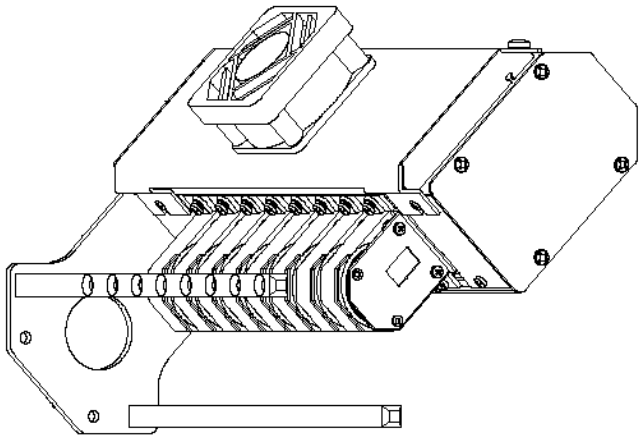
STOLL

THE RIGHT WAY TO KNIT

STIXX-Instructions



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ID 257 068

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STOLL
THE RIGHT WAY TO KNIT

Date: 2012-02-07
Original operating instructions
Software version: V_OKC_002.006.00x_STOLL
H. STOLL GmbH & Co. KG, Stollweg 1, D-72760 Reutlingen, Germany

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1 What is new? - Changes at a glance

Software version: Operating system V_OKC_002.006.000_STOLL

The most important changes in this version:

- YLC - Yarn disposition
  The "Yarn disposition" window was re-designed.
  The table displays the following data:
  - Yarn consumption of all the knitted pieces (individual pattern, sequence, sequence element, sequence list, order menu)
  - Yarn consumption of the last knitted piece
  - Yarn consumption of the current piece
  - Yarn consumption of the individual measuring wheels
- YLC5 – Minimum width with higher gauges
  With some patterns appeared the problem that it was not possible to determine the data for the original piece (masterpiece) without errors. The reason was the inaccuracy of the measuring, caused by a very changing yarn tension when catching up the yarn in the carriage reversal.
  Therefore the minimum width was increased from 5 to 6 inches (gauge E16, E18, E8.2 and E9.2).
  The minimum width with the gauges E3 to E14 will continue being 5 inches.

  The minimum width is adjustable:
  Setup2-Editor -> "Stitch length" menu -> "YLC5" tab

  What do you need to take care of with the existing patterns with gauge E16, E18, E8.2 and E9.2?
  - If you do not change the minimum width, you need to knit the original piece again.
  - If you were able to knit your pattern without problems, change the minimum width to 5 inches.

    See [🗎 34] , section "YLC5"
- YLC regulation for gauge E 2,5.2
  Up to now: The YLC regulation was adjusted the same way as with higher gauges.
  New: With gauge E2,5.2 the regulation is now carried out as fast as with coarse gauges (E3 – E4)

1.1 What was new in 2.2?

Software version: Operating system V_OKC_002.002.000_STOLL

The most important changes in this version:

- Alternative pattern structure
  You can enter the YLC mode in the Sintral program or in the Setup2 editor.
  Up to now: The YLC mode is defined in the Sintral program.
  New: Enter the YLC mode in the Setup2 editor. This specification is valid for the whole knitting program (START…END).
  You can select the following modes: 0, 1, 5, 7, 8 (0= The specifications of the Sintral program are carried out)
  Note: The YLC mode in Setup2 has priority over the YLC command in Sintral. (Exception for "0")

  During the pattern preparation on the M1plus, mark the areas which the control is to be deactivated for. For doing this enter "Yarn length control" via the area "YLC-" in the control column.

  In the Sintral program, the beginning and the end of the area are marked "YLC(-" and "YLC-)".
  Beginning: YLC(-
  End: YLC-)
- YLC5 - generate original piece
  Once the original fabric has been completed, the machine stops automatically. In order to see the stop cause immediately, the reference "Knit an original fabric (master piece) once again or change to production (YLC6)" appears.
- Command "ASCON" replaced by "YLC"
  All the "ASCON" commands were renamed to "YLC".
- Mode "YLC6" – cycle counter inactive
  The cycle counters may not be modified in the "YLC6" mode. Therefore the input fields are inactive (grayed out) in the window "Cycle counter".
- "YLC6" mode – yarn correction
  If you are working in mode "YLC6", it is possible to modify fabric length without taking in the original fabric (Masterpiece) again.
  For doing this, enter a value in Setup2 editor in line "Yarn correction" (menu "Yarn length" -> tab "YLC5").
  Value range: -10%...+10%
  Note: The stitch tension is modified for the whole fabric, not for individual areas.
- "Changeable monitoring" window
  Display of the effective NP value. It consists of NP value, NPK correction and the current YLC correction value.
  In addition to this, the current correction value is displayed.

- Log file for the ASCON modes
  In the Log file you can have a look at the mode change with date and time.
  (Window "Yarn length control" -> additional function keys -> YLC Log)

1.2 What was new in 2.1?

Software version: Operating system V_OKC_002.001.000_STOLL

The most important changes in this version:

- New designations
  The menu, the messages and the operating modes had the designation STIXX up to now. These designations were changed into "Yarn length control" or "YLC" (Yarn length control).
  The commands for the knitting program have not been changed. This means that you can use the previous knitting programs.
- Finer control of the yarn length
  - Starting with the operating system V 1.5, (OKC machine) the step width of the NP values is halved, from "0.1" to "0.05".
    The control takes into account the finer increment of the NP values. Thus, the fabric length is controlled more precisely.
  - Specify the NP values in millimeters ("Stitch length"). The step width is 0.01 millimeters. This is valid for the NP values and for the NPK value.
- Save the data for the original piece (YLC5)
  The data can be saved and loaded again (file name: Pattern name.stx). The determined data are used as actual values for all other fabrics.
  User area:
  - If the pattern is to be knitted once again on the same machine later on.
  - If the pattern is to be knitted on another machine with the same gauge.
- Sequence knitting and "YLC5"
  Each sequence element can be controlled with the YLC5 mode. Save the YLC5 data for each sequence element. When loading the sequence element, the YLC5 data are also loaded.
- Working with "NPJ"
  The stitch lengths of all needles are added and the mean value is calculated out of it. The mean value is the target value for the yarn length of this knitting row.
- Fabric width with "YLC1"
  The minimum fabric width is reduced from 10 to 7 inches.
- Yarn consumption for 10 fabrics
  Display of yarn consumption of previous knitted fabrics (10 fabrics at most).

- New YLC mode - "YLC4"
  With this mode the STIXX device runs through a learning curve. The actual values are determined like with "YLC1" but without controlling the stitch length.
  The command "STIXX1" ("STIXX7" or "STIXX8") is entered in the knitting program. You set-up the pattern on the knitting machine and switch-on the learning curve "YLC4". You produce a fabric and carry out the fine adjustment (set the cycle counter, adjust the WM values and the stitch length, ...). Thereby the actual values are determined automatically.
  If necessary, you can repeat this several times, the actual values are determined anew for each fabric (START).
  If the fabric meets your expectations regarding the length, width and look, you apply the actual values to the production ("YLC1", "YLC7" or "YLC8" mode).
  Result: All pieces are produced with the same values.
- New YLC mode - "YLC8"
  The difference between "YLC8" and "YLC1" lies in the determination of the correction values. The ranges of application are identical.
  - "YLC1": A separate correction value is determined for each yarn carrier, regardless in which knitting system it works.
  - "YLC8": A separate correction value is determined for each yarn carrier, depending on the knitting system in which it works.

2 About this document

2.1 Function of this document

You will find the following information about the yarn length measuring device in this document:

- Design and function
- Assembly and setting up
- Operation with a Stoll knitting machine

This document may only be used together with the safety instructions and the operating manual of a STOLL knitting machine.

2.2 Symbols in this document

Some information in this document are marked with special symbols to make it easier to access this information quickly.

* The additional equipment of your machine can deviate from this description depending on the machine type (type of machine, scope of supply, special equipment).

Background information is provided here.

Tips for optimal procedure are provided here.

DANGER

A warning is given here!

A warning protects you from death or injuries and the knitting machine from serious damage.

➜ Always read warnings carefully and observe them exactly.

One-step action

Carry out an one-step action:

✔ Condition for the following action.

➜ Carry out one-step action.

Multi-step action

Carry out a multi-step action:

✔ Condition for the following actions.

1. Carry out first action.
2. Carry out second action.
   ▷ Result of the action carried-out.
3. Carry out third action.

- or -

➜ Carry out the alternative action for point 3.

▶ Result of the action sequence.

CAUTION

If something fails to function properly:

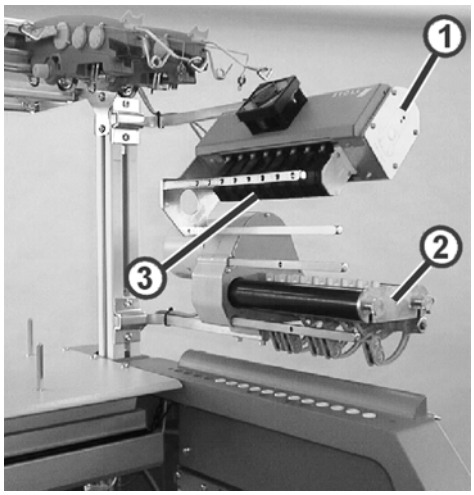
Information on the possible causes is provided here.

➜ To solve the problem, carry out the action described here.

3 Description of STIXX device

3.1 General description of STIXX device

The STIXX device is used to measure the yarn length that is processed on the knitting machine.



Knitting machine with STIXX device

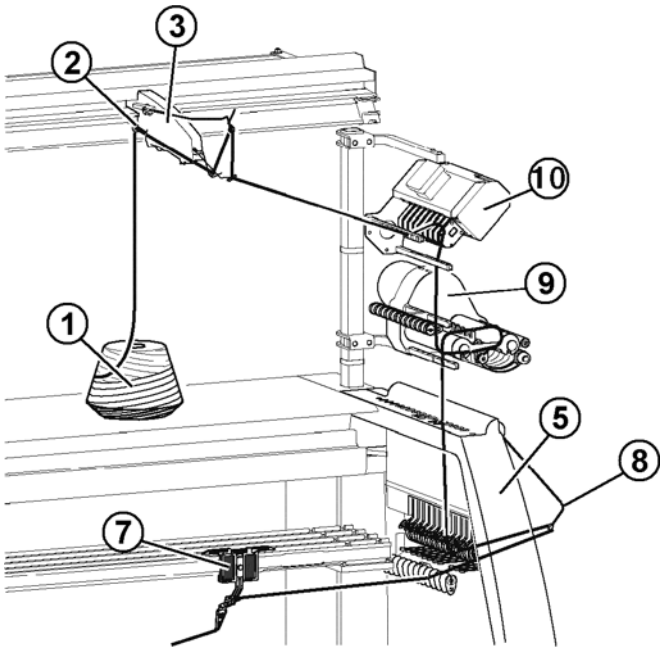
1 STIXX device
2 Friction feed wheel
3 Measuring wheels

A STIXX device (1) can be mounted on each machine side. Each STIXX device works always together with one friction feed wheel (2).

The STIXX device is equipped with eight measuring wheels (3) with which the yarn for one yarn carrier each is led.

The STIXX device is connected to the control unit of the knitting machine. With the measured yarn length, the stitch length of the fabric can be corrected by adjusting the stitch cams. The thread runs via a measuring wheel, which detects the yarn length and passes it on to the computer. The computer compares the actual and the target value and corrects the stitch cam position if necessary.

3.2 Thread routing with STIXX device



Thread routing with STIXX device

1	Bobbin	7	Yarn carrier
2	Yarn guide bracket	8	Lateral yarn tensioner
3	Yarn control device	9	Friction feed wheel
5	Safety door	10	STIXX device

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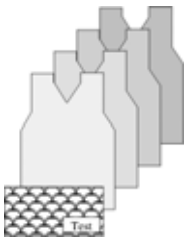
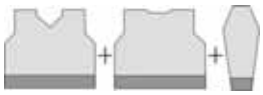
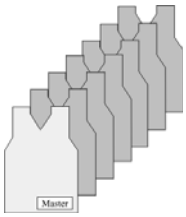
4 Overview over the YLC modes

The current YLC mode will be displayed on the bottom right in the state line as soon as the YLC area is reached in the knitting program.

YLC mode in the status line

	Label	Explanation
YLC1	Measuring+Controlling, depending on <->	◆ A separate correction value is determined for each carriage direction. ◆ The stitch cams will be corrected if necessary.
YLC2	Adjusting stitch cams	◆ Adjustment program required D\Stoll\M1plus\5.2.xxx\Sintral\YLC\cmsxxx.ylc2_npk-adjustment.zip ◆ Program-DVD M1plus (V. 5.2 or higher)
YLC3	Measuring in test fabric for mode 1, 7 or 8	Generate test fabric piece before starting the production.
YLC4	Determine measuring + correction values for modes 1, 7 or 8.	◆ Determine correction values before the production ◆ Apply correction values for the production
YLC5	Measuring in original fabric for mode 6	◆ The YLC5 data for the original piece (masterpiece) will be determined. ◆ No YLC regulation.
YLC6	Controlling with values from mode 5	The YLC5 data is used as target value for all further fabrics.
YLC7	Measuring + Controlling, independent to <->	◆ A correction value is determined independent from the carriage direction. ◆ Difference compared to YLC1.
YLC8	Measuring + Controlling, depending on <-> and S1 - Sn	◆ similar to YLC1. ◆ A separate correction value is determined for each carriage direction and knitting system. ◆ The stitch cams will be corrected if necessary.
YLC0	Switch off (neither measure nor control)	◆ Machine works without YLC correction values. ◆ YLC0 indicates that a STIXX device is logged-on on the machine.

Application areas of the modes

Pattern	If necessary: Determining correction values	Generate original piece (masterpiece)	Production
◆ Standard fabrics (width: ≥ 7 inches)  ◆ Sequence  ◆ Continuous fabrics	YLC4 Determine correction values before the production 		YLC1 A separate correction value is determined for each carriage direction.
	YLC3 Determining correction values with test fabric piece 		YLC8 A separate correction value is determined for each carriage direction and knitting system. YLC7 A correction value is determined independent from the carriage direction.
◆ with irregular yarn consumption (change of the knitting mode, single jersey/double jersey)  ◆ Narrow fabrics (width: ≥ 5 inches), e.g. with knit and wear articles  ◆ Sequence (only possible with Setup2) 		YLC5 Generate original piece 	YLC6 The YLC5 data is used as target value for all further fabrics.

Further information:

- YLC1, YLC3, YLC4 – Which mode is useful when? [-> 40]

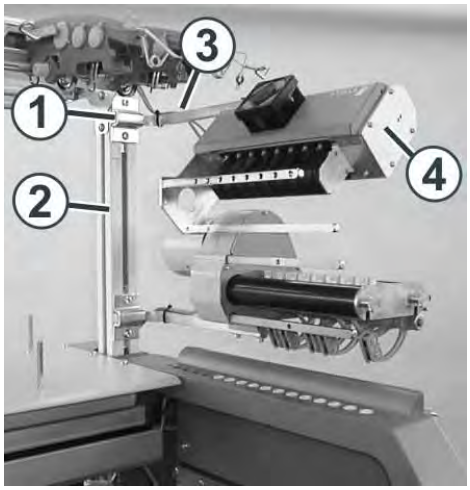
5 Assembly

This chapter contains information on:

- Mounting STIXX device [-> 15]
- Laying connection cable [-> 16]

5.1 Mounting STIXX device

If only one STIXX device is to be mounted, it is mounted on the right support (2).



Fastening the STIXX device

A second STIXX device is mounted on the left support.

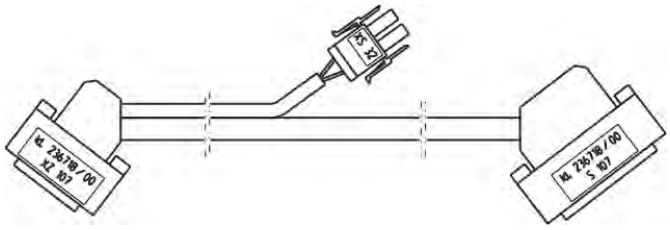
i	With the CMS 502, the STIXX device can only be mounted on the right side.

Mounting STIXX device:

1. Push the clamp (1) onto the support (2).
2. Insert the holder (3) into the clamp (1).
3. The distance between the bobbin board and the holder is about 45 cm.
4. Tighten the screws on the clamp (1).
5. Fasten the STIXX device (4) on the holder (3).

5.2 Laying connection cable

The cable is contained in the retrofit kit. It has three plugs altogether.



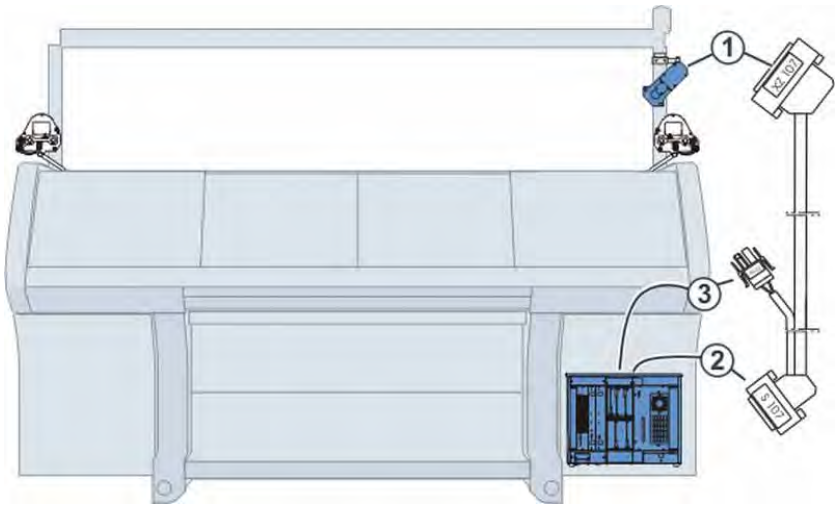
Connection cable STIXX device

Depending on the machine type, the machine has one or two control cabinets. Therefore, the connection cable is inserted into different places.

Machine with one control cabinet

Valid for:	
CMS 530	CMS 520
CMS 520 C	CMS 502

The connection cable is inserted into the right control cabinet.

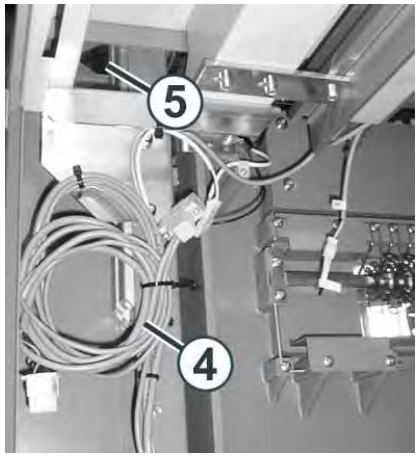


1	XZ 107	Plug at the STIXX device
2	S 107	Plug at the right control cabinet
3	XS 32	Power supply for the STIXX device

Connecting cable:

1. Set main switch to "0" and wait until the touch screen gets dark (approx. 60 seconds).
2. Remove the rear panel segments.
3. Insert plug "S 107" into the socket "S 107" at the right control cabinet.

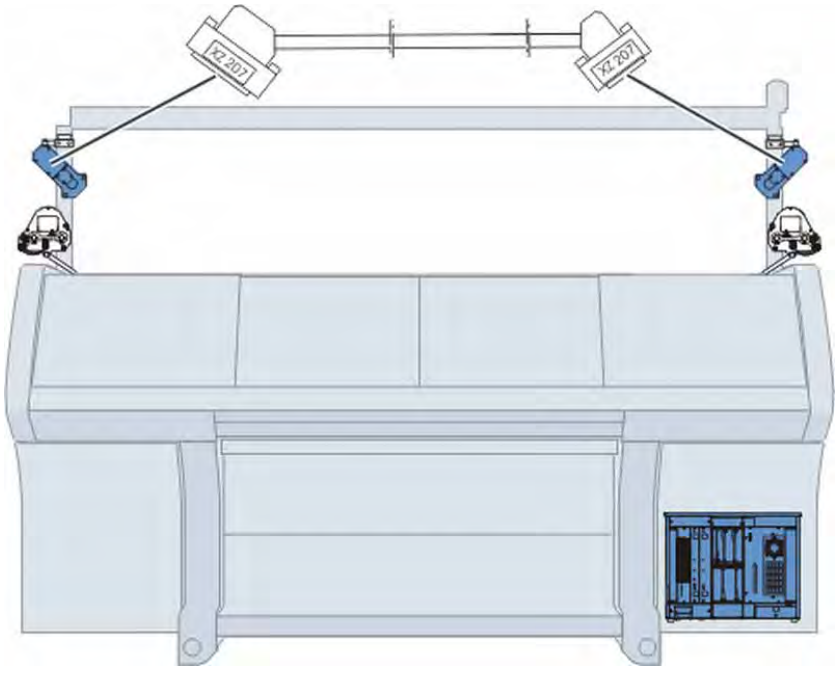
4. Insert plug "XS 32" into the socket "XS 32" at the right control cabinet.
5. Route the cable (4) with the plug "XZ 107" for the STIXX device outwards through the opening (5).



6. Insert plug "XS 107" into the socket "XS 107" at the STIXX device.
7. Mount rear panel segment.

i

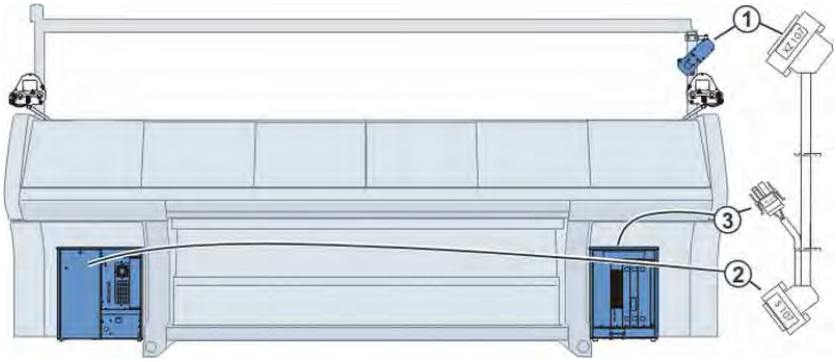
If a second STIXX device is to be mounted, it is mounted on the left-hand support of the machine.
Route the connecting cable (ID 212 192) inside the machine. Insert the cable into the socket "XZ 207" of STIXX device on the right-hand side of the machine and into the socket "XZ 107" of STIXX device on the left-hand side of the machine.



Machine with two control cabinets

Valid for:	
CMS 530 T	CMS 830 C
CMS 730 S	CMS 830 S
CMS 730 T	CMS 922
CMS 740	CMS 933
CMS 822	

The connection cable is inserted into the left and right control cabinet.

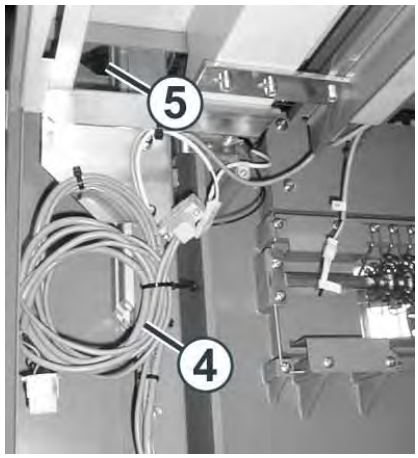


1	XZ 107	Plug at the STIXX device
2	S 107	Plug at the left control cabinet
3	XS 32	Power supply for the STIXX device

Connecting cable:

1. Set main switch to "0" and wait until the touch screen gets dark (approx. 60 seconds).
2. Remove the rear panel segments.
3. Insert plug "S 107" into the socket "S 107" at the left control cabinet.
4. Remove cable pit cover.
5. Lay connection cable along cable which has already been laid through cable pit of machine on right-hand side of machine.
6. Insert plug "XS 32" into the socket "XS 32" at the right control cabinet.
7. Mount rear panel segment.

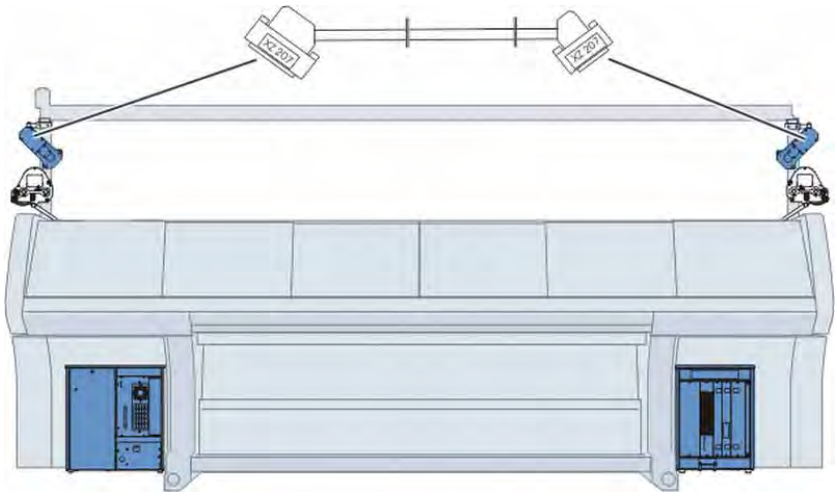
8. Route the cable (4) with the plug "XZ 107" for the STIXX device outwards through the opening (5).



9. Insert plug "XS 107" into the socket "XS 107" at the STIXX device.
10. Mount rear panel segment.

---

i If a second STIXX device is to be mounted, it is mounted on the left-hand support of the machine.
Route the connecting cable (ID 212 192) inside the machine.
Insert the cable into the socket "XZ 207" of STIXX device on the right-hand side of the machine and into the socket "XZ 107" of STIXX device on the left-hand side of the machine.



6 The preliminary work

This chapter contains information on:

- Log on STIXX device [-> 21]
- Adjusting yarn control device [-> 23]
- Threading threads through STIXX device [-> 24]
- Configure measuring wheels [-> 25]
- Activate and deactivate YLC control [-> 28]

6.1 Log on STIXX device

The STIXX device must be logged-on on the machine, so that the knitting machine can process the data of the STIXX device.

Depending on the operating system that is loaded in the machine, there are different procedures. We recommend you to load always the most recent operating system.

starting with operating system V_OKC_002.000.000 (or higher)

Starting with this operating system, the machine automatically recognizes if a STIXX devices is connected. In order to update the software on the STIXX device, you have to install the operating system of the knitting machine without making any change.

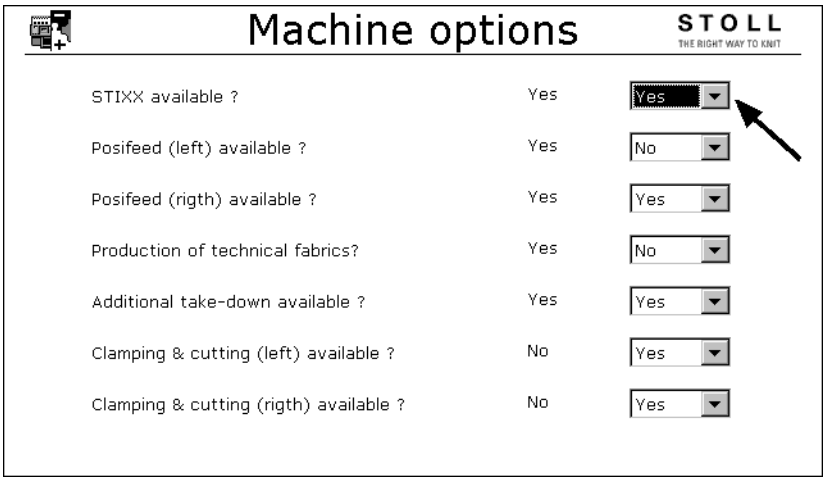
1. Restart the machine (switch main switch off and then on again).
2. Press the "Installation" button in the "BootOkc" menu.
3. Since you must not carry out any changes, simply click through the different windows until the "Main menu" is displayed.

▶ When the installation is finished, the "Yarn length control" key appears additionally in the main menu.

before OKC operating system V_OKC_001.006.000

1. Restart the machine (switch main switch off and then on again).
2. Press the "Restart and Machine Configuration" button in the "BootOkc" menu.

   ▷ The "Machine options" window appears.



"Machine options" window

3. In the "STIXX available ?" line, select the list item "Yes".
4. Continue restart.

▶ When the installation is finished, the "Yarn length control" key appears additionally in the main menu.

6.2 Adjusting yarn control device

The minimum tension of 8 cN must be set on the yarn control device, so that the STIXX device can operate correctly.

1. Thread in the thread up to the end of the yarn control device.
2. Clamp the yarn end in the coil spring of the adjustment weight.

Adjustment weight

3. If the weight pulls down the thread, close the yarn brake until the weight stops.

   ▷ The yarn tension is 8 cN.
   For a thin, smooth yarn this yarn tension can be too low.

4. Remedy: hook-in two adjusting weights in the yarn and repeat point 3.

▶ The yarn tension is 16 cN.
If this yarn tension is too high, reduce the adjustment step by step on the yarn control device.

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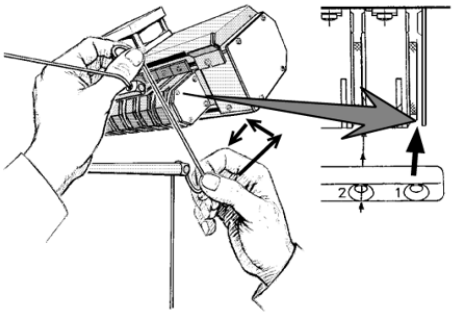
i Set all the yarn control devices precisely, as the yarn tension influences considerably the measuring.

Thread the yarns through the STIXX device so that they do not cross each other.

6.3 Threading threads through STIXX device



Path of the thread through the STIXX device

➜ Push thread upward with both hands through the threading gap and lay it around the measuring wheel.

i	Thread the yarns through the STIXX device so that they do not cross each other.

6.4 Configure measuring wheels

With this program point you specify, which measuring wheel works together with which yarn carrier and which yarn thickness is used.

> **i** All assigned yarn carriers must be entered in the YG line of the knitting program.

Key	Function
	Call up the "Yarn Length Control" window
	for Setup2: Call up the Setup Editor
	Confirm input
	return to the "Yarn Length Control" window
	delete all the specifications in the "Yarn length control" window
	copy line contents
	insert line contents
	Call up Main menu

Keys for configuring the measuring wheels

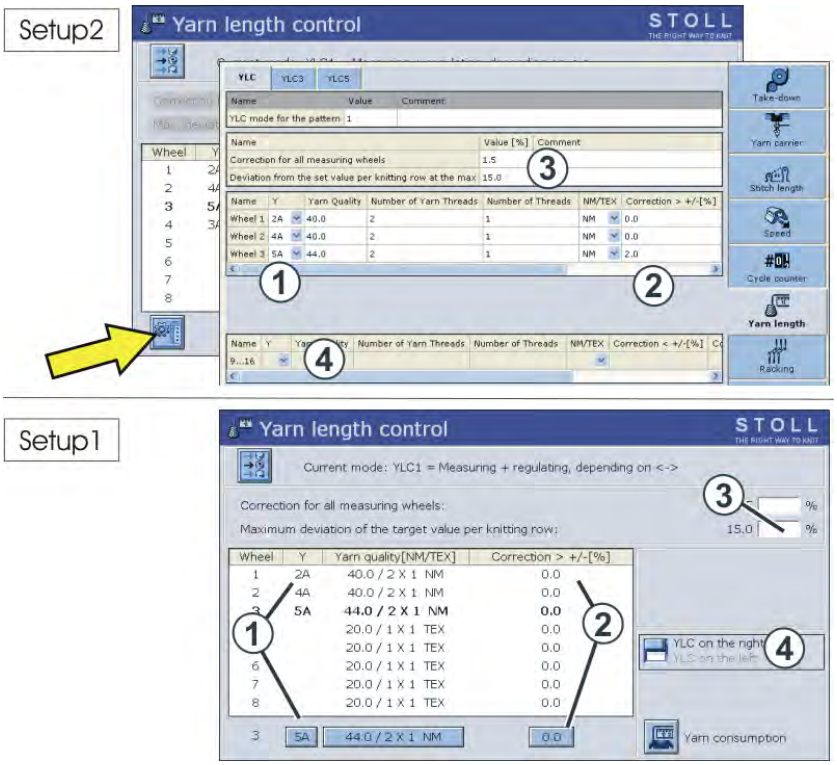
Configure measuring wheels:

1. Call up the "Yarn length control" window from the "Main menu".

> **i** If you have already carried out the allocation "Yarn carrier, measuring wheel, yarn quality" on the M1plus, this data will be applied to the "Yarn Length Control" window.

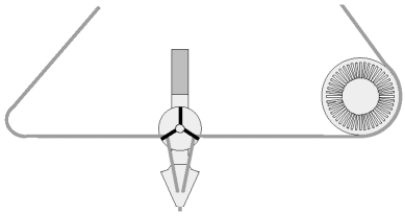
2. For Setup2: Tap the "Setup Editor" key.

3. Select the yarn carrier to be assigned to the respective measuring wheel in column (1). Confirm entries.



Configure measuring wheels

4. Correction value for an additional yarn.
When an additional thread (without measuring wheel) is led from the other machine side to the yarn carrier, you can enter a correction value of e.g. 2 % in column (2) for this thread. The correction value has an effect in the carriage direction to the measuring wheel. Confirm entries.



Feeding two threads to yarn carrier

5. Adjust the value for "Maximal deviation from target value per knitting row" (3) (default: 15 %).

   ▷ If this error is exceeded when determining the correction values, the machine is automatically switched off and an error message appears on the touch screen. Confirm entries.

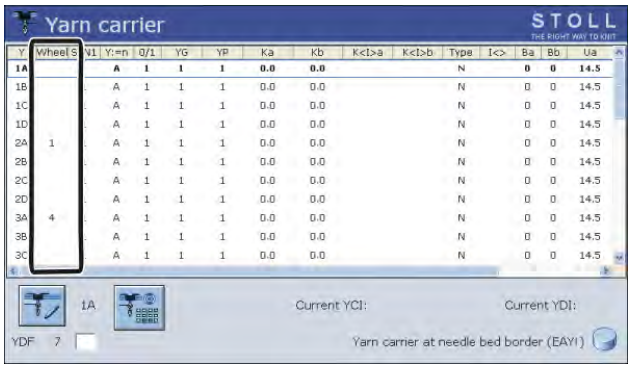
6. If additional measuring wheels are to be configured, copy the content of a line and insert it again at the desired position.

7. If a second STIXX device is used, switch the (4) switch over to " YLC on the left" and repeat points 4 to 7.

8. Call up Main menu.

Allocation "Measuring wheel - yarn carrier"

The allocation "measuring wheel - yarn carrier" will additionally be displayed in the "Yarn carrier" window (column "Wheel"). This is helpful for setting up the machine: You don't need to be switching back-and-forth among the different windows .



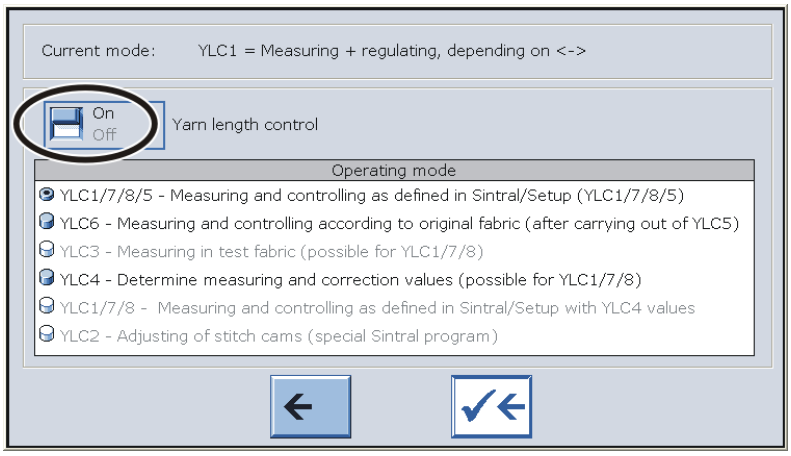
6.5 Activate and deactivate YLC control

Key	Function
	Call up the "Yarn Length Control" window
	"Change mode" key
	return to the "Yarn Length Control" window
	Call up Main menu

Buttons for adjusting the YLC control

Activate and deactivate YLC control:

1. Call up the "Yarn length control" window from the "Main menu".
2. Tap the "Change mode" key.
   ▷ The setting window appears.



On The YLC control is activated.
The YLC mode from the Sintral program or the Setup2 editor is active.

Off The YLC control is deactivated
The control is no longer automatically activated.

3. Activate or deactivate the "Yarn Length Control" switch.
4. Return to the "Yarn Length Control" window.

> **i** If you disconnect the machine using the main switch, the correction values will be deleted.

STOLL
THE RIGHT WAY TO KNIT

7 The yarn length measuring device works this way

This chapter contains information on:

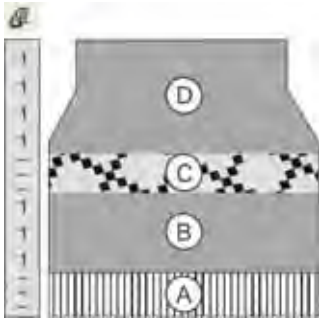
- Entering the Sintral command for yarn length measurement in the knitting program [-> 30]
- Calculating correction values [-> 34]
- Enter NP values in millimeters [-> 37]

7.1 Entering the Sintral command for yarn length measurement in the knitting program

7.1.1 Enter the YLC command on the M1plus

The following variants are available on the M1plus:

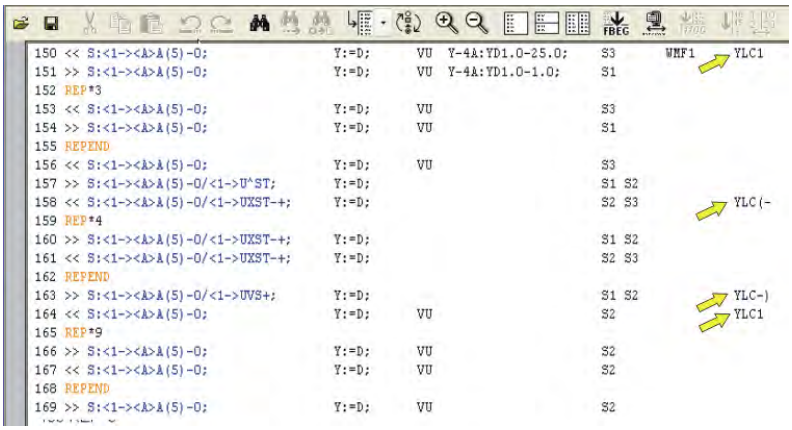
Version 1

		Control column "Yarn length control"
	D	Enter "YLC1" over the entire height of the area (also possible: YLC5, YLC7 or YLC8).
	C	In this area the regulation is not to be carried out. (Example: Racking pattern, transfer pattern...) Enter "YLC-" over the entire height of the area.
	B	Enter "YLC1" over the entire height of the area (also possible: YLC5, YLC7 or YLC8).
	A	Fabric start (e.g. 2x1 start) Enter "YLC-" over the entire height of the area.

Enter the YLC command:

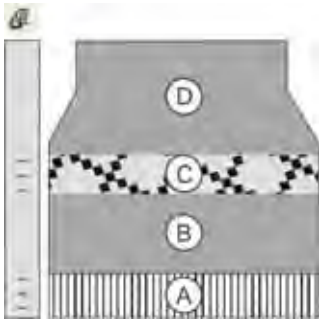
1. Display the "Yarn length control" control column 
2. Select the desired mode in the context menu.
3. Enter the selected mode in the desired area.

▶ The Sintral commands for the start and the end of the yarn length measuring will be entered in the Sintral program (in the example "STIXX1").



Variant 2
(with Setup2 only)

With the variant 2, in the "B" and "D" you enter the "undetermined " mode instead of a defined, fixed YLC mode.
Advantage: In the Setup2 editor you can select the desired mode and change it if necessary, without having to change anything in the knitting program.

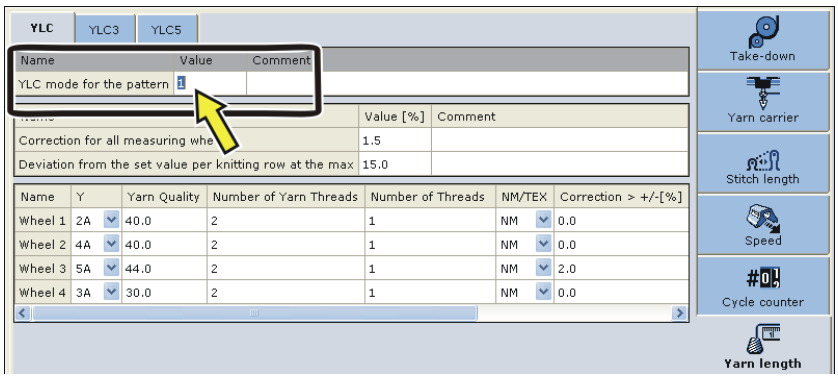
		Control column "Yarn length control"
	D	Enter "Undetermined" over the entire height of the area
	B	Enter "Undetermined" over the entire height of the area

Enter the YLC command:

1. Display the "Yarn length control" control column 
2. Select the desired mode in the context menu.
3. Enter the selected mode in the desired area.

You may specify the desired YLC mode on the M1plus or select it on the knitting machine.

Select the YLC mode on the knitting machine:



Select the YLC mode in the Setup2 editor

Commands in the knitting program

The M1plus writes the following commands into the knitting program:

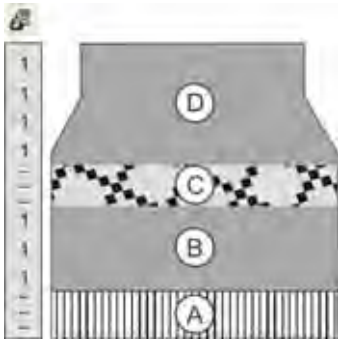
- ➜ For an OKC machine: YLC
- ➜ For a TC machine: STIXX
- ➜ The OKC machine understands both of the specifications "STIXX" and "YLC".
- ➜ "YLC-" area: In the Sintral program, the beginning and the end of the area are marked "YLC(-" (start) and "YLC-)" (end).

How do I handle the starts?

We recommend not to control the fabric start when:

- more than eight yarn carriers are needed (with 2 ASCON devices they are 16 yarn carriers) for the fabric start and the pattern.
- the fabric start and the pattern will be knitted with the same yarn carriers.
  Basis: In most of the cases the fabric start and the pattern have different knitting modes (start: double jersey , pattern: single jersey). Different correction values are effective for these two knitting modes. If you use the same yarn carriers for the fabric start and the pattern (measuring wheel), this is often visible since the yarn length measuring wheel needs several knitting rows until a constant new correction value is determined.
  Remedy: Use other yarn carriers for the fabric start. If this is not possible, we recommend not to control the fabric start.

Deactivate the control in the fabric start:

		Control column "Yarn length control"
	A	Fabric start (e.g. 2x1 start) Option 1: Enter "YLC-" over the entire height of the area. Option 2: ☑ "No measuring within the start" Activate the checkbox (Pattern parameters -> Configuration-> "Knitting areas" tab -> "Yarn length measurement " section). i: If the pattern has already a start. Call up the "Replace starts..." function to achieve the effect of the setting.

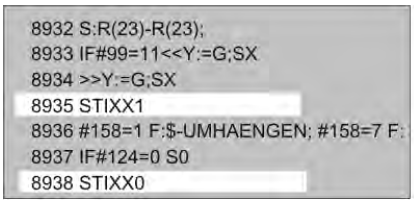
At what position do you want to enter the YLC command?

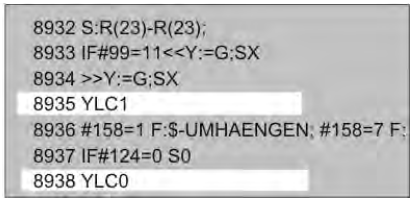
- After the transition row (fabric start - pattern)
- In the fabric start in the first row of the cycle

7.1.2 Enter the command manually in the knitting program

You can enter the commands for the yarn length measurement also manually in a knitting program.

1. Enter the desired Sintral command in the first row of the area to be controlled (in the example "STIXX1").





2. Enter the command "STIXX0" at the end of the area (deactivate control).

> **i** You can enter either the Sintral command "YLC" or "STIXX" into the knitting program. The OKC knitting machine understands both specifications.

7.2 Calculating correction values

The following examples are to show you how the STIXX device works.

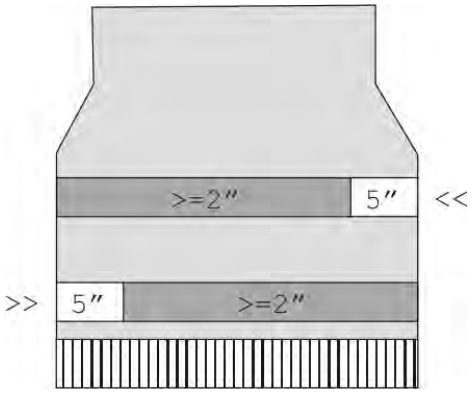
YLC1, YLC8

Machine: CMS 530, gauge E12
Knitting mode: Single jersey (RL)
SEN =1-400
NP=12.0, this corresponds to a stitch length of 7.11 mm with E12 (see the chapter entitled "Stitch length")

Calculation:

- 5 inches are deducted from the 400 needles (see drawing: "area not taken into account").
  5 inches correspond to 60 needles with the gauge E12 (5 x 12 = 60).
- 400-60 = 340 Needles
- 340 x 7.11 mm = 2417.4 mm (target value for the yarn length)

At the beginning of the knitting row an area of 5 inches is not taken into account, as it would distort the measuring result (catch up and accelerate the yarn).



YLC1: measuring area and area not taken into account

area not taken into account

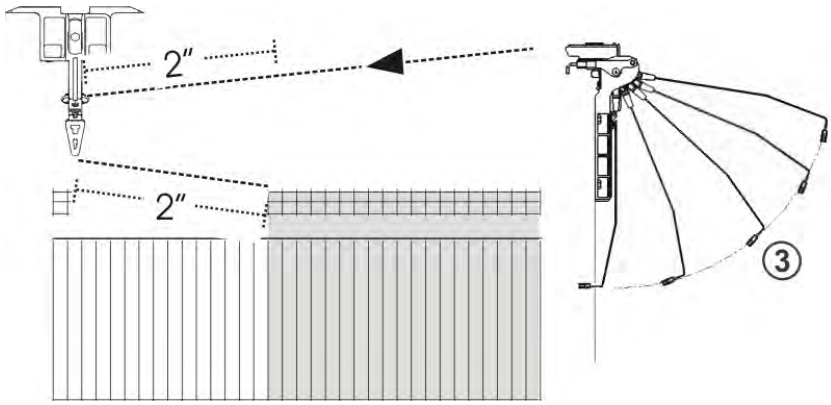
Measuring area

The provided stitch length in each knitting row is detected by the STIXX device and passed onto the computer. The yarn length of several knitting rows will be summed up, separated by carriage direction. The sum is compared to the target value and a correction value is determined. If necessary, the computer adjusts the stitch cams so that more or less yarn is consumed.

i If the knitting area of a row is smaller than 7 inches, no STIXX data is measured.

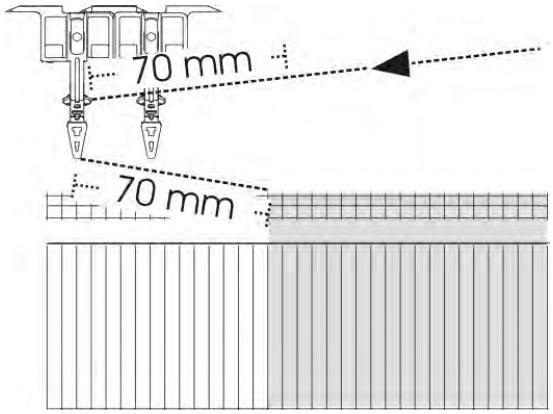
Stopping position of the yarn carriers

- The value for the yarn carrier distance "YD" may not be greater than "32". "YD=32" means: the yarn carrier is 2 inches away from the fabric selvedge (32 x 1/16 inch = 2 inches).



2 x 2 inches yarn length need to be caught up and accelerated. If the YD value is greater than "32", this distance exceeds the area not taken into account of 5 inches. This distorts the measuring result. Recommendation: minimize the yarn tensioning path of the yarn tensioner (position 3).

- If two yarn carriers are used on one rail, the STIXX device cannot be optimally controlled due to the larger distance of the second yarn carrier. The second yarn carrier is at least 70 mm away from the fabric selvedge that are 2,75 inches.

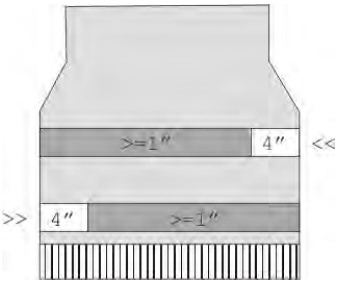
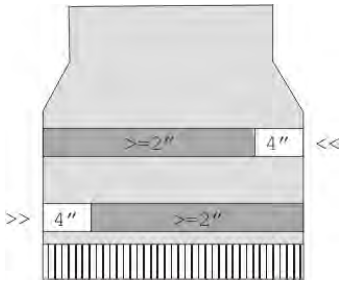


2 x 2,75 inches of yarn length need to be caught up and accelerated (1 inch). This distance lies outside the area not taken into account of 5 inches. This distorts the measuring result.

YLC7 The calculation method is the same as with "YLC1". The difference is that the computer adds the yarn length of both directions and determines a common correction value.

i	If the knitting area of a row is smaller than 7 inches, no STIXX data is measured.

YLC5 With "YLC5", the target values are not calculated, but measured.

The minimum width is:	
5 inches for gauge E3 to E14	6 inches for gauge E16, E18, E8.2 and E9.2
	

	area not taken into account
	Measuring area

YLC5: measuring area and area not taken into account

i	If the knitting area of a row is smaller than 5 inches (6 inches for E16, E18, E8.2, E9.2), no STIXX data is measured.

Changing the minimum width

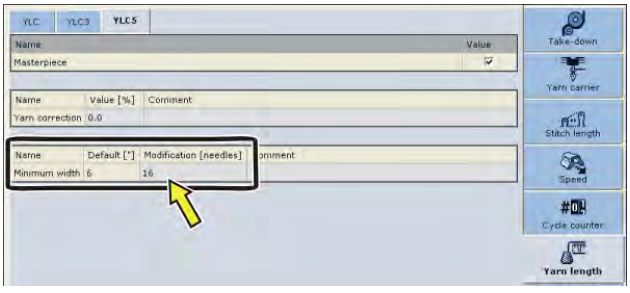
If the error message "YLC: deviation from set value of measuring wheel x too large" is displayed, check the following items:

- If the yarn is threaded over the correct measuring wheel
- The yarn tension is ok (see previous section YLC1 - "Parking position of the yarn carriers")

If these two points are ok there is a third option - change the minimum width.

Changing the minimum width:

1. In the Setup2 editor call up the "YLC5" tab (Setup2 editor -> "Yarn length" menu -> YLC5)

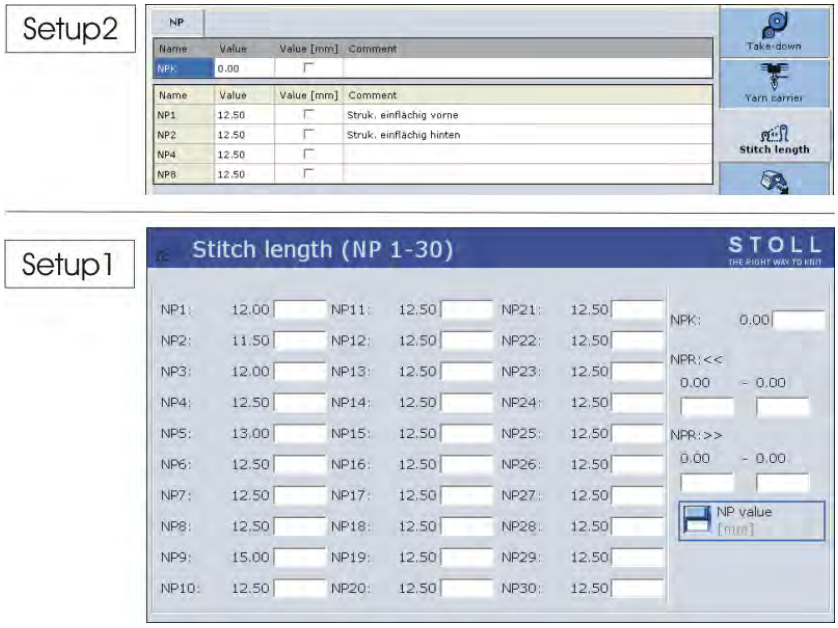


2. In the "Modification (needles)" column increase the value for the minimum width a little, for example by 16 needles.
   Value range: - E…0…+ 2 E (E = Number of needles per inch = Gauge of the machine)
   Example for E16: - 16…0…+ 32 Needles

3. Confirm input
4. Afterwards you need to knit the original piece again.
5. If the error appears again, enlarge the minimum width once more.

7.3 Enter NP values in millimeters

The stitch length is used to calculate the target value.



Specification of the stitch length in millimeters.

Our recommendation:
Specify the yarn length per stitch in millimeters. With this setting you can adjust the length of the fabric more precisely than with NP values (step width: 0,01 millimeter).
This is valid for the NP values and for the NPK value.

Key	Function
	Call up "Stitch length" window
	Confirm entries
	Call up the "Main menu"

Keys for adjusting the stitch tension

Setting stitch tension:

1. Call up the "Stitch length" window.
2. Set the switch in the "NP value/(mm)" field to "(mm)".
3. Tap the input fields for the stitch cam values and enter the yarn length per stitch in millimeters.

   - or -

➜ To change all stitch cam values by the same value, tap the "NPK" input field, enter the stitch cam correction value in millimeters.

4. Confirm entries.
5. Call up "Main menu".

Further information:

- Stitch length (tables) [-> 75]

STOLL
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8 Measuring and correcting yarn length

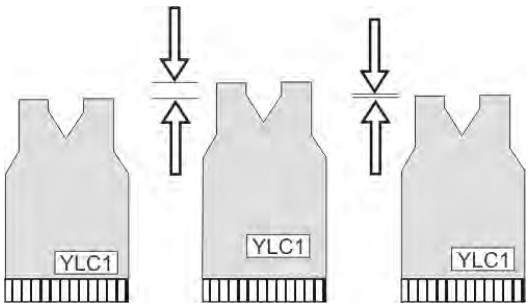
This chapter contains information on:

8.1 YLC1, YLC3, YLC4 – Which mode is useful when?

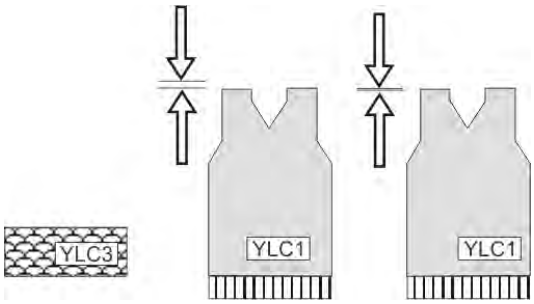
Mode	
YLC1	◆ Patterning and production on the same knitting machine ◆ During the patterning YLC1 is activated (YLC7, YLC8)
YLC3	◆ During the patterning YLC1 is activated (YLC7, YLC8) ◆ The production is carried out on another machine. ◆ The correction values were deleted.
YLC4	◆ During the patterning YLC1 was deactivated (YLC7, YLC8) ◆ But the production is to carried out with YLC1 (YLC7, YLC8)

Overview over the modes YLC1, YLC3 and YLC4

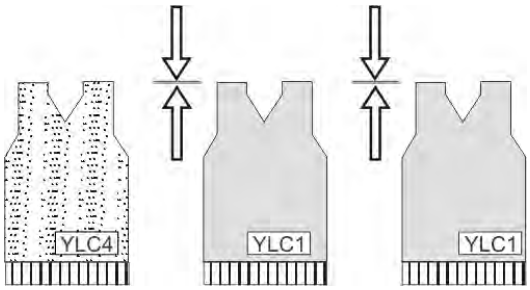
YLC1

Mode	Properties
YLC1 YLC8 YLC7	 ◆ The correction values are determined during the production. ◆ A separate correction value is determined for each carriage direction.
	Production: ◆ The stitch cams will automatically be corrected during the production. At first larger corrections are possible, for further pieces, the corrections become smaller. ◆ The STIXX device controls in small steps so that a change of the stitch length is hardly visible The result is: If one yarn carrier does not knit often and the correction is very large, then the first fabric and in the unfavorable case even several fabrics may be unusable.

YLC3

Mode	Properties
YLC3	 ◆ Fabric similar to pattern (but not identical) A knitting mode similar to the fabric is set by the user (single jersey, double jersey...). ◆ The test fabric (YLC3) is a rectangular fabric. ◆ The correction values are determined via a test fabric before starting the production. ◆ Only one stitch length can be set by the user. ◆ All of the yarn carriers will be pre-adjusted to the same stitch length ◆ Fast determination of the correction values.
	Production: ◆ When all the yarn carriers are pre-adjusted, it will automatically be changed to YLC1 (YLC7, YLC8). ◆ The stitch cams will automatically be corrected during the production. At first a little larger corrections are possible, for further pieces, the corrections become smaller. The first fabric can be unusable.

YLC4

Mode	Properties
YLC4	 ◆ Determining the correction values with the original fabric (YLC4) before the production is started (learning curve). If necessary, the learning curve can be started several times. ◆ It will be measured with the stitch lengths, which are defined in the knitting program of the original pattern. ◆ Exact determination of the correction values.
	Production: ◆ If the pattern meets your expectations you apply the actual values (correction values). For this purpose activate the switch "YLC1/7/8 - Measuring and controlling as defined in Sintral/Setup with YLC4 values".

Further information:

- YLC4 - Measuring + Determining correction values [-> 48]
- YLC3 - Measuring with test fabric [-> 50]

8.2 Select the YLC mode in the Setup2 editor

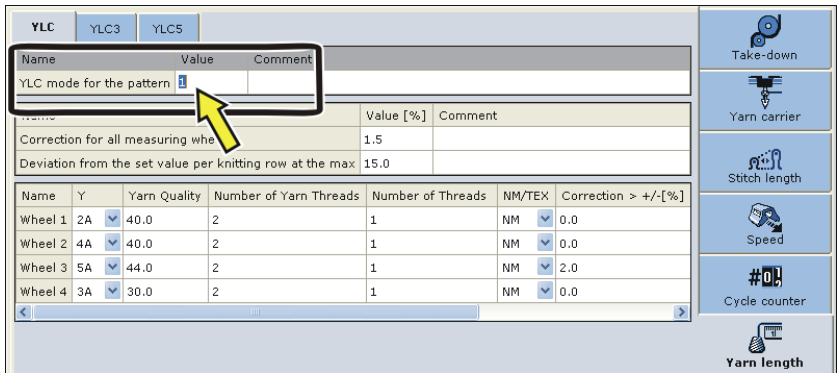
Enter the YLC mode in the Setup2 editor. This indication is valid for the whole knitting programm (START…END).

Key	Function
	Call up the "Yarn Length Control" window
	Call up Setup2 editor.
	Confirm entries
	return to the "Yarn Length Control" window

Keys to select the YLC mode

Select the YLC mode:

1. In the "Yarn Length Control" window call up the Setup2 editor.
2. Enter the desired value in the "YLC mode for patterns" line.



Select the YLC mode in the Setup2 editor

3. You can select the following modes: 0, 1, 5, 7, 8 (0= The indications of the Sintral program are carried out).
4. Confirm the input.
5. Return to the "Yarn Length Control" window and start the production.

The YLC mode in Setup2 has priority over the YLC command in Sintral. (Exception for "0").

8.3 YLC1 - Correcting stitch length during the production

The correction values for the stitch length of a fabric are determined during the production. A target value for the yarn length is calculated from the specifications in the knitting program. The measured yarn length is compared to the target value and the correction values for the stitch length are formed from the difference. If necessary, the computer adjusts the stitch cams so that more or less yarn is consumed.

Key	Function
	Call up the "Yarn Length Control" window
	"Change mode" key
	return to the "Yarn Length Control" window

Keys for calling up the "Change mode" window

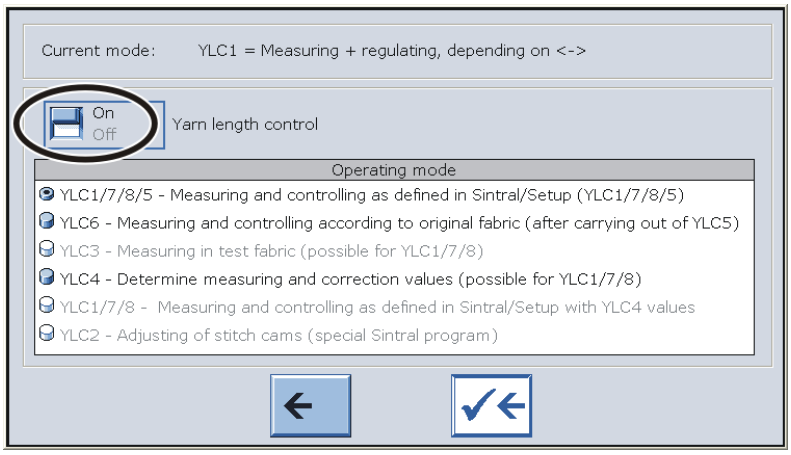
Correcting the stitch length with "YLC1":

✔ The measuring wheels are configured.

✔ The yarn control device for each yarn is set (at least 8 cN).

✔ In the knitting program the "YLC1" command is entered or in the Setup2 editor the mode "1" is selected.

1. Tap on the "Change mode" key in the "Yarn Length Control" window.
2. Check whether the switch for the yarn length control is located on "ON" in the "Change mode".



"Change mode" window

3. Return to the "Yarn Length Control" window.
4. Start production.

▶ The stitch length will automatically be measured and corrected if necessary.

Further information:

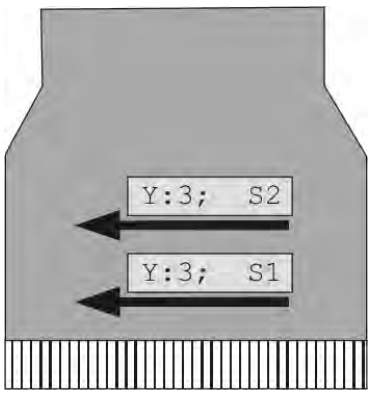
- Adjusting yarn control device [-> 23]
- Configure measuring wheels [-> 25]
- YLC1, YLC3, YLC4 – Which mode is useful when? [-> 40]
- YLC4 - Measuring + Determining correction values [-> 48]
- YLC3 - Measuring with test fabric [-> 50]

8.4 YLC8 - Correcting stitch length during the production

The difference between "YLC8" and "YLC1" lies in the determination of the correction values. The ranges of application are identical.

- YLC1: A separate correction value is determined for each yarn carrier, **regardless in which knitting system** it works.
- YLC8: A separate correction value is determined for each yarn carrier, **depending on the knitting system** in which it works.

Example: Yarn carrier 3 works with system S1 and S2.



YLC1		YLC8	
Y3	1 correction value for S1 and S2	Y3	1 correction value for S1
		Y3	1 correction value for S2

Correcting stitch length

Key	Function
	Call up the "Yarn Length Control" window
	"Change mode" key
	return to the "Yarn Length Control" window

Keys for calling up the "Change mode" window

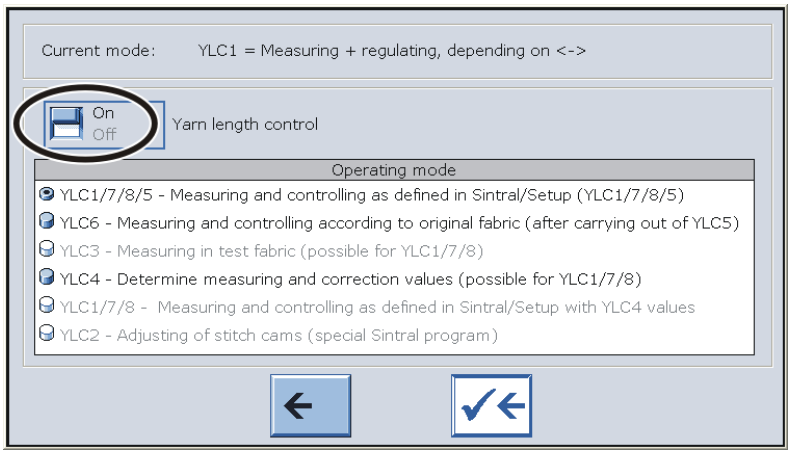
Correcting the stitch length with "YLC8":

✔ The measuring wheels are configured.

✔ The yarn control device for each yarn is set (at least 8 cN).

✔ In the knitting program the "YLC8" command is entered or in the Setup2 editor the mode "8" is selected.

1. Tap on the "Change mode" key in the "Yarn Length Control" window.
2. Check whether the switch for the yarn length control is located on "ON" in the "Change mode".



"Change mode" window

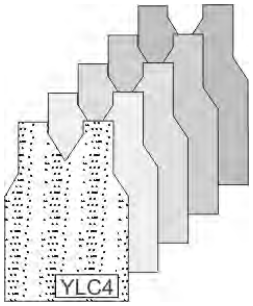
3. Return to the "Yarn Length Control" window.
4. Start production.

▶ The stitch length will automatically be measured and corrected if necessary.

Further information:

- Adjusting yarn control device [-> 23]
- Configure measuring wheels [-> 25]
- YLC1, YLC3, YLC4 – Which mode is useful when? [-> 40]
- YLC4 - Measuring + Determining correction values [-> 48]
- YLC3 - Measuring with test fabric [-> 50]

8.5 YLC4 - Measuring + Determining correction values



With this mode the STIXX device runs through a learning curve. The actual values are determined like with "YLC1" but without controlling the stitch length.
Procedure:

- The yarn length control and the "YLC4 - Measuring and determining correction values" switch are activated.
- Knit the fabric and carry out the fine adjustment (set the cycle counter, adjust the WM values and the stitch length, ...).
- If the pattern meets your expectations you apply the actual values (correction values). For this purpose activate the switch "YLC1/7/8 - Measuring and controlling as defined in Sintral/Setup with YLC4 values".
- The correction values are applied to the production (mode "YLC1", "YLC7" or "YLC8").

Key	Function
	Call up the "Yarn Length Control" window
	"Change mode" key

Buttons for "YLC4"

"YLC4" - Measuring + Determining correction values

✔ The measuring wheels are configured.

✔ The yarn control device for each yarn is set (at least 8 cN).

✔ In the knitting program or in the Setup2 editor is contained the "YLC1". "YLC7" or "YLC8" command.

1. Tap the "Change mode" key in the "Yarn Length Control" window.
2. Activate the yarn length control and the "YLC4 - Measuring and determining correction values"switch
3. Set the piece counter to "1".

4. Start knitting program.

   ▷ Knit the fabric and carry out the fine adjustment (set the cycle counter, adjust the WM values and the stitch length, ...).

5. If the fabric is finished, the machine stops (piece counter at "0").

6. Machine with comb take-down:
   Remove the fabric from the machine and control it.

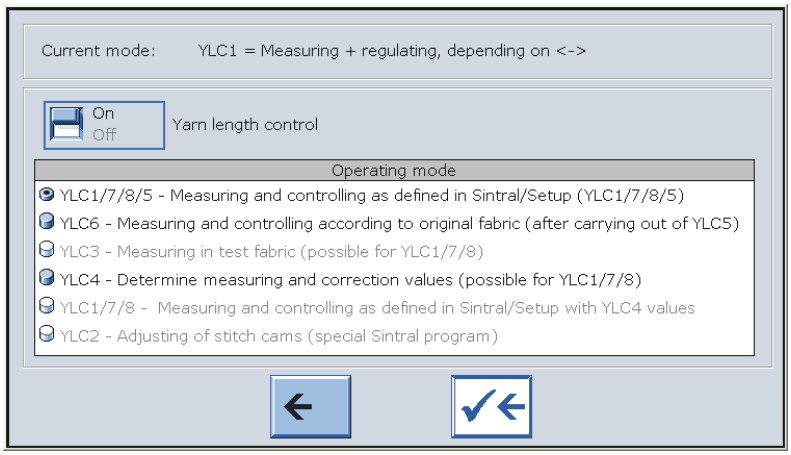
   - or -

➜ Machine without comb take-down:
   Continue knitting until the fabric can be taken out of the machine.
   Use a separate yarn carrier to continue knitting, e.g. with residual yarn.
   The separate yarn carrier may not be used in the pattern, otherwise, the YLC4 values will be overwritten.
   Remove the fabric from the machine and control it.

7. If the pattern meets your expectations, tap the "Change mode" key and activate the switch "YLC1/7/8 - Measuring and controlling as defined in Sintral/Setup with YLC4 values".

   - or -

➜ If the pattern does not meet your expectations repeat the step 3 to 6.

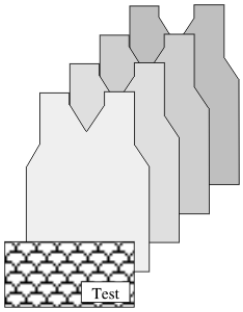


"Change mode" window

8. The determined values will be applied to the production.

9. Start production.

8.6 YLC3 - Measuring with test fabric



Determining correction values with test fabric

YLC3 is a preliminary stage for YLC1, YLC7 or YLC8.
YLC3 is used for determining all of the correction values with a test fabric before the production.
This way you can achieve that even the first fabric is usable.

YLC1, YLC7 or YLC8 (Measuring and controlling)	The yarn length is constantly controlled and if necessary, the stitch cams are adjusted to consume the correct yarn length. Problem: The STIXX device controls in small steps so that a change of the stitch length is hardly visible The result is: If one yarn carrier does not knit often and the correction is very large, then the first fabric and in the unfavorable case even several fabrics may be unusable. Remedy: Determine correction values with YLC3.
YLC3 (Measurement only)	Before you start the production, process a test fabric. This way, all the yarn carriers that are entered in the "Stitch Length Control" window are pre-adjusted.

Exactly, what is done with YLC3?

- The test fabric has the same knitting width (SEN) as the pattern (width: ≥ 7 inch).
- Each yarn carrier of the pattern is knitted until the target value of the yarn length is reached.
- Automatic switch to the next yarn carrier until all the yarn carriers are pre-adjusted.
- Automatic switching to YLC1 (YLC7, YLC8). The determined correction values are used for the YLC mode, which is entered in the knitting program or in the Setup2 editor.

At which point do you need to enter the command in the knitting program?

- The Sintral function call is entered in the modules for the fabric start of all the STOLL starts on the M1plus.
  IF #196>0 F:YLC; for Standard and CMS 730 T
  IF #196>0 #95=1 F:YLC; for Multi Gauge and k&w
  IF #196>0 #95=2 F:YLC; for CMS 730 S
- The Sintral function for the test fabric is automatically loaded into the pattern, if the YLC1 mode (YLC7 mode, YLC8 mode) is selected in the "Yarn length control" control column.
- The Sintral test program will not be loaded in the knitting program if you don't enter any YLC mode in the control column "Yarn length control".

  Application example:
  You just want to enter the YLC mode manually on the knitting machine in the Setup2 editor.

  If you want to integrate the Sintral program anyway, then you must select it manually:

  – In the "Configuration" / "Knitting areas" dialog box, activate the "Integrate Sintral measuring YLC3" checkbox.
    - or -
  – In the "Global pattern parameters" / "Knitting areas" dialog box, activate the "Integrate Sintral measuring YLC3" checkbox.
- Follow the corresponding Stoll starts when generating own ones.

Determine correction values via test fabric:

Key	Function
	Call up the "Yarn Length Control" window
	call up additional function keys
	Call up the "menu YLC3" window.
	Confirm entries
	Call up Main menu
	Call up "Machine start" window

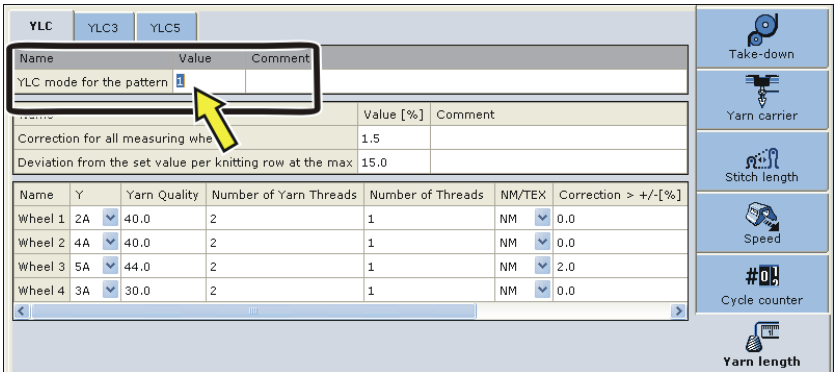
Keys for opening and closing the output window

✔ The measuring wheels are configured.

✔ The yarn control device for each yarn is set (at least 8 cN).

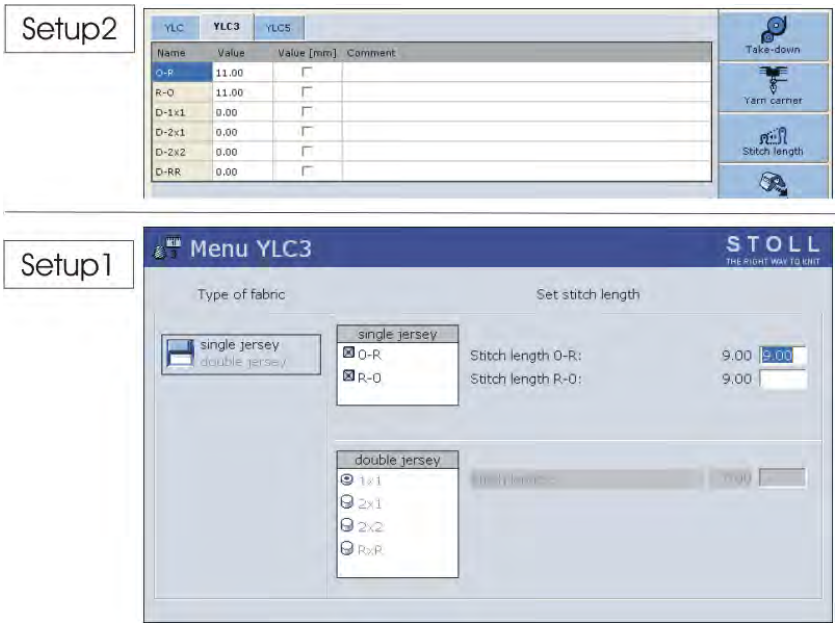
✔ The Sintral function "YLC3" is entered in the knitting program.

✔ For Setup2: The "YLC1" mode ("YLC7" or "YLC8") is set in the Setup2 editor.



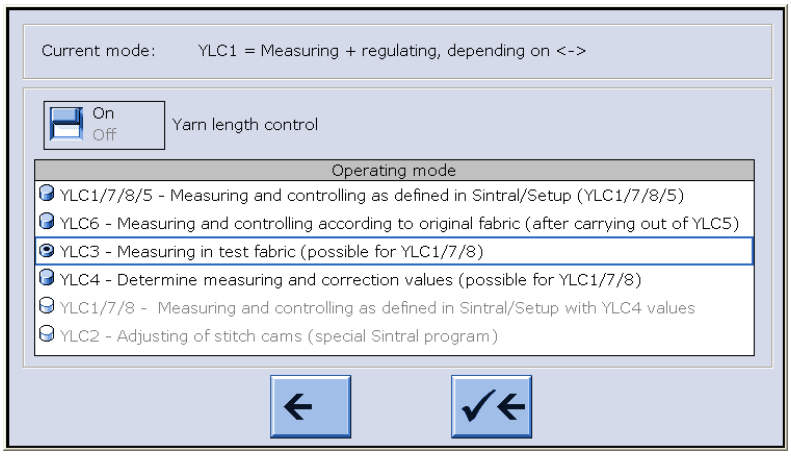
1. Call up the "Yarn Length Control" window from the main menu.
2. Call up Additional function keys.

3. Call up the "Menu YLC3" window.



Window "Menu YLC3"

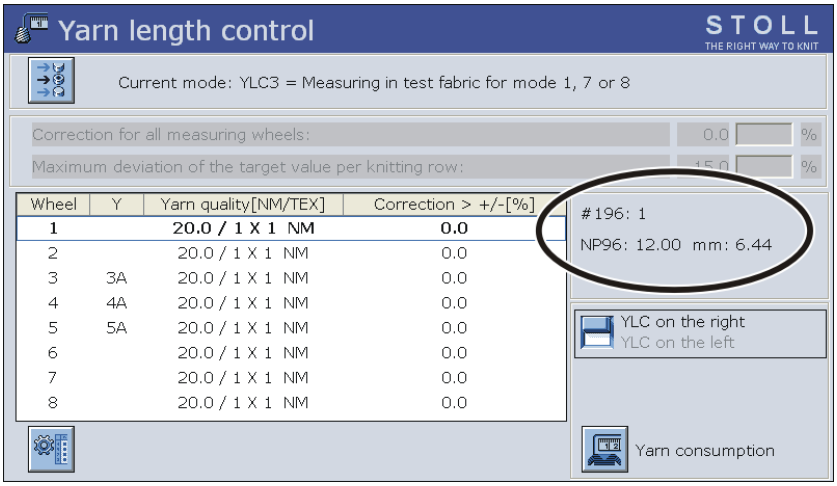
4. Set the fabric type that best matches the production fabric.
5. Enter stitch length (with Setup1: in millimeters).
6. Confirm input.
7. Return to the main menu.
8. Tap in "Machine start" window on key "SP from line 1" to start production.
9. Return to the main menu.
10. Tap on the "Change mode" key in the "Yarn Length Control" window.



11. Switch on switch "YLC3 - measuring in test fabric".
12. Confirm input.

13. Start the machine with the engaging rod.

▶ A test fabric is produced. In the "Yarn length control" window, you can see the NP value which has been set for the test fabric.



When all correction values are determined, production is started automatically.

If a new yarn is used for another order, we recommend generating a new test fabric piece.

Further information:

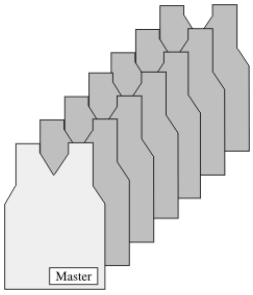
- Adjusting yarn control device [-> 23]
- Configure measuring wheels [-> 25]
- Stitch length (tables) [-> 75]

8.7 YLC5 - Generate original piece and produce duplicates

Certain patterns are not suitable for controlling with the "normal" YLC mode ("YLC1"). Irregular yarn consumption and the resulting differences prevent "normal" stitch length control. Examples of such patterns are:

- Fabrics with irregular yarn consumption (frequent change of the knitting mode)
- Narrow fabrics (width: ≥ 5 inches), e.g. with knit and wear articles

To be able to control these patterns, an original piece (master) is generated with the "YLC5" mode. In the process, the YLC data is determined and stored, however no yarn length control takes place. This data is used as target value for all further fabrics. Original pieces can be generated until the last one generated matches the requirements for appearance, fabric length and weight. With several test pieces, the last one is always stored as the original piece. The size of the memory is sufficient for approximately 8000 rows (with one STIXX device) in which yarn carriers are used.



Original piece and duplicates

Then the data determined are used for all further fabrics ("YLC6" mode), and a correction is carried out if required.

Generate original piece and produce duplicates:

✔ The measuring wheels are configured.

✔ The yarn control device for each yarn is set (at least 8 cN).

✔ In the knitting program the "YLC5" command is entered or in the Setup2 editor the mode "5" is selected.

1. Start knitting program.

   ▷ The original piece is generated.

2. Once the original fabric has been completed, the machine stops automatically.

   ▷ The following note is displayed: "Knit an original fabric (master piece) once again or change to production (YLC6)".

3. Machine with comb take-down:
   Remove the original piece from the machine and control it.

   - or -

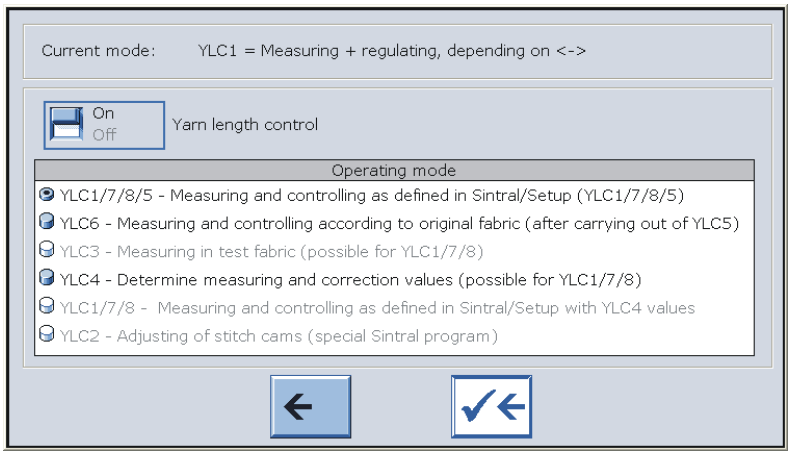
➜ Machine without comb take-down:
   Continue knitting until a second original piece is finished.

   Remove the first original piece from the machine and control it.

4. If the original is OK, tap the "Change mode" key and activate the switch "YLC6 - Measuring and controlling according to the original fabric (YLC5)".

   - or -

➜ If the original piece is not OK, repeat the steps 1 to 4.



"Change mode" window

5. Save the "YLC5" data, observe the section Loading and saving the YLC5 data [59].
6. Start the production.

▶ The data of the original are compared with the data determined at the moment. If necessary, the STIXX device carries out a correction.

➜ If the switch "YLC6 - Measuring and controlling according to the original fabric (YLC5)" is activated in the "Change mode" window, the "YLC5" command will be carried out as "YLC6" in the knitting program.

➜ In the "YLC6" mode, only minor changes can be carried out at WM, YD and MSEC.
With Setup2 the fabric length can be influenced via the yarn correction.

➜ The cycle counters may not be modified in the "YLC6" mode. Therefore the input fields are inactive (grayed out) in the window "Cycle counter".

---

7. If the pattern parameters, e.g. you change the NP values or the cycle counters, you must have re-determined the "YLC5" data.
   For this purpose, activate the switch "YLC1/7/8/5 - Measuring and controlling as defined in Sintral/Setup" in the "Change mode" window and repeat the steps 1 to 7.

Yarn correction (with Setup2)

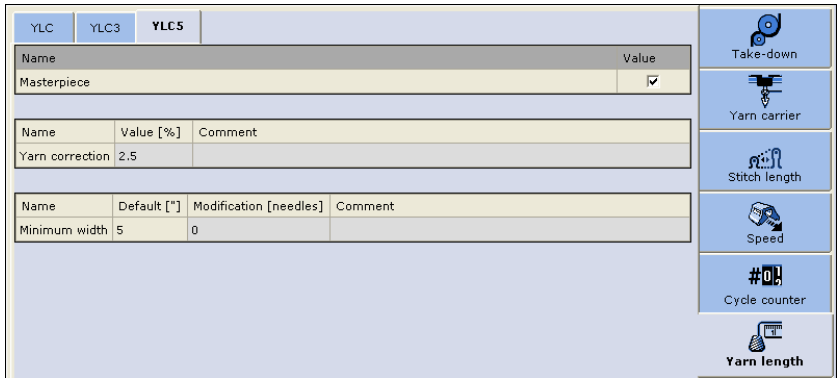
If you are working in mode "YLC6", it is possible to modify fabric length without taking in the original fabric (Masterpiece) again.
If, for example, the same pattern is to be knitted with another yarn color (not yarn thickness) you do not need to determine once again the YLC5 data, but instead you carry out a yarn correction. Enter the deviation of the length difference in percentage in the "Yarn correction" cell. The stitch tension is modified for all the YLC5 areas.

Key	Function
	Call up the "Yarn Length Control" window
	Call up Setup2 editor.
	Confirm entries
	return to the "Yarn Length Control" window

Keys to carry out a yarn correction

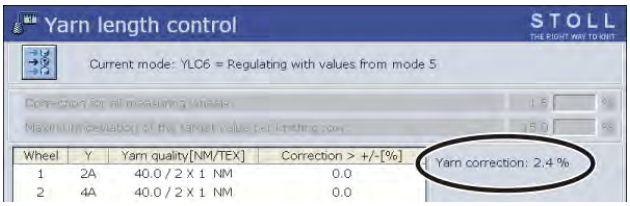
Executing yarn correction:

1. In the "Yarn Length Control" window call up the Setup2 editor.
2. Call up "YLC5" tab.
3. Enter the desired value in the "Yarn correction" line.
   Value range: -10%...+10%, step width: 0.1



4. Confirm entries.
5. Return to the "Yarn Length Control" window and start the production.

▶ In the "Yarn length control" you can see the value set for the yarn correction.



Further information:

- Adjusting yarn control device [-> 23]
- Configure measuring wheels [-> 25]

8.7.1 Loading and saving the YLC5 data

The data can be saved and loaded again (file name: Pattern name.stx). The determined data are used as actual values for all other fabrics.
User area:

- If the pattern is to be knitted once again on the same machine later on.
- If the pattern is to be knitted on another machine with the same gauge.

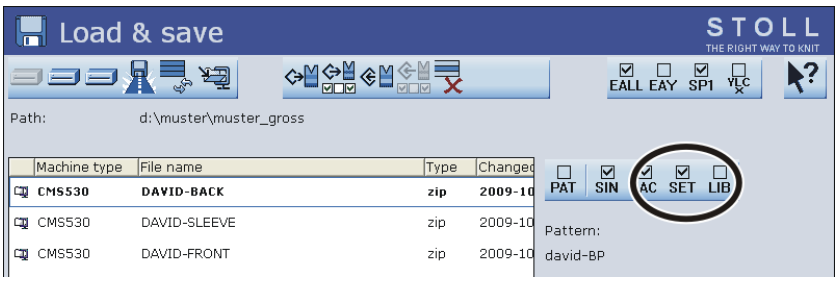
with Setup2

Key	Function
	Call up the "Main menu"
	Call up the "Load & save" window
	"Save" file
	"Load" file

Keys for loading and saving the "YLC5" data

Loading and saving the YLC5 data:

1. Call up the "Load & save" window from the "Main menu".



"Load & save" window

2. Check whether the "SET" checkbox is activated.
3. Saving data, tap the "Save" key for it.

   - or -

➜ Loading data, tap the "Load" key for it.
When the "YLC5" data is loaded, the switch "YLC6 - Measuring and controlling according to the original fabric (YLC5)" is automatically activated.

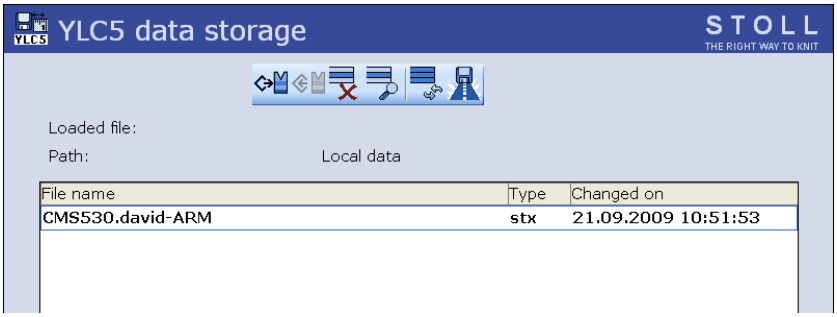
with Setup1

Key	Function
	Call up the "Yarn Length Control" window
	call up additional function keys
	Call up the "YLC5 data storage" window
	"Selection of path" key
	"Load" selected file
	"Save" selected file
	End setting process and save changes
	return to the "Yarn Length Control" window

Keys for loading and saving the "YLC5" data

Save or load the "YLC5" data:

1. Call up the "additional function keys" in the "Yarn Length Control" window.
2. Call up the "YLC5 data storage" window.



"YLC5 data saving" window

3. Set the path to "Save" the file and "Load" the file.
4. Select file.

5. Press desired key.
6. Confirm entries.
7. Return to the "Yarn Length Control" window.
8. When the "YLC5" data is loaded, the switch "YLC6 - Measuring and controlling according to the original fabric (YLC5)" is automatically activated.

Further information:

- Adjusting yarn control device [-> 23]
- Configure measuring wheels [-> 25]

8.7.2 YLC5 and sequence

Also with one sequence, you can work with the YLC5 mode.

Condition:

- Operating system for M1plus: V 5.2 or higher
- Operating system for knitting machine: V 2.1 or higher
- The patterns for the sequence have to be created with the setup type2.

Overview over the workings:

- on the M1plus:
  Convert a setup1 pattern into a setup2 pattern.
- At the knitting machine:
  Knit each pattern and determine and save the YLC5 data.
  Put together the pattern to a sequence.
  Knit the sequence.

on the M1plus:
Convert a setup1 pattern into a setup2 pattern

Convert without changing the machine type

Example: Rework the setup1 pattern of the CMS 530 into a setup2 pattern:

1. Load pattern (before technical processing)
2. In the control column "Yarn length control" enter YLC5 over the entire desired area.
3. Run the "Machine attributes..." function in the "Pattern Parameters" menu.
   ▷ The "Machine attributes" dialog box appears.
4. In the "General" adjust the setup type to Setup2.
5. Confirm the change with "OK".
6. Start technical processing.
7. Run the "Generate MC Program..." function.
8. Run the "Extract MC Program..." function.

▶ The sin, jac and setx-files will be saved to a zip-file.

Convert with changing the machine type

Example:

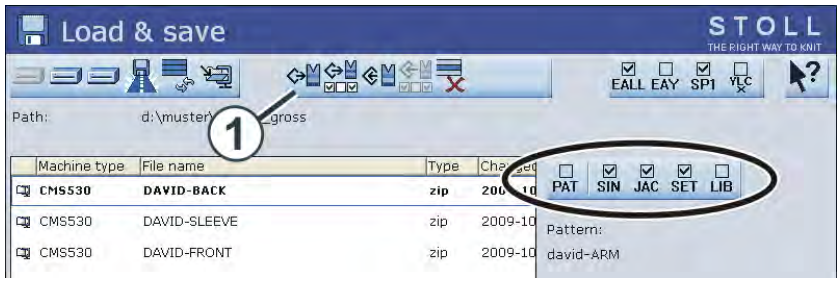
How to convert a Setup1 pattern for a CMS 330 to a Setup2 pattern for a CMS 530:

1. Load the pattern and call up the "Change Machine/Gauge/Setup Type..." menu.
2. Set the corresponding setup type for the machine in the "Machine Explorer".
3. In the control column "Yarn length control" enter YLC5 over the entire desired area.
4. Modify and complete the parameters and functions corresponding to Setup2.
5. Start technical processing.
6. Run the "Generate MC Program..." function.
7. Run the "Extract MC Program..." function.

▶ The sin, jac and setx-files will be saved to a zip-file.

On the knitting machine

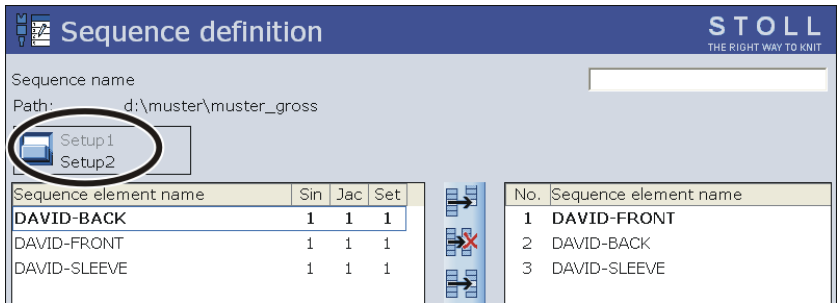
1. The checkboxes "SIN", "JAC", "SET" must be activated or the checkbox "PAT".



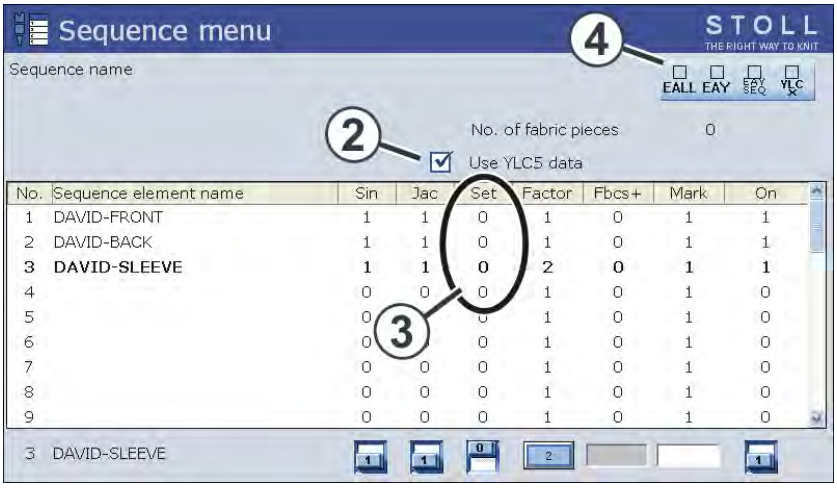
2. Tab the (1) key.

▶ The knitting program and the setup data are read-in.

3. Generate original piece (see the "Generate original piece and produce duplicates" section)
4. If the original piece corresponds to your specifications, save the YLC5 data (see the section "Loading and saving YLC5 data").
5. Repeat the steps 1-5 for all the patterns, which are to be put together to the sequence.
6. Activate Setup2 in the "Sequence definition" window and put together the sequence.



7. Return to the "Sequence menu" window.



Use YLC5 data (2)

☑ Activate the use of YLC5 data.
Depending on the adjustment in the "Set" column, it has the following consequence for the sequence element:

Set=0 only the YLC5 data are used for the sequence element.

Set=1 The Setup and YLC5 data are used for the sequence element.

☐ Deactivate the use of YLC5 data.
The adjustment in the "Set" column is effective for each sequence element.

8. Make settings.
9. Knit the sequence.

One setup file for all the sequence elements

The adjustment in the "Sequence menu" shows the following procedure when sequence knitting:

➜ A setup file is loaded that is used for all the sequence elements.

➜ "EALL" (4) has to be deactivated so that the setup data will not be deleted.

➜ Only the YLC5 data are used with all the sequence elements. Adjustment (2) and (3).

Further information:

- YLC5 - Generate original piece and produce duplicates [-> 55]
- Loading and saving the YLC5 data [-> 59]

8.8 Deleting correction values

If a new pattern is read-in, the previous correction values (YLC1, YLC3, YLC4 and YLC8) are not deleted. If the new pattern is to be knitted with new correction values, you must delete the previous correction values automatically or manually.

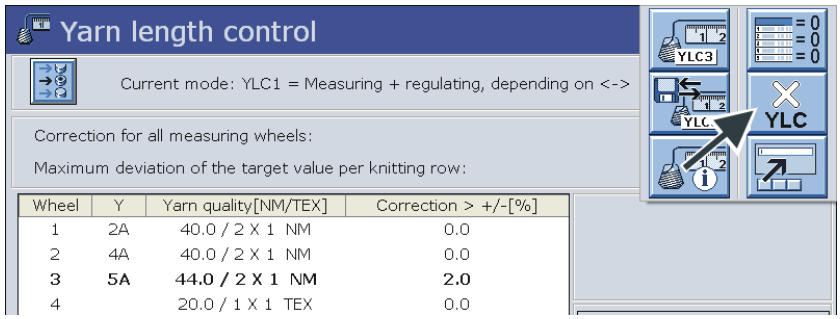
Deleting correction values automatically

- Activate the checkbox "YLC X" when reading-in the pattern.

Deleting YLC correction values automatically

Delete correction values manually

1. Call up the "Yarn length control" window from the "Main menu".
2. Call up Additional function keys.
3. Click the "YLC X" key.



"Yarn length control" window with additional function keys

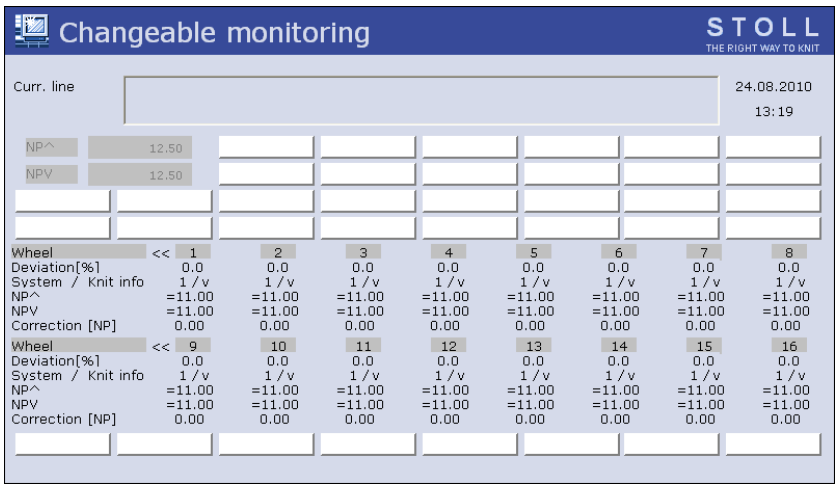
4. The correction values are deleted.

8.9 Displays correction values

The current correction values of the last knitted row are displayed in the "Changeable monitoring" window.

Condition:

- The STIXX device is logged on
- The function block "Yarn Length Control" is activated



"Changeable monitoring" window with logged-on yarn length measuring device

Label	Data shown
"Wheel"	Number of measuring wheel
"Deviation [%]"	Average deviation since the last automatic change of the NP value
"System / Knit info"	Number of active knitting system Active needle bed (f: front, ^: rear, x: both)
"NP^"	Current NP value (rear needle bed) It consists of NP value, NPK correction and the current YLC correction value.
"NPV"	Current NP value (front needle bed) It consists of NP value, NPK correction and the current YLC correction value.
"Correction [%]"	Current YLC correction value

Data in the "Changeable monitoring" window

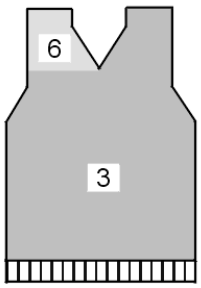
8.10 Special Sintral commands

"YLC-" command

The "YLC-" command deactivates the control for one carriage stroke.
If an YLC error message appears in each fabric always at the same place (for example "YLC Yarn error"), you can deactivate the YLC control for this knitting row.

"YLCDEV" command

With the "YLCDEV" command the correction values are copied from a yarn carrier (measuring wheel) already in use to a new one. This prevents possible corrections of the newly used yarn carrier.



Example for working with the "YLCDEV" command

Example	Explanation	Specification in Sintral program
V-neck	Up to the start of the V-neck only yarn carrier 3 works. In the V-neck it knits the right part and yarn carrier 6 the left part.	YLCDEV:3-6; Result: The correction value of yarn carrier 3 will be applied for yarn carrier 6.

Working with the "YLC" command

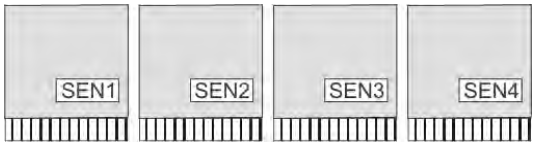
Per carriage stroke up to four value pairs can be specified.
Example: YLCDEV:3-6 3-5 2-4 1-7.

> **i** You can enter either the Sintral command "YLC" or "STIXX" into the knitting program. The OKC knitting machine understands both instructions.

8.11 Several SEN and NPJ areas

Several SEN areas

Controlling with the STIXX device is also possible with patterns with several SEN areas.



Pattern with four SEN areas

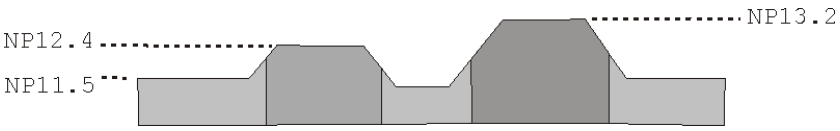
Each SEN area can have different correction values. The switching between different correction values happens automatically, regardless whether you are working with one or with several knitting systems.

The minimum knitting width per SEN area:

- with "YLC1" - 7 inches
- with "YLC5" - 5 inches

Working with "NPJ"

The stitch lengths of all needles are added and the mean value is calculated out of it. The mean value is the target value for the yarn length of this knitting row.



8.12 Log file for the YLC modes

In the Log file you can have a look at each mode change with date and time.

Display mode changes:

Key	Function
	Call up the "Yarn Length Control" window
	call up additional function keys
	Call up the "YLC Log" window
	Call up Main menu

Keys for the display of the mode changes

1. Call up the Yarn length control window from the "Main menu".
2. Call up Additional function keys.
3. Call up the "YLC Log" window.
   ▷ The mode changes with date and time are displayed.
4. Call up the main menu.

9 Yarn disposition

The STIXX device measures the consumed yarn length and continuously calculates the yarn consumption.

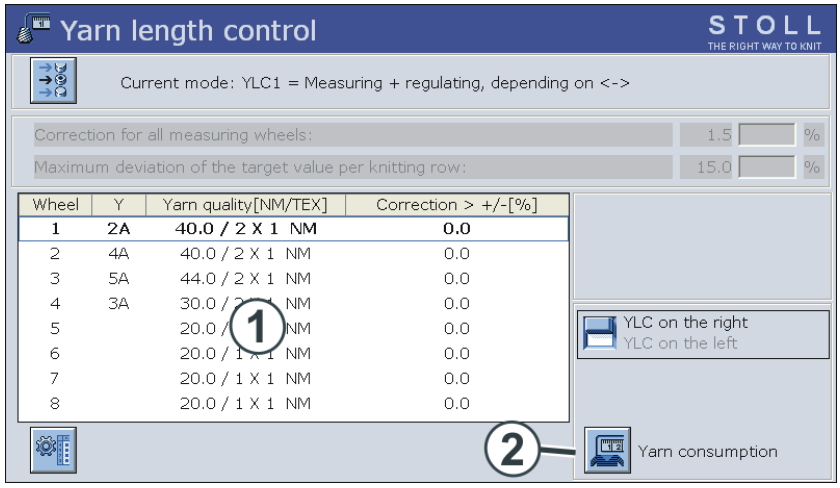
Enter the yarn quality

If you have already carried out the allocation "Yarn carrier, measuring wheel, yarn quality" on the M1plus, this data will be applied to the "Yarn Length Control" window.

1. For Setup2:
   Tap the "Setup Editor" key.
   Enter the number of threads per yarn carrier and the yarn quality in the "Yarn quality" (1) column.
   Return to the "Yarn Length Control" window.

   - or -

➜ For Setup1:
Enter the number of threads per yarn carrier and the yarn quality in the "Yarn Length Control" window in the "Yarn quality" (1) column.



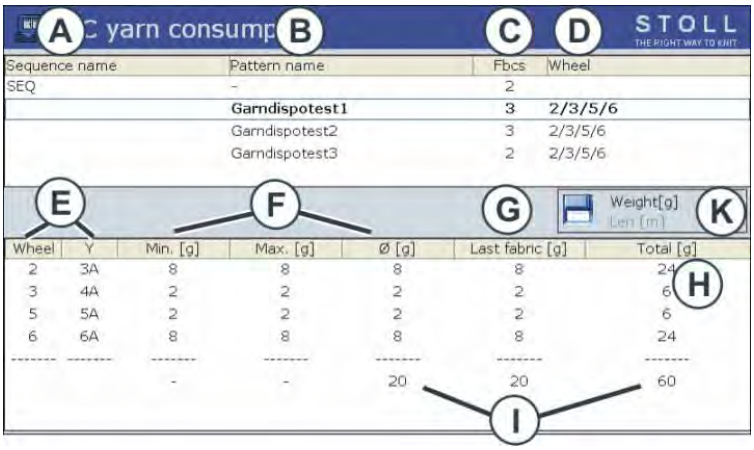
Yarn consumption in the "Yarn Length Control" window

Call up the yarn consumption

Key	Function
	Call up the "Yarn Length Control" window
	Call up the "Yarn consumption" window

Keys for calling up the yarn consumption

1. In the "Yarn Length Control" window tap the "Change mode" (2) key.
   ▷ The yarn consumption is displayed.



A	◆ Name of sequence ◆ Name of the sequence list	
B	◆ Name of the pattern (individual pattern) ◆ Name of the sequence element	
C	Number of pieces knitted so far	
D	Display of the measuring wheels that are in use	
E	Display showing which yarn carriers work together with which measuring wheel	
F	Yarn consumption of the pieces knitted so far	
	Min	minimum yarn consumption
	Max	maximum yarn consumption
	Ø	average yarn consumption
G	Yarn consumption of the last knitted piece	
H	Yarn consumption of all the knitted pieces	
I	Sum of the yarn consumption of the respective column	
K	Switching the display of the yarn consumption over to: ◆ Weight (in grams) ◆ Length (in meter) or	

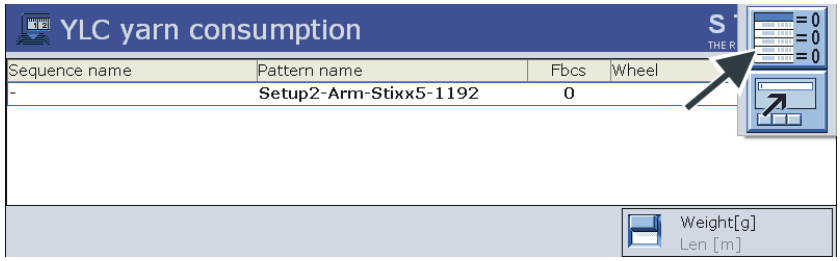
Yarn consumption with a sequence (or sequence list)

➜ In the upper area of the table select the corresponding line (sequence element, entire sequence).

➜ In the lower area of the table the yarn consumption of the selected line is displayed.

Delete the yarn consumption manually

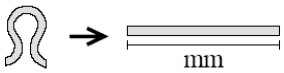
1. In the "YLC yarn consumption" window call up the "Additional function keys".
2. Press the "Delete yarn consumption" key.



▶ The consumption values are deleted.

10 Stitch length (tables)

Stitch length with all machines (not in the case of CMS 730 S, CMS 830 S)



NP	E 3	E 3.5	E 4	E 5	E 7	E 8	E 10 (1)	E 10 (2)	E 12
6.5				6.26					
7.0	7.67	5.90	7.03	6.96			1.83		
7.5	9.25	7.40	8.48	7.52			2.15	2.20	
8.0	10.83	8.90	9.93	8.22			2.85	2.80	2.85
8.5	12.42	10.40	11.38	8.92	4.66		3.56	3.60	3.38
9.0	14.00	11.90	12.83	9.48	5.46	3.58	4.26	4.20	3.91
9.5	15.85	13.40	14.28	10.18	6.10	4.30	4.97	4.80	4.45
10.0	17.17	14.90	15.73	10.88	6.90	5.20	5.67	5.60	4.98
10.5	18.75	16.40	17.18	11.44	7.70	5.92	6.38	6.20	5.51
11.0	20.33	17.90	18.63	12.14	8.34	6.82	7.00	7.00	6.05
11.5	21.92	19.40	20.08	12.84	9.14	7.54	7.71	7.60	6.58
12.0	23.50	20.90	21.53	13.40	9.94	8.44	8.41	8.40	7.11
12.5	25.08	22.40	22.98	14.10	10.58	9.34	9.12	9.00	7.65
13.0	26.67	23.90	24.43	14.80	11.38	10.06	9.82	9.80	8.18
13.5	28.25	25.40	25.88	15.36	12.18	10.96	10.53	10.40	8.71
14.0	29.83	26.90	27.33	16.06	12.82	11.68	11.23	11.00	9.25
14.5	31.42	28.40	28.78	16.76	13.62	12.58	11.94	11.80	9.78
15.0	33.00	29.90	30.23	17.32	14.26	13.30	12.57	12.40	10.31

Stitch length - yarn consumption per stitch (mm) with R/L fabric (Table 1)

(1) CMS 933, CMS 822, CMS 530, CMS 520

(2) CMS 830 C, CMS 740, CMS 730 T, CMS 530 T, CMS 520 C, CMS 502

NP	E 14	E 16	E 18	E 2,5.2	E 2,5.2 m.4L	E 2,5.2 (3)	E 3 m.3L	E 3,5.2	E 3,5.2 m.4L
6.5				6.26	5.29		10.55		5.48
7.0				6.96	6.06	4.36	10.55		5.48
7.5				7.52	6.91	5.71	11.80		5.48
8.0		1.88		8.22	7.68	7.06	13.05	4.97	5.48
8.5	2.58	2.16	1.86	8.92	8.45	8.41	14.30	5.30	5.84
9.0	3.13	2.51	2.21	9.48	9.30	9.76	15.55	6.13	6.63
9.5	3.68	2.86	2.56	10.18	10.07	11.11	16.80	6.80	7.42
10.0	4.23	3.21	2.91	10.88	10.84	12.46	18.05	7.63	8.30
10.5	4.78	3.56	3.26	11.44	11.69	13.81	19.30	8.47	9.09
11.0	5.33	3.91	3.61	12.14	12.46	15.16	20.55	9.13	9.88
11.5	5.88	4.26	3.96	12.84	13.23	16.51	21.80	9.97	10.76
12.0	6.43	4.61	4.31	13.40	14.08	17.86	23.05	10.80	11.56
12.5	6.98	4.96	4.66	14.10	14.85	19.21	24.30	11.47	12.35
13.0	7.53	5.31	5.01	14.80	15.62	20.56	25.55	12.30	13.23
13.5	8.08	5.66	5.36	15.36	16.47	21.91	26.80	13.13	14.02
14.0	8.63	6.01	5.71	16.06	17.24	23.26	28.05	13.97	14.81
14.5	9.18	6.36	6.06	16.76	18.01	24.61	29.30	14.80	15.69
15.0	9.73	6.71	6.41	17.32	18.86	25.96	30.55	15.47	16.48

Stitch length - yarn consumption per stitch (mm) with R/L fabric (Table 2)

(3) CMS 830 C

NP	E 5.2	E 6.2	E 6.2 (knit and wear) (4)	E 7.2	E 7.2 (knit and wear) (4)	E 8.2	E 9.2
6.5							
7.0							
7.5	3.54	2.14	1.77				
8.0	3.86	2.47	2.07	2.14	1.58	1.57	1.61
8.5	4.66	3.02	2.57	2.58	1.99	1.91	1.91
9.0	5.46	3.57	3.08	3.13	2.49	2.33	2.30
9.5	6.26	4.12	3.58	3.68	3.00	2.75	2.68
10.0	7.06	4.67	4.08	4.23	3.50	3.18	3.06
10.5	7.86	5.22	4.58	4.78	4.01	3.60	3.45
11.0	8.66	5.77	5.08	5.33	4.51	4.02	3.83
11.5	9.46	6.32	5.58	5.88	5.02	4.45	4.21
12.0	10.26	6.87	6.09	6.43	5.52	4.87	4.60
12.5	11.06	7.42	6.59	6.98	6.03	5.29	4.98
13.0	11.86	7.97	7.09	7.53	6.53	5.72	5.36
13.5	12.66	8.52	7.59	8.08	7.04	6.14	5.75
14.0	13.46	9.07	8.09	8.63	7.54	6.56	6.13
14.5	14.26	9.62	8.59	9.18	8.05	6.99	6.51
15.0	15.06	10.17	9.10	9.73	8.55	7.41	6.90

Stitch length - yarn consumption per stitch (mm) with R/L fabric (Table 3)

(4) Stitch length at:

- CMS 822
- CMS 740

Stitch length at CMS 730 S, CMS 830 S

NP	E 5.2	E 6.2	E 7.2
3.0	3,82	2,67	2,67
3.5	3,82	2,67	2,67
4.0	3,82	2,67	2,67
4.5	3,82	2,67	2,67
5.0	3,82	2,67	2,67
5.5	4,29	2,67	2,67
6.0	4,77	2,76	2,67
6.5	5,24	3,21	2,67
7.0	5,72	3,66	2,94
7.5	6,19	4,11	3,39
8.0	6,67	4,56	3,84
8.5	7,14	5,01	4,29
9.0	7,62	5,46	4,74
9.5	8,09	5,91	5,19
10.0	8,57	6,36	5,64
10.5	9,04	6,81	6,09
11.0	9,52	7,26	6,54
11.5	9,99	7,71	6,99
12.0	10,47	8,16	7,44
12.5	10,94	8,61	7,89
13.0	11,42	9,06	8,34
13.5	11,89	9,51	8,79
14.0	12,37	9,96	9,24
14.5	12,84	10,41	9,69

Stitch length - yarn consumption per stitch (mm) with R/L fabric (Table 1)

NP	E 5.2	E 6.2	E 7.2
15.0	13,32	10,86	10,14
15.5	13,79	11,31	10,59
16.0	14,27	11,76	11,04
16.5	14,74	12,21	11,49
17.0	15,22	12,66	11,94
17.5	15,69	13,11	12,39
18.0	16,17	13,56	12,89
18.5	16,64	14,01	13,29
19.0	17,12	14,46	13,74
19.5	17,59	14,91	14,19
20.0	18,07	15,36	14,64
20.5	18,54	15,81	15,09
21.0	19,02	16,26	15,54
21.5	19,49	16,71	15,99
22.0	19,97	17,16	16,44
22.5	20,44	17,61	16,89
23.0	20,92	18,06	17,34
23.5	21,39	18,51	17,79
24.0	21,87	18,96	18,24
24.5	22,34	19,41	18,69
25.0	22,82	19,86	19,14
25.5	22,82	20,31	19,59
26.0	22,82	20,67	20,04
26.5	22,82	20,67	20,49
27.0	22,82	20,67	20,67
27.5	22,82	20,67	20,67

Stitch length - yarn consumption per stitch (mm) with R/L fabric (Table 2)