery heads



- Press **[U2] W heads** to display the setup dialog for the W heads.

Figure 4.22:
Dialog:
Settings for W heads



[L1] Operating modes setup

Setup menu allowing additional aspects of the embroidery machine's operating behavior to be activated and modified.

[R1] Pantograph

Setup dialog allowing the way the pantograph moves to be adjusted.

Given their general applicability to all embroidery head types (F, K, W), functions **[L1] Operating modes setup** and **[R1] Pantograph** are explained in detail in chapters *Operating modes setup* and *Pantograph* of this operating manual

[L3] Speeds setup

Setup menu for speed response of W heads.

[L4] Tools setup

Setup menu for activating/deactivating the available special attachments.

[L5] Thread break setup

Setup menu to determine the machine response in case of a thread break at the W heads.

[L6] Trimming setup

Setup menu for response of the W-head thread trimmers.

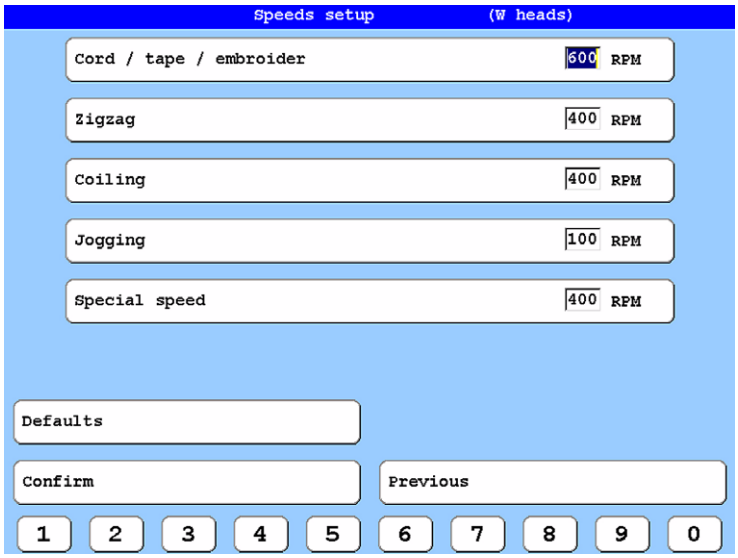
[R3] Stitch type cord/tape	Setup menu for the cord/tape stitch type for the W heads.
[R4] Stitch type coiling	Setup menu for the coiling stitch type for the W heads.
[R5] Stitch type zigzag	Setup menu for the zigzag stitch type for the W heads.
[R6] Stitch type embroider	Setup menu for the embroidery stitch type for the W heads.

4.6.1 Speeds setup (W heads)

The **[L3] Speeds setup** function initiates a dialog in which the speed response of the machine with active W heads can be modified for the different stitch types and adjusted according to special requirements.

- Press **[L3] Speeds setup** to open the ***Speeds setup dialog (W heads)***.

Figure 4.23:
Dialog:
Speeds setup (W heads)



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[L1]/[R1] Cord / tape / embroider

Enter the speed for the cord/tape stitch type or for normal embroidering with the W head.

[L2]/[R2] Zigzag

Enter the speed for the zigzag stitch type with the W head.

[L3]/[R3] Coiling

Enter the speed for the coiling stitch type with the W head.

The speed for the coiling stitch type depends to a large extent on the set coiling ratio.

For this reason, pay special attention to the instructions concerning the coiling ratio in the chapter entitled *Coiling stitch type (W heads)*.

[L4]/[R4] Jogging

Enter the jogging speed for the W head (manual slow speed).

[L5]/[R5] Special speed

Enter a special speed for the W head. At any time during the embroidery operation the special speed can be selected with the function key sequence **[R6] Speeds setup**, **[U5] Special speed on** and deselected with **[R6] Speeds setup**, **[F6] Special speed off**.

NOTE

We recommend that you work with the default speeds. Press the [L7] Defaults button to reset all the speeds to their default values.

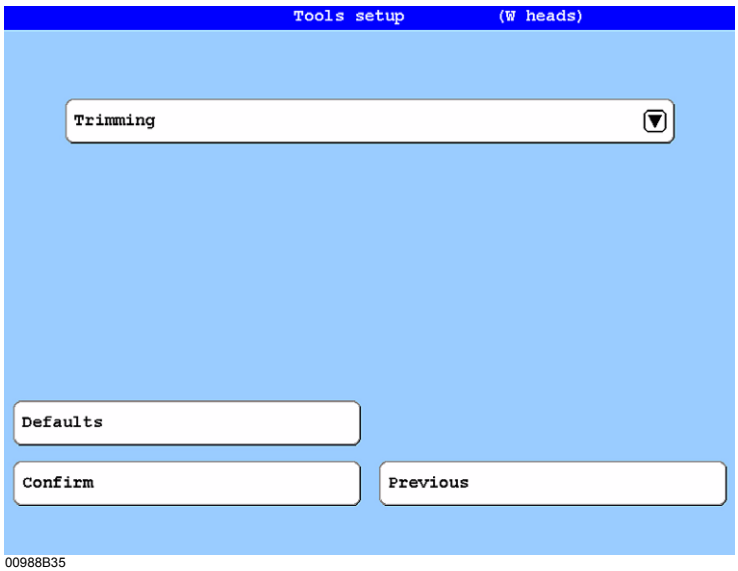
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.6.2 Tools setup (W heads)

The **[L4] Tools setup** function selects and deselects the machine's special attachments for the W heads.

- Press **[L4] Tools setup** to open the ***Tools setup dialog (W heads)***.

Figure 4.24: Dialog: Tools setup (W heads)



NOTE

Only the tools that are available on the machine can be selected.

[L2]/[R2] Trimming

Activates/deactivates the W-head thread trimmer. With the thread trimmer selected, the machine executes all the thread trimming commands that are contained in the design when the W heads are activated.

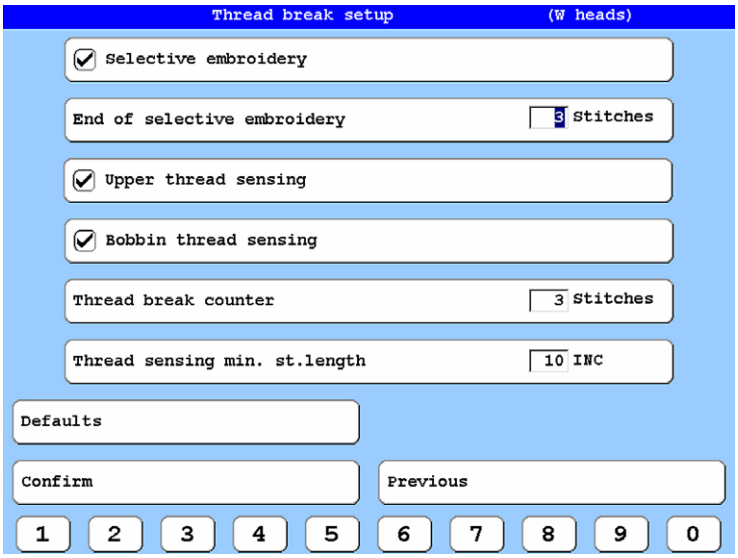
The functions **[L7] Defaults**, **[L8] Confirm** and **[R8] Previous** are explained under *General explanation of recurrent key functions and dialog options*.

4.6.3 Thread break setup (W heads)

The **[L5] Thread break setup** function determines the machine's response in case of a thread break at the W heads.

- Press **[L5] Thread break setup** to open the ***Thread break setup dialog (W heads)***.

Figure 4.25:
Dialog:
thread break response
(W heads)



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[L1]/[R1]
Selective embroidery

Activates/deactivates the selective embroidery function.

When the selective embroidery function is active, only the W heads affected by the thread break carry out embroidering when the machine restarts after a thread break and the subsequent reverse embroidery operation. The other W heads are re-engaged automatically when the restart point (end of selective embroidery) is reached. The thread trimmer is out of action during selective embroidery.

[L2]/[R2]
End of selective embroidery

Enter the number of stitches before a thread break location from which all switched-on heads are to embroider again after a selective embroidery operation.

[L3]/[R3]
Upper thread sensing

Activates/deactivates the upper thread sensor.

If upper thread sensing is deactivated, the machine does not stop in the event of an upper thread break.

[L4]/[R4]
Bobbin thread sensing

Activates/deactivates the bobbin thread sensor.

If bobbin thread sensing is deactivated, the machine does not stop if the bobbin is empty or in the event of an upper thread break.

[L5]/[R5]
Thread break counter

Thread break counter for W heads.

The machine is stopped and the ***Thread break*** message is issued if a thread break at one of the W heads is detected for the number of consecutive stitches entered here.

[L6]/[R6]
Thread sensing
Min. stitch length

Enter the stitch length from which the thread sensing is to be activated.

Stitches in the design that are shorter than the set value in the X and Y direction (embroidery coordinates) are not monitored for thread breaks by the thread sensors.

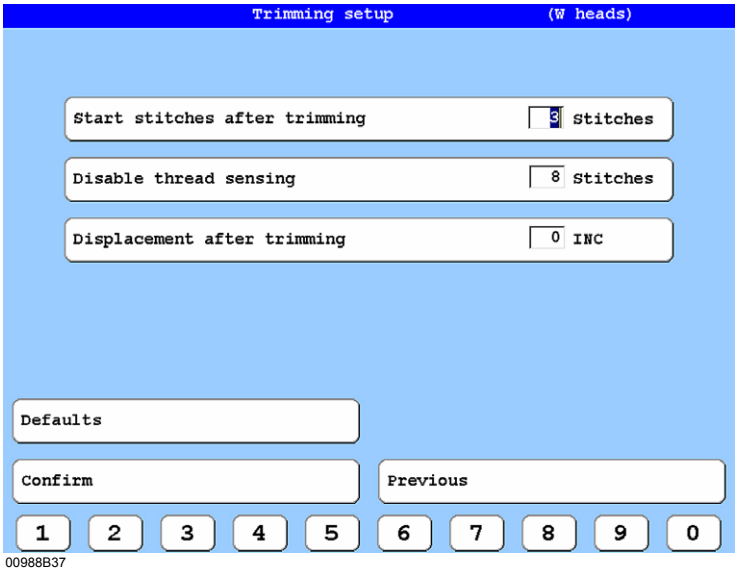
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.6.4 Trimming setup (W heads)

The **[L6] Trimming setup** function determines the machine's response in case of trimming at the W heads.

- Press **[L6] Trimming setup** to open the ***Trimming setup dialog (W heads)***.

Figure 4.26:
Dialog:
Trimming setup
(W heads)



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[L2]/[R2]
Start stitches

Number of start stitches executed before the machine returns to maximum speed after trimming.

[L3]/[R3]
Disable thread sensing

Number of stitches for which thread break sensing remains disabled after trimming in order to avoid erroneous stops caused by threads that have not yet been stitched.

[L4]/[R4
Displacement after trimming Fahrstrecke

Path traversed by pantograph when trimming takes place.

This function is employed to avoid the false detection of bobbin thread breaks after thread trimming. In some circumstances (typically in case of small stitches before a trimming operation), bobbin thread breaks can be incorrectly identified after a trimming operation has been performed (bobbin thread becomes caught around the thread monitor wire). These incorrect stops can be avoided by setting a pantograph displacement path to be executed in a to-and-fro motion after the trimming operation.

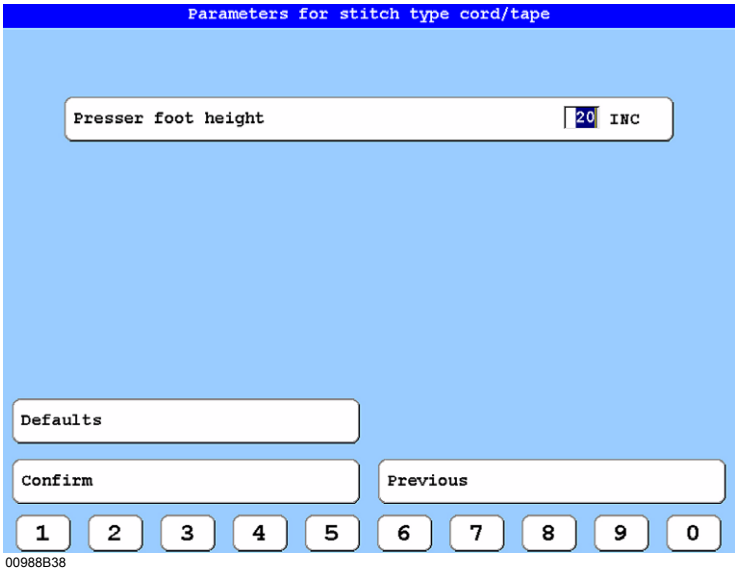
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.6.5 Cord/tape stitch type (W heads)

The **[R3] Stitch type cord/tape** function transfers parameters for the desired stitch type to the machine.

- Press **[R3] Stitch type cord/tape** to open the ***Parameters for stitch type cord/tape*** dialog.

Figure 4.27:
Dialog:
Parameters for stitch type cord/tape



[L2]/[R2]
Presser foot height

Enter the presser foot height for the cord/tape stitch type.

Mit der Stoffdrückerhöhe wird eine Anpassung des Stickablaufes an die Höhe des Stickmaterials durchgeführt.

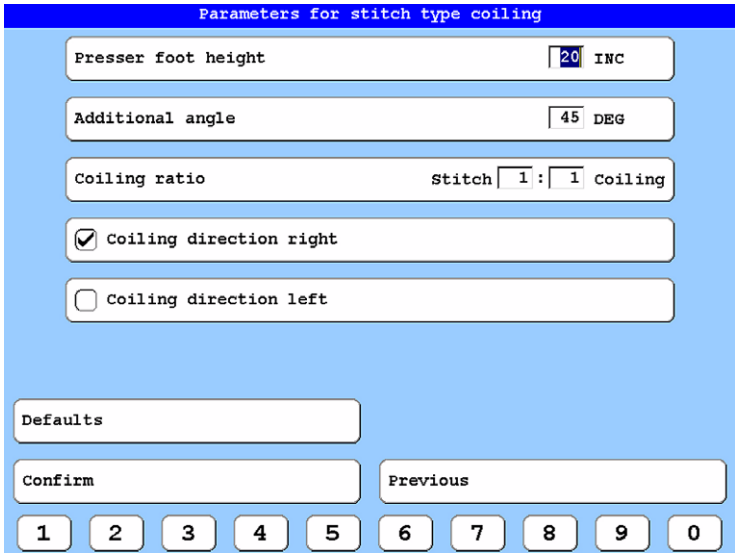
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.6.6 Coiling stitch type (W heads)

The **[R4] Stitch type coiling** function transfers parameters for the desired stitch type to the machine.

- Press **[R4] Stitch type coiling** to open the ***Parameters for stitch type coiling*** dialog.

Figure 4.28:
Dialog:
Parameters for stitch type coiling



00988B39

[L1]/[R1]
Presser foot height

Enter the presser foot height for the coiling stitch type.

The presser foot height function modifies the embroidering operation according to the height or thickness of the embroidery material.

[L2]/[R2]
Additional angle

Enter the additional (offset) angle for coiling.

[L3]/[R3]
Coiling ratio

Enter the coiling ratio for coiling.

[L4]/[R4]
Coiling direction right

Sets the coiling direction for the W head to clockwise.

[L5]/[R5]
Coiling direction left

Sets the coiling direction for the W head to counter-clockwise.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Pressure height

The height of the presser foot has a major influence on the embroidery width. The lower the presser foot, the wider the material once it is applied (embroidery width). (Embroidery width)

Additional (offset) angle

When using regular materials (not leather, foil, gauze etc.), set the additional (offset) angle to 45 (default setting). The additional (offset) angle governs the frequency of coiling in all stitch directions.

Coiling ratio

The coiling ratio (stitches:windings) can be set in the range from 9:1 to 1:3. Example: if the ratio is set to 9:1, the winding is completed after the ninth stitch. If the ratio is set to 1:3, one stitch is encircled three times. The greater the number of windings per stitch, the tighter the embroidery material is wrapped. Set the coiling ratio according to the effect you wish to achieve.

NOTE

Note that the coiling head has a maximum speed of 400 rpm. In other words, a coiling ratio of 2:1 can be executed only with an embroidery speed of up to 200 rpm.

The parameters for the coiling stitch type must be set to match the circumstances (design, embroidery materials and fabric). You can either make the settings manually or press button [L7 Defaults] to obtain the standard settings. Note that the default function simply calculates an average value for the relevant parameter/stitch type. In view of the variety of available embroidery materials and fabrics, good quality cannot be ensured with this method of automatic parameterization.

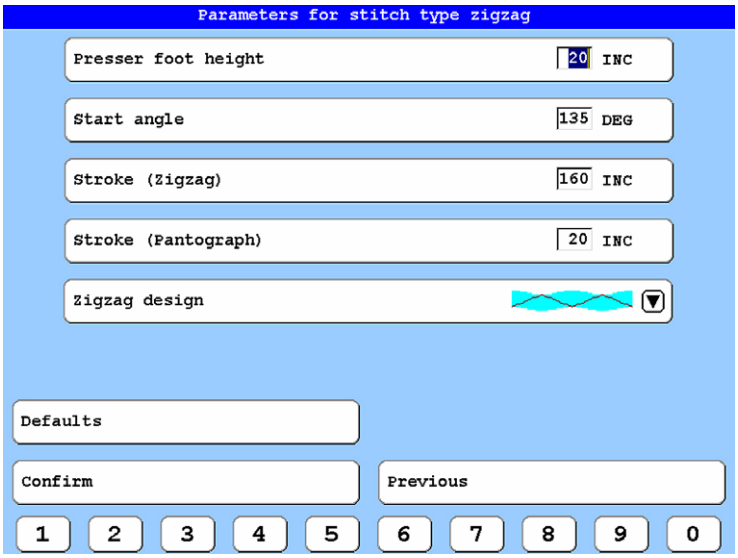
Only the parameters of the selected stitch type can be modified.

4.6.7 Zigzag stitch type (W heads)

The **[R5] Stitch type zigzag** function transfers parameters for the desired stitch type to the machine.

- Press **[R5] Stitch type zigzag** to open the ***Parameters for stitch type zigzag*** dialog.

Figure 4.29:
Dialog:
Parameters for stitch type zigzag



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[L1]/[R1]
Presser foot height

Enter the presser foot height for the zigzag stitch type.

The presser foot height function modifies the embroidering operation according to the height or thickness of the embroidery material.

[L2]/[R2]
Start angle

Determines the timing of the zigzag lever movement relative to the needle movement.

By modifying this parameter, you can adjust the start angle according to the type of material, such as beaded tape, sequin tape etc., and thus increase the reliability of the embroidery process. This can reduce the number of thread breaks.

[L3]/[R3]
Stroke (zigzag)

Adjustment for different material weights.

Small stroke: thin material/light weight
Large stroke: thick material/heavy weight

[L4]/[R4]
Stroke (pantograph)

For producing various effects in connection with the selected zigzag design.

Having the pantograph assist the zigzag movement can prevent puckering of the tape that is being embroidered.

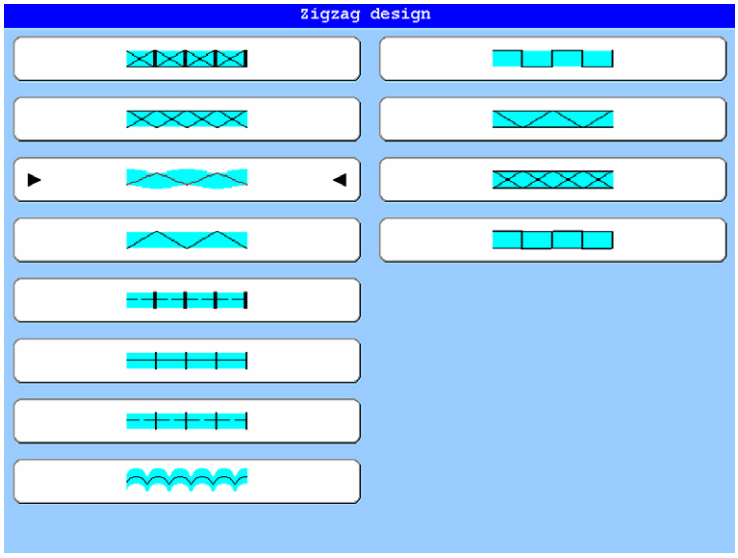
[L5]/[R5]
Zigzag design

Selects a zigzag design (algorithm) for attaching the tape.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

Zigzag design

Figure 4.30:
Dialog:
Zigzag design



[ESC] Escape

Press the **[ESC]** key to abort the ***Zigzag design*** dialog and display the ***Parameters for stitch type zigzag*** dialog again.

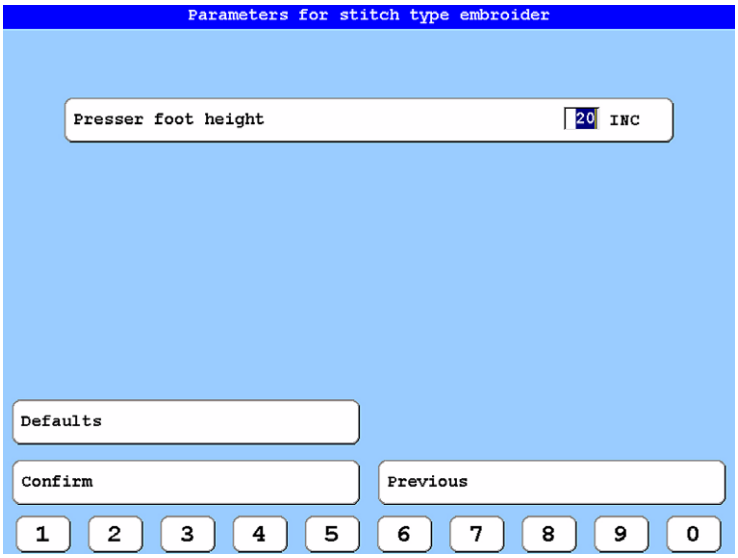
- To select a zigzag design, press the appropriate **[Lx]/[Rx]** operator key.

4.6.8 Embroidery stitch type (W heads)

The **[R6] Stitch type embroider** function transfers parameters for the desired stitch type to the machine.

- Press **[R6] Stitch type embroider** to open the ***Parameters for stitch type embroider*** dialog.

Figure 4.31:
Dialog:
Parameters for stitch type embroider



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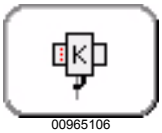
[L2]/[R3]
Presser foot height

Enter the presser foot height for the embroidery stitch type.

The presser foot height function modifies the embroidering operation according to the height or thickness of the embroidery material.

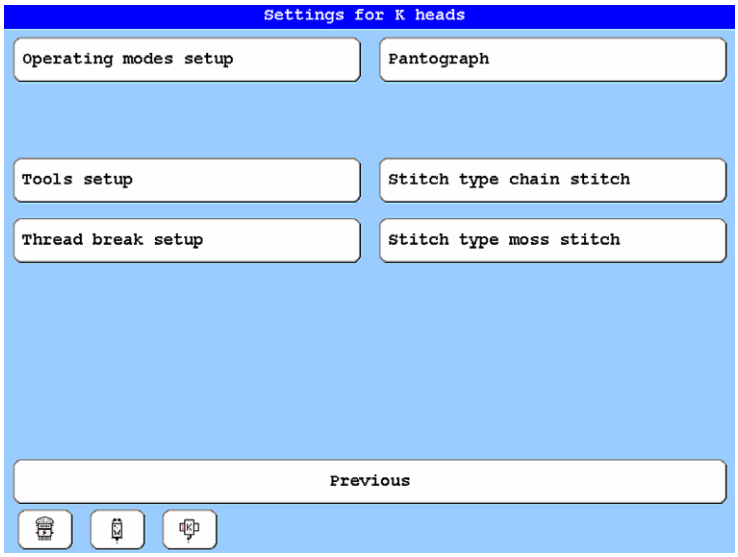
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.7 Machine setup for K heads



- Press **[U3] K heads** to display the setup dialog for the K heads.

Figure 4.32:
Dialog:
Settings for K heads



[L1] Operating modes setup

Setup menu allowing additional aspects of the embroidery machine's operating behavior to be activated and modified.

[R1] Pantograph

Setup dialog allowing the way the pantograph moves to be adjusted.

Functions **[L1] Operating modes setup** and **[R1] Pantograph** are explained in detail in chapters *Operating modes setup* and *Pantograph* of this operating manual.

[L3] Tools setup

Setup menu for activating/deactivating the available special attachments.

[L4] Thread break setup

Setup menu to determine the machine response in case of a thread break at the K heads.

[R3] Stitch type chain stitch

Setup menu for the chain stitch type for the K heads.

[R4] Stitch type moss stitch

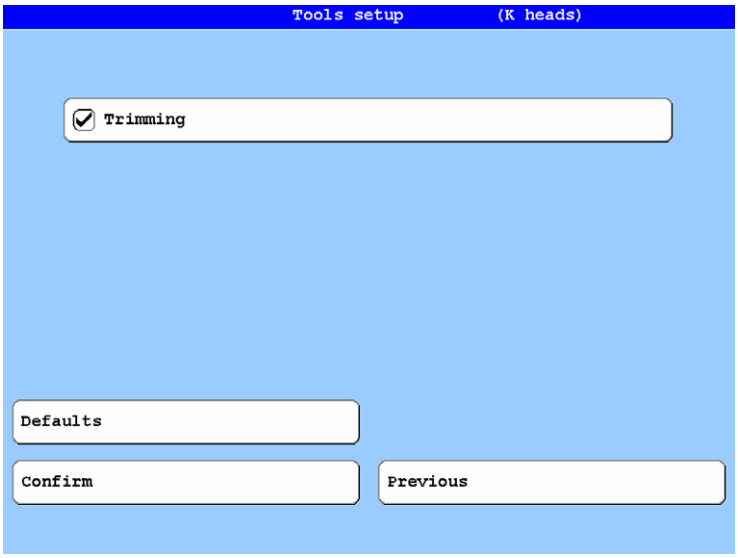
Setup menu for the moss stitch type for the K heads.

4.7.1 Tools setup (K heads)

The **[L3] Tools setup** function selects and deselects the machine's special attachments for the K heads.

- Press **[L3] Tools setup** to open the ***Tools setup (K heads)*** dialog.

Figure 4.33:
Dialog:
Tools setup
(K heads)



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NOTE

Only the tools that are available on the machine can be selected.

[L2]/[R2]
Trimming

Activates/deactivates the K head thread trimmer. With the thread trimmer selected, the machine executes all the thread trimming commands that are contained in the design when the K heads are active.

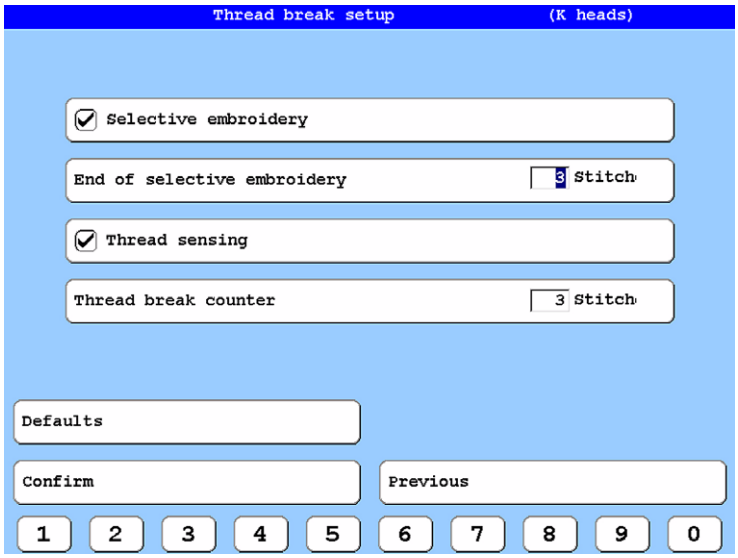
The functions **[L7] Defaults, [L8] Confirm** and **[R8] Previous** are explained under *General explanation of recurrent key functions and dialog options*.

4.7.2 Thread break setup (K heads)

The **[L4] Thread break setup** function determines the machine's response in case of a thread break at the K heads.

- Press **[L4] Thread break setup** to open the ***Thread break setup (K heads)*** dialog.

Figure 4.34:
Dialog:
Thread break setup
(K heads)



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[L2]/[R2]
Selective embroidery

Activates/deactivates the selective embroidery function.

When the selective embroidery function is active, only the K heads affected by the thread break carry out embroidering when the machine restarts after a thread break and the subsequent reverse embroidery operation. The other K heads are re-engaged automatically when the restart point (end of selective embroidery) is reached. The thread trimmer is out of action during selective embroidery.

[L3]/[R3]
End of selective embroidery

Enter the number of stitches before a thread break location from which all switched-on heads are to embroider again after a selective embroidery operation.

[L4]/[R4]
Thread sensing

Activates/deactivates the upper thread sensor.

If thread sensing is deactivated, the machine does not stop in the event of a thread break.

[L5]/[R5]
Thread break counter

Thread break counter for K heads.

The machine is stopped and the ***Thread break*** message is issued if a thread break at one of the K heads is detected for the number of consecutive stitches entered here.

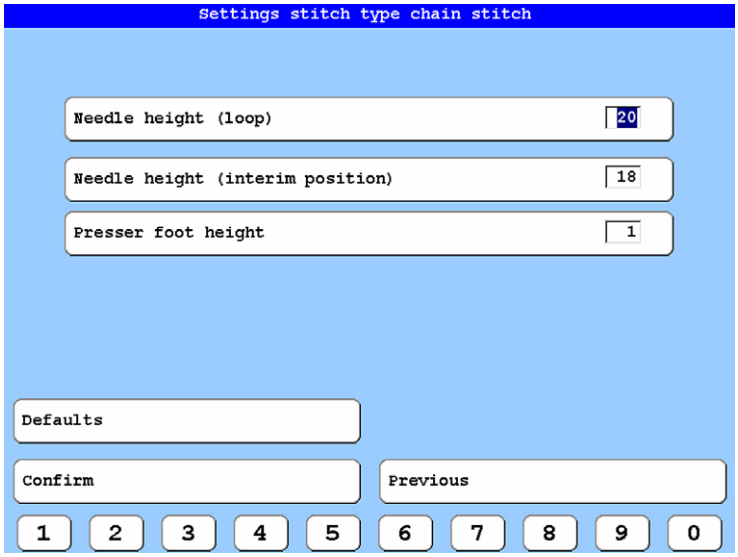
The functions **[L7] Defaults, [L8] Confirm** and **[R8] Previous** are explained under *General explanation of recurrent key functions and dialog options*.

4.7.3 Chain stitch type (K heads)

The **[R3] Stitch type chain stitch** function transfers parameters for the desired stitch type to the machine.

- Press **[R3] Stitch type chain stitch** to open the ***Settings stitch type chain stitch*** dialog.

Figure 4.35:
Dialog:
Parameters for stitch type chain stitch



[L2]/[R2]
Needle height (loop)

The needle height (loop) function is used to adjust the needle stroke according to length of the chain stitches. The needle height influences the size of the loop. The greater the value, the larger the loop.

Small stitches (approx. 10 INC): use low needle height value.
Large stitches (approx. 30 INC): use high needle height value.

[L3]/[R3]
Needle height (interim position)

After each stitch the needle moves down and stops briefly in an interim position; the reduction in thread tension allows the loop to drop off the needle. The value entered for the needle height (interim position) must be lower than the value entered for the needle height (loop).

Guide to setting: The value entered for the needle height (interim position) should be about 10% lower than that entered for the needle height (loop).

[L4]/[R4]
Presser foot height

Enter the presser foot height for the chain stitch type.

The presser foot height is adjusted according to the type of material in order to exclude the risk of damage.

Low set values (e.g. 0 or 1): low presser foot position, for thin materials.

→ Soft embroidery, but risk of damage to material.

Higher set values (e.g. 2 or 3): higher presser foot position, for thicker materials.

→ Taut chain stitch

Checking the mechanical setting without embroidery material:

If the value “0” is entered for the presser foot height, a 0.05 mm feeler gage should fit tight between the presser foot and stitch plate.

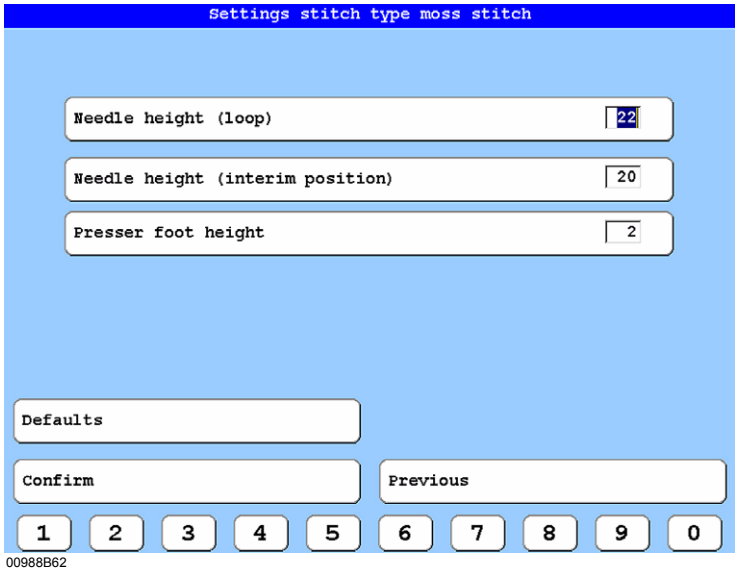
The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.7.4 Moss stitch type (K heads)

The **[R4] Stitch type moss stitch**function transfers parameters for the desired stitch type to the machine.

- Press **[R4] Stitch type moss stitch** to open the ***Settings stitch type moss stitch*** dialog.

Figure 4.36:
Dialog:
Parameters for stitch type moss stitch



[L2]/[R2]
Needle height (loop)

The needle height (loop) function is used to adjust the needle stroke according to length of the moss stitches. The needle height influences the size of the loop. The greater the value, the larger the loop. Changing the value influences the drop stitch or loop height.

Small stitches (approx. 10 INC): use low needle height value.
Large stitches (approx. 30 INC): use high needle height value.

[L3]/[R3]
Needle height (interim position)

After each stitch the needle moves down and stops briefly in an interim position; the reduction in thread tension allows the loop to drop off the needle. The value entered for the needle height (interim position) must be lower than the value entered for the needle height (loop).

Guide to setting: The value entered for the needle height (interim position) should be about 10% lower than that entered for the needle height (loop).

[L4]/[R4]
Presser foot height

Enter the presser foot height for the moss stitch type.

The presser foot height is adjusted according to the type of material in order to exclude the risk of damage.

Low set values (e.g. 0 or 1): low presser foot position, for thin materials.

→ Soft embroidery, but risk of damage to material.

Higher set values (e.g. 2 or 3): higher presser foot position, for thicker materials.

→ Taut moss stitch

Checking the mechanical setting without embroidery material:

If the value “0” is entered for the presser foot height, a 0.05 mm feeler gage should fit tight between the presser foot and stitch plate.

The functions **[L7] Default, [L8] Confirm** and **[R8] Previous**, together with the input of numbers, letters and symbols for variable setting options, are explained under *General explanation of recurrent key functions and dialog options*.

4.8 Recovery disk

4.8.1 Create recovery disk

The purpose of the recovery disk is to save the individually edited axis override parameters for reloading to the T8 control unit if, for example, it is renewed. Reloading is also necessary if the full installation routine needs to be performed on the T8 control unit, including formatting the storage medium and reinstalling the operating system and control software. The program automatically proposes the creation of a recovery disk only after axis override parameters have been modified.

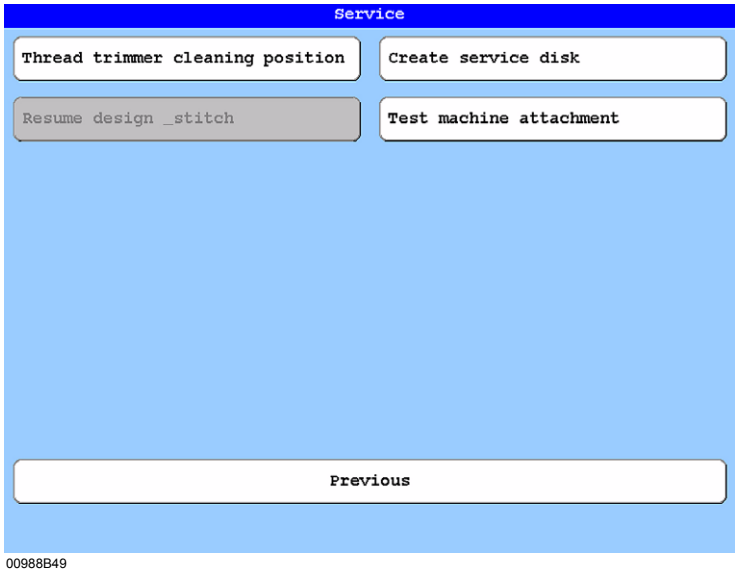
NOTE

If you do not create a recovery disk, the modified axis override parameters can only be reproduced manually, by carrying out time-consuming embroidery trials, if the T8 control unit is exchanged or the full installation routine needs to be performed. For this reason it is essential that you back up the data on the recovery disk.

You are strongly recommended to create a recovery disk once you have identified the appropriate settings for the machine. It is not essential that you create a disk while still performing various embroidery trials for test purposes.

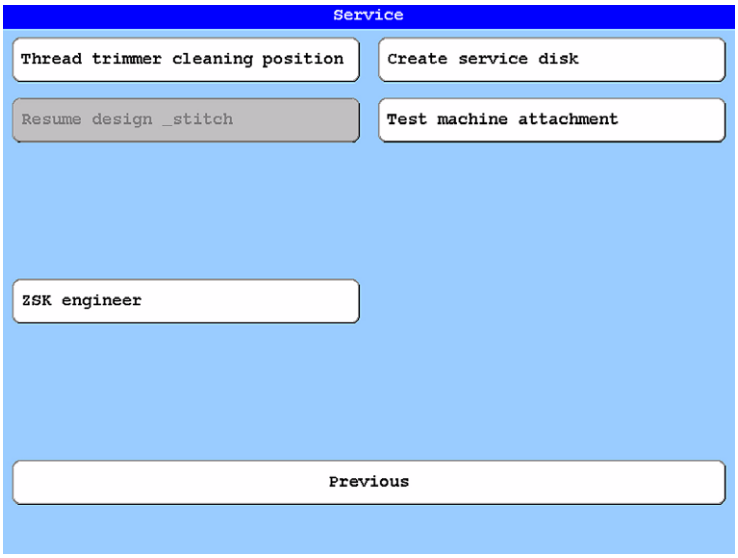
- Press **[L3] Service** in the basic screen to display the ***Service*** dialog.

Figure 4.37:
Dialog:
Service



- Press **[Shift]+[U0]** to extend the ***Service*** dialog.

Figure 4.38:
Dialog:
Service, extended view



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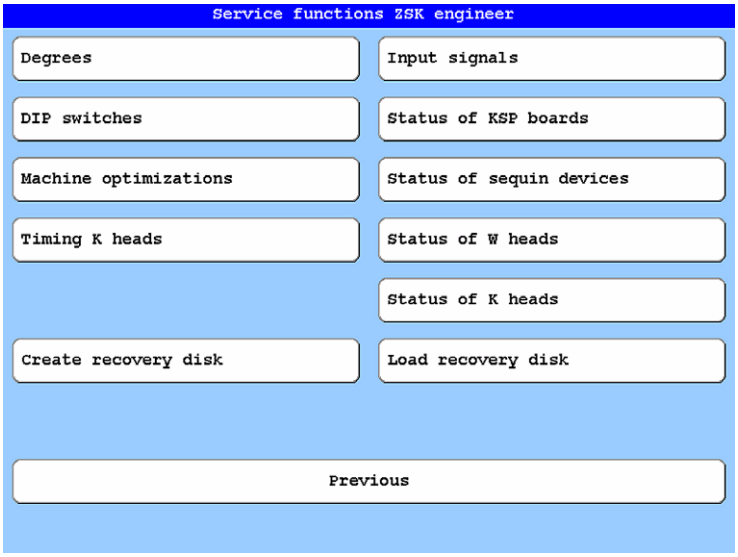
- Press **[L5] ZSK engineer** to display the ***Service functions ZSK engineer*** dialog.

Figure 4.39:
Dialog:
Service functions
ZSK engineer



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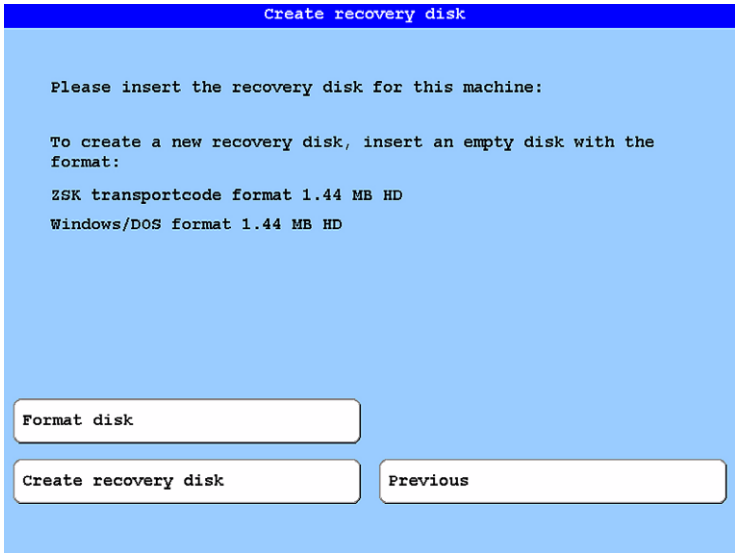
4.8.2 Saving recovery data

- Press **[L6] Create recovery disk** to start the backup process in the ***Service functions ZSK engineer*** dialog.

Figure 4.40:
Dialog:
Create recovery disk



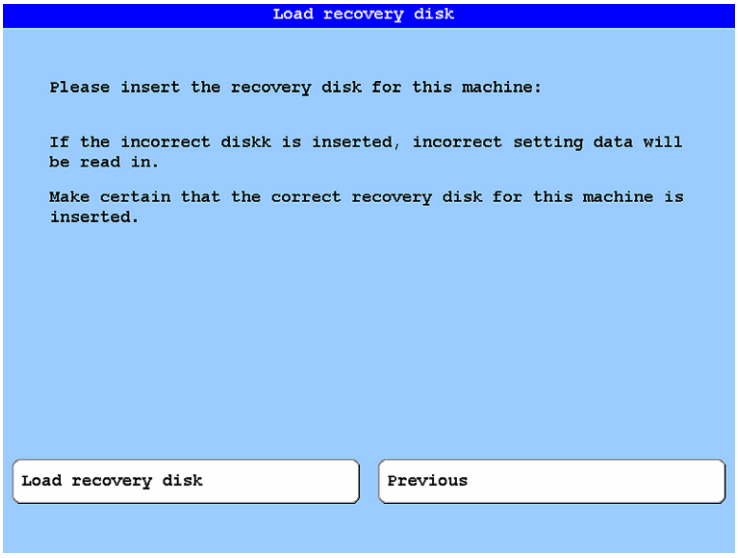
- Follow the instructions on the screen.
- Insert a blank disk or a previously created recovery disk for the same machine.
- If a blank or formatted 1.44 MB disk is not available, function **[L7] Format disk** can be used to clear or prepare a disk for use.
- Press **[L8] Create recovery disk** to start the recovery disk backup operation.

→ Once the recovery disk has been completely loaded, the ***Settings for F heads*** *Fig. 4.1* dialog reappears. Failing this, the previously active setup dialog for the F/W/K heads is shown again, depending on the head type.

4.8.3 Loading recovery data

- Press **[R6] Load Recovery disk** to start the restoring process.

Figure 4.41:
Dialog:
Load recovery disk



- Note the instruction on the screen and ensure absolutely that it is followed.
- Insert the recovery disk for the machine in the disk drive.
- Press **[L8] Load recovery disk** to start the loading operation from the recovery disk.

→ Once the recovery disk has been completely created, the ***Service functions for ZSK engineer*** *Fig. 4.39* dialog reappears.

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