STOLL

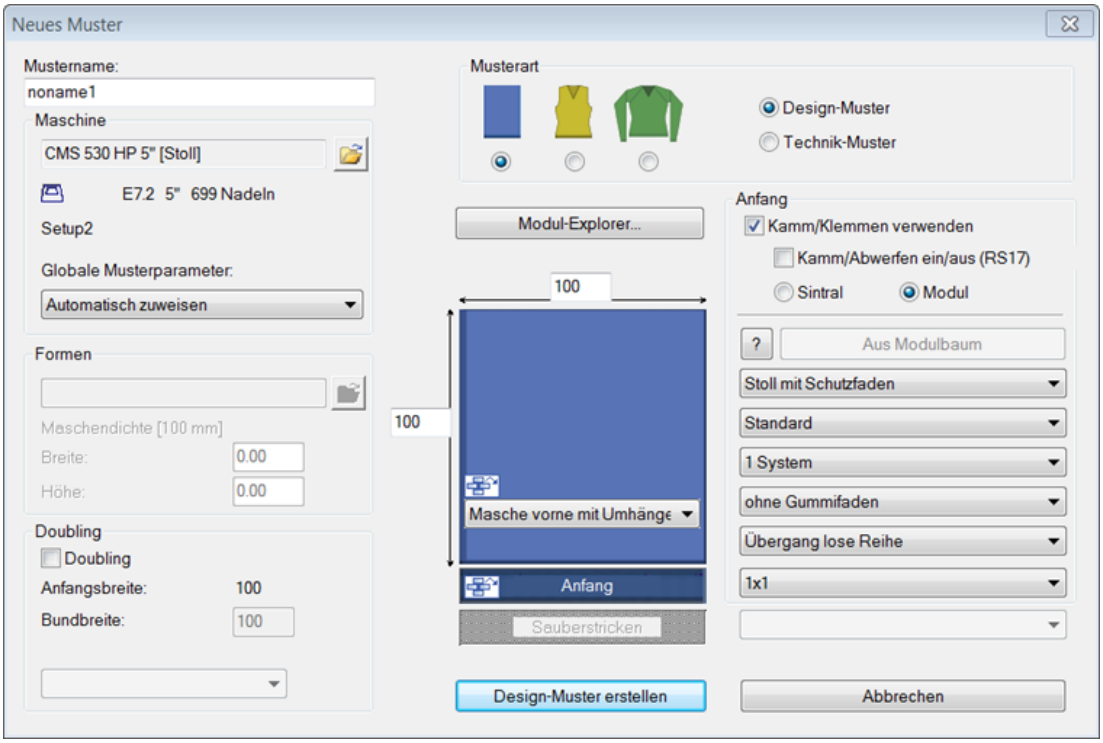
M1plus FullyFashion + Spezial

CE

H. STOLL AG & Co. KG 4/2019

Table of Contents

1 Steps of Pattern Programming



Setting	Meaning
Design Pattern	Pattern programming on the M1plus with the new functions
Technical Pattern	Pattern editing on the M1plus similar to the M1

Steps of Pattern Programming

Pattern without shape	Fully Fashion pattern	
		
		
Generate new pattern: ◆ Machine ◆ Type of pattern: **Basic pattern** ◆ **Design Pattern (Design Mode)** Basic Pattern and Start		**Generate new pattern:** ◆ Machine ◆ Type of pattern: **Shaped Pattern** ◆ **Design Pattern (Design Mode)** ◆ Basic Pattern and Start ◆ Shape
		
Drawing the Pattern (Basic) in the Design Mode  ◆ Drawing Tools ◆ Yarn Color or Yarn Carrier Color ◆ Module Arrangements  ◆ Color Arrangements  ◆ Pattern Parameters ◆ Yarn Field Allocation		**Drawing the Pattern (Basic) with the shape laid on in the Design Mode**  ◆ Drawing Tools ◆ Yarn Color or Yarn Carrier Color ◆ Module Arrangements  ◆ Color Arrangements  ◆ Pattern Parameters ◆ Yarn Field Allocation
		
	Menu Shape / Open and Position Shape...	
		
	Edit shape in the Symbol View [Basic]. 	
		

Pattern without shape	Fully Fashion pattern
	Cut-out Shape Shaped Pattern will be saved as
↘	↓
Expand pattern Expanded Pattern will be saved as or as	
↓	
Start Technical Processing Processed Pattern will be saved as or as	
↓	
Generate MC Program Sintral Jacquard Setup1 or Setup2	
↓	
Run the Sintral Check	
↓	
Save the knitting program and load data into the machine	

i You can pass over steps of processing.
If a step of processing is skipped, the corresponding pattern state will not be saved.

i **Set blocking notice!**

Pattern changes will get lost, when returning to a previous processing step.

With a blocking notice it is possible to point out the performed modification.

2 Generate cuts and shapes

I. Programs and Methods for Generating Shapes:

Tool	Methods to generate shapes:
Symbol View [Basic]	Graphical method
Shape editor	Input of values in a table
ShapeSizer	Edit existing shapes in a table and create sizes (grading)
Image Import	Import the picture of a shape:

II. Tools and formats:

tool for creating a shape	Designation	Unit of measure	Presentation	File extension
Symbol View [Basic]	Grid	Stitches	Grid	.shr
Shape editor	Vector	Millimeter / Inch	Lines	.shv
	Pixel	Pixel	Stitches / Steps	.shp
ShapeSizer	Vector	Millimeter / Inch	Stitches / Millimeters	.shp

Stoll shape file:

- You will find the Stoll shape files under: "D:\ Stoll \ M1plus \ <Version Number> \ Shape "
- Stoll shape files has the .shv format.
- Standard attributes are assigned to those shapes.

Shape editor:

- Convert shapes of the .shv format by specifying the stitch density into the .shp or back again.
- Generate shapes of the .shv or .shp format by editing tables.

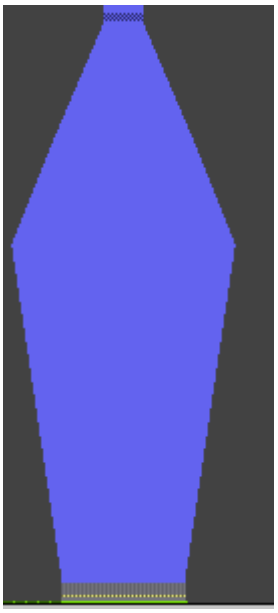
Symbol View [Basic]:

- When saving a shape, the .shr format results in the Symbol View [Basic].
  ⓘ A shape saved under this format can be converted to the .shp format.

mdv file:

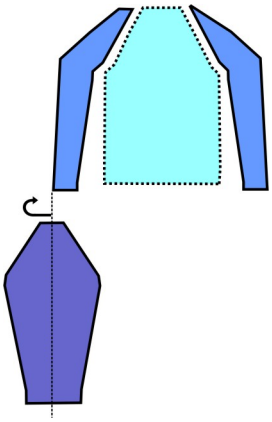
- In the .mdv pattern file only the shape is saved with it in the .shr format.
  ⓘ You have to save shapes separately.
- A .shr shape can be saved in any desired path via the "Shape / Save Shape As…" menu.
- A .shr shape can be converted into an .shp shape via the "Shape / Convert Shape (shr) -> Stitch Based Shape (shp)" menu and be saved under any desired path.
  ⓘ Always save the shape!
  Shapes in the .shr format are not saved automatically as shape.

3 Fully Fashion-Pattern: Sleeve



Pattern name	01_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**automatic**	automatic
	Height:	**automatic**	automatic
Machine type:	◆ CMS 530 HP 5” ◆ CMS 530 HP 5.2”		
Setup Type	Setup2		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
form	1_raglan-sleeve-38.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**27**	58
	Height:	**38**	64
Knitting Technique	Front Stitch with Transfer		
Pattern description	Structured pattern with single jersey		

3.1 Rules for a sleeve in SJ knitting mode

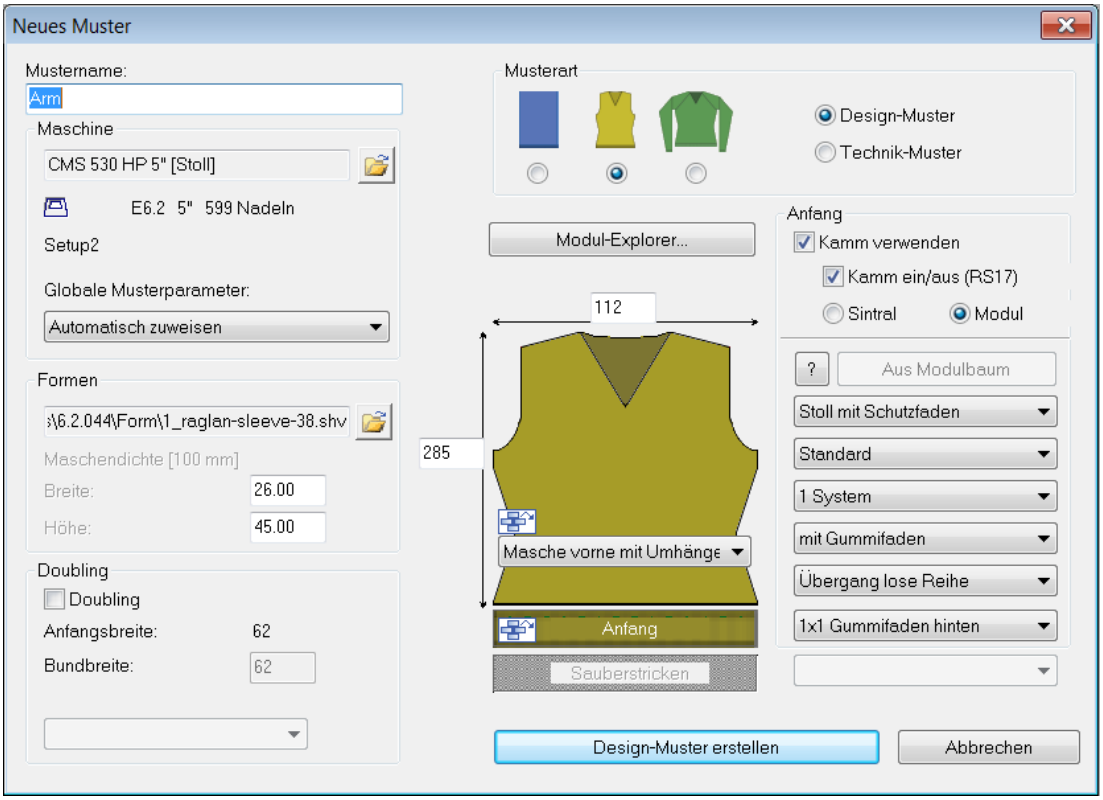


Shape Attributes	Rules
Knitting mode	Single Jersey
Widening width	1 stitch per knitting row
Widening height	As desired
Narrowing step	1-3 stitches
Narrowing width	As desired
Narrowing height	As desired

3.2 Generate pattern with shape

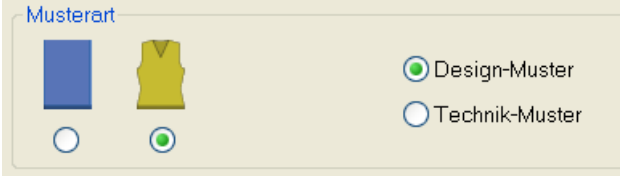
Create new pattern with shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click the  icon.



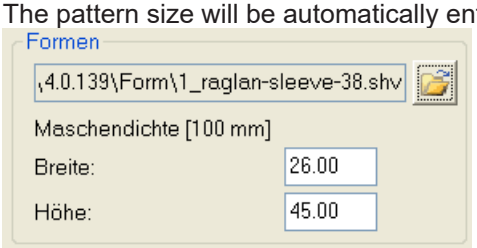
Setting	Meaning
Design Pattern	Pattern programming with the new functions of theM1plus
Technical Pattern	Pattern programming **similar** to M1

2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern with shape)** and "Design Pattern".

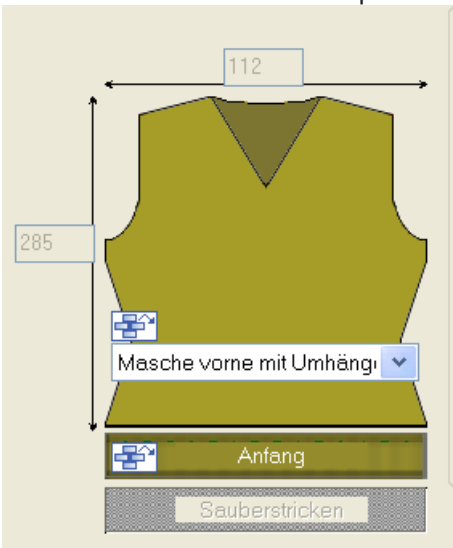


5. Select shape and specify stitch density.

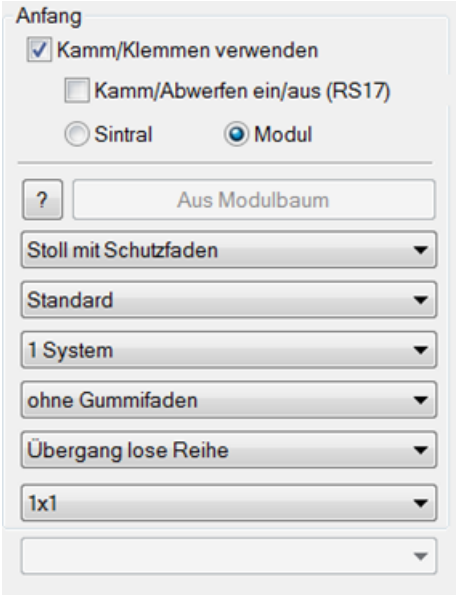
▶ The pattern size will be automatically entered based on the selected shape.



6. Set the structure for the basic pattern via the selection list.



7. Select a start.



---

i A start can also be inserted after drawing the basic pattern.

---

8. Confirm the settings with "Generate Design Pattern".

▶ A symbol view [Basic] with positioned shape will be opened.

3.3 Further settings for Fully Fashion

You can make further settings for Fully Fashion pattern in the "Basic Patter" state.

Settings in Configuration:

	Tab	Setting	Function
Configuration	Comb, Clamping	Knitting-in all yarn carriers before the start (1 piece)	You can knit-in all yarn carriers knitting-in the pattern above the draw thread to avoid drop stitches at the fabric selvedge.

Settings in the Yarn Field Allocation dialog box:

	Settings under Yarn Carrier Allocation	Function
Yarn Field Allocation	YG:nF	The yarn carriers with the designation **F** will be moved to the shape edge and follow the counters #L and #R. **Use:** ◆ Fully Fashion patterns for the machine types of Basic Class and Top Class (MC without comb) ◆ Fully Fashion patterns for the machine types of Compact, Multi Gauge, Knit and Wear and Special classes without using the comb.
	Knit-in before the Start	The selected yarn carrier is knitting in ahead of the draw thread
	YDF=	Additional yarn carrier distance during fully fashion knitting.

3.4 Complete the pattern

Complete the pattern:

1. Cut-out the shape with the  button in the "Steps of Processing" toolbar.

▶ Settings for fade-out and stitch lengths will be entered at the shape edge.

2. Expand the pattern with  icon of the "Steps of Processing" toolbar.

---

i Load the "Basic Pattern"  state if you want to change the attributes for narrowing or fade-out after having the pattern expanded.

---

3. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".

5. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click  in the Steps of Processing toolbar.

4 Modify a Shape in the Symbol View [Basic].

I. Correct a shape in the symbol view [Basic]

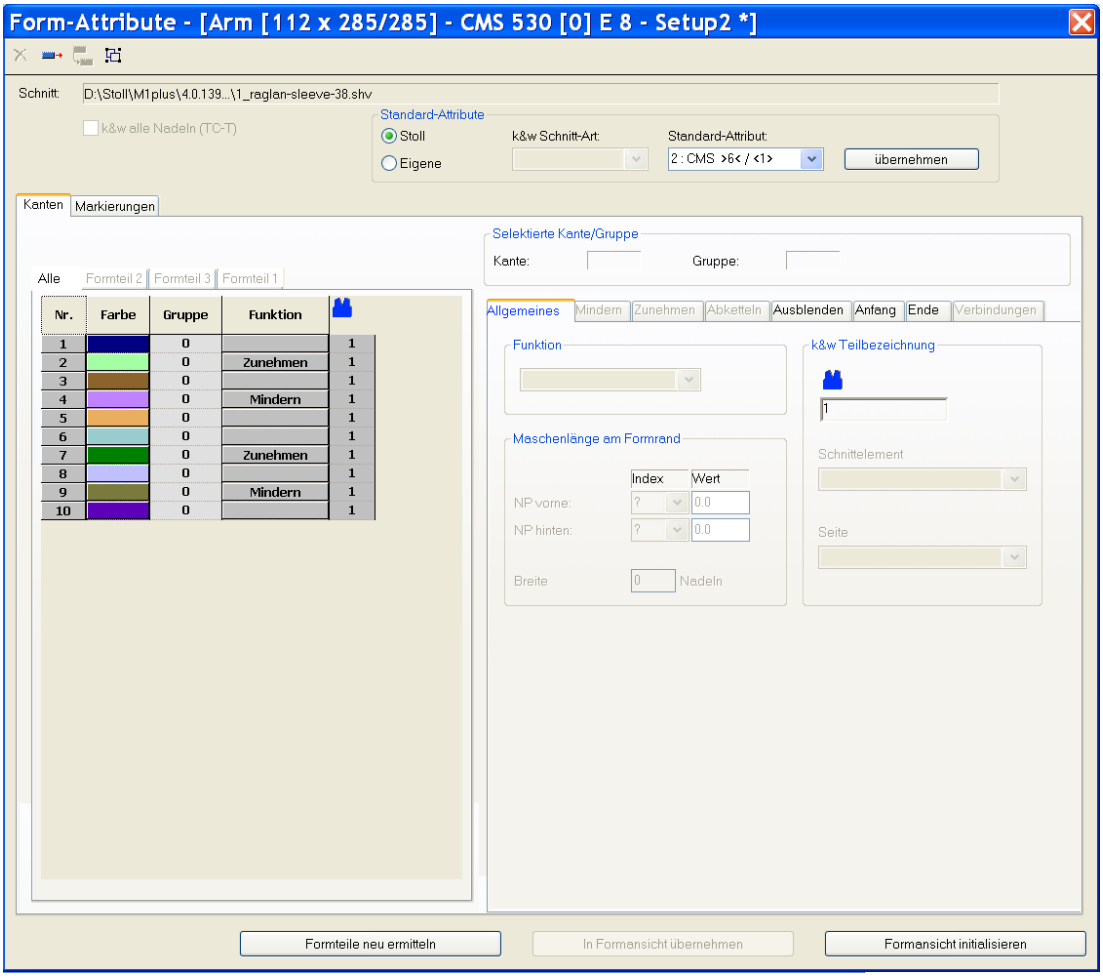
1. Present the positioned (shv / shp / shr) shape in the Symbol View [Basic].

▶ The icons in the "Pattern Presentations" toolbar get active.

	Presentation
	Display shape edges.
	Display shape symbols.
	You can activate these icons to get the desired presentation of the basic pattern. i: When **deactivating this view** the **Shape Part Color 1** appears and you are working in the ‚shape' only. **Shape Part Color 1** is used by the Color Arrangements.

2. Activate  and  in the "Symbol View [Basic]".
3. Call up the "Shape Attributes..." context menu of the "Symbol View [Basic with Shape]".

▶ The dialog box will be opened.



4. Select the desired shape edge color in the "No. column" of the "Shape Attributes" dialog box.
   - or -
   Pick the shape edge color in the Basic Pattern with or the "F6" key.
5. Select the drawing tool and symbol from "Shape Attributes".

Shape attributes toolbar

Function		Meaning
	Outside Shape	Editing areas not belonging to the shape.
	Shape Part Color (within shape): <No.>	Allocate a shape part color to a shape part Select a color in the selection list with .

Function		Meaning
	Edge: <No.>	Allocate an edge color to an edge. Select a color in the selection list with .
	Marks: <No.>	Allocate shape marking Select a color in the selection list with
	Goring	Draw-in or change gore areas
	Narrow / Widen	Draw-in the symbol Narrow / Widen in the shape edge.
	Fading-out	Draw fade-out symbol in the shape edge.
	Separation	Edit the automatically generated separation.
	Binding-off	Draw binding-off symbol in the shape edge.
	Stitch length change	Draw-in the symbol Stitch length change (PTS) in the shape edge.
	Aligning within Shape Part to the Left	Enter aligning symbols within a shape. The area on the right of the symbol will be moved to the left. : Use with Fair Isle technique.
	Aligning within Shape Part to the Right	Enter aligning symbols within a shape. The area on the left of the symbol will be moved to the right. : Use with Fair Isle technique.
	Align to the left	Enter aligning symbols to the left. The shape part will be moved to the right. : Use with Fully Fashion within V-neck
	Align to the right	Enter aligning symbols to the right. The shape part will be moved to the left. : Use with Fully Fashion within V-neck

Function		Meaning
	Suspending to bottom	Enlarge the area for the suspension with knit and wear shapes downwards
	Suspending to top	Enlarge the area for the suspension with knit and wear shapes upwards
	Place border marking on the left	Symbol for border marking at the shape edge at the left : The neckline is knitted continuously, can be cut-out manually
	Place border marking on the right	Symbol for border marking at the shape edge at the right : The neckline is knitted continuously, can be cut-out manually : The neckline is set to "inside shape".
	Multi-step Narrowing underneath	Draw-in symbol for multi-step narrowing Narrowing underneath
	Multi-step Narrowing above	Draw-in symbol for multi-step narrowing Narrowing above
1	**Selection menu**	Specification of the racking step (cover width) for multi-step narrowing Values: 1 - 3
	Remove single shape attributes	Delete the shape attribute drawn-in. Select the shape symbol (e.g.) and, in addition, .
	Remove all shape attributes	Delete all drawn-in shape attributes and edge colors.

6. Correct the shape edge with the selected shape attributes.

	You can pick shape attributes with the "F7" key.

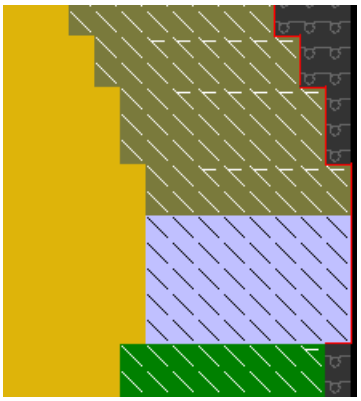
7. Activate "Display Reference Edges" in the context menu.
   ▷ The red outlines along the shape edges will be displayed.

i	The reference edges (outlines) are helpful when changing the shape since the deviations from the original shape are displayed.

8. Correct the selected shape edge:

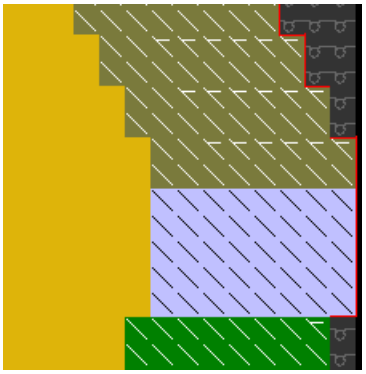
- Outer edge shape
- Fading-out
- Narrow / Widen

Before the correction:



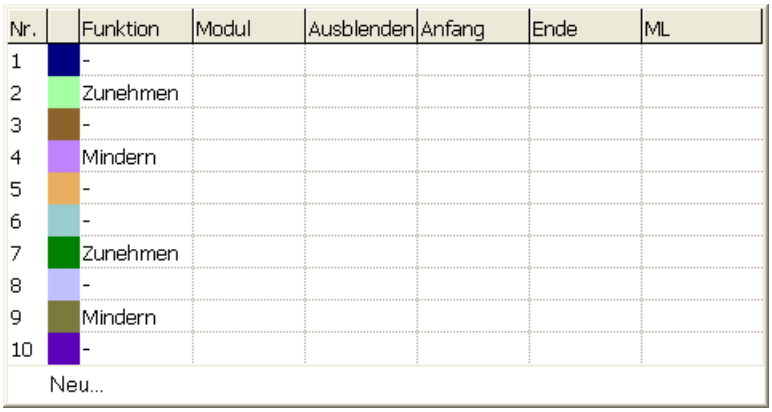
9. Call up the "Update Reference Edges" context menu.
   ▷ The red outlines will be adjusted to the new outer edge.

After the correction:



II. Creating a new shape edge:

1. Display the shape edge colors with and the shape attributes with in the "Symbol View [Basic]" with the shape loaded.
2. Call up the "Shape Attributes..." context menu of the "Symbol View [Basic with Shape]".
   - or -
   Open the selection list in the "Shape Attributes" toolbar with and select "New…".

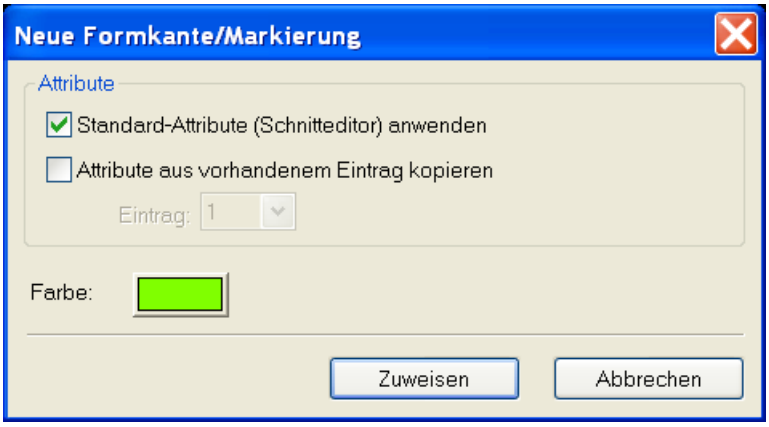


▶ The "Shape attributes" dialog box is opened.

3. Press the "New Shape Edge / New Marking" icon (1) in the "Shape Attributes" dialog box.

▶ A new shape edge is generated.

4. Select the desired settings in the "New Shape Edge / New Marking" dialog box.



Check box	Meaning
☑ Apply Default Attributes (Shape Editor)	A new edge color is created with Stoll standard attributes. ℹ: The new edge will not be grouped.
☑ Copy attributes from a present entry	A new edge color will be created with the attributes of the selected edge number. ℹ: The new edge will be grouped with the selected edge.

Check box			Meaning
	Entry	0	Selection of the edge number as source of attributes.

5. Add the new edge color in the table with the "Allocate" button in the "New Shape Edge / New Marking" dialog box.

III. Apply the new shape edge:

1. Select the new shape edge in the "Shape Attributes" dialog box.
   - or -
   Open the selection list in the "Shape Attributes" toolbar with  and select a shape edge.
2. Select the desired shape attribute with the "Ctrl" key pressed in the "Shape Attributes" toolbar additionally.
3. Draw in the new shape edge with the selected shape attribute into the basic pattern.
4. Allocate shape part color 1 to the shape edge color with the "Re-determine Shape Parts" button.
5. Call up the context menu with the right mouse button below the table of edge colors in the "Shape Attributes" dialog box:

- Change Color
- Delete shape edges not used.

6. Click on the button  in the "Shape Attributes" dialog box.

▶ The settings will be saved and the "Shape Attributes" dialog box will be closed.

Buttons in the Shape Attributes **dialog box:**

Button	Meaning
Re-determine the shape parts	The shape parts / shape part colors will be re-determined. The edges and markings will be newly listed.
Apply in shape view	Only the changes in the "Shape attributes" are applied in the Symbol View (with shape).
Initialize shape view	All entries in "Shape attributes" are applied in the Symbol View (with shape) and saved. : Changes drawn in manually are overwritten.

IV. Stitch length on shape edge:

1. Select the desired shape edge in the "Shape Attributes" dialog box.
2. Select "General" tab.
3. Make the desired settings in the "Stitch length at shape edge" section:

	Index	Value
NP front:	Select NP index	NPEnter value
NP rear:	Select NP index	NPEnter value

	Index	Value
Width	Enter the quantity of needles for PTS at the shape edge : The symbol is displayed in the shape view.	

4. Carry out the "Cut-out shape " processing step.

▶ In the "Configuration" dialog box "Different Stitch Lengths on Shape Edge" is automatically active.

5. Call up the "Further Settings" tab in the "Configuration" dialog box.
6. Make settings in the Variable stitch length section if necessary:

Variable stitch length on shape edge		
NPJ: **.** = NPJ: **N** =	Enter value	: Value for **N** symbol: only necessary with MC ST211 – ST811
Carriage speed for NPJ (MSECNPJ)		
	Machine speed MSEC =1.0	
	Machine speed MSEC according to specification	

i When using PTS / NPJ the adjusting and idle times are to be observed.

4.1 Modify the height and the width of a shape in the Symbol View [Basic].

i These changes can be done in the **Shape in the Symbol View [Basic]** with and / or active.

Please note, that no other views (e.g. /) are active.

Behavior of inserting / deleting of rows / columns in positioned shape:

Display activated	Behavior
+	When inserting / deleting only the shape is changed.
+ + or	When inserting / deleting the shape and the basic pattern are changed.
or	When inserting / deleting only the basic pattern is changed.

4.2 Complete the pattern

Complete the pattern:

1. Cut-out the shape with the button in the "Steps of Processing" toolbar.

▶ Settings for fade-out and stitch lengths will be entered at the shape edge.

2. Expand the pattern with icon of the "Steps of Processing" toolbar.

---

i Load the "Basic Pattern" state if you want to change the attributes for narrowing or fade-out after having the pattern expanded.

---

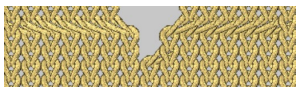
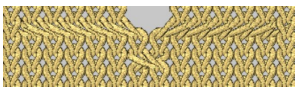
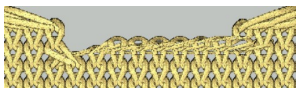
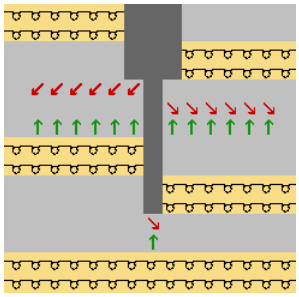
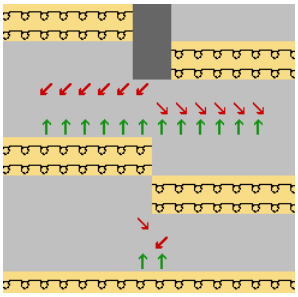
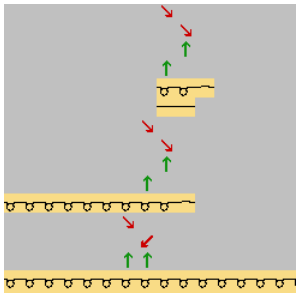
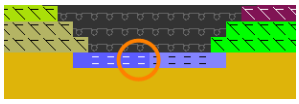
3. Start the technical processing with the icon.

▶ The query "Generate MC Program" appears.

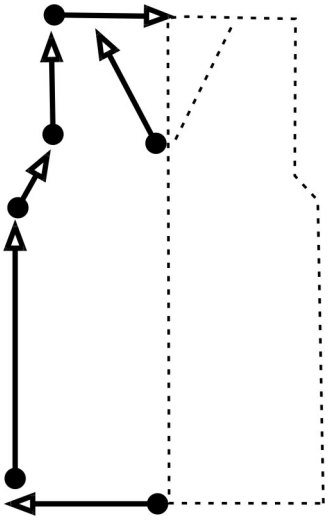
4. Confirm the query with "OK".
5. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing toolbar.

Complete the pattern

5 Neck Variants

Start neck-line	1 Needle wide	2 Needles wide	More than 2 needles wide
Description	Settings of the basic element: Distance between shape halves: 1 ⇨ Odd width of the shape	Settings of the basic element: Distance between shape halves: 0 ⇨ Even width of the shape	Settings of the basic element: Distance between shape halves: >1 ⇨ Width of shape is de-pendent on spacing of shape halves
Fabric View			
Technical View			
Symbol view with reference point for the start mod-ule (marked)			
	◆ The **starting point** of an edge lies on the first color mark. (marked) ◆ The **ending point** of an edge lies on the last color mark of the same edge color. ◆ The starting point is the reference point to position the V-neck start module.		
Start mod-ule	Module: "Structure single jersey-V1"	Module: "Structure single jersey-V2"	Module: "Structure single jersey-V2"
Distance of Shape Halves	1	0	0
Offset hori-zontal x-axis ↔	1	0	-5
Offset ver-tical y-axis ↕	- 1	- 1	-1

Specify the start and ending points of the lines in the Shape Editor:

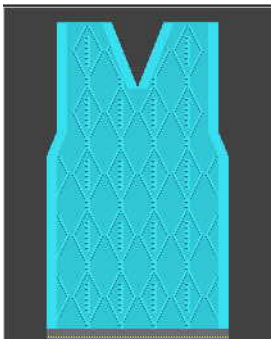


Marks:

Point = Starting point

Tip = Ending point

6 Fully Fashion-Pattern: Structure with V-neck



Pattern name	02_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**200**	350
	Height:	**350**	450
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 5.2''		
Setup Type	Setup2:		
Start	1X1 Rib		
Basic Pattern	Rear Stitch with Transfer		
form	2_set-in-front-v-neck-38.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**27**	58
	Height:	**38**	64
Knitting Technique	 Pattern element Aran-4		
Pattern description	Structured pattern with aran, cable and 2x2 rib as edge		

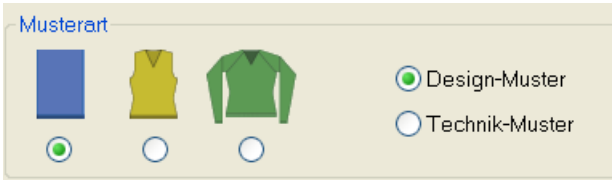
6.1 Rules for a front in SJ knitting mode

Shape Attributes	Rules
Knitting mode	SJ structure (Cable / Aran etc.)
Widening width	None With tailored shapes 1 needle
Widening height	None With tailored shapes as desired
Narrowing step	1-3 stitches
Narrowing width	As desired
Narrowing height	As desired

6.2 Create a pattern without shape and open the shape

I. Generate pattern without shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click  .
2. Enter a pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".



5. Set pattern size and select the "Rear stitch with transfer" basic knitting mode.
6. Select a start.

You can insert a start after drawing the basic pattern as well.

7. Confirm the settings with "Generate Design Pattern".

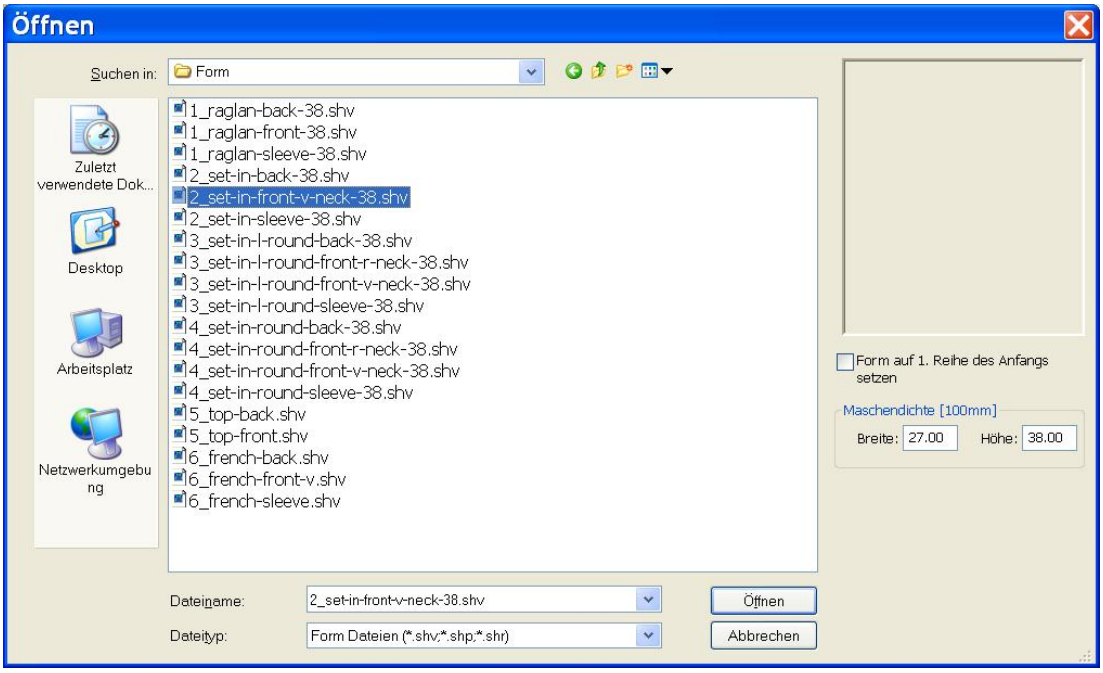
▶ The "Symbol view [Basic]" will be opened.

8. Draw the structure with the pattern element "Pattern element-Aran-4" from the "Module Explorer of Database".

II. Open the shape and position it in the pattern:

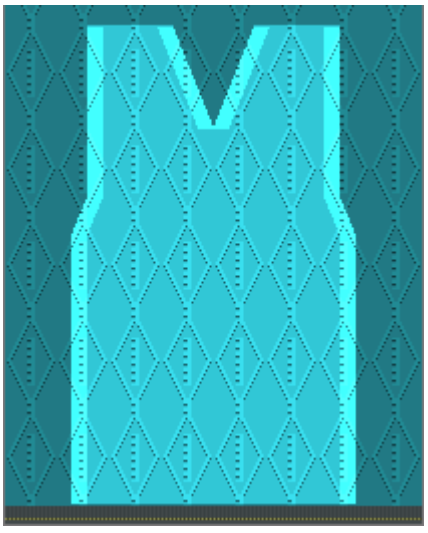
1. Load shape via "Shape" / "Open and Position Shape..." .

▶ The "Open" dialog box appears.



2. Select the desired shape.
3. If necessary, enter another stitch density.
4. Click the "Open" button.

▶ The shape will be converted from the shv format to shr and positioned on the pattern.



5. Click on the  symbol.

6. Move the shape with the left mouse button pressed.
   - or -
   Move the shape with the arrow keys of the "Tool Properties" toolbar.
   - or -
   Move the shape with the arrow keys of the keyboard.

6.3 Complete the pattern

Complete the pattern:

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

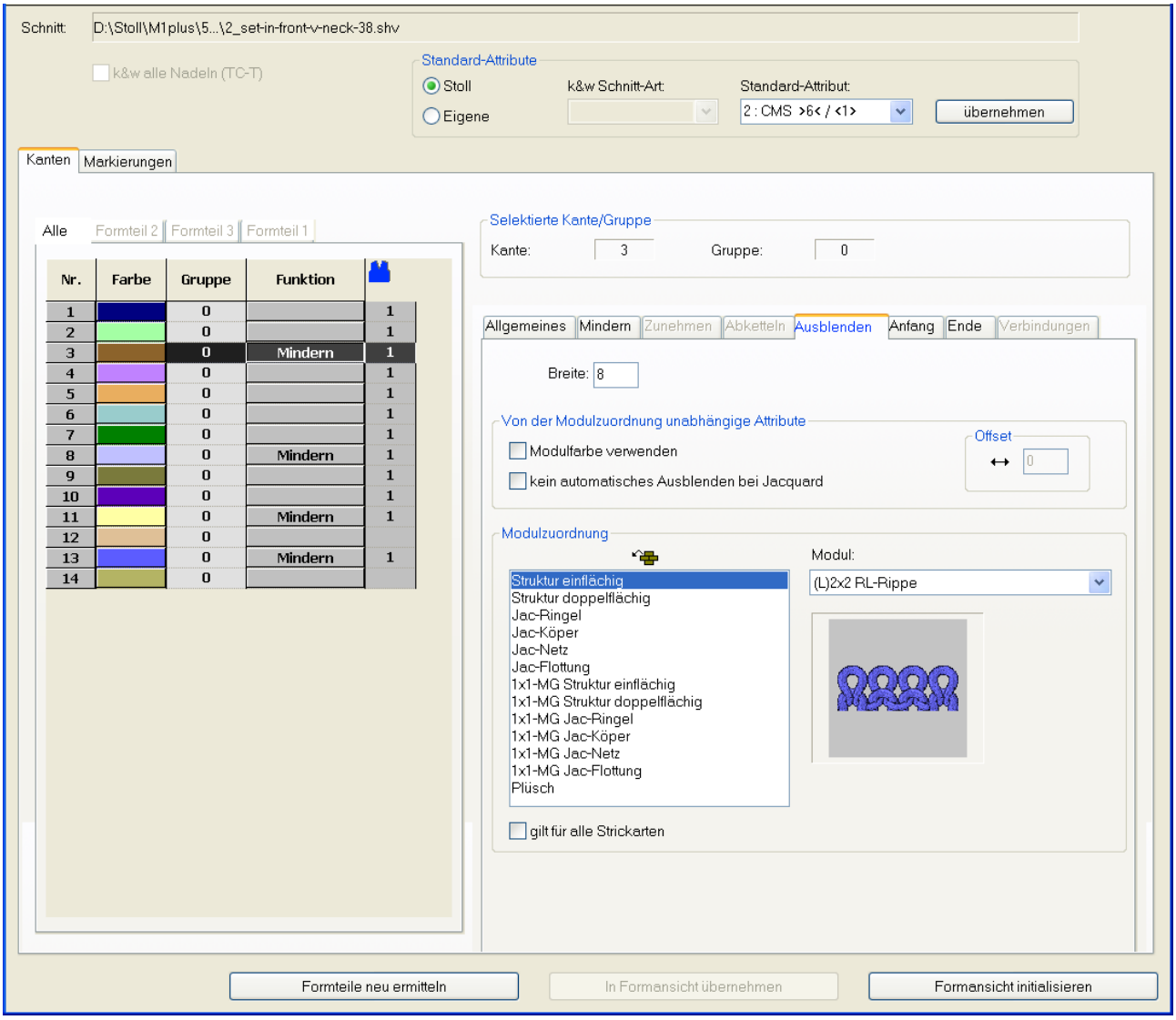
2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

6.4 Changes in the symbol view

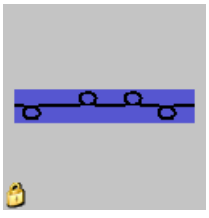
I. Make changes on the outer edge of the shape and V-neck:

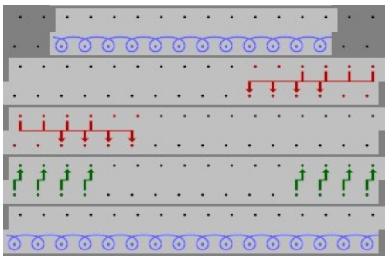
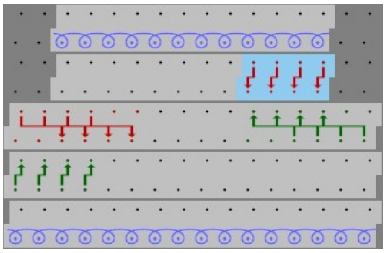
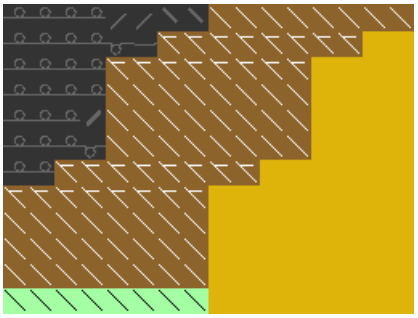
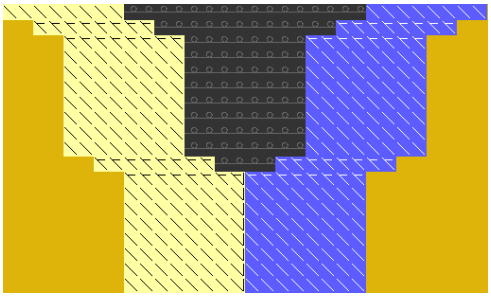
✓ The shape is positioned on the pattern.

1. Open "Shape attributes" dialog box via the "Shape Attributes…" context menu.
   - or -
   Call up the "Shape" / "Shape Attributes..." menu.



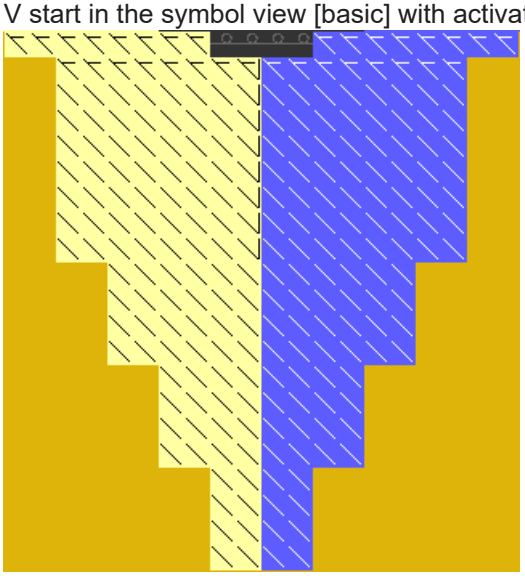
2. Change settings in the tabs.

Modifications on outer shape and V-neck		
tab	**Modification**	**Presentation**
Fading-out	2x2 SJ Rib	

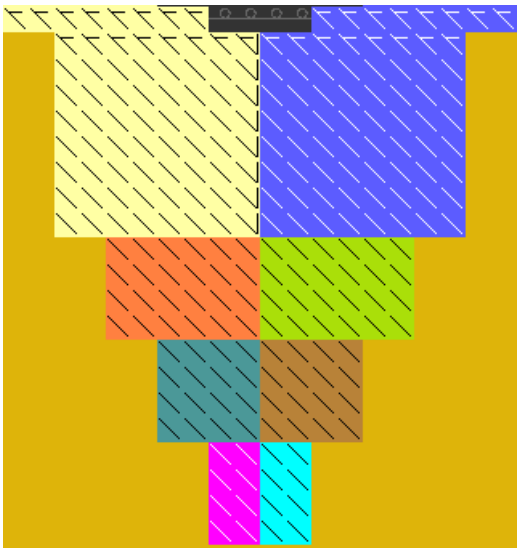
<table>
<tr><td colspan="3">Modifications on outer shape and V-neck</td></tr>
<tr><td rowspan="2">Narrowing</td><td>Separate transfer single jersey
(Structure single jersey)</td><td>  </td></tr>
<tr><td>L-R combined transfer
(Structure single jersey)</td><td>  </td></tr>
<tr><td>Narrowing Width</td><td>8 stitches</td><td rowspan="3"> 
Sleeve opening
 
V-neck</td></tr>
<tr><td>Narrowing step</td><td>4 Stitches
(2x2 stitches)</td></tr>
<tr><td>Fading-out Width</td><td>8 stitches</td></tr>
</table>

II. Make changes at start of the V-neck:

- Use existing shape edge colors and draw-in the correction of the shape edges below the V start in the symbol view [basic] with activated and / or .



- Generate new shape edges, allocate shape attributes and draw in the shape edges. Confirm the entries in the Shape Attribute dialog box with the "Apply in shape view" button.



---

i The number of rows up to the start of the v-neck opening has to be even.

---

1. Save the changed shape via the "Shape" / "Save Shape As..." menu.

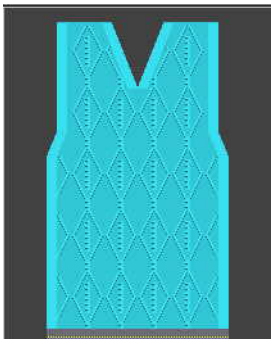
▶ The shape will be saved in the shr format.

2. Cut-out the shape with the button in the "Steps of Processing" toolbar.

▶ Settings for fade-out and stitch lengths will be entered at the shape edge.

3. Carry out the following steps of processing.

7 Use of a different number of yarn carriers with cut-out

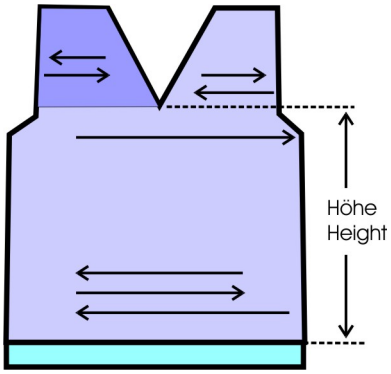


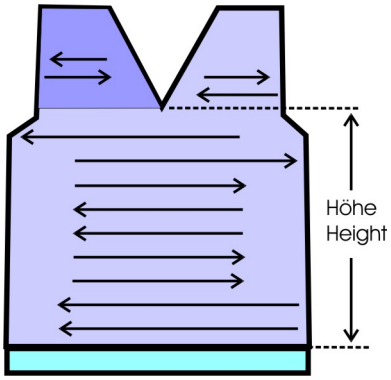
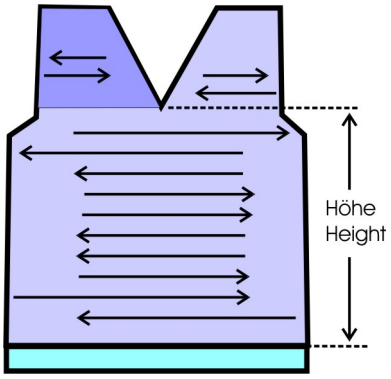
Pattern name	Struktur-V.mdv

7.1 Settings for the Yarn Carriers

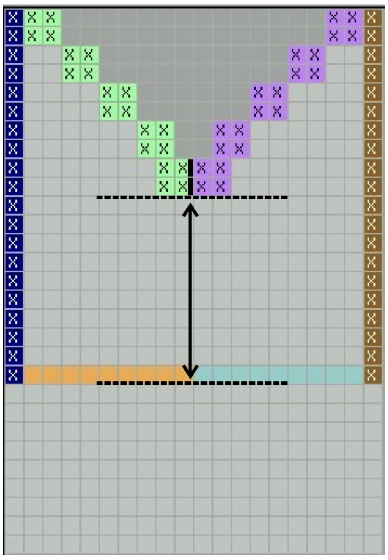
I. Use a different number of yarn carriers with neck cut-out:

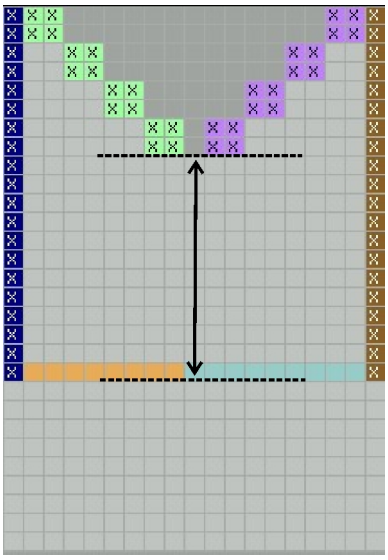
The row number after the start up to the beginning of the neck has to be aligned to the number of yarn carriers in use to achieve a correct knitting sequence.

Presentation	Number of Yarn Carriers	Height up to the cut-out
	One yarn carrier	Even-numbered

Presentation	Number of Yarn Carriers	Height up to the cut-out
	Two yarn carriers in the same home position	odd
	Two yarn carriers in different home position	Even-numbered

II. Specify the height:

Presentation	Function
	V-neck starts with two needles i: Shape attribute for **separation** is present.

Presentation	Function
	V-neck starts with one needles

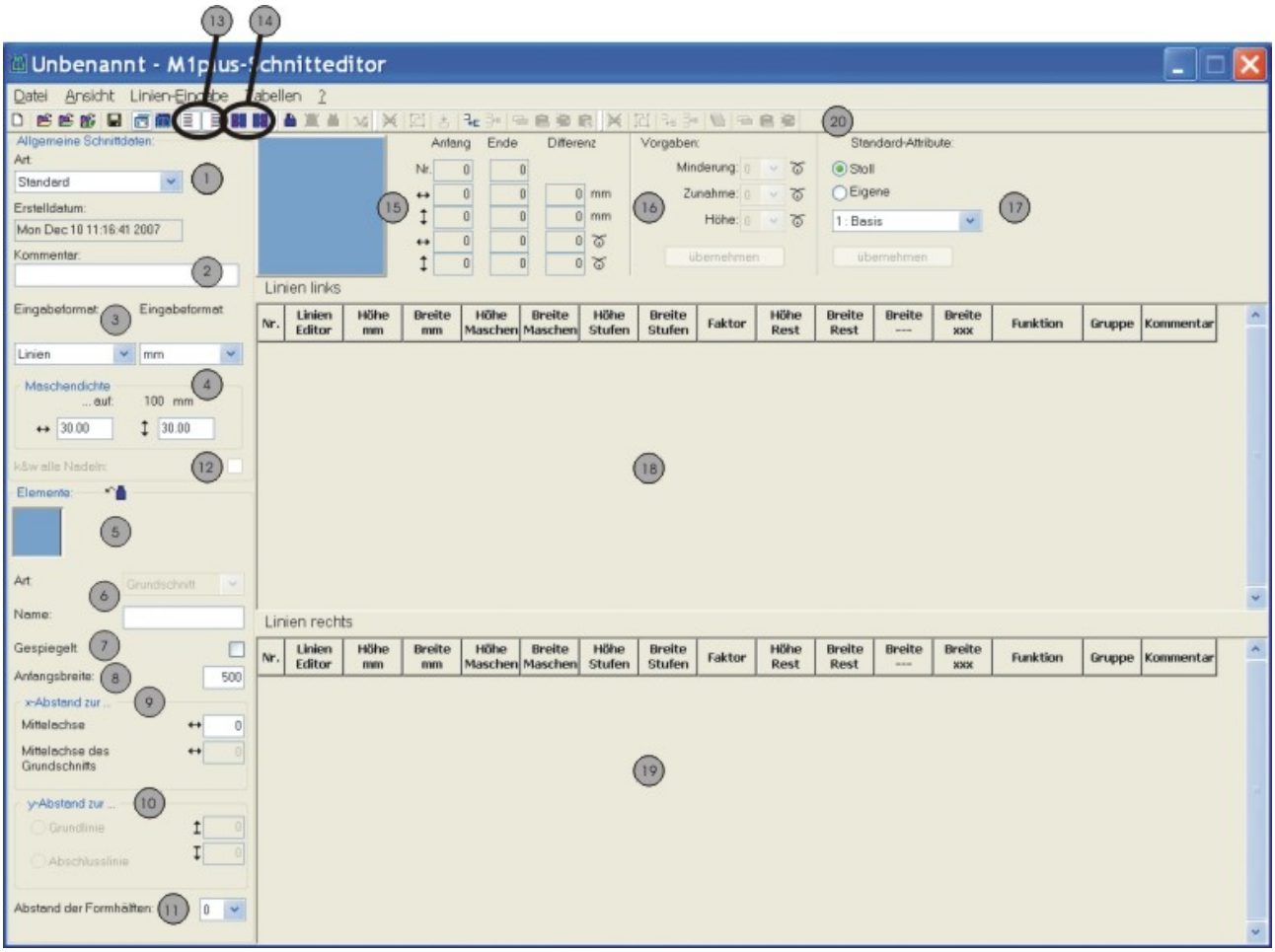
i	If the shape is not placed directly on the first knitting row after the start, these knitting rows outside shape will be removed.

8 Shape Editor

The Shape Editor:

➔ Call up the "M1plus Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The dialog box will be opened.



No.	Label	Function	
1	Type	Type of shape - Standard or k&w	
2	Comment	Notation on the shape (for information only).	
3	Input format / Display format	Possibilities to generate a shape:	
		Lines	Input format in the tables: Millimeters or inches
		Stitches	Display format in the tables
		Steps	
4		Enter stitch density corresponding to the selected display format	

No.	Label	Function
5		Individual display of all the generated elements
		Generate new element
		Delete element
		Display of all elements in a graphic
6		Type of elements: ◆ Basic cut (VT, RT, Sleeve) ◆ Neck opening (outside shape - neckline does not knit) ◆ Hole (with the out of shape symbol) ◆ Gore (with the within shape symbol) ◆ Opening (separation) ◆ Neck opening - marking (neckline knits, markings on neckline edge) ◆ Hole - Marking (hole knits, markings on hole edge) ◆ Opening - Marking (opening knits, markings on opening edge)
7		Mirrored:
		 Shape symmetrical
		 Shape asymmetrical
8		Entire starting width of a shape
9	**x-Distance to ...**	
	Centerline	Horizontal distance of the element halves to the centre axis
	Centerline of the basic shape	Horizontal distance of the entire element in relation to the centre axis of the basic element
10	**y-Distance to ...**	
	Base line	Vertical distance of an element to the base line
	End line	Vertical distance of an element to the end line
11		Distance between shape halves: Value: 0 = shape half will be mirrored Value: 1 = shape half will be mirrored and positioned within shape with spacing of one column.
12		Generate k&w shape with all needles (for CMS – MC with additional beds)
13		Display table for the left shape half

No.	Label	Function
		Display table for the right shape half
14		Display table for the left markings
		Display table for the right markings
15		Graphic display and coordinates of the selected element
16		Specification for stepping in case of narrowing and widening edges.
17		Default attributes for the shape edges (simple allocation of attributes)
	Stoll	Selection list with STOLL Default attributes for narrowing, widening and fade-out depending upon the machine type.
	Private	Selection list with self-generated default attributes
18		Display of the table with left edge lines
19		Display of the table with right edge lines
20		Toolbar for processing the tables

8.1 Edit the existing shape in the shv format

I. Modify a shape existing in the shv format:

1. Call up the "M1plus Shape Editor" dialog box via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu.
   - or -
   Click on .

▶ The "Left lines" table with the values [mm] for the left or right shape edge is displayed.

---

i The shapes from the file "Stoll" / "M1plus" / "<Version Number>" / "Shape" are symmetrical.
"Mirrored" is activated by default.

- "Mirrored":
  - The shape is symmetrical.
  - Only the table "Left lines" is displayed.
- "Mirrored":
  - The shape can be generated asymmetrically.
  - The table "Right lines" can be displayed additionally.

3. Specify for the existing shape under "General Shape Data":

- **Type** of the shape
- **Comment**

- **Stitch Density**

> In order to get a larger presentation of the shape, call up the "View" / "Display graphic" menu or click on in the "M1plus Shape Editor".

4. Change the values in the columns **Height mm** and **Width mm** of the table.
5. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shv format.

II. Convert a shape from the shv format into the shp format:

✓ The shape in the shv format is loaded into the "M1plus Shape Editor".

1. Enter the stitch ratio under "Stitch density".
2. Call up "Convert and save as…" in the "File" menu.

▶ The shape is converted with the set stitch density and saved then.

8.2 Edit the existing shape in the shp format

Change the shp shape:

1. Call up the "M1plus Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Load an existing shape via the "File" / "Open .shp shape [stitches] …" menu.
   - or -
   Load it with .
   - or -
   Load a shape in the shv format and convert it to the shp format.

▶ The "Left lines" table with the values [stitches] for the left and right shape edge is displayed.

- "Mirrored":
  - The shape is symmetrical.
  - Only the table "Left lines" is displayed.
- "Mirrored":
  - The shape can be generated asymmetrically.
  - The table "Right lines" can be displayed additionally.

3. Specify for the existing shape under "General Shape Data":

- **Type** of the shape
- **Comment**
- **Stitch density**

4. Change the values in the columns **Height stitches** and **Width stitches** of the table.
5. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

8.3 Generate a new shape in the shv format

Generate a new shape in the shv format:

1. Call up the "M1plus Shape Editor" dialog box via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Generate a new shape via "File" / "New".
   - or -
   Click on .
3. Specify for the new shape under "General Shape Data":

- **Type** of the shape
- **Comment**
- **Stitch Density**
- **Input format: Lines** in **mm** or **inch**

i	The element **Basic Shape** is automatically displayed as element to be defined at first.

4. Name the element.
5. Activate or deactivate the "Mirrored" checkbox.

- Shape / Shape is symmetrical
- The shape is asymmetrical

6. Specify the total starting width of the shape under "Starting width".
7. Display the "Left lines" table and if necessary "Right lines" .

Icons in the Lines **toolbar:**

	Function
	Delete selected lines
	Group selected lines or cancel groupings
	Generate end line
	Add new line at end
	Insert new line before selected line

8. Insert new lines in the table.

▶ The Stoll default shape attributes will be allocated automatically to the newly created line.

9. Enter the values for the shape in the **Height mm** and **Width mm** columns.

▶ The mm values will be converted internally to stitches based on the stitch density. Residual positive or negative values will result in the width or in the height when converting.

- **Values marked with red** correspond to a negative value.
  You have to correct the values.
- **Values marked with blue** correspond to a positive value.

10. Enter the end line (green) at the end of the shape with the button.
11. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shv format.

8.4 Change shape attributes

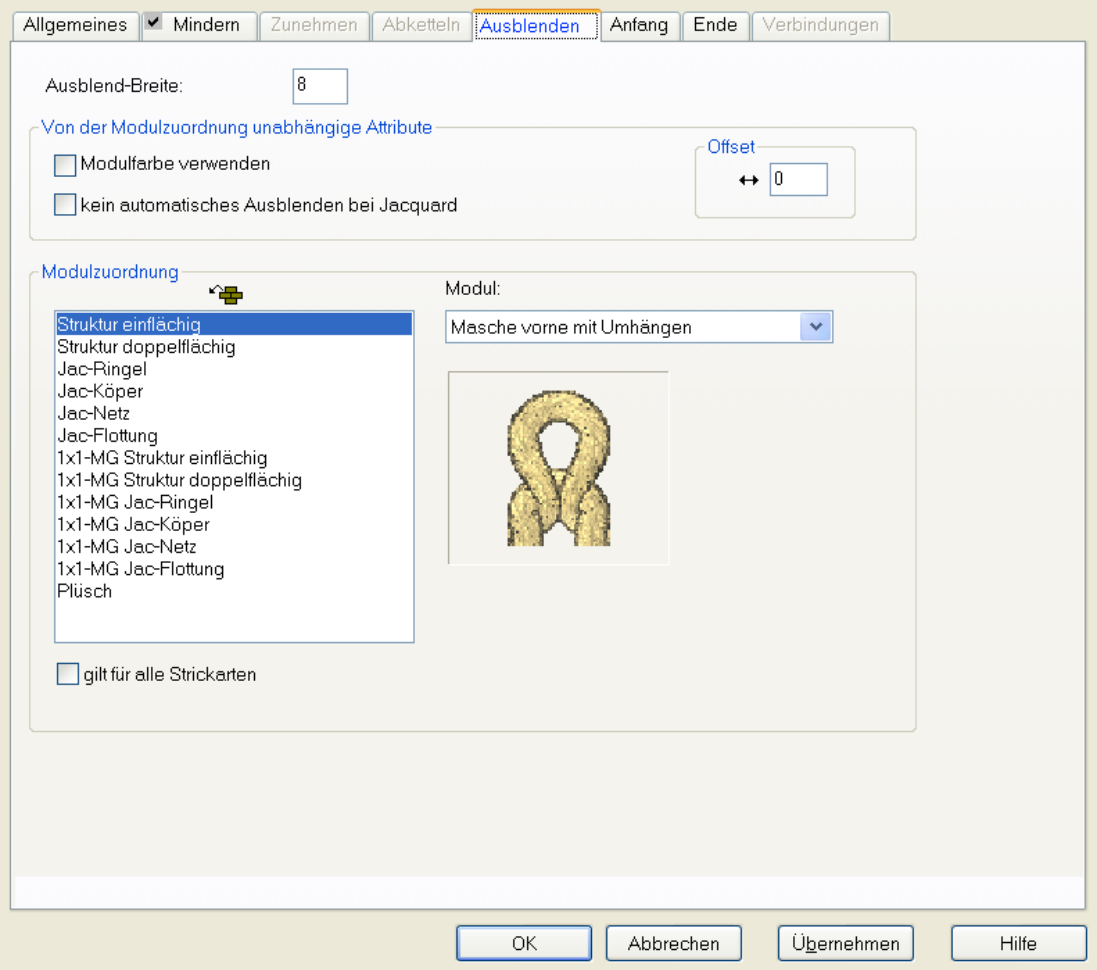
I. Change fade-out width and knitting mode for fading out:

✓ "M1plus Shape Editor" is running.

1. Click on the desired line number (=edge number) in the "Function" column with the left mouse button.

▶ The "Lines xx No.: xx" dialog box will be opened.

2. Open the "Fade-out" tab.



3. Specify the width for **Fade-out**  .
4. Select the knitting mode for Fade-out in the selection bar.
   "Stitch v with transfer
   " or
   "Stitch ^ with transfer"
   - or -
   Allocate a module from the "Module Explorer of Database" to listfield of the corresponding knitting mode with drag & drop .
   - or -
   Allocate the module from the "Modules" toolbar with drag & drop .
5. Confirm the entry with "Apply" or "OK".

II. Change the narrowing width and the method of narrowing:

✓ "M1plus Shape Editor" is running.

1. Click on the line number with the entry **Narrowing** in the "Function" column with the left mouse button.

▶ The "Lines xx No.: xx" dialog box will be opened with the **Narrowing** tab.

2. Specify the narrowing width  .

3. Specify Binding-off from stepping.
4. Click the "Binding-off >>" button to select the binding-off method.
5. Select the method of narrowing in the selection list:

- L-R combined transfer
- Separate transfer single jersey
- Stitch ^ separate transfer overlying
- Stitch v separate transfer overlying

> **i** Selection depends on knitting mode and machine type.

6. Confirm the entry with "Apply" or "OK".

III. Change the narrowing width and the fade-out width directly in the table:

1. Click on the desired line number (=edge number) in the "Function" column with the left mouse button.
2. Activate the "applies to all knitting modes" checkbox in the **Fade-out** and / or **Narrowing** tabs.

▶ The columns **Width ---** and **Width ** will be made accessible for input in the table.

Breite ---	Breite \\\	Funktion
6	8	Mindern

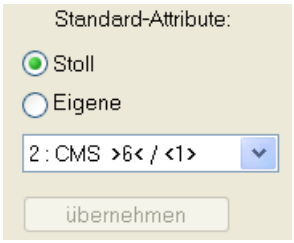
3. Make changes.

8.5 Default Attributes

I. Allocate default attributes:

1. Select the line or the lines to which you want to allocate an attribute in the "Left line" or "Right line" table.
2. Select the desired attribute in the selection list.
3. Click on "Apply" key.

▶ The selected attribute will be allocated to the selected lines.



No.	Default attribute	Meaning
1	Basic	Without knitting technique. This attribute will be used for the first line (start line).
2	CMS >6< / <1>:	Module for narrowing. Width: 6 Needles. Module for widening. Width: 1 needle. This attribute is automatically used from the second line on.
3	CMS >6< / <6>:	Module for narrowing. Width: 6 Needles. Module for widening. Width: 6 Needles.
4	CMS TC4 >6< / <0>:	Module for narrowing CMS TC4. Width of the narrowing edge: 6 Needles. No module for the widening.
5	CMS 1x1 >4< / <0>:	Module for narrowing with 1x1 technique. Width of the narrowing edge: 4 Needles. No module for the widening.
6	CMSTC-R >6<:	Module for narrowing CMS-TC-R. Width of the narrowing edge: 6 Needles.
7	CMSTC-R V:	Module for narrowing TC-R V-neck. Width of the narrowing edge: 6 Needles.
8	Fair Isle U	Multi-step narrowing Narrowing underneath
9	Fair Isle ^	Multi-step narrowing Narrowing above

i You may not change the Stoll default attributes.

II. Create own attributes:

1. Call up the "M1plus Shape Editor" via "Shape" / "Shape Editor (Generate or Edit Shapes)...".
2. Select in the "File"/"Open Default Attributes..." / "Own"/"Default" menu.
3. Open the table "Left lines" with  .

▶ That table does not contain any entry.

4. Insert a new line in the table with the button.

i The first line refers to the start line (=basic) of a shape.

5. Insert a next new line in the table with the button.
6. Click in the column "Function" of the new line.

▶ The "Lines xx No.: xx" dialog box will be opened.

7. Select a function in the selection list of the "General" tab.

▶ Due to this selection, the respective tabs become active.

- Narrowing
- Widening
- Binding-off

8. Make corresponding settings in the "Fade-out", "Narrowing" etc. tabs.
9. You can enter a designation for the created attribute in the "Comments" column.
10. Confirm the entry with "Apply" or "OK".
11. Save the new attributes via the "File" / "Save" menu.

▶ The own attributes are available when generating a shape newly.

9 Fully Fashion-Pattern: Shape with round neck and binding-off

Pattern name	03_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**automatic**	automatic
	Height:	**automatic**	automatic
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 5.2''		
Setup Type	Setup2:		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
form	3_set-in-l-round-front-r-neck-38.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**27**	58
	Height:	**38**	64
Knitting Technique	SJ structure		
Pattern description	Basic pattern single jersey structure with ◆ Crew neck with binding-off via CA ◆ Binding-off at the shape edge		

9.1 Rules for a front with binding off for the knitting mode SJ

Shape Attributes	Rules
Knitting mode	single jersey (SJ)
Widening width	None With tailored shapes 1 needle
Widening height	None With tailored shapes as desired
Narrowing step	1-3 stitches
Narrowing width	As desired
Narrowing height	As desired
Binding-off	For narrowing steps larger than 3 stitches
Binding-off methods	◆ BO-SJ-01 ◆ BO-SJ-02

9.2 Change the shape in the M1plus Shape Editor

i	You can use the default shapes in the Shape folder as basis and adjust them to your own needs.

I. Changing the basic shape element:

1. Call up the "M1plus Shape Editor" via "Shape" / "Shape Editor (Generate or Edit Shapes)...".
2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu.
   - or -
   Click  .

▶ The "Open" dialog box will be displayed.

3. Enter the path for the desired Form folder (with default shapes).
   D:\ Stoll \ M1plus \ <Version number> \ Shape \...
4. Select the desired shape in *shv.
   Example: 3_set-in-l-round-front-r-neck-38.shv
5. Convert the opened shape into the *.shp format via the "File" / "Convert and Save As…" menu.
6. Change the outer edge of the front:

■ Line 3: Change narrowing at the sleeve cut-out to binding-off.

- Delete possible existing lines.

Basic element Front:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		0	-255	0	-69	0	-69	1	0	0	0	0	Basis	0	
2		373	0	142	0	142	0	1	0	0	0	0		0	
3		0	29	0	8	0	8	1	0	0	0	0	Abketteln	0	
4		63	22	24	6	4	1	6	0	0	0	0	Mindern	0	
5		178	0	68	0	68	0	1	0	0	0	0		0	
6		0	203	0	55	0	55	1	0	0	0	0		0	

7. Click on **Narrowing** in line no. 3 under "Function".

▶ The dialog box with the tabs will be opened.

8. Select **Binding-off** via the selection list of the Function column in the "General" tab.

▶ The **Binding-off** tab becomes active.

9. Open the **Binding-off** tab and select the desired binding-off method in the selecting list:

- BO-SJ-01
- BO-SJ-02

10. Confirm settings with "OK".

▶ The dialog box is closed.

II. Modify the neck opening element:

1. Select the neck opening element in the "M1plus Shape Editor".

▶ The table for "Left lines" is displayed.

2. Modify the "Neck Opening" element:

Neckline Element

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		0	-37	0	-10	0	-10	1	0	0	0	0	Abketteln	0	
2		21	-29	8	-8	2	-2	4	0	0	0	0	Mindern	0	
3		21	-14	8	-4	4	-2	2	0	0	0	0	Mindern	0	
4		52	0	20	0	20	0	1	0	0	0	0		0	
5		0	81	0	22	0	22	1	0	0	0	0		0	

3. Click on "Binding-off" in the line no. 1 of the **Function** column.

▶ The dialog box with the tabs will be opened.

4. Open the "End" tab and select **Cut-out Neck bottom Centre** under function in the selection list.

5. Allocate the starting module "Structure single jersey V2" from the "Module Explorer of Database" to the corresponding knitting mode with drag & drop .

6. Position the start module by the settings under "Offset".

---

i "Mirrored" has to be deactivated for positioning the starting module.

---

7. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

III. Possibilities when binding-off:

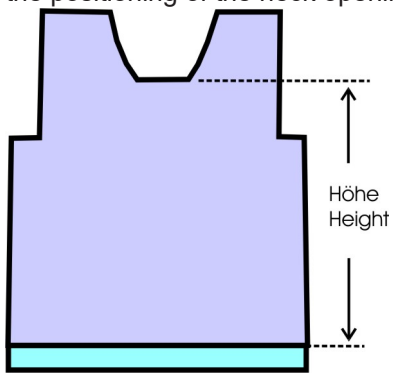
i	Binding-off is directional!

Height up to the beginning of the neck opening:

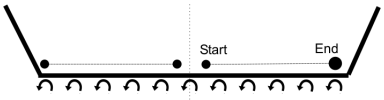
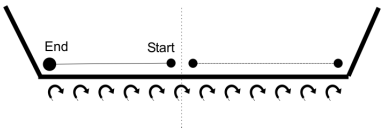
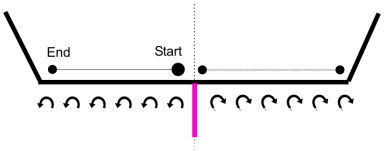
- The height has to be an **even number** if the binding-off is to be carried out from left to right in the carriage stroke.
- The height has to be an **odd number** to binding-off from right to left in the carriage stroke.

The position of the neck opening element is affected by:

- the total height of the basic shape element.
- the total height of the neck opening element.
- the positioning of the neck opening element.



Positioning of the starting module in the neck opening element:

Binding-off	Carriage direction	Position
	to the left	**Right edge:** at the end of the **basic** line with binding-off
	to the right	**Left edge:** at the end of the **basic** line with binding-off
 Draw-in the **Separation** symbol in the Symbol View [basic] with shape.	To the right and to the left	**Left edge:** at the **start** of the basic line with binding-off.

9.3 Generate pattern with shape

Create new pattern with shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click  .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern with shape)** and "Design Pattern".
5. Select modified shape in the shp format and load it with "Open".

▶ The height and width of the basic pattern is calculated automatically.

6. Set the "Front stitch with transfer" knitting mode for the basic pattern via the selection list.
7. Select a start.
8. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol View [Basic]" with positioned shape will be opened.

9.4 Complete the pattern

Complete the pattern:

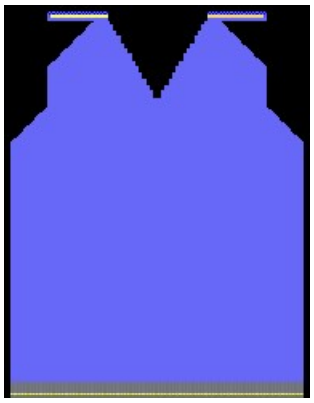
1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

Complete the pattern

10 Fully Fashion-Pattern: Shoulder Gore



Pattern name	04_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**200**	320
	Height:	**250**	420
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 5.2''		
Setup Type	Setup2:		
Start	1X1 Rib		
Basic Pattern	Front Stitch with Transfer		
form	2_set-in-front-v-neck-38.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**27**	58
	Height:	**38**	64
Knitting Technique	SJ structure		
Pattern description	Fully Fashion pattern single jersey structure with ◆ Shoulder Gore ◆ V-neck		

10.1 Create the shape in the M1plus Shape Editor

I. Generate a shape:

1. Call up the "M1plus Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The dialog box will be opened.

2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu or with the button and convert it to shp format.
   - or -
   Create a new shape in the shp format via "File" / "New" or with the button.
3. Create a "Basic shape" element for a **front**:

■ The "Mirrored" checkbox is activated.

Basic element Front:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		0	-266	0	-80	0	-80	1	0	0	0	0	Basis	0	
2		433	0	130	0	130	0	1	0	0	0	0		0	
3		66	66	20	20	1	1	20	0	0	0	0	Mindern	0	
4		166	0	50	0	50	0	1	0	0	0	0		0	
5		0	200	0	60	0	60	1	0	0	0	0		0	

4. Create a new element with button.
5. Select under "Type" via the selection menu **Neck opening**.

■ The "Mirrored" checkbox is activated.

Element Neck:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		173	-86	52	-26	2	-1	26	0	0	0	0	Mindern	0	
2		6	0	2	0	2	0	1	0	0	0	0		0	
3		0	86	0	26	0	26	1	0	0	0	0		0	

6. Create a new element with button.
7. Select under "Type" via the selection menu **Gore**.

■ The "Mirrored" checkbox is activated.

Gore element:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion	Gruppe	Kommentar
1		80	0	24	0	24	0	1	0	0		0		0	
2		0	80	0	24	0	24	1	0	0		0		0	
3		-80	-80	-24	-24	-2	-2	12	0	0		0		0	

> **i** The gore element will be mirrored, i.e. the two gores have the same stepping and position.

8. Position the gore element with "x-distance to…" and "y-distance to…".

Position of the gore	
x-distance… section	
Distance from center axis:	Specify the horizontal position of the gore
y-distance… section	
Distance to end line or **Distance from base line**	Specify the vertical position of the gore.

9. Save the shape via the "File" / "Save" or "Save As…" menu.

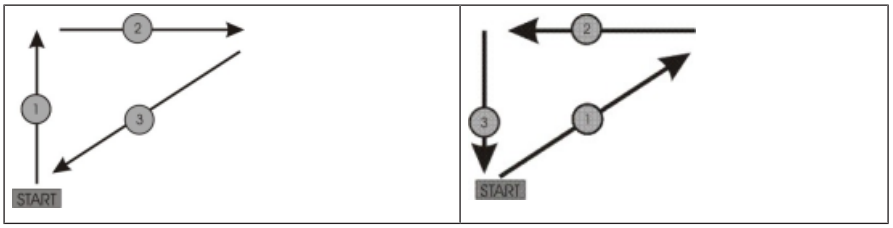
▶ The shape will be saved in the shp format.

10. Close the "M1plus Shape Editor" with .

II. Gore element:

- The gore element contains the **Miss-knit within shape** information.
- Gores may be symmetrical or asymmetrical:
  - **Gore element mirrored:**
    Two gores are displayed in one element and the positioning for both gores is the same.
  - **Gore element not mirrored:**
    The gores will be displayed in different elements and the positioning may be different.

Rule for creating the gore element



10.2 Create a pattern without shape and open the shape

I. Generate pattern without shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select a start.

You can insert a start after drawing the basic pattern as well.

7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

II. Open the shape and position it in the pattern:

1. Load shape via "Shape" / "Open and Position Shape...".

▶ The "Open" dialog box will be displayed.

2. Specify path and select the desired **shp** shape.
3. Click the "Open" button.

▶ The shape will be laid on the pattern in the **shp** format.

4. Click on the  symbol.
5. Move the shape with the left mouse button pressed.
   - or -
   Move the shape with the arrow keys of the "Tool Properties" toolbar.
   - or -
   Move the shape with the arrow keys of the keyboard.

10.3 Complete the pattern

Complete the pattern:

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

11 Fully Fashion-Pattern: Jacquard

Pattern name	05_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**270**	300
	Height:	**250**	400
Machine type:	◆ CMS 530 HP 5'' ◆ CMS 530 HP 5.2''		
Setup Type	Setup2:		
Start	Tubular		
Basic Pattern	Front Stitch with Transfer		
form	5_Top-Vorderteil.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**34**	58
	Height:	**38**	64
Knitting Technique	SJ structure		
Pattern description	Fully Fashion pattern with ◆ different Jacquard backs ◆ Binding-off with Jacquard		

11.1 Rules for a shape with Jacquard knitting mode

Rules for creating a shape for the jacquard knitting mode with different backs:

Example Front:

Shape Attributes	Rules / possible settings
Knitting mode:	Different color jacquards
Widening width:	1 Stitch
Widening height:	As desired
Narrowing width:	**Single-jersey Jacquards:** 1-3 stitches **Double jersey Jacquards:** 1 stitch (Stripe, Twill, Net)
Narrowing height:	As desired
Binding-off:	**Single-jersey Jacquards:** With 4 stitches and more **Double jersey Jacquards:** With 2 stitches and more
Binding-off methods	**Single-jersey Jacquards:** BO-SJ-01 BO-SJ-02 **Double jersey Jacquards:** BO-DJ-01 BO-DJ-02 BO-TC4-DJ-01 BO-TC-R-DJ-01 BO-TC-T-DJ-01

11.2 Create the shape in the M1plus Shape Editor

I. Generate a shape:

1. Call up the "M1plus Shape Editor" dialog box via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The dialog box will be opened.

2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu.
   - or -
   Click .
   Example: D:\Stoll\M1plus\Version\Form\5_Top-Vorderteil.shv
3. Convert the *.shv shape into the *.shp format via the "File" / "Convert and Save As…" menu.
4. Change basic element.

Basic element Front:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Gruppe	Funktion
1		0	-250	0	-70	0	-70	1	0	0	0	Basis
2		117	28	40	8	5	1	8	0	0	0	Mindern
3		235	-28	80	-8	10	-1	8	0	0	0	Zunehmen
4		29	0	10	0	10	0	1	0	0	0	
5		88	53	30	15	0	0	0	0	0	0	Mindern
6		120	0	41	0	41	0	1	0	0	0	
7		0	196	0	55	0	55	1	0	0	0	

5. Change the neck opening element.

Element Neck opening:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Gruppe	Funktion
1		0	-28	0	-8	0	-8	1	0	0	0	Abketteln
2		35	-14	12	-4	3	-1	4	0	0	0	Mindern
3		147	-35	50	-10	5	-1	10	0	0	0	Mindern
4		5	0	2	0	2	0	1	0	0	0	
5		0	78	0	22	0	22	1	0	0	0	

6. Allocate the **fade-out** and **narrowing attributes** to the edges of the elements in the Function column.

Knitting Mode	Narrowing		Binding-off	Fading-out
	Width:	Stepping:	Method:	
Jacquard float (single jersey)	As desired	1-3 stitches	BO-SJ-01 BO-SJ-02	◆ The motif colors at the border are automatically faded-out and knitted in 1x1. ◆ Fade-out width: 2 Needles wide ◆ You can switch-off the automatic fading-out : You can deactivate the fading-out in the Symbol View via the "Fading-out" tab of the Shape Attributes dialog box.
Jacquard stripe (double jersey)	1 Stitch	1 Stitch	BO-DJ-01 BO-DJ-02 BO-TC4-DJ-01 BO-TC-R-DJ-01 BO-TC-T-DJ-01	
Jacquard twill (double jersey)				
Jacquard net (double jersey)				

7. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

8. Close the "Shape Editor" with  .

11.3 Generate pattern without shape and position shape

I. Generate pattern without shape:

1. Call up the "File" / "New" menu.
   - or -
   Click  .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select a start.

You can insert a start after drawing the basic pattern as well.

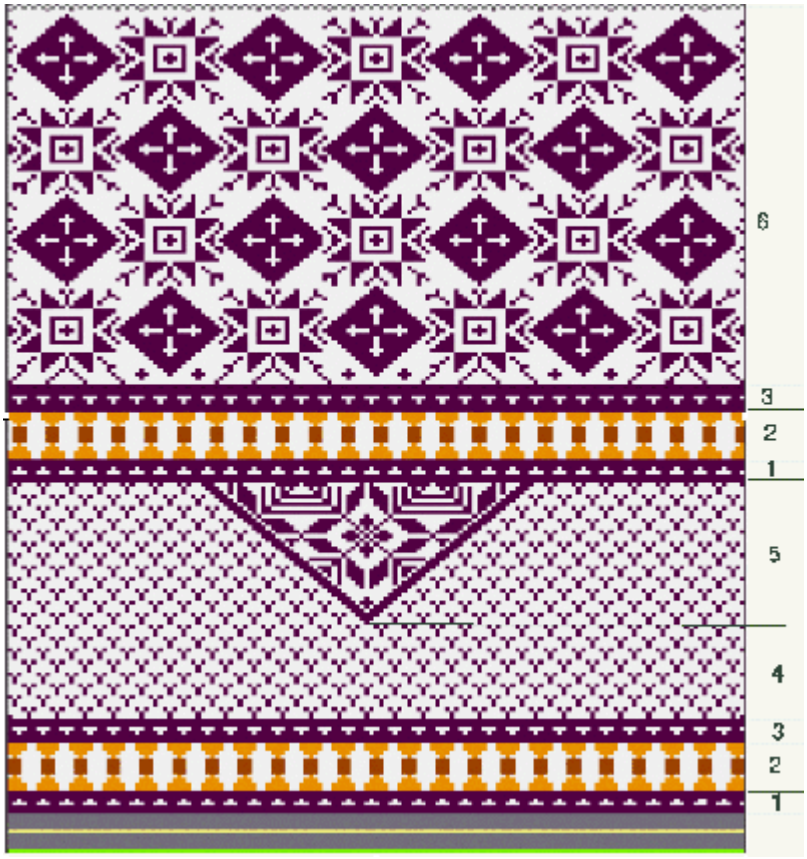
7. Confirm the settings with "Generate Design Pattern".

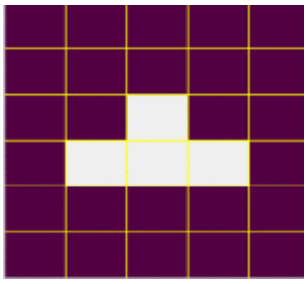
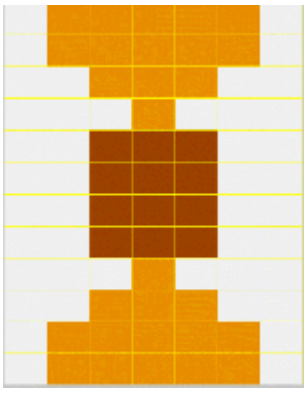
▶ The "Symbol view [Basic]" will be opened.

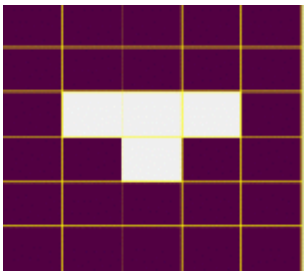
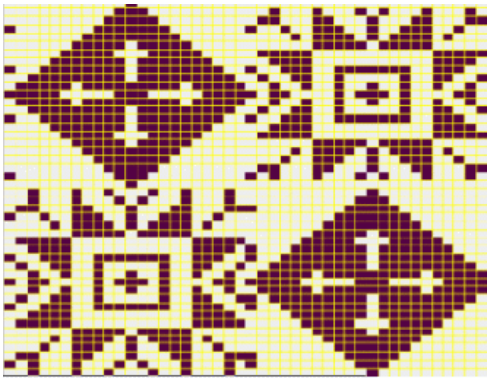
8. Draw the pattern and insert the reverse sides:

The creation of pattern elements is helpful.

Jacquard motif:



Area	Description	View
1	Jacquard float	
2	Jacquard float	

Area	Description	View
3	Jacquard float	
4	Jacquard float	
5	Jacquard net 1x1	
6	Jacquard net 1x1	

II. Open the shape and position it in the pattern:

1. Load shape via "Shape" / "Open and Position Shape...".

▶ The "Open" dialog box will be displayed.

2. Specify path and select the desired **shp** shape.
3. Click the "Open" button.

▶ The shape will be laid on the pattern in the **shp** format.

4. Position the shape with the  icon activated and the left mouse button pressed.
   - or -
   Move the shape with the arrow keys of the "Tool Properties".
   - or -
   Move the shape with the arrow keys of the keyboard.

11.4 Complete the pattern

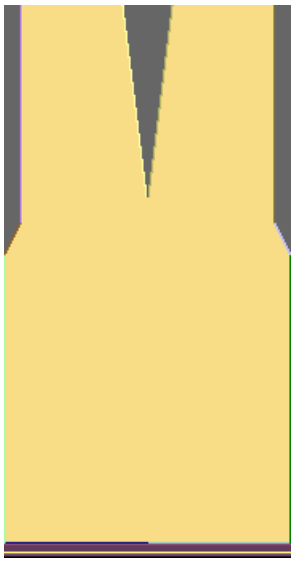
Complete the pattern:

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

12 Fully Fashion-Pattern: Knitting mode double jersey

without Intarsia	**with intarsia**
	

Pattern name	06_Muster_Pattern_FF		
Pattern size	**Gauge**	**E 3,5.2**	E7.2
	Width:	**automatic**	automatic
	Height:	**automatic**	automatic
Machine type:	◆ CMS 530 HP 5’’ ◆ CMS 530 HP 5.2’’		
Setup Type	Setup2:		
Start	Tubular		
Basic Pattern	Front stitch – Rear stitch.		
form	2_set-in-front-v-neck-38.shv		
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**	E7.2
	Width:	**28**	52
	Height:	**32**	44
Knitting Technique	Front stitch – Rear stitch.		
Pattern description	Fully Fashion pattern ◆ Without Intarsia ◆ With intarsia		

12.1 Rules for a Shape in SJ Knitting Mode

Shape Attributes	Rules
Knitting mode	Front stitch - Rear stitch
Widening width	1 needle
Widening height	As desired
Narrowing width	As desired
Narrowing step	1 Stitch 2 stitches (for machines with additional beds)
Narrowing height	As desired
Fade-out type	Modules of the Module Explorer of Database "Technical" / "Fade-out" / "Structure double jersey"
Fade-out width	1 needle

12.2 Create the shape in the M1plus Shape Editor

I. Generate shape:

1. Call up the "M1plus Shape Editor" dialog box via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The dialog box will be opened.

2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu.
   - or -
   Click  .
   Example: D:\Stoll\M1plus\Versions\Form\2_set-in-front-v-neck-38.shv.
   - or -
   Create a new shape via the  button.
3. Convert the *.shv shape into the *.shp format via the "File" / "Convert and Save As…" menu.
4. Create the basic element.

Basic element Front:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		0	-261	0	-89	0	-89	1	0	0	0	0	Basis	0	
2		428	0	180	0	180	0	1	0	0	0	0		0	
3		47	29	20	10	2	1	10	0	0	0	0	Mindern	0	
4		352	0	148	0	148	0	1	0	0	0	0		0	
5		0	232	0	79	0	79	1	0	0	0	0		0	

5. In the basic element set the **Distance of the shape halves** to **1**.

▶ The V-neck will be started with one needle.

6. Create the neck element.

Neckline element:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion	Gruppe	Kommentar
1		304	-47	128	-16	8	-1	16	0	0	0	0	Mindern	0	
2		9	0	4	0	4	0	1	0	0	0	0		0	
3		0	47	0	16	0	16	1	0	0	0	0		0	

> **i** Deactivate the **mirrored** option after creating the elements for front and neck in order to allocate different fade-out modules at the outer edges of the **Basic Element** as well as on the left and right of the **neck opening**.

7. Select the **Neck opening** element.
8. Click on the  button in the toolbar.

▶ The "Left lines No.: 1" dialog box is opened.

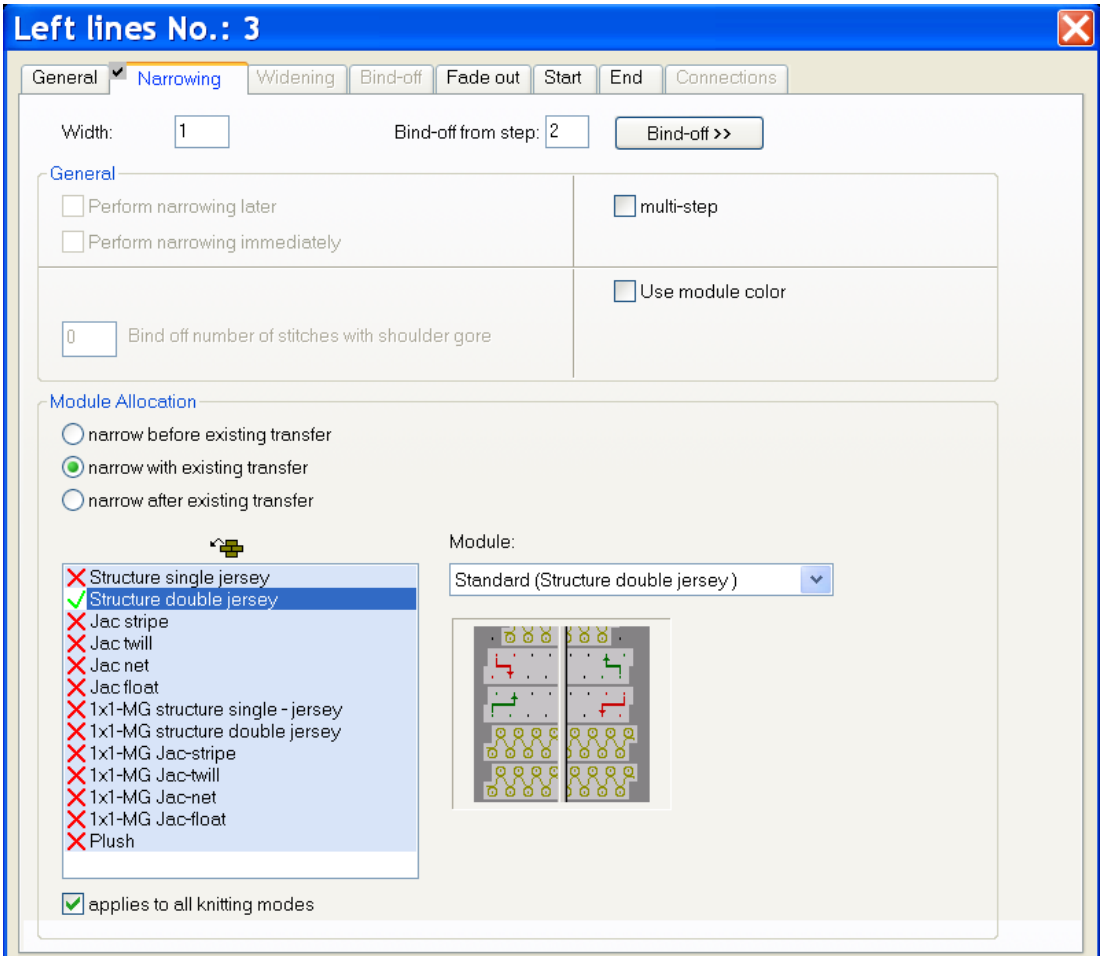
9. Under module allocation click on "Structure double jersey" and in the selection list select "Structure double jersey V1" for the start of the V-neck.
10. Define the horizontal and vertical position via "Offset".
11. Allocate fade-out modules to the edges of the **basic elements** and to the element **Neck opening**.

▶ Based on the allocation, the default attribute "Front stitch – Rear stitch" will be faded-out.

Use the fade-out modules from the "Module Explorer of Database".

- "Left Rolling Edge" / "Right Rolling Edge"
- "RR left edge" / "RR right edge"
- Generate your own fade-out modules.

12. Enter the value (2) at fading-out width.
13. Allocate narrowing modules to the edges of the **basic element** and the **Neck opening** element.



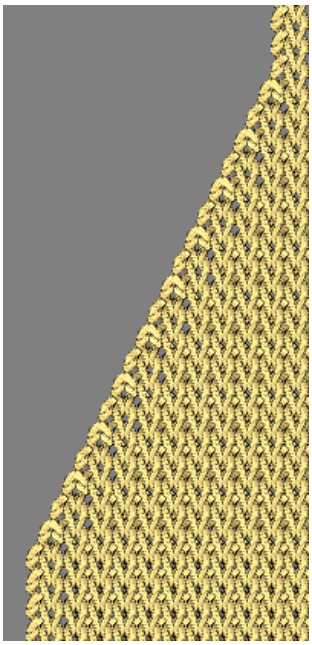
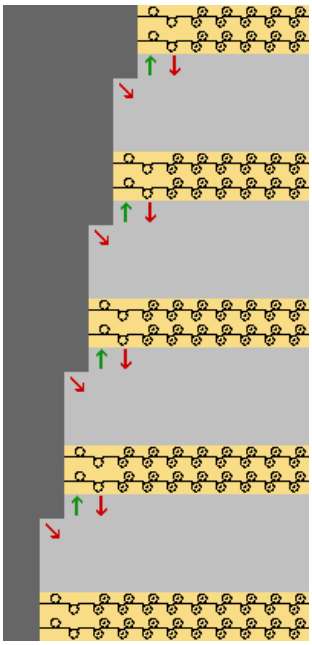
14.Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

15.Close the "Shape Editor" with .

Presentation:

- Fade-out module: Left Rolling Edge
- Narrowing width: 1

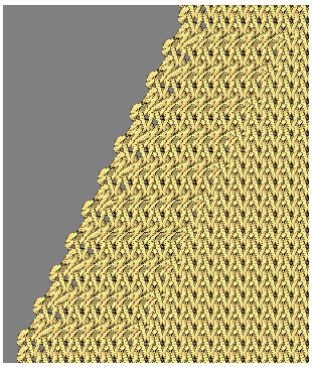
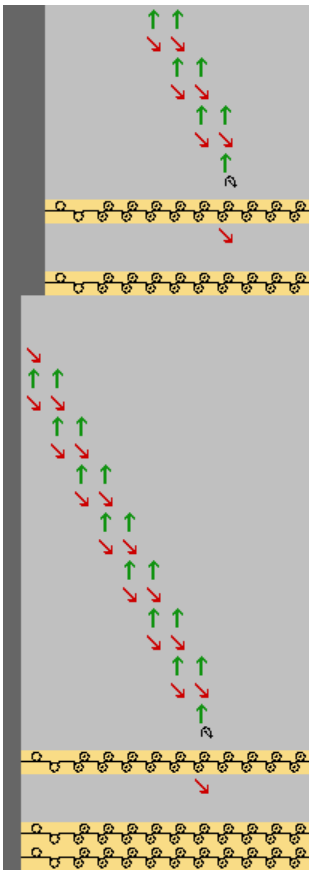
Fabric View	Symbol Presentation
	

II. Double jersey narrowing with any narrowing width:

1. Specify a value greater than 1 to the edges of the **basic element** and the **Neck opening** element in the "Narrowing" tab under "width".

Presentation:

- Fade-out module: Left Rolling Edge
- Narrowing width: 8 needles

Fabric View	Symbol Presentation
	

12.3 Generate pattern with shape

I. Generate pattern with shape:

1. Call up the "File" / "New" menu.
   - or -
   Click  .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Select shape and specify stitch density.
6. The pattern size will be automatically entered based on the selected shape.
7. Set pattern size and select the "Front stitch - Rear stitch" basic knitting mode.
8. Select a start.

 You can insert a start after drawing the basic pattern as well.

9. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

12.4 Complete the pattern

I. Complete pattern without Intarsia at the beginning of the V-neck:

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

II: I. Complete pattern with Intarsia at the beginning of the V-neck:

You can select the **Normal** yarn carrier type in the "Yarn field allocation" dialog box.
You can knit this pattern example with normal yarn carriers.

1. Start the technical processing with the  icon.

▶ The processing stops with the query about the type of processing of the V-neck by standard settings. Intarsia Method

2. Modify setting if necessary.
3. Complete the editing in the "Technical assistant" dialog box with "Continue".

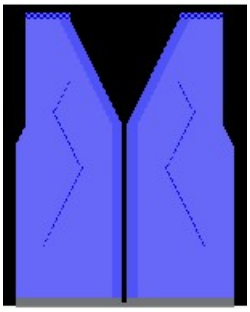
▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".
5. Click "Sintral Check" in the Steps of Processing  toolbar.

i Settings in the configuration dialog box

You can select the desired method also manually in the "Configuration" dialog box in the "Further settings" tab at "Separate rows with separate pattern areas" even before the technical processing.

13 Fully Fashion-Pattern: Waistcoat front with tubular border



Pattern name	07_Muster_Pattern_FF	
Pattern size	**Gauge**	**E 3,5.2**
	Width:	220
	Height:	280
Machine type:	◆ CMS 530 HP 5.2''	
Setup Type	Setup2:	
Start	Tubular	
Basic Pattern	Front Stitch with Transfer	
form	**I. Generate your own, stitch accurate shape:** ◆ Weste VT mit Schlauchblende .shp	
Knitting Technique	Structure with front stitch and Aran	
Pattern description	Fully Fashion waistcoat front with tubular border	

13.1 Create the shape in the M1plus Shape Editor

I. Generate a shape:

1. Call up the "M1plus Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Create a table for a new shape with the button.
3. Create table and enter values.

Basic element for front:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Gruppe	Funktion
1		0	-340	0	-102	0	-102	1	0	0	0	Basis
2		466	0	140	0	140	0	1	0	0	0	
3		66	33	20	10	2	1	10	0	0	0	Mindern
4		333	0	100	0	100	0	1	0	0	0	
5		0	306	0	92	0	92	1	0	0	0	

4. With generate a "New element".
5. Select "Neck opening" in the selection list under "type".
6. Create table and enter values.

Element Neck opening:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Gruppe	Funktion
1		533	0	160	0	160	0	1	0	0	0	
2		333	-166	100	-50	2	-1	50	0	0	0	Mindern
3		0	166	0	50	0	50	1	0	0	0	

7. Deactivate the "Mirrored" checkbox.

▶ Different fade-out modules can be allocated to the left and right neck edge.

Settings for the neck opening element				
Line	**tab** General information	**tab** Fading-out		**tab** Narrowing
No. **1**		Left edge	Module for Left tubular border	
		Right edge	Module for Right tubular border	
No. **2**	Narrowing	Left edge	Module for Left tubular border	With **Structure double jersey**: ◆ Narrowing width: 1 needle ◆ Method of narrowing: Default
		Right edge	Module for Right tubular border	

8. Allocate the fade-out modules generated by you to the left and right neck opening under "Function" in the "Fade-out" tab.
9. Specify a value under "Distance to the centerline" in the**Basic shape** and **Neck opening** elements.
   Example: 6

▶ 12 needles in total will be determined outside shape between the left and the right shape half.

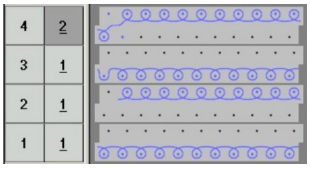
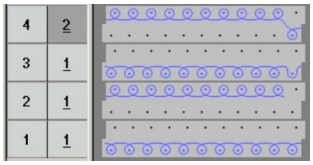
10. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

11. Exit the "M1plus Shape Editor" by .

II. Generate your own fade-out modules:

1. Via the "Module" / "New" / "Module…" open the "New module" dialog box.
2. Select the **knitting mode** of the **Structure double jersey** module in the "Technical" tab of the "Properties" dialog box.
3. Draw the knitting sequence with needle actions in the "Module Editor".

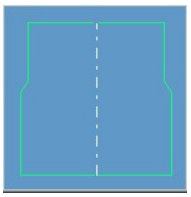
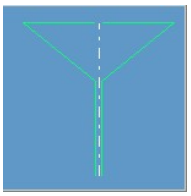
Fade-out module for the tubular border	
At the Left	**At the Right**
	

4. Close the "Module Editor" with .

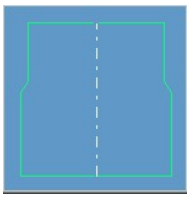
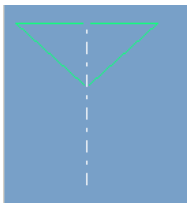
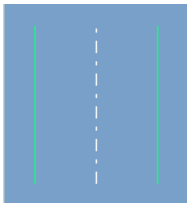
▶ The module will be save to the "Module Explorer of Database"

13.2 Fully Fashion: Variants of generating shapes.

There must be a distance between the knitting parts of a waistcoat front to position the yarn carriers.

Version 1	
Basic Element and V-neck	
 	Enter a value at "Distance from center axis" for each elements (Front and V-neck) to achieve the distance between the shape halves.

Variant 2
Basic Element, V-neck and Opening Element

Variant 2		
		Enter a value at "Distance from center axis" for each elements (Front and V-neck and opening) to achieve the distance between the shape halves.
		

13.3 Generate Pattern without Shape

Generate pattern without shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click  .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select "Stoll with protection rows / Standard / 1 System / without elastic thread / Draw thread_end / Tubular".
7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

13.4 Generate and position the shape

I. Open the shape and position it in the pattern:

1. Load shape via "Shape" / "Open and Position Shape...".

▶ The "Open" dialog box will be displayed.

2. Specify path and select the desired shape in the shp format.
3. Click the "Open" button.

▶ The shape will be laid on the pattern in the shp format.

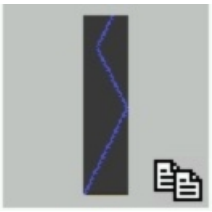
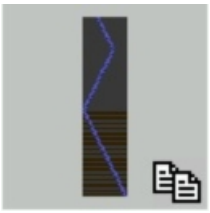
4. Position the shape with the  icon activated and the left mouse button pressed.

▶ The shape is positioned on the first pattern row after the start or transition.

II. Draw structure motif:

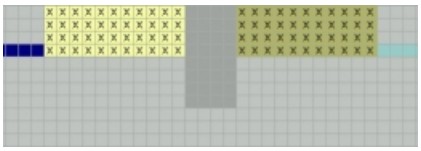
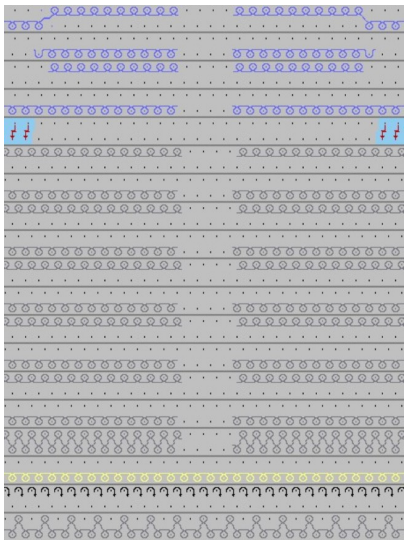
i	The already opened and positioned shape is helpful for drawing-in the structure.

1. Generate the structure motif with modules from the "Module Explorer of Database".
   - or -
   With pattern elements of your own.

Pattern elements for structure	
Left part of the vest	Right part of the vest
	

III. Changes in the Symbol View with positioned shape:

1. Display the shape attributes in the symbol view [basic] with the  and / or  symbol.
2. Draw-in the  "Shape part color" "(within shape): 1" icon below the two shape parts in the entire height of the start.
3. Draw-in "Shape part color" "(within shape): 1" also in the space between the two shape parts up to and including the draw thread.

Correction	
Presentation in the symbol view [basic] after correction	**Display in the Technical View after correction**
	

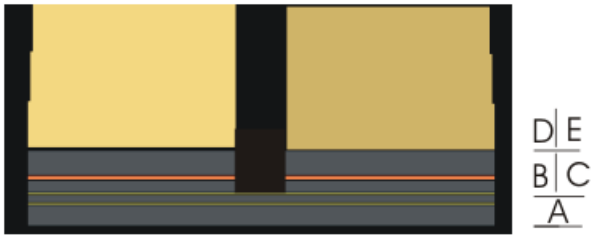
4. Select row with draw thread and insert two empty rows above.

5. Draw-in the needle action "Cast off in front - Cast off at rear" in the intermediate spacing (distance between the shape parts) in the two empty rows.

▶ The stitch rows over the entire length up to the draw thread will be cast-off in this area.

IV. Carry out yarn carrier allocation in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box.



A	Common start with draw thread
B + C	Separated start from the draw thread on
D + E	Separate parts of the vest

2. Change yarn carrier allocation:

- You can use one yarn carrier for the common start up to the draw thread (A) and the right start (C).
- You must use different yarn carriers for the separate area in the start (B and C) from the draw thread on.
- The same yarn carrier can be used respectively for the start of the vest and for the vest itself.

3. Confirm settings with "OK".

▶ (A+C) together with (E)
(B) together with (D)

13.5 Complete the pattern

I. Complete the pattern:

i	The separation of pattern rows with separated pattern areas (Separation of the vest parts) is carried out according to the **standard method** by default. This does not result in a optimum production time.

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

II. Further possibility: Separate the rows of separate pattern areas with the intarsia method:

✓ Load the existing pattern as basic pattern  .

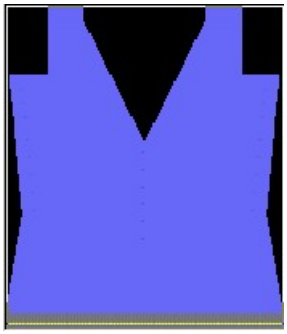
1. Call up the "Further Settings" tab via the "Configuration" menu
2. Activate the "Intarsia method" under "Separate rows with separate pattern areas".
3. Confirm the settings in the "Configuration" dialog box with "OK".
4. Continue with the following steps of processing.

▶ The processing occurs according to the intarsia method using intarsia yarn carriers.

i	Normal yarn carriers may also be used. An automatic shifting of the yarn carriers may be necessary.

Complete the pattern

14 Fully Fashion-Pattern: Tank top with button loops



Pattern name	08_Muster_Pattern_FF	
Pattern size	**Gauge**	**E 3,5.2**
	Width:	180
	Height:	220
Machine type:	◆ CMS 530 HP 5.2''	
Setup Type	Setup2:	
Start	1X1 Rib	
Basic Pattern	Front Stitch with Transfer	
Shape:	**I. Generate your own, stitch accurate shape:** ◆ Top mit Knopfschlaufen .shp	
Knitting Technique	SJ structure	
Pattern description	Fully Fashion Top with ◆ V-neck ◆ Button Loops and Button Marks	

14.1 Create the shape in the M1plus Shape Editor

I. Generate your own shape:

1. Call up the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The "Shape Editor" appears.

2. Open and change an existing shape via the "File" / "Open .shv shape [mm] …" menu.
   - or -
   Create a new shape by  .

Front element:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion
1		0	-266	0	-80	0	-80	1	0	0			Basis
2		200	33	60	10	6	1	10	0	0			Mindern
3		166	-16	50	-5	10	-1	5	0	0			Zunehmen
4		106	-13	32	-4	8	-1	4	0	0			Zunehmen
5		0	73	0	22	0	22	1	0	0			*Abketteln*
6		200	0	60	0	60	0	1	0	0			
7		0	190	0	57	0	57	1	0	0			

Settings in the table for the front:				
Line of the edge	"General" tab	"Narrowing" tab	"Widening" tab	"Binding-off" tab
No. 2	Narrowing	L-R separate transfer		
No. 5	Widening		Closing stitch	
No. 4	Widening		Closing stitch	
No. 2	Binding-off			BO-SJ-01

3. Generate the V-neck shape element mirrored.

Neck element:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite xxx	Funktion
1		33	0	10	0	10	0	1	0	0			
2		3	0	1	0	1	0	1	0	0			
3		30	0	9	0	9	0	1	0	0			
4		3	0	1	0	1	0	1	0	0			
5		30	0	9	0	9	0	1	0	0			
6		3	0	1	0	1	0	1	0	0			
7		30	0	9	0	9	0	1	0	0			
8		3	0	1	0	1	0	1	0	0			
9		30	0	9	0	9	0	1	0	0			
10		3	0	1	0	1	0	1	0	0			
11		30	0	9	0	9	0	1	0	0			
12		3	0	1	0	1	0	1	0	0			
13		16	0	5	0	5	0	1	0	0			
14		233	-116	70	-35	2	-1	35	0	0			Mindern
15		33	0	10	0	10	0	1	0	0			
16		0	116	0	35	0	35	1	0	0			

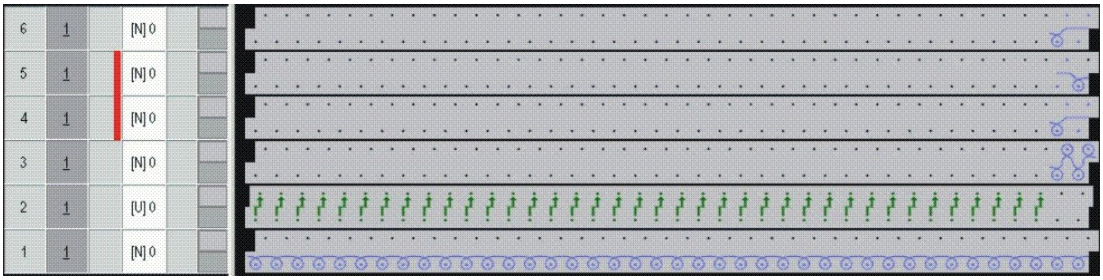
4. Deactivate the "Mirrored" checkbox.
5. Display the tables of the left and right shape halves with and .

i	The button loop attribute is allocated to the left shape edge. No fade-out is necessary at the right edge.

II. Generate a fade-out module for button loops:

1. Generate a fade-out module for the loops.
2. Allocate the fade-out module to the edge lines 2, 4, 6, 8, 10 and 12 of the left edge only.

Module for button loop at the left shape edge



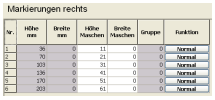
3. Enter a cycle for length control of the loops into the module.
   - or -
   Enter cycles for length control of the loops in the technical view after expanding.

▶ This way, different cycles can be allocated to the loops.

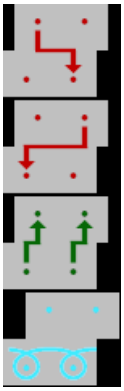
III. Generate a fade-out module for button markings:

1. Create a table for the button marking at the right edge under .

Marks for the buttons at the right edge



2. Generate a module for the button marking.



3. Allocate the generated marking module to the edge lines in the table under "Function" **Normal**.

i	If the module for the markings shall be selectable in the shape editor, then it must exist in the "Module Explorer of Database" under "Stoll" / "Technique" / "Shape markings".

4. Determine the distance between the neck opening and the button marking.
5. In the element neck opening under **x-distance to... center axis** specify the distance between the button marking and the edge.
6. Save the shape with the settings for **Fading-out** and **Markings**.

14.2 Create the pattern and position the shape

I. Generate pattern without shape:

1. Call up the "File" / "New" menu.
   - or -
   Click  .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select a start.
7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

II. Open the shape and position it in the pattern:

1. Load shape via "Shape" / "Open and Position Shape..." .

▶ The "Open" dialog box will be displayed.

2. Specify the path and select the desired shape in the shp format.
3. Click the "Open" button.

▶ The shape will be laid on the pattern in the **shp** format.

4. Position the shape with the  icon activated and the left mouse button pressed.
   - or -
   Move the shape with the arrow keys of the "Tool Properties".
   - or -
   Move the shape with the arrow keys of the keyboard.

14.3 Complete the pattern

Complete the pattern:

1. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

Complete the pattern

15 ShapeSizer

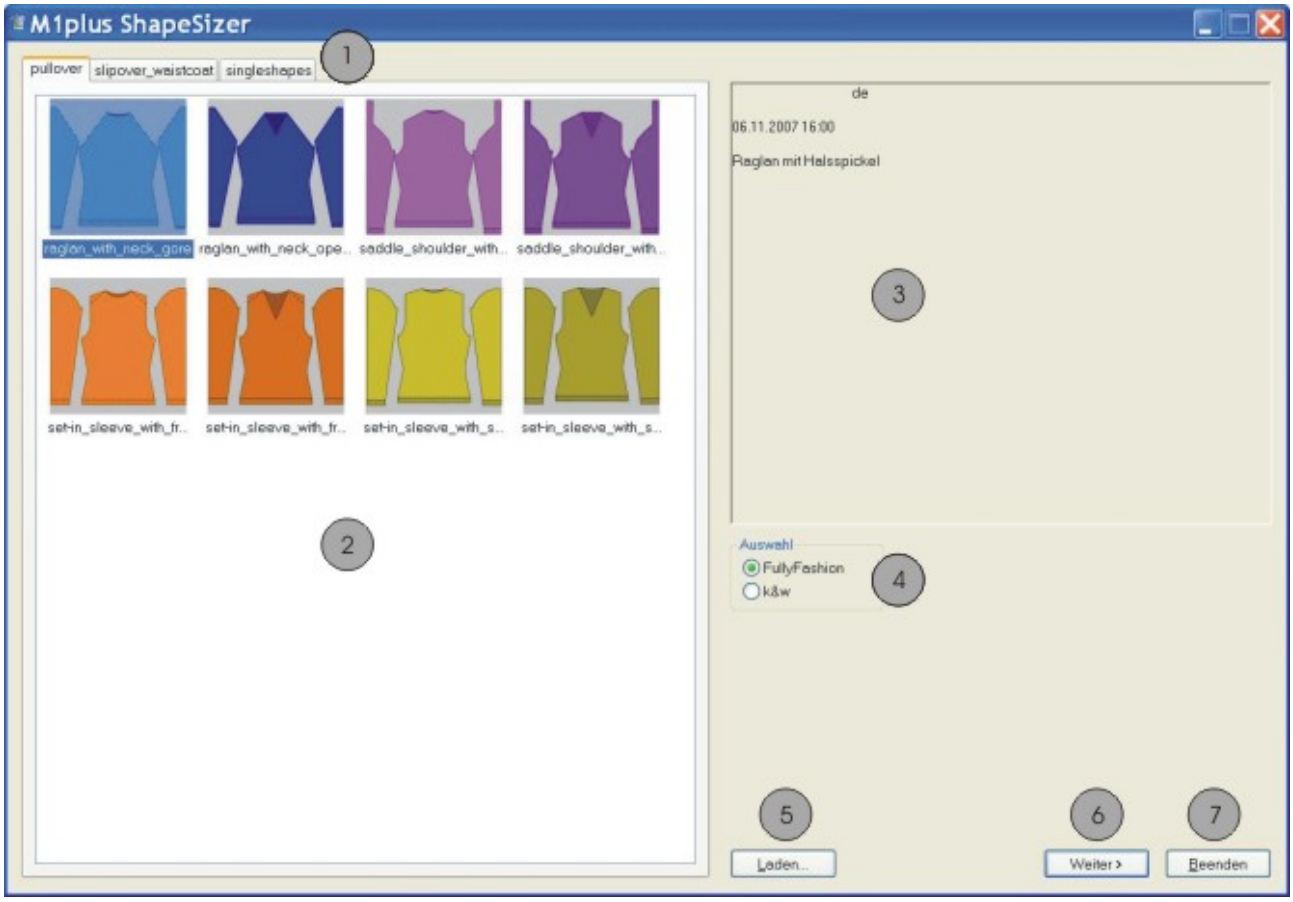
The "ShapeSizer" program enables:

- Generating different sizes
- Editing a standard shape quickly
- Modifying shape attributes for different sizes fast and easy

> **i** No own shapes can be saved in the ShapeSizer.

Open and edit shape:

➔ Open the "ShapeSizer" dialog box via the "Shape" / "ShapeSizer..." menu.



	Function
1	Tabs of the different shape directories ◆ Sweater ◆ Cardigan ◆ Slipover_Waistcoat ◆ Singleshapes

	Function
2	Overview window of the Stoll standard shapes
3	Information window
4	Select the Fully Fashion or k&w mode
5	Load a file generated in the ShapeSizer (.shz)
6	Switch to the next dialog window of the ShapeSizer
7	Close the ShapeSizer

15.1 ShapeSizer: Specify the stitch ratio

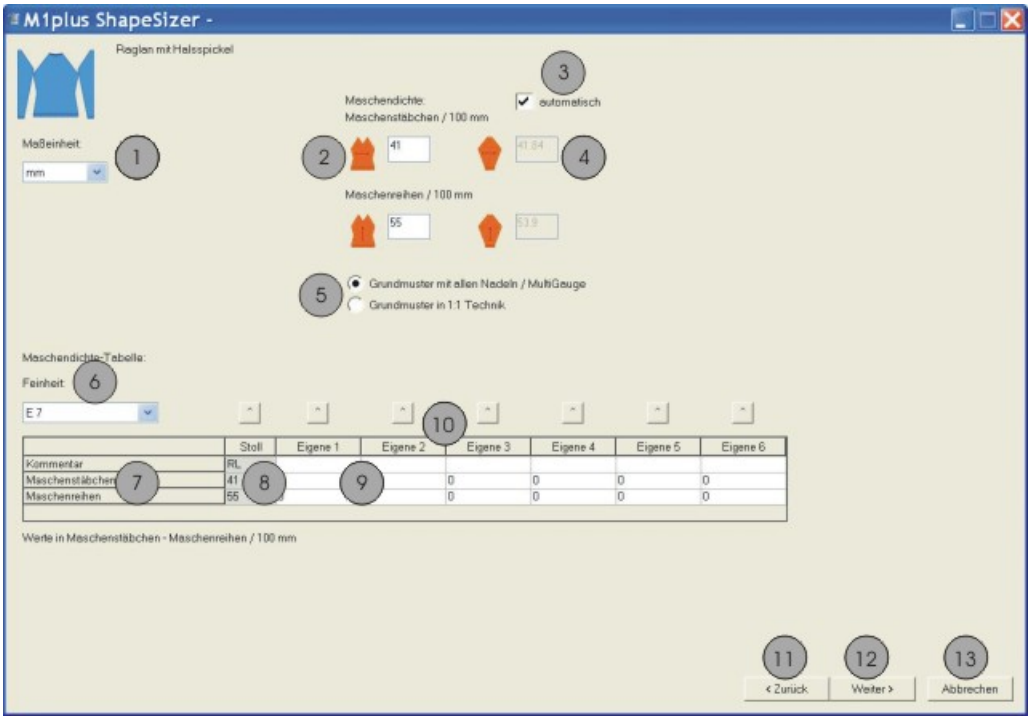
1. Double click the desired shape in the overview (2) of the main window of the ShapeSizer.

▶ The selected shape with the Stoll standard attributes is loaded and the next dialog window of the "M1plus ShapeSizer" appears.

i	The data of shape elements (Front, Back, Sleeve) are saved in the defaultform_xxx.shp files.

2. Select the type of basic pattern (5).
3. Make the specifications for the stitch density.

▶ The specified stitch density is used in the further processing.

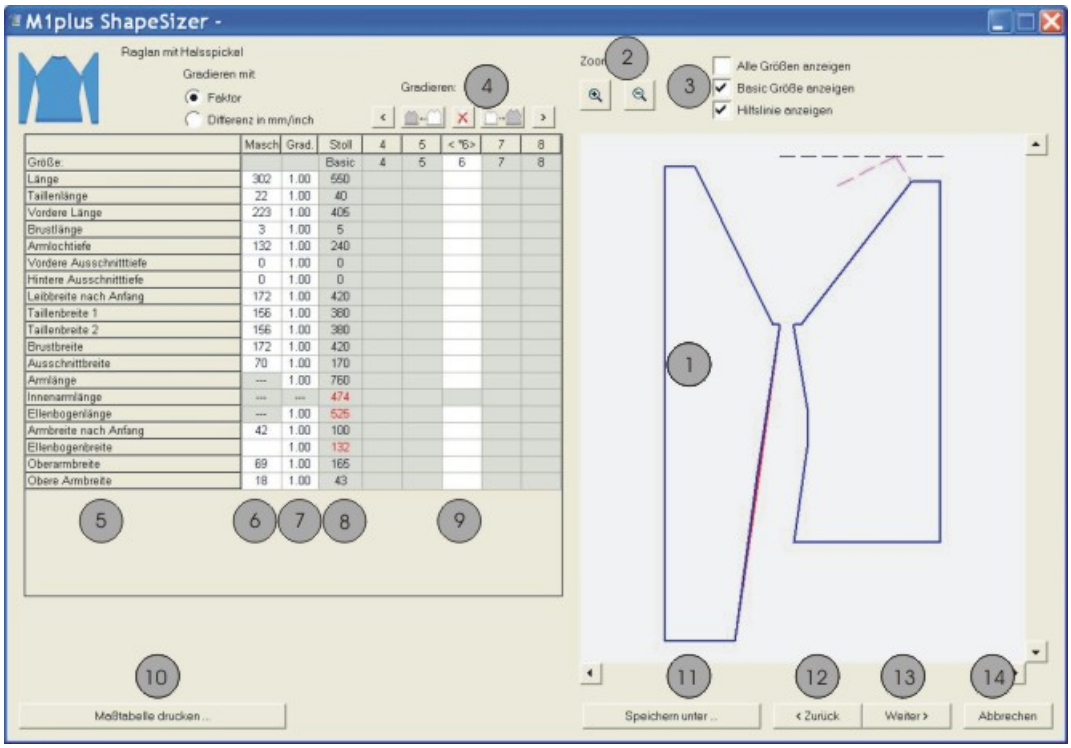


No.	Function
1	Select the **mm** or **inch** measure unit for the stitch ratio.

No.	Function
2	Enter the stitch ratio for the front Number of stitches in the width (wales) and height (rows)
3	Convert automatically the stitch ratio for the sleeve
4	Enter the stitch ratio for sleeve manually
5	Select the basic pattern with all needles or in 1X1 technique
6	Select the gauge of the stitch density table
7	Table of the stitch densities
8	Stoll default stitch ratio for the back-layer knitting mode
9	Define your own stitch ratios for different knitting modes.
10	Transfer stitch ratios from the table to the input window "Stitch density" (2)
11	Switch to the previous dialog window of the ShapeSizer
12	Switch to the next dialog window of the ShapeSizer
13	Cancel the ShapeSizer

4. Change to the next dialog window with the "Continue>" button.

15.2 ShapeSizer: Generate sizes - Grading

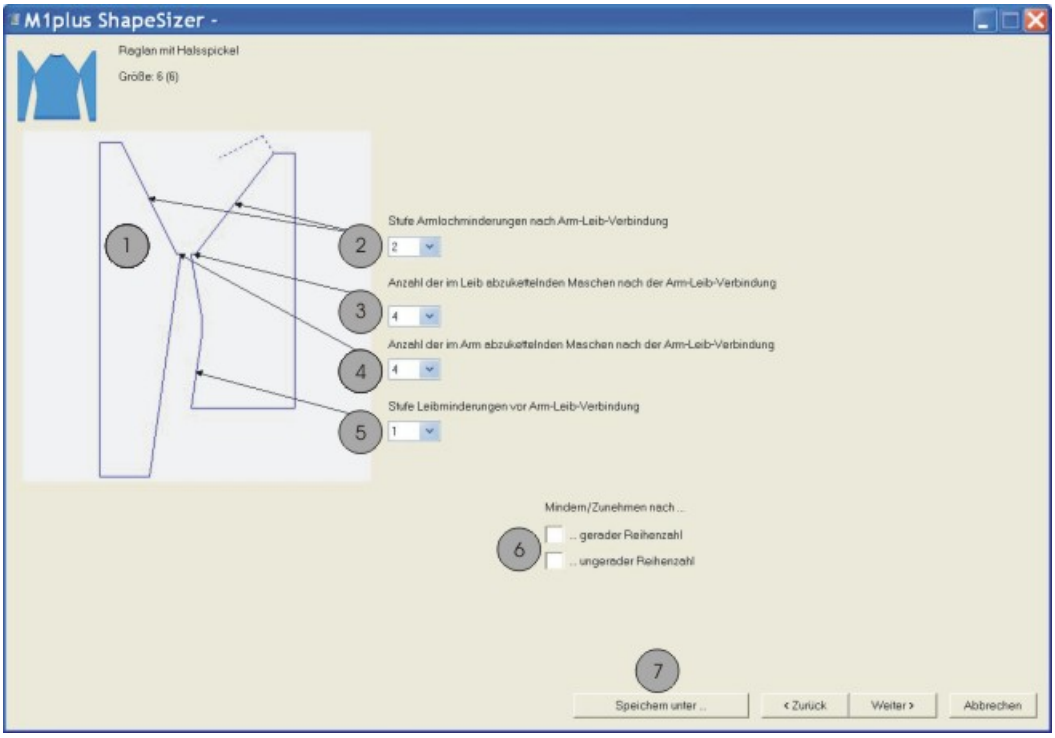


No.	Function	
1	Graphic presentation of the shape	
2	Decrease or increase the graphic display with zoom	
3	Display the graphic presentation of the sizes	
4	Calculate the sizes based on the grading factor	
		Call-up the previous column of the measure table
		Calculate the next smaller size
		Delete the values in the active column
		Calculate the next larger size
		Call-up the following column of the measure table
5	List of the shape edge lines and their name	
6	Measures of the shape in stitches referring to the selected size. Conversion from mm to stitches based on the specified stitch ratio.	
7	Grading factor in %, i.e. the change from one size to the next size in percent. The other sizes can be calculated with the buttons (4).	
8	Measures of the shape of the basic size. These values cannot be changed. Keep the measures of the Stoll standard shape in mm. - or - Enter the shape measurements in mm in the column < * 6 > (basic size) manually.	
9	Measures of the basic size in the < * 6 > column: Change the values - or - Enter new values directly into the empty column.	
10	Display and print the measure table of all sizes	
11	Save size table as *.shz file	
12	Switch to the previous dialog window	
13	Switch to the next dialog window	
14	Close the ShapeSizer	

i If you generate the other sizes based on the basic size < * 6 >, then these shape attributes will be applied.

➔ Change to the next dialog window with the "Continue>" button.

15.3 ShapeSizer: Specify steppings and binding off



No.	Function
1	Graphic presentation of shape edges
2	Definition of the step width of the narrowings of sleeve and body
3	Number of stitches to be bound-off in the body The number of stitches is subtracted from the original number and the narrowings are recalculated.
4	Number of stitches to be bound-off in the sleeve
5	Definition of the step width of the narrowings in the body
6	Narrowing / Widening on even- or odd-numbered rows
7	Save size table as *.shz file

1. Change to the next dialog window with the "Continue>" button.

▶ The "Save as..." dialog box appears.

---

i The dialog box will be displayed only if the data are **not** yet saved.

15.4 ShapeSizer: Saving the size table

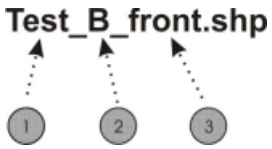
✓ The "Save as..." dialog box is open.

1. Specify the path for the desired file.

▶ The size table is saved as *.shz file and the elements of the selected size will be saved under the same path.

i	When saving, ensure proper directory path. **Recommendation:** Save all shape elements to one directory.

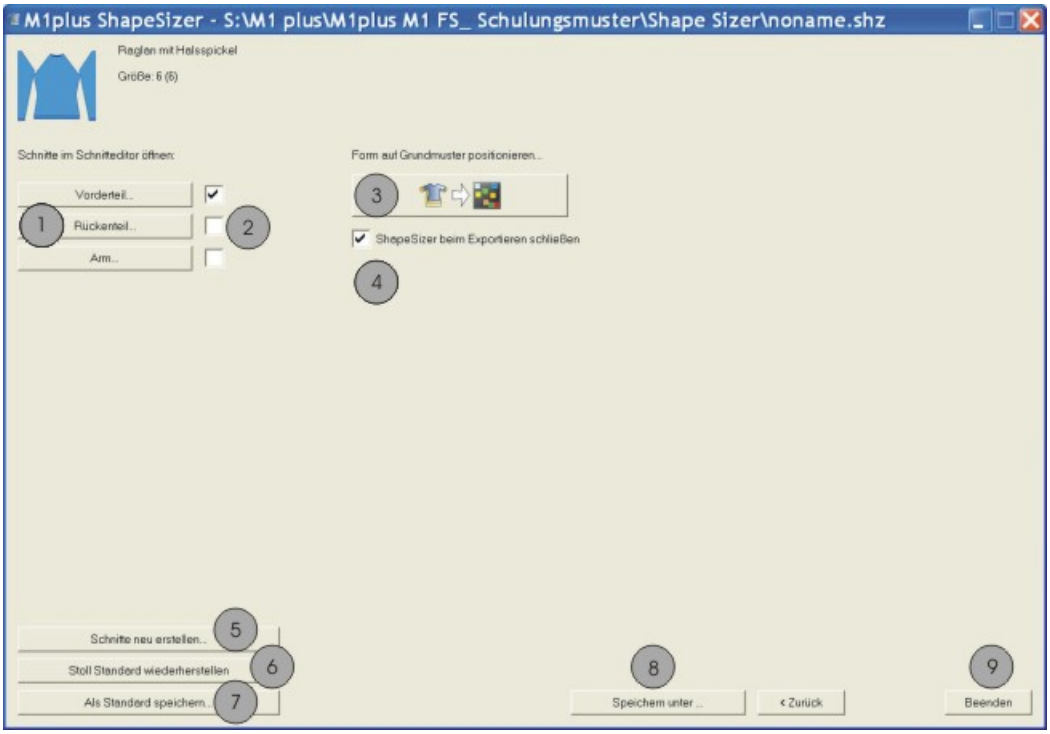
Name example of a file:



No.	Meaning	
1	Name of shape	
2	**B**	Basic shape (corresponds to basic size <*6>)
	01	Size 1
	02	Size 2
3	Type of shape element	
	front	Front piece
	rear	Back piece
	sleeve	Sleeve

2. Change to the next dialog window with the "Continue>" button.

15.5 ShapeSizer: Make settings and close dialog box.



No.	Function	
1	Open the shape elements of the size selected in the size table in the shape editor.	
2	Select the shape element front, back or sleeve to create a new pattern.	
3	Opening a new pattern with the shape element selected under (2).	
4	☑	The ShapeSizer will be closed after exporting the shape element.
	☐	The ShapeSizer will not be closed after exporting the shape element.
5	The shape files changed in the shape editor (*.shp) will be deleted and new shape files (*.shp) will be generated based on the data from the shz file. ℹ: The shape editor is opened by the ShapeSizer.	
6	Own defaults (defaultuser files) are deleted from the directory and the defaultform file is used.	
7	Save attribute changes as own default defaultuser_xxx .shp. ℹ: If a directory contains defaultuser files, then these data are used to open the shape.	

No.	Function
8	Save size table as *.shz file.
9	Close the ShapeSizer.

1. Select the desired element under (2).
2. Activate the (4) checkbox.

▶ The ShapeSizer dialog box will be closed after exporting the shape.

3. Click the  button.

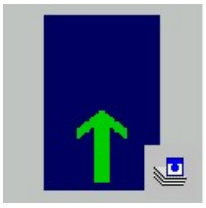
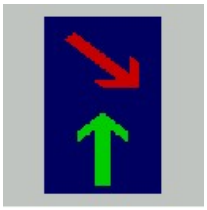
▶ The selected shape element will be placed on the active pattern.
- or -
The "New Pattern" dialog box appears.

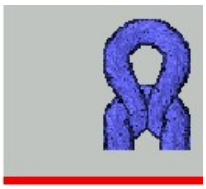
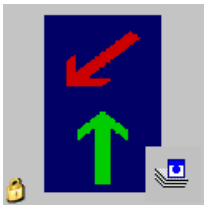
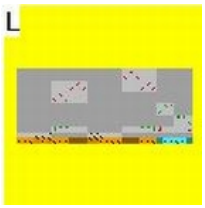
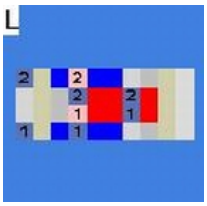
16 Working with modules

I. Possibilities for generating modules

- From a selection within the pattern
- Generate a copy of an existing module and edit it.
- Generate a new module in the module editor

II. Overview over the module types and their presentation in the Module Explorer

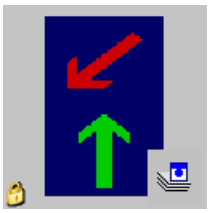
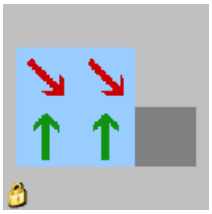
Module type	Presentation	Use	Special features
Pattern element		Generate the motif	Not saved in the module database.
Modules without stitch rows			Does not contain knitting rows.
Modules with transfer actions only		Transferring	Contains only transfer cycles without racking.
			Contains only transfer cycles with racking.
Combination modules with cycles		Generate the motif	Arrangement of 9 modules at the maximum, which can be repeated horizontally and vertically.
Step modules		Binding-off	Consisting of 3 diagonally arranged modules at the maximum, which will be drawn-in in a pattern row.
Technical container module		Will be inserted by the technical function	Cannot be drawn-in in patterns.
Module with docking points	 Common processing	Generate the motif	A knitting row will be divided in knitting-in / knitting-out row with intermediate knitting rows.

Module type	Presentation	Use	Special features
	 Separate processing		
Module with limit condition(s)		Different knitting situations	Different situations will be checked and replaced by limit modules, when applying the module.
Module with limit condition(s) without stitch row		Limit conditions	Contains no knitting and transfer cycle
		Limit module	Contains only transfer cycles
Module Arrangement		Influencing transfer cycles	Influence the sequence of transfer actions manually.
Color Arrangement		Influence the knitting sequence	Influence the sequence of knitting rows manually.

16.1 Working with modules: Module without stitch rows

- Modules do **not** contain knitting information.
- Modules can contain transferring information.

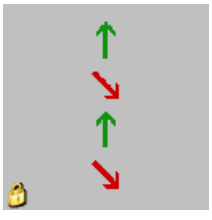
Examples for modules without stitch rows:

Presentation	Function
	**Module with limit conditions** (without any knitting or transfer information) Limit conditions = query of needle allocations **Example:** Start-V-neck / Structure single jersey
	**Limit module with transferring** i: Allocation to the module with limit conditions.
	Modules without any knitting or transfer information as definition module **Example:** Binding-off RL with fixing 01
	**Module with transferring** **Example:** Narrowing / Structure single jersey

16.2 Working with modules: Modules with transfer actions only

- Modules contain transferring information only with or without racking specification.
- Modules do not contain knitting information.

Example for modules only with transfer actions:

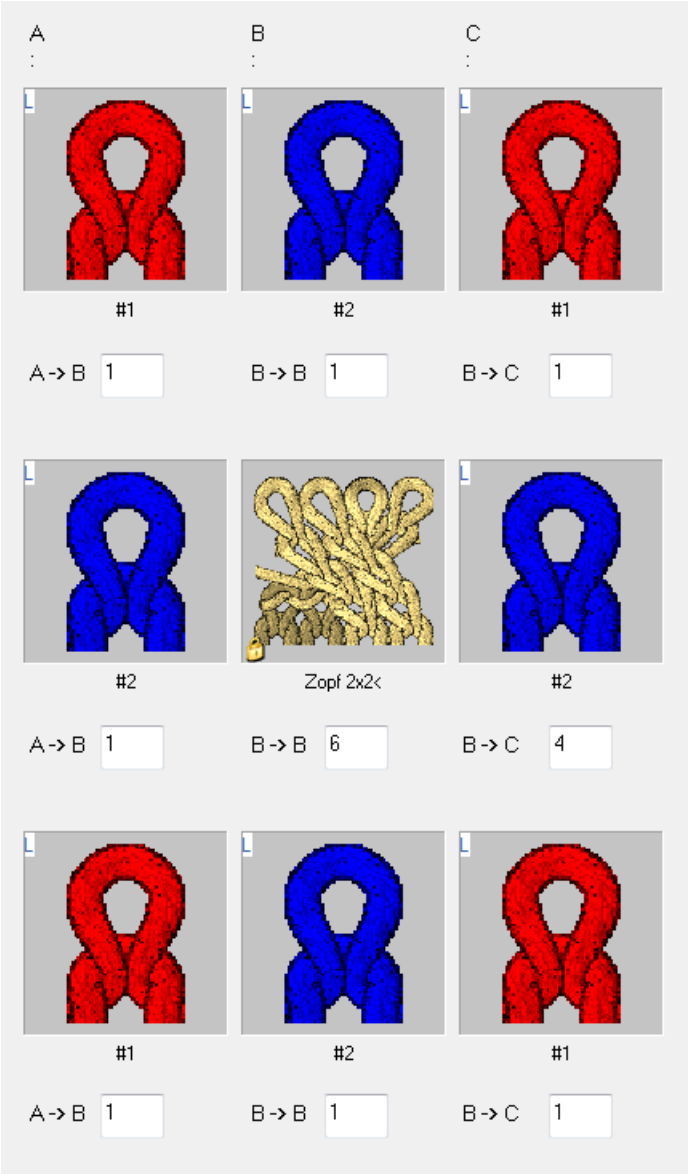
Presentation	Function
	Transfer of double jersey structure

16.3 Working with modules: Combination module with cycles

Characteristics of a combination module:

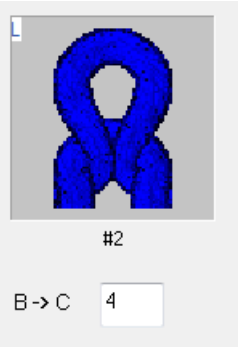
- Marking 
- combines a maximum of 9 different modules
- Horizontal and / or vertical repetition of the modules
- Used as drawing tool

Generating a combination module:

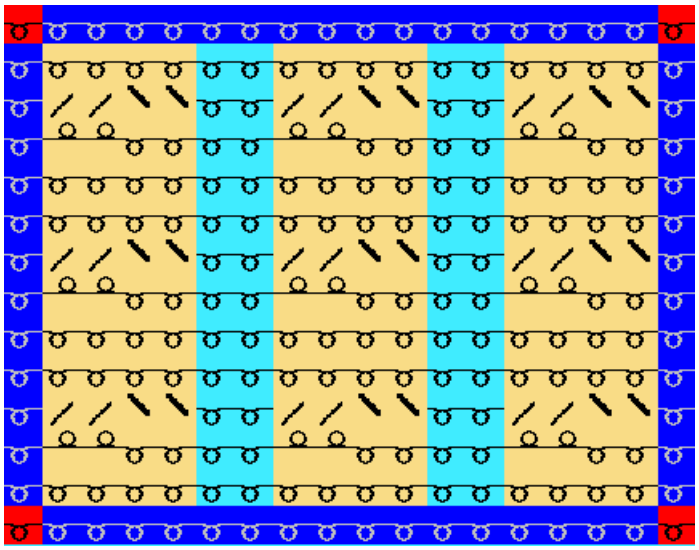


- Allocating the modules to the combination module by Drag & Drop.
- The offset values will be applied automatically by the allocation.
- You can position horizontally and / or vertically by changing the offset.
- The offset values are always referred to a reference point in the lower left of the module.

Meaning of the offset with horizontal placement:

Meaning of the offset specifications		
		
Edge left	**Center**	**Edge right**
Offset: 1	Modified offset: 6	Offset: 4
Horizontal distance of the module to the module placed on the right-hand side	Horizontal distance for placing the same module when re-peating	Horizontal distance of the module to the module placed on the left side
Result:		
This element is placed at the left border one time next the neighboring ele-ment (cable) with a dis-tance of one column.	The offset specification for the module "Cable 2X2<" causes it to be repeated with a hori-zontal distance of 6 stitches in the pattern.	This element is placed at the right border one time next to the last element of the repeti-tion (cable) with a distance of four column (cable width).
Example:		

Meaning of the offset specifications



If the offset value at B->B is smaller than the width of the module in use the modules of the repetition are inserted overlapping.

Vertical placement of the elements in the combination module:

No.	Meaning
1	The elements is inserted once at the beginning (border at the bottom) i: The elements must have the same height!
2	The elements can be repeated vertically i: The elements can have different heights! Watch-out the ability of repetition!
3	The elements is inserted once at the end (border at top) i: The elements must have the same height!

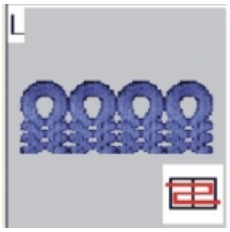
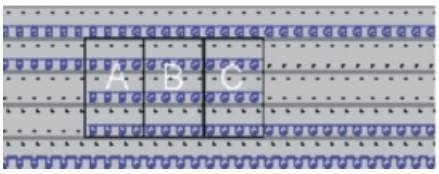
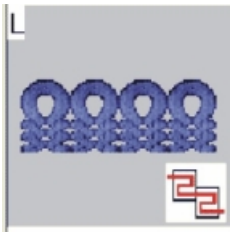
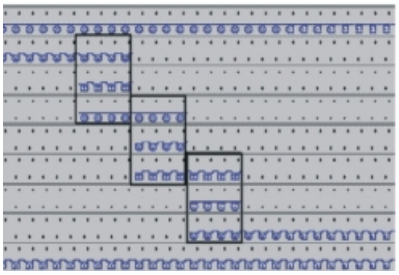
16.4 Working with modules: Module with docking points

Examples of application:

- Applications

- Tubular borders
- Pockets

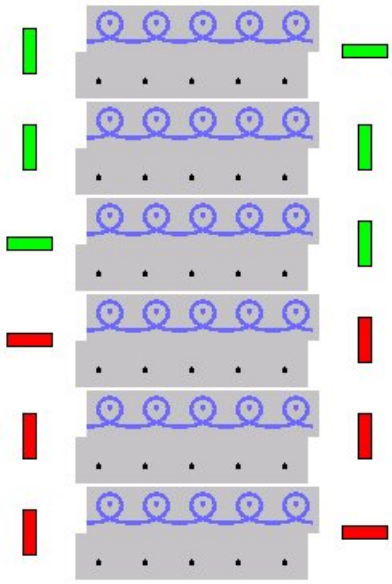
Markings for modules with docking points:

	Meaning	Module example	Stitch line
	**Common processing**		 i: The modules A, B and C must contain the same type of docking points  . The result corresponds to the "separate processing" if the points are not placed border by border.
	**Separate processing**		

Properties:

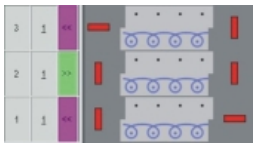
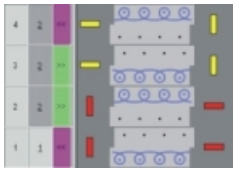
- A pattern row of the basic pattern is separated into two parts by a connecting point, a part for knitting-in and the other for knitting-out.
- A connecting point integrates the additional rows of the module into the motif.
- A module may have several docking points.

Example: Module with two docking points

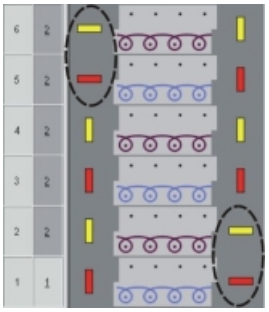
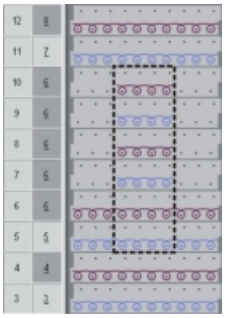
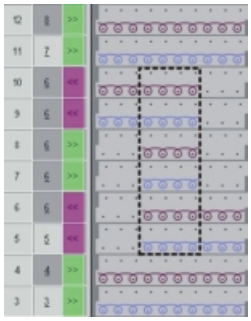
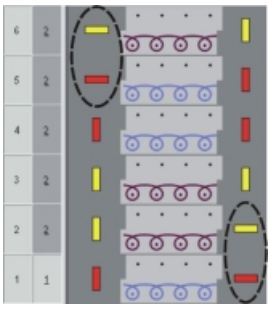
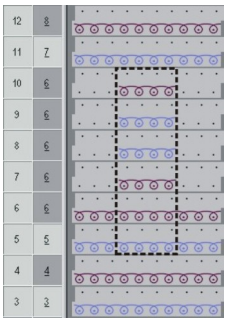
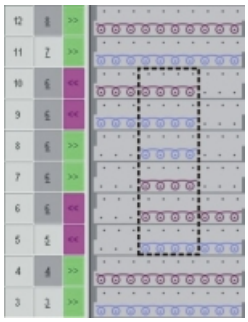


Meaning of the markings:

- Horizontally colored bars mark the knitting in or out rows.
- Vertical colored bars limit the knitting row (= selection end).
- They will be presented with different colors with several docking points.
- The number of knitting rows in the module depends on the knitting in/knitting out direction.

Module height	Behavior	Example	Application
Odd number of knitting rows	Knit-in and knitting out direction differ.		◆ Applications ◆ Pockets knit with 1 yarn carrier
Even number of knitting rows	Knit-in and knitting out direction are identical.		◆ Pockets knit with 2 yarn carriers ◆ Trim pieces with button holes

- Several interleaved docking points are possible.
  I.e. several existing pattern rows can be processed.
- With nested docking points, the sequences of the docking points for knitting-in or knitting-out must be the same.

Example	Before technical processing	After technical processing
		
		

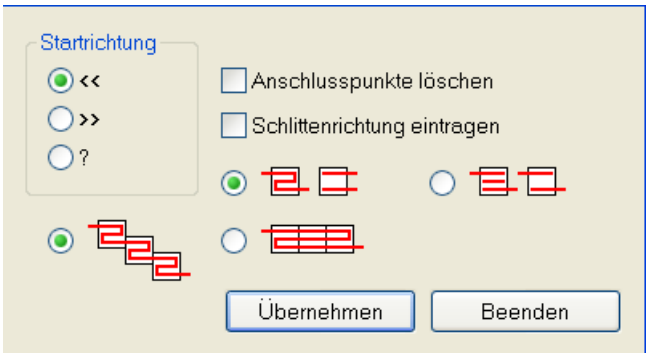
i	For a better overview, the illustrations were produced with different colors. Single-color modules can also be created.

Generate modules with docking points:

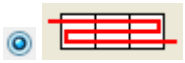
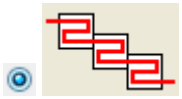
✓ A module with a corresponding knitting sequence must be open in the Module Editor.

1. Call up the dialog box via the "Module" / "Set Docking Points..." menu.

▶ The "Set docking points" dialog box appears.



	Function
<<	Starting direction to the left
>>	Starting direction to the right
?	Starting direction undefined

	Function
Delete Docking Points	The existing docking points will be deleted
Enter Carriage Direction	Specification of the carriage direction for the technical processing
	Processing with changing knitting direction (default)
	Processing with the same knitting direction
	Common processing
	Separate processing
Apply	Apply the settings to the module
Exit	Close Window

2. Select and group knitting rows in order to define a docking point.
3. Specify the docking points accordingly:

- Mode of processing
- Define the starting direction:
  - Undefined: ?
  - Carriage direction: << or >>

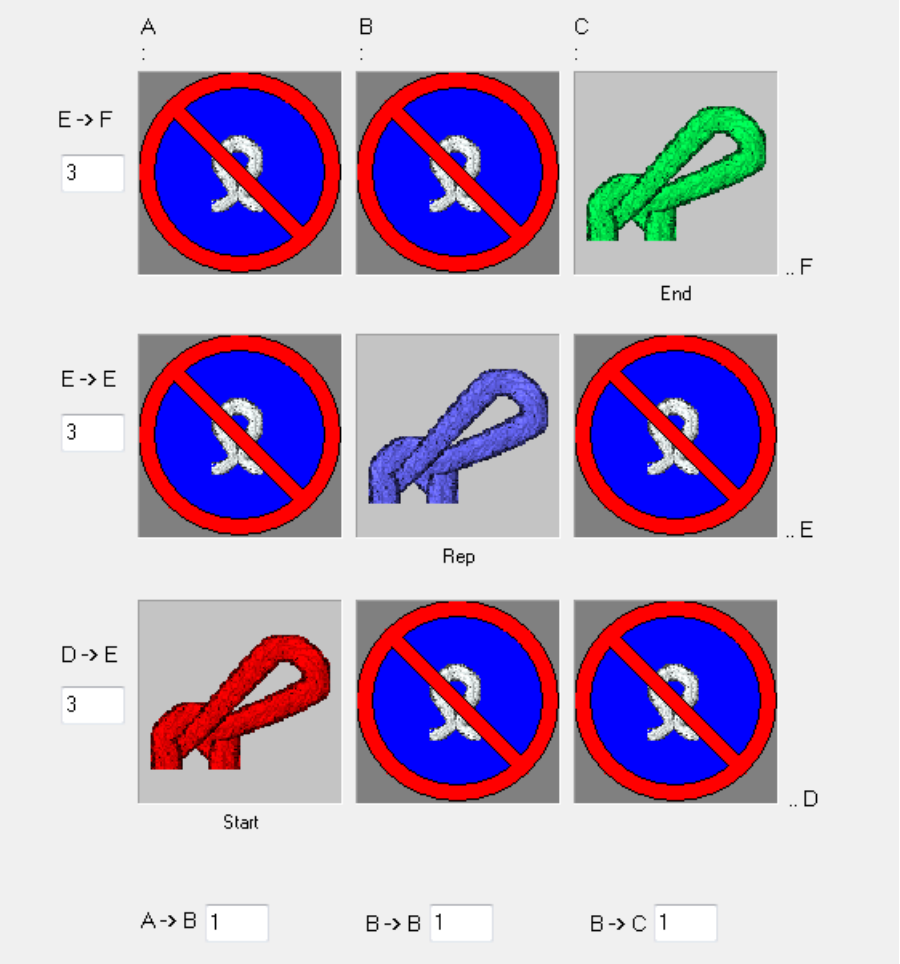
4. Click on the "Apply" button.

▶ The markings for docking points will be applied to the selected rows.

16.5 Working with modules: The step module

Characteristics of a step module:

- Marking
- combines a maximum of 3 different diagonally arranged modules
- Horizontal repetition of the modules
- Used for example as binding-off module



Generating a step module:

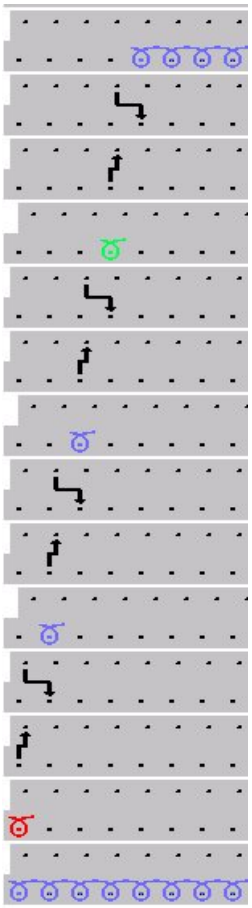
- Allocating the modules into the step modul by Drag & Drop.
  - Diagonally from left to right = Binding-off from left to right
  - Diagonally from right to left = Binding-off from right to left
- The offset values will be applied automatically by the allocation.
- You can position horizontally and / or vertically by changing the offset.
- The offset values are always referred to a reference point in the lower left of the module.
- In the modules all the technical rows must be grouped to a pattern row.

Behavior of a step module:

1. Draw in the module in horizontally on an existing pattern row.
2. Expand the pattern with the  button of the "Steps of Processing" toolbar.

▶ The technical rows of the step module will inserted into the pattern.

Example for demonstration: Step Module with a stitch line for Petinet



i	The direction specified in the module (position of the elements within the step module) will be observed by the processing.

Meaning of the offset:

Offset values with a step module	
E -> F 3	Vertical distance from the first technical row of the most upper repetition module to the first technical row of the end module. The end module is inserted once only.
E -> E 3	Vertical distance of the first technical row of the repeat modules between each other The repetition module is inserted several times.
D -> E 3	Vertical distance from the first technical row of the starting module to the first technical row of the first repetition module. The start module is inserted once only.

Offset values with a step module			
	A -> B 1	B -> B 1	B -> C 1
	Horizontal distance of the module to the module on the right-hand side	Horizontal distance to the next positioning of the same module	Horizontal distance of the module to the module on the left side

	If the offset value is smaller than the module width the modules are inserted overlapping.

i	You will find an example of a step module for binding-off under **Further Topics** in the chapter **Step module for shirt pocket**.

16.6 Working with modules: Technical container module

Characteristics of a Technical Container Module:

- Marking 
- combines a maximum of 9 different modules
- will be inserted by the Technical Processing  .
- This module type can **not** be drawn-in in the pattern.

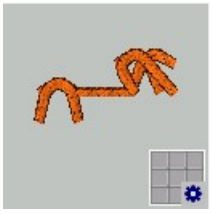
Generate a Technical Container Module:

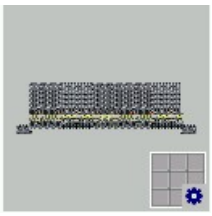
1. Call up the "Module" / "New" / "Generate technical container module…" menu.

▶ The "New technical container module" dialog box appears.

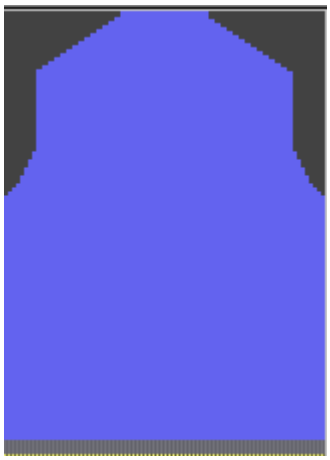
2. Allocate the modules to the Technical Container Module by drag & drop.

Examples for technical container modules:

Presentation	Function
	Net pick-up intarsia **i**: These modules are immutable because the M1plus rules are checked before the module is inserted.

Presentation	Function
	All Starts i: The elements of the container module can be modified.

17 Fully Fashion-Pattern: F-Shoulder Sleeve



Pattern name	09_Muster_Pattern_FF	
Pattern size	**Gauge**	**E 3,5.2**
	Width:	automatic
	Height:	automatic
Machine type:	◆ CMS 530 HP 5.2''	
Setup Type	Setup2:	
Start	1X1 Rib	
Basic Pattern	Front Stitch with Transfer	
form	Stoll shape: **6_French-back.shv** converted to a shp shape and modified then	
Stitch ratio to convert the shape	**Gauge**	**E 3,5.2**
	Width:	**30**
	Height:	**42**
Narrowing Module	Privately created technical container module for narrowing	
Knitting Technique	Back with flat narrowing (French shoulder) ◆ Generating narrowing modules ◆ Modify existing shape in shape editor	

17.1 Create the shape in the M1plus Shape Editor

Create shape:

1. Call up the "M1plus Shape Editor" dialog box via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.

▶ The dialog box will be opened.

2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu and convert it to the shp format.
   - or -
   Generate a new shape of the shp format in the "Shape Editor" via .
3. Deactivate the "Mirrored" checkbox.
4. Create a "Basic shape" element for a **left and right front**:

Basic element left front (left lines):

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor
1		0	-296	0	-80	0	-80	1
2		315	0	120	0	120	0	1
3		21	29	8	8	2	2	4
4		42	29	16	8	4	2	4
5		102	0	39	0	39	0	1
6		73	155	28	42	2	3	14
7		7	0	3	0	3	0	1
8		0	81	0	22	0	22	1

Basic element right front (right lines):

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor
1		0	296	0	80	0	80	1
2		315	0	120	0	120	0	1
3		21	-29	8	-8	2	-2	4
4		42	-29	16	-8	4	-2	4
5		100	0	38	0	38	0	1
6		73	-155	28	-42	2	-3	14
7		10	0	4	0	4	0	1
8		0	-81	0	-22	0	-22	1

To be observed when generating the shape:

- The narrowings should be offset left and right in the height.
- **Narrowing on the right on even row number.**
- **Narrowing on the left on even row number.**
- The total height of the shape must have an even number of rows.
- The narrowings left / right depend on the direction.
- Shape and narrowing modules must be matched to each other.

i	If a racking step exists in the used narrowing module, the shape must get the corresponding stepping.

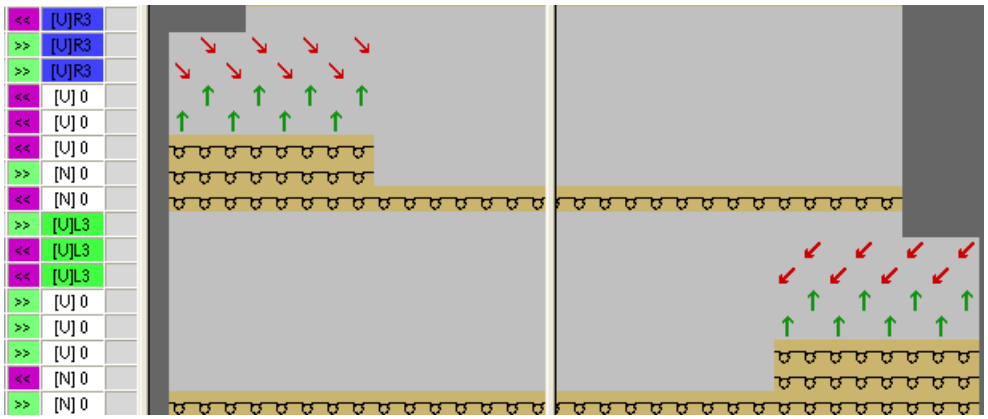
5. Allocate the generated narrowing module to lines no.6 of the left and right shape part.
6. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

7. Exit the " Shape Editor" by .

17.2 Generate a Technical Container Module for Narrowing

Narrowing with a french shoulder:

Knitting and transfer mode	
Left edge	**Right edge**
	

Watch out when generating modules:

- The narrowing modules must be matched to the shape.
- The stepping for narrowing existing in the shape must be observed by the racking step in the module.

I. Generate a module for knitting:

1. Via the "Module" / "New" / "Module..." menu call up the "New Module" dialog box.
2. Define the following in the dialog box:

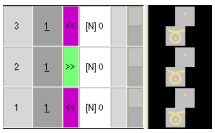
- Module Name
- Pattern Type
- Width and height of the module
- Basic structure of the module

3. Close the dialog box with "OK".

▶ The Module Editor appears.

4. Draw the knitting procedure for the rows below the transferring rows in the "Module Editor".
5. Define the direction of the carriage.
6. Select knitting rows and group them to one pattern row.

Module for the left shape edge:



7. Close the Module Editor with .
▶ The module will be saved.
8. Copy the module for the right shape edge and change the carriage direction.

II. Generate modules for transferring:

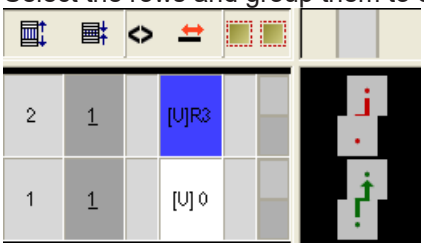
1. Via the "Module" / "New" / "Module..." menu call up the "New Module" dialog box.

---

i Take care of the racking step when specifying the module width.

---

2. Draw in the transfer procedure in the "Module Editor".
3. After drawing-in transfers with racking delete the columns that are not needed.
4. Select the rows and group them to one pattern row.

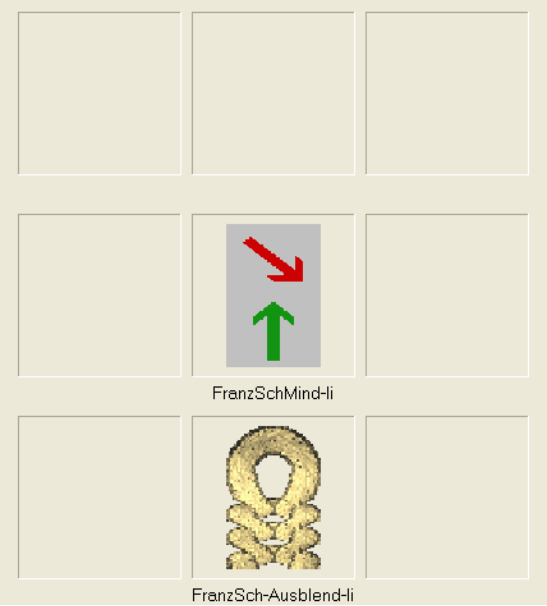


5. Close the Module Editor with .
▶ The module will be saved.
6. Generate a module for the right shape edge following the same procedure.

III. Generate Technical Container Modules for narrowing:

1. Via the "Module" / "New" / "Technical container module…" menu call up the "Technical container module" dialog box.
2. Drag the generated modules with drag-and-drop into the "Technical container module".

Technical container module for the left shape edge:



3. Save the "Technical container module" with "OK".

▶ The module will be saved.

4. Generate a technical container module for the right shape edge following the same procedure.
5. Select module.
6. Call up the "Properties" context menu.

▶ The "Properties of: ..." dialog box appears.

7. Make the following settings in the "Technique" tab:

- "Maximum permissible racking <:" **3**
- "Maximum permissible racking >:" **3**
- "Knitting mode:"
  Select the knitting mode that should use the module.
- "General module attributes":
  - Select the > direction: Module will be used at the left shape edge.
  - Select the < direction: Module will be used at the right shape edge.

8. Confirm the settings with "OK".

i	Further information about module properties can be found under **Further topics** in the chapter **Module properties.**

IV. Save the modules in the Module Explorer of Database in a separate directory:

1. In the "Module Explorer of Database" under "User" / "XY" create a "New module group".
2. Rename **new folder**.
   for example French shoulder
3. Create a sub-folder for the **elements** in this folder.
4. Move the Technical Container Module into the **new folder**.

5. Move the elements for knitting and transferring into the sub-folder.

V. Another possibility: Save the modules in the Module Explorer of Database in a sub-group of the Technical directory:

1. Generate a "New Module Group" as sub-group of the corresponding knitting mode in the "Module Explorer of Database" under "Technical" / "Narrowing".
2. Name the new module group.
   Example: French Shoulder
3. Create a sub-folder for the **elements** in this folder.
4. Move the Technical Container Module into the **new folder**.
5. Move the elements for knitting and transferring into the sub-folder.

17.3 Options of allocating modules in the Shape Editor

I. Direct allocation of a folder or of modules:

1. Call up the "Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Load the generated shape with  .

▶ The tables for the left and right shape parts appear.

3. Call up the "Left/right lines no.: 6" dialog box under "Function" / "Narrowing".

▶ The "Narrowing" tab is active.

4. Allocate the module group with the technical container modules under "Module allocation" to the corresponding knitting mode by drag & drop.
5. Set the desired narrowing width under "Width".
6. Confirm the entry with "Apply" or "OK".

II. Allocating the module folder to the shape edges:

i **Allocation of a Module Folder**

The modules of the folder (module group) must have the matching module properties for correct allocation.

1. Call up the "Shape Editor" via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Load the generated shape with  .

▶ The tables for the left and right shape parts appear.

3. Call up the "Left/right lines no.: 6" dialog box under "Function" / "Narrowing".
4. Select the folder with the technical container modules in the selection menu under "Module allocation" / "Module".
5. Set the desired narrowing width under "Width".

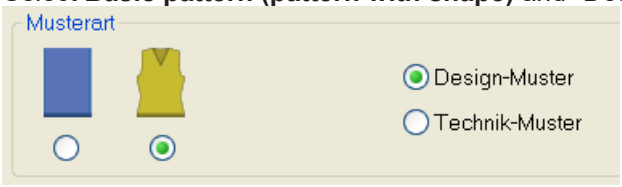
6. Confirm the entry with "Apply" or "OK".

> **i** Allocate the module group to both shape edges.

17.4 Generate pattern with shape

Generate pattern together with the shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click on the  symbol.
2. Enter a pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern with shape)** and "Design Pattern".



5. Select shape.

▶ The pattern size will be automatically entered based on the selected shape.

6. Select a start.
7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" with positioned Fully Fashion shape will be opened.

17.5 Complete the pattern

Complete the pattern:

1. Expand the pattern with the  button of the "Steps of Processing" toolbar.
2. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

Complete the pattern

18 Working with modules: Module with limit conditions and limit module

Exercise example:

Generation of a module for **multi gauge front stitch with transfer** to the right (VR1)

> The stitch will be transferred to the left (VL1) with all **Stoll multi gauge modules**.

Characteristics of a limit module:

- Label of limit modules 
- Limit modules contain a situation-related transfer cycle
- Information of the module(s) will be inserted related to the situation when using modules with limit conditions

I. Generate limit module:

1. Call up the dialog box via the "Module" / "New" / "Module ... " menu.

▶ The "New Module" dialog box appears.

2. Define in the dialog box:

- Module name
- Type of Pattern
- Width and height of the module (for necessary transfer rows)
- Basic structure of the module: "No needle action"

3. Close the dialog box with "OK".

▶ The Module Editor appears.

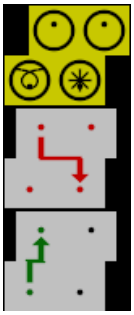
4. Make further settings under "Properties of: xx" for the behavior of the module.

> Further information about module properties can be found under **Further topics** in the chapter **Module properties.**

5. Draw in the transfer procedure with VR1 racking in the "Module Editor".
6. Select the rows and group them to one pattern row.
7. Call up the "Module" / "Insert Row for Limit Condition" menu.

▶ An empty row marked in yellow will be inserted.

8. Draw in the needle actions to be checked in these rows with symbols of the "Needle Actions - Stitch Lengths" toolbar.



Needle Actions	Meaning
	Needle allocated
	Do not check the needle assignment
	Needle not allocated
	Transparent

9. Close the Module Editor with .

▶ The module is saved to the "New Modules" module group of the "Module Explorer of Database".

Characteristics of a module with limit condition:

- Label of a module with limit condition(s)
- Modules with limit conditions contain information to check knitting situations
- Module is used to draw it in

II. Generate module with limit condition(s):

1. Call up the "Module" / "New" / "Module…" menu.

▶ The "New Module" dialog box appears.

2. Define in the dialog box:

- Module name
- Type of Pattern
- Width and height of the module (for necessary knitting rows)
- Basic structure of the module: "No needle action"

3. Close the dialog box with "OK".

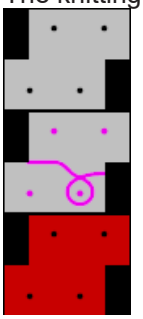
▶ The Module Editor appears.

4. Make further settings under "Properties of: xx" for the behavior of the module.
5. Draw-in the desired knitting sequence in the "Module Editor".

6. Call up the "Module" / "Insert Row for Limit Module" menu.

▶ A row marked in red will be inserted.
Example:

The knitting sequence for **multi gauge** is drawn with the color of the  table.



7. **Do not close** the opened "Module Editor".

▶ The created limit module must be linked to the module with limit condition(s).

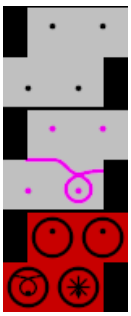
III. Link the limit module to the module with limit condition(s):

1. Select the **limit module** in the "Module Explorer of Database" in the "New Modules" directory.
2. Put the cursor in the row marked in red.

▶ A frame in light green appears.

3. Click on the row marked in red with the "LMB".

▶ Specifications of the limit module (yellow row) will be applied to the module with limit condition(s).

▶ 

4. Close the module with limit condition(s) with  .

▶ The module will be saved in the "Module Explorer of Database" in the "New Modules" module group.

19 Reference row

If a specific knitting row of a module is to be positioned on a specific knitting row in the pattern, a knitting row has to be defined as reference row in the module.

I. Define Reference Row:

✓ Module with several knitting rows

✓ The knitting rows are grouped to one pattern row.

1. Select the knitting row, which is to be used as reference row.
2. Allocate the reference to this knitting row via "Edit" / "Define Reference Row".

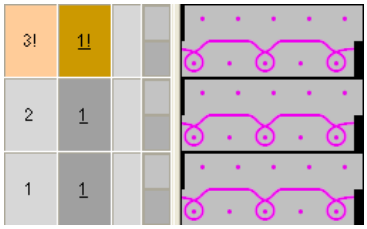
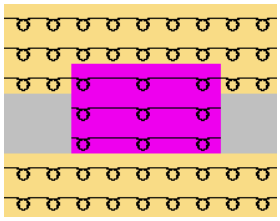
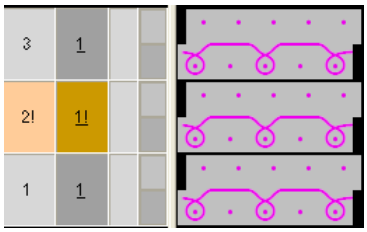
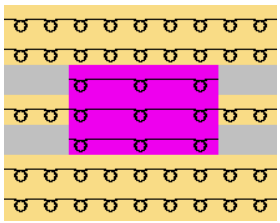
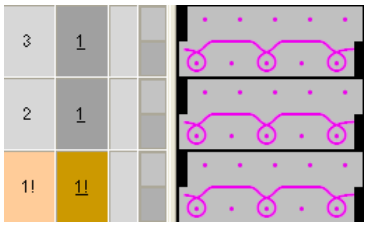
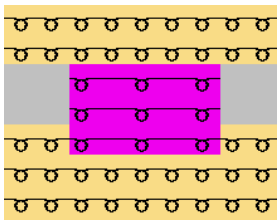
▶ You can recognize a reference row by the **color mark** and the ! symbol in the control columns **pattern row** and **technical row**.

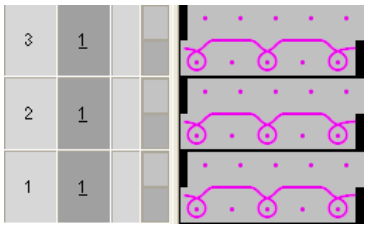
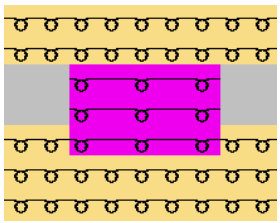
II. Use reference row:

✓ Module with reference rows in the Design Mode:

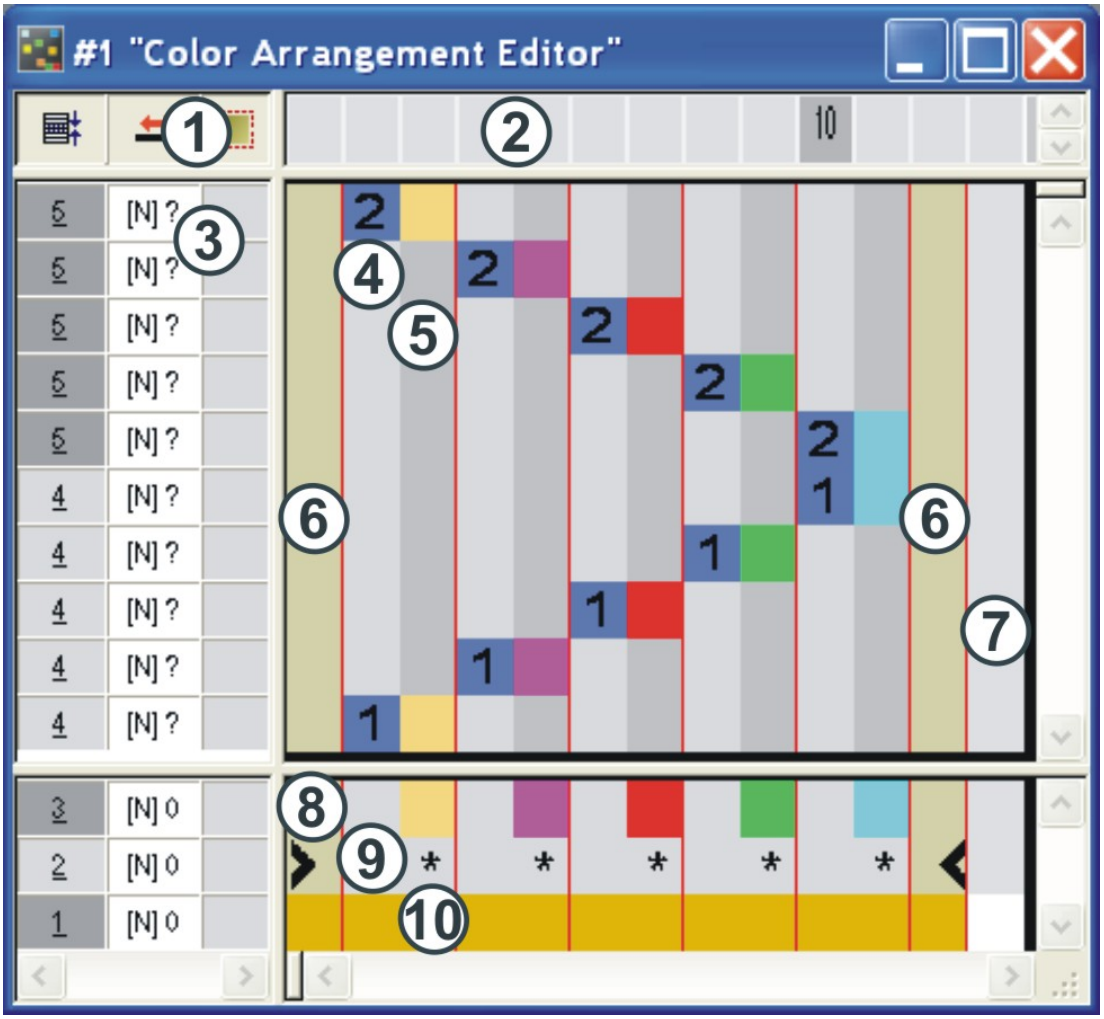
1. Select the pattern rows
2. Create the preview window with the  button.

▶ Result: "Preview" presentation of the "Expanded pattern"

Reference row	Module with reference row	Inserted in the pattern
3rd module row is reference row		
2nd module row is reference row		
1st module row is reference row		

Reference row	Module with reference row	Inserted in the pattern
No reference row		

20 Color Arrangement Editor



Designations of rows and columns in the Color Arrangement Editor (CA):

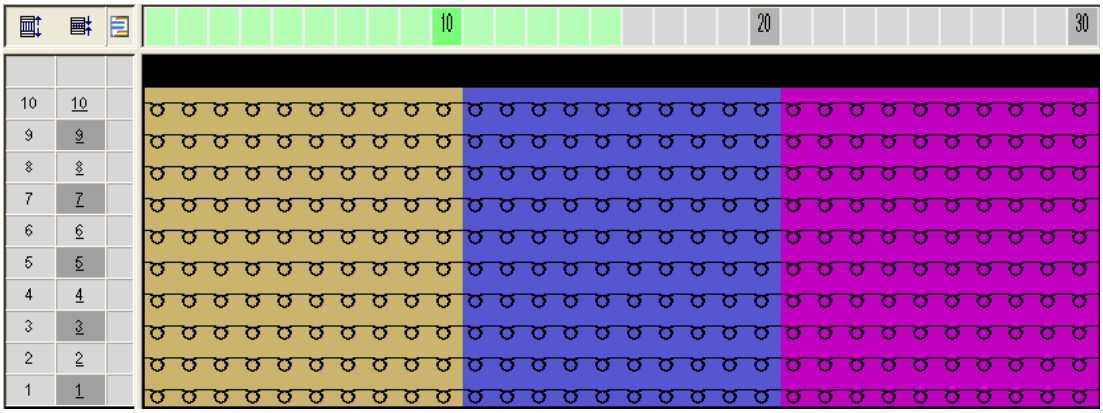
1	Header of the control columns All control columns are available		
2	Column bar		
3	Row bar with control columns		
Processing Area		**Search Area**	
4	Reference row with reference row number	**8**	Rows with the search colors
5	Color column with color segment	**9**	Functions of the search colors
6	Shape column ◆ With Fully Fashion ◆ With knit and wear	**10**	Rows with one or more shape part colors as search-color ◆ One color with fully fashion ◆ Several colors with knit and wear
7	Column for defining cycles		

			i: The color **outside shape** can also be used **as shape part color**.

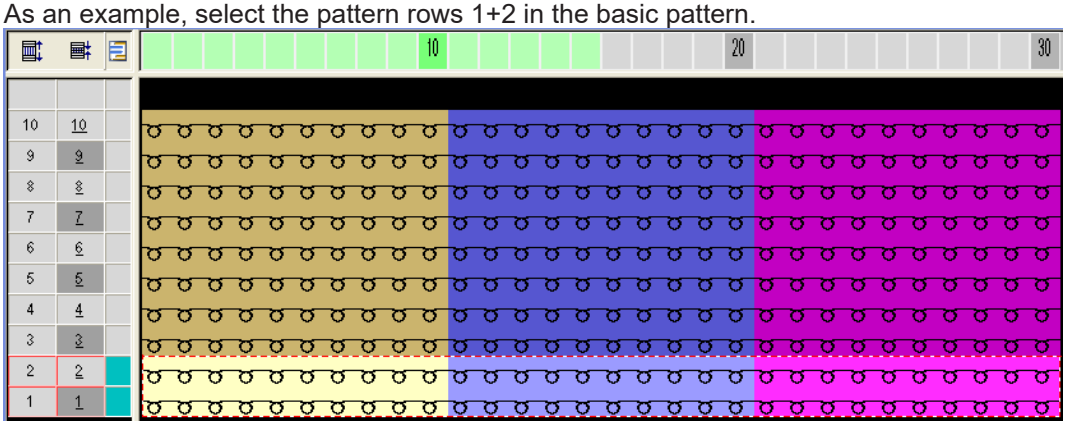
21 Behavior of a Color Arrangement

I. Application and effect of a Color Arrangement:

Basic Pattern: Pattern with 3 colors



1. As an example, select the pattern rows 1+2 in the basic pattern.



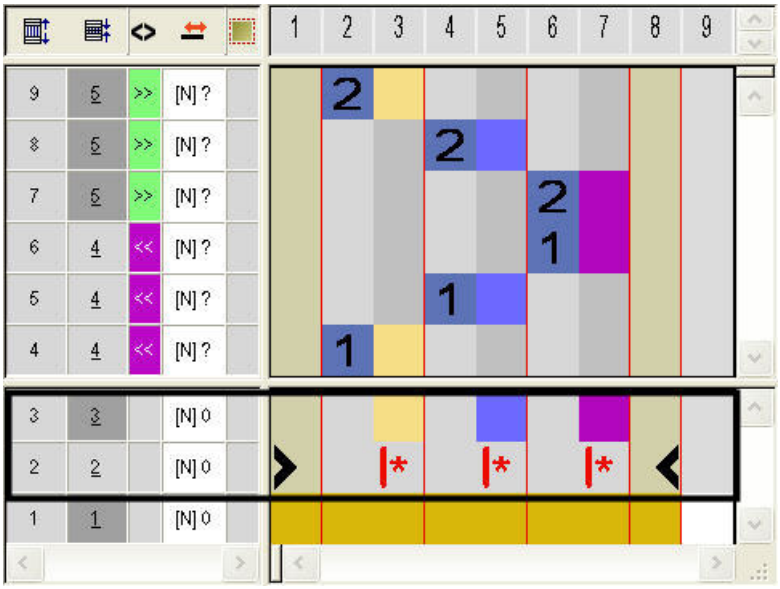
2. Click  in the "Standard" toolbar.

▶ The "Color Arrangement Editor" appears.

■ The M1plus searches for existing colors in the selected pattern rows from left to right . These colors will be entered as **color segments** with **search colors** in the **search area** of the "Color Arrangement Editor".

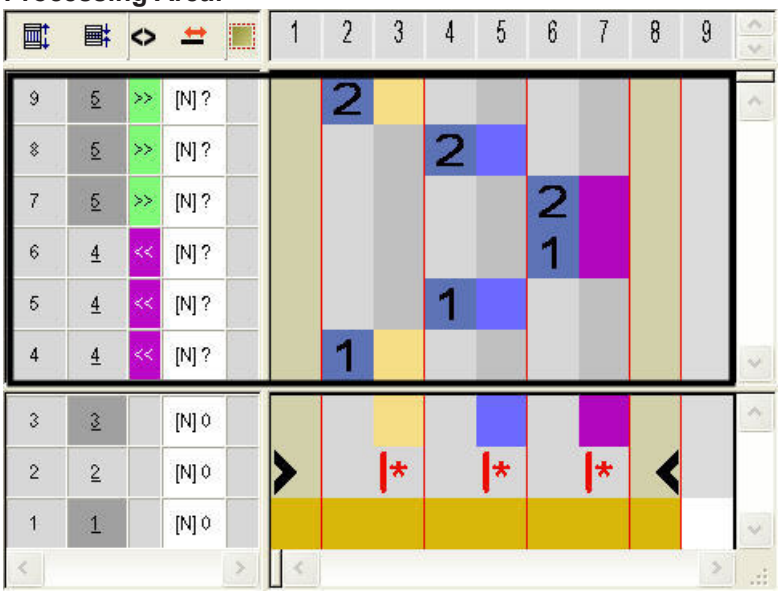
By default, the repetition symbol  will be set below the search color.

Search Area:



- The colors will also be entered in the color columns of the color segments in the **Processing Area**.
  The order of the processing colors corresponds with an intarsia knitting sequence. Each color will be entered in a separate row in the color column of the corresponding search color.

  Processing Area:



- The number in the reference column refers to a corresponding row in the source pattern (Design Pattern).
  - Number (1) corresponds to the reference row 1 from the selection
  - Number (2) corresponds to the reference row 2 from the selection

	Function	Meaning
	Number blue	Marking for reference row (source row)
1	Number 1 blue	Marking of the **first** reference row
2	Number 2 blue	Marking of the **second** reference row
n	For entering number from 5 through 999	

3. Close the editor.

▶ A color marking will be automatically entered in the control column  in the basic pattern. The data of the CA will be used in these marked rows.

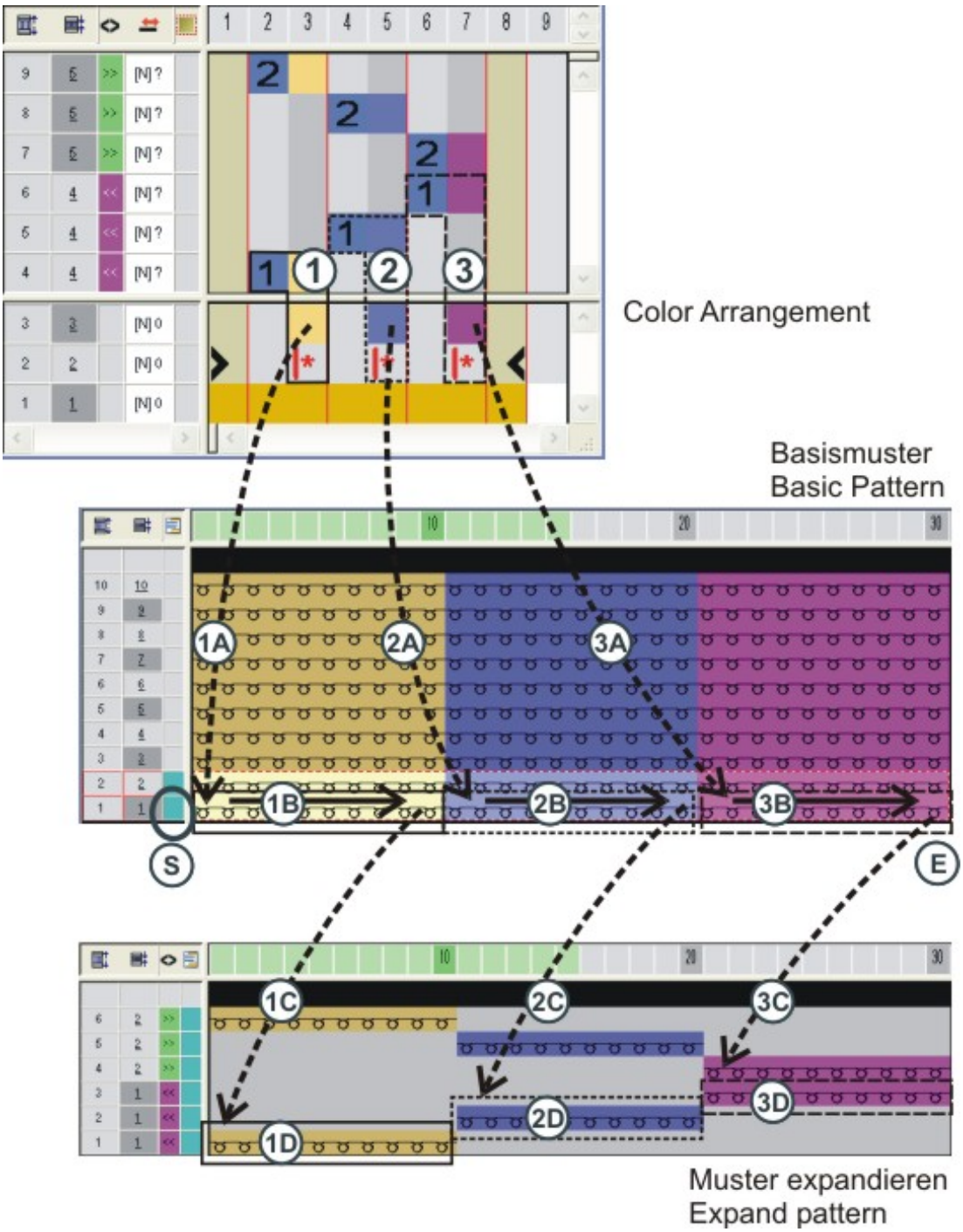
II. Content and Behavior of Reference Rows:

Content of Reference Rows		Properties and Behavior
With yarn color or yarn carrier color	Only color	Needle actions and modules will be read from the reference row of the basic pattern.
	Color and needle actions (knitting)	Needle actions and modules from the reference row of the basic pattern will be overwritten by the needle actions drawn in.
	Different color	Needle actions and modules will be read from the reference row of the basic pattern and knitted in the color drawn in.
	Different color and needle action (knitting)	Needle actions and modules from the reference row of the basic pattern will be overwritten by the color and needle action drawn in.
Without yarn color or yarn carrier color	Not allowed	

Behavior:

- Data (needle actions and modules) will be read from the corresponding reference row of the basic pattern if **no knitting** needle action is present in a reference row.
- The pattern parameter of the control column will be read from the reference row of the basic pattern if the **knitting** needle action is present in a reference row.
- In reference rows with yarn color or yarn carrier color and the **knitting** needle action **one automatical tuck binding** will be entered to the neighboring yarn field.

III. Behavior of a Color Arrangement when expanding:



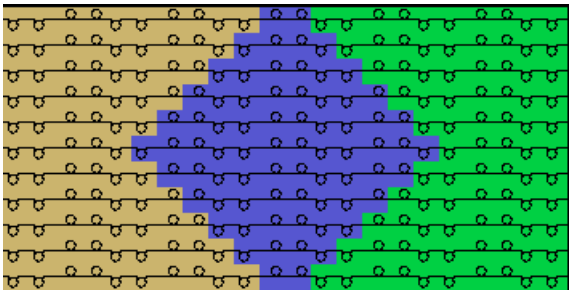
	Steps of Processing
(S)	Call up the corresponding CA and read the first search color.
(1)	First color segment in the CA with the specifications for processing the first color
(1A)	Apply the settings of the CA into the basic pattern.

	Steps of Processing
(1B)	Search for the color from the first color segment (1) in the first reference row of the basic pattern and detect the color field width and needle actions and modules. The  icon fills the CA data in the total width of the color field
(1C)	Copy data to the "Expand pattern" step of processing.
(1D)	Place the copied data on the first technical row.
(2)	Second color segment in the CA with the specifications for processing the second color
(2A)	Apply the settings of the CA into the basic pattern
(2B)	Search for the color from the second color segment (2) in the reference row of the basic pattern and identify the yarn field width and the needle actions / modules. The  icon fills the CA data in the total width of the color field
(2C)	Copy data to the "Expand pattern" step of processing.
(2D)	Place the copied data on the first technical row.
(3) - (3D)	Same procedure (n - nD) for the third color.
(E)	All specifications from the CA are carried out for processing the basic pattern.

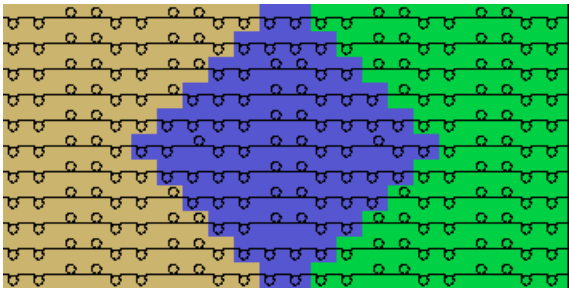
The cycle (1) through (1D) will be repeated according to the number of colors in the basic pattern.

21.1 Behavior of a Color Arrangement with structure

Pattern with 2x2 rib structure

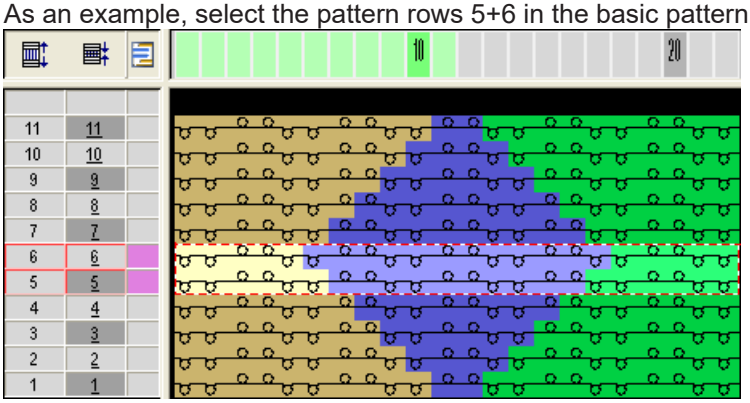


Pattern with 2x2 rib structure and border correction



I. Apply the Color Arrangement:

1. As an example, select the pattern rows 5+6 in the basic pattern.



2. Press the  icon.

▶ The "Color Arrangement Editor" appears.

■ The M1plus searches for existing colors in the selected pattern rows from left to right . These colors will be entered as **search colors** in the **search area** of the "Color Arrangement Editor".

---

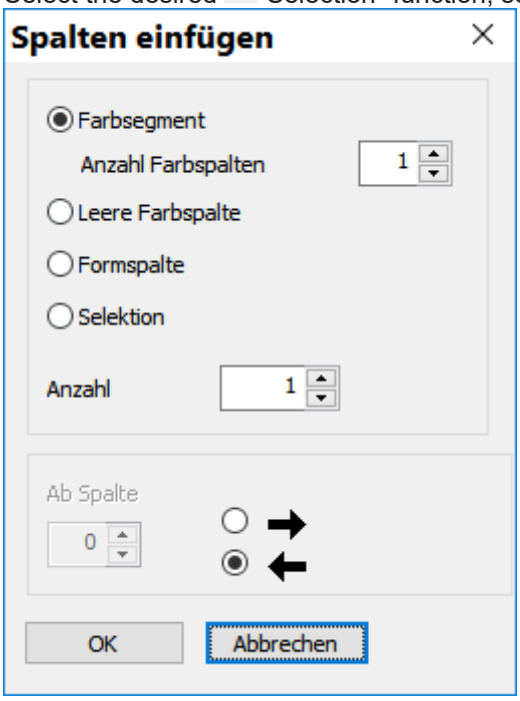
i By default, the  icon will be set below the search color.

---

3. Select the color column with the diamond color and click the "Ins" key.

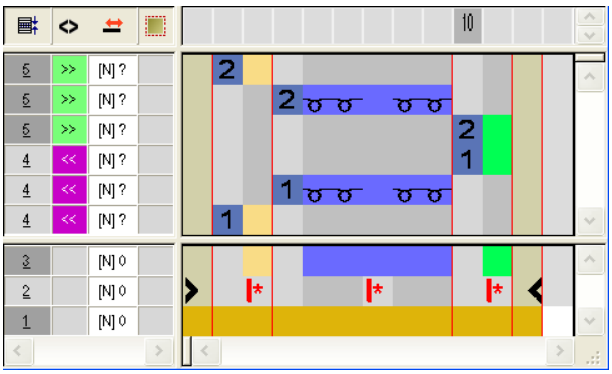
▶ The "Insert columns" dialog box appears.

4. Select the desired "Selection" function, set number and direction.



Designation	Function	
Color segment	Insert a further neutral color segment between the existing segments.	
	Quantity of color columns	Specify the quantity of color columns for the new color segment
Empty color column	Insert an empty color column within a segment.	
Shape column	Insert a further shape segment within a color segments. (with Fully Fashion or k&w)	
Selection	Insert the content of a selected column in order to enlarge a segment.	
Quantity	Specify the number of the columns to be inserted.	
From column	Specify the column, from which on a selection shall be inserted. This input field is only available when selecting a color column.	
→	Insert columns to the right of the selected column.	
←	Insert columns to the left of the selected column.	

5. Draw in the "Front stitch with transfer" needle action in the inserted columns.
6. Delete the icon in the inserted columns.



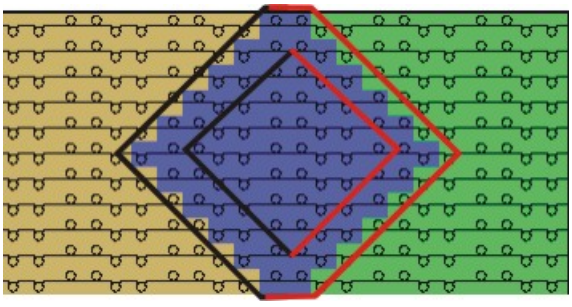
	Toolbar	Function	Meaning
	Color Arrangement	**Delete**	Delete the symbols in the **search area**. : Yarn color, Symbols and Numbers
	Needle Actions	**No needle action**	Delete needle actions within the CA. : The color entry will be retained

7. Close the editor with .

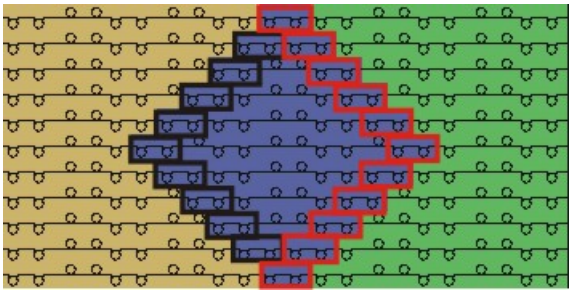
▶ A color marking will be automatically entered in the control column in the basic pattern. The data of the CA will be used in these marked rows.

II. Behavior of a Color Arrangement during the processing step Expand:

Basic pattern before the expanding:

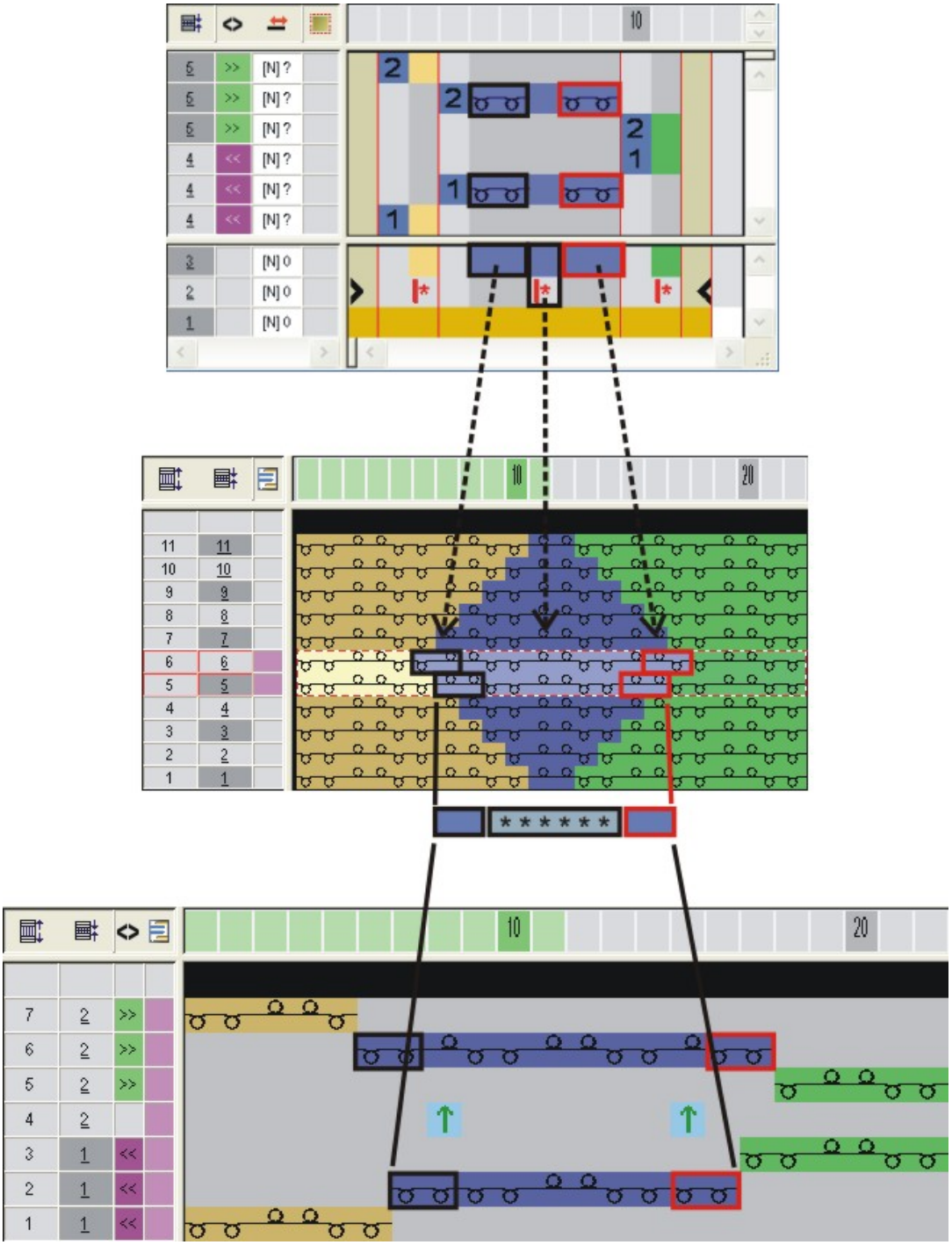


Pattern after the expanding:



i	With the specifications of the CA, the border of the diamond was changed on the left and right edge into "front stitch". The 2x2 rib structure is retained.

III. Effect of the Color Arrangement



22 Tools in the Color Arrangement Editor

Meaning of the icons in the toolbar Color Arrangement:

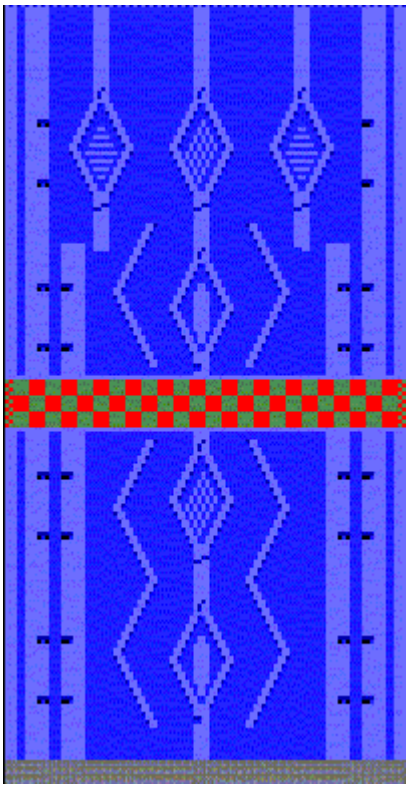
> The toolbar is only active for the "CA Editor".

	Function	Target	
	Repetition, starting from the left pattern edge	Repeat the selected column area within the color relative to the first pattern column.	Determine repeat cycles in the cycle row per color area
	Repetition starting from the left color edge	Repeat the selected column area starting from the left color edge	
	Repetition starting from the right color edge	Repeat the selected column area starting from the right color edge.	
	Repetition starting from the right pattern edge	Repeat the selected column area within the color relative to the last pattern column.	
	Excess width alignment at the left pattern edge	Enter an additional column on the left relative to the first pattern column of a color area.	Enter additional columns from the color area. **Effect:** The color area will be widened up to shape edge at max. **Example:** Intarsia Binding
	Excess width	Enter the additional column on the left and right of a color area.	
	Excess width alignment at the right pattern edge	Enter an additional column on the right relat-ive to the last pattern column of a color area.	
	Excess width also at the shape edge, alignment at the left pattern edge	Enter an additional column on the left relative to the first pattern column of a color area.	Enter additional columns from the color area. **Effect:** The color area will be widened by the specified column number with Within shape and beyond

	Function	Target	
	Excess Width also at the Shape Edge	Enter the additional column on the left and right of a color area at the shape edge.	the shape edge. Here, **Outside shape** is set to **Within shape**. : Shape edges will not be moved, attributes will be widened.
	Excess width also at the shape edge, alignment at the right pattern edge	Enter an additional column on the right relative to the last pattern column of a color area.	
	Border Processing	Border processing symbol for width modification of the motif according to the previous or following color row. **Example**: Intarsia	
	Jacquard	Markings in the CA for Stoll Jacquard-Generators in use	
	Undefined Area	The color of the basic pattern is applied automatically into the CA column	
	Settings for Transferring the Shape	Specify the pattern rows for transferring the narrowings and widenings	
	Settings for Transferring the Structure	Specify the pattern rows for transferring the structures. preferred or delayed	
	Transferring the structure not allowed	Specify the pattern row in which the transferring of the structure is not allowed	
	Settings for Auto Transferring	Specify the pattern rows for auto transferring	
	Delete aligning symbols	Remove the aligning symbols and in the **outside shape** area. (for k&w only) **Example:** CA's for sleeve-body connection	
	Area: Start	Select and define areas for binding-off in the CA	
	Area: First Repetition		
	Area: Following Repetition		
	Area: End		
	Area: Delete		
	Reference Row Number (1-4)	Selection of the reference numbers 1-4 for numbering the reference rows	
	Reference Row Number (n)	Selection of the reference numbers 5-999 via the selection list	

	Function	Target
	**Selection list**	
	**Additional Row**	Define a row as an additional row
	**Knitting layer L0 and L1**	Allocate entries to one or both knitting layers.  : **k&w** only.
	**Knitting layer L0**	
	**Knitting layer L1**	
	**Delete**	Delete an entry by click on this icon

23 Color Arrangement: Different Jacquard Variants with Structure



Pattern name	02_Muster_Pattern_CA.mdv 02A_Muster_Pattern_CA.mdv 02B_Muster_Pattern_CA.mdv	
Pattern size	**Gauge**	**E 3,5.2**
	Width:	**100**
	Height:	**180**
Machine type:	◆ CMS 530 HP 5,2“’	
Setup Type	Setup2:	
Start	1X1 Rib	
Basic Pattern	Front stitch with transfer	
Knitting Technique	Structure pattern with cable, aran and with color jacquard bordering	
Pattern description	**Color Arrangement** for different backs of the Jacquard bordering	

23.1 Color Arrangements for Jacquard Backs

With a **Color Arrangement** in Jacquard areas you define:

- the Jacquard back
- the color sequence

Examples of Color Arrangements for Jacquard backs:

- Jacquard with float:
  Knitting rear stitch and casting-off
- Jacquard with float:
  Knit rear stitch and transfer to the front

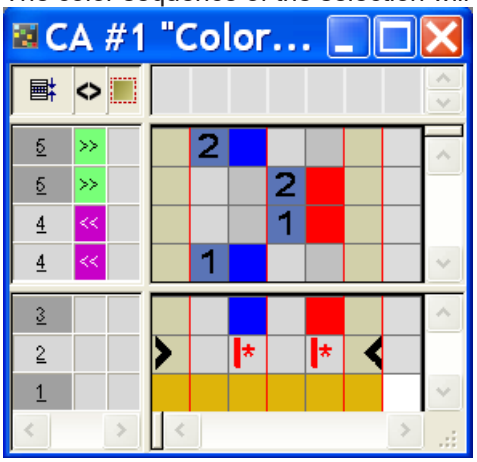
I. Generate a Color Arrangement for Jacquard with float and cast-off:

✓ No Jacquard generator from Stoll is inserted in the Jacquard motif.

1. Copy the 01_Muster_Pattern.mdv pattern and rename it to 02_Muster_Pattern.mdv.
2. Create a row selection via the Jacquard motif.

3. Click the  icon in the "Default" toolbar.
   - or -
   Call up the "Generate from Selection" / "Color Arrangement" function in the "Module" menu.

▶ The color sequence of the selection will be displayed in the "Color Arrangement Editor".

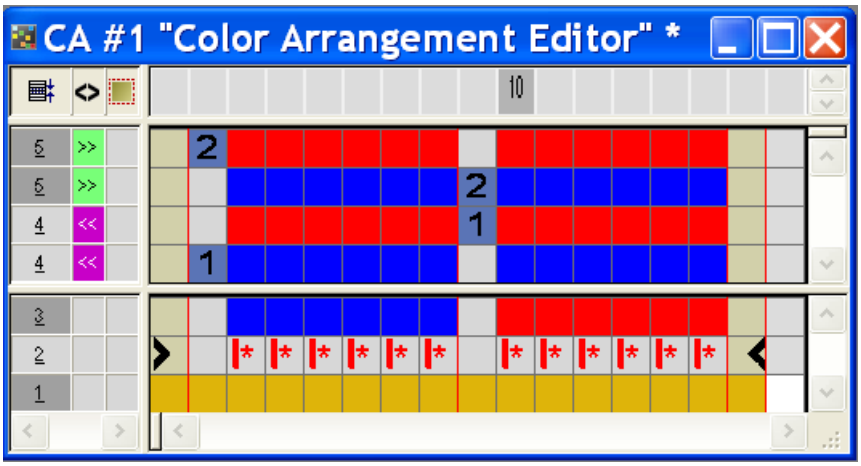


4. Change the color sequence in the "Color Arrangement Editor" in order to knit the basic color and contrast color uniformly.

5. Select columns in the "Color Arrangement Editor" and click the "Ins" key.

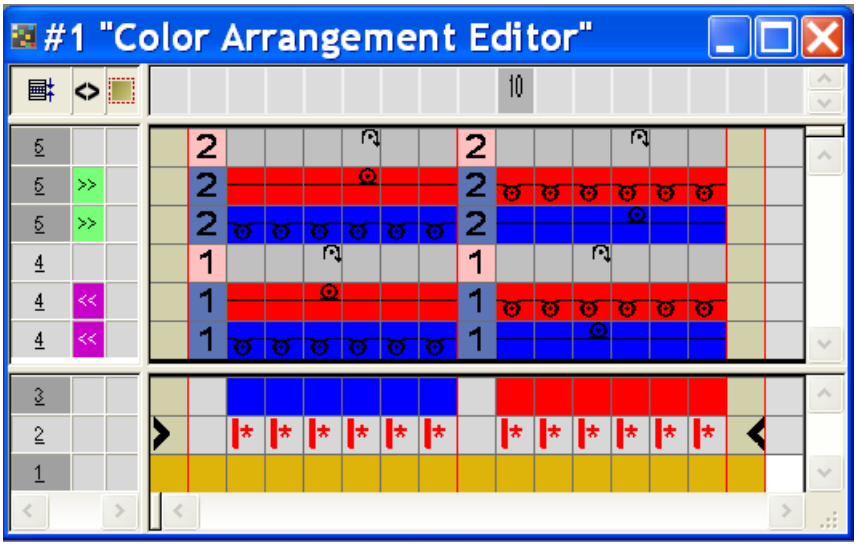
▶ The "Insert columns" dialog box appears.

6. Select the "Selection" option in the and specify the column number to be inserted via the selection menu.
7. Draw in the colors in the inserted columns.



8. Select the row and insert the desired rows with the "Ins" key.

9. Draw-in the knitting sequence with cast-off and the reference rows identification into the additional row.



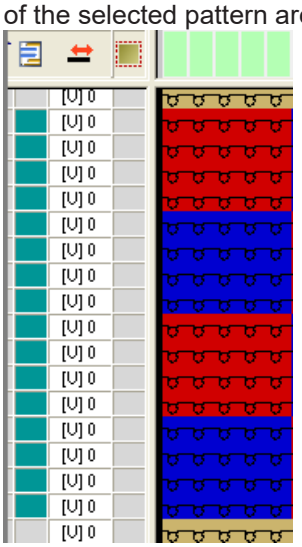
	Function	Meaning
	light red	For marking additional row(s)
1 +	1	Additional row(s) to the **first** reference row
2 +	2	Additional row(s) to the **second** reference row
n +	Enter numbers from 5 to 999	

Result:

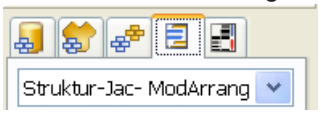
- The rows in the Color Arrangement, which only contain color, receive the needle actions from the source row of the basic pattern.
- The rows in the Color Arrangement, which contain needle actions overwrite the needle actions in the source row of the basic pattern.

10. Close the "CA editor".
11. Confirm the query "Save the modified module?" with "Yes".

▶ The marking of the Color Arrangement will automatically be entered in the control column of the selected pattern area.



i The **Color Arrangement** will be saved with the pattern and can be selected in the "Local Color Arrangements" tab of the "Module" toolbar.



Content and Behavior of Additional Rows:

Content of additional rows	Properties and Behavior
With yarn color / yarn carrier colors	You have to draw-in a **Knitting** needle action if you enter additional rows with Yarn Color or Yarn Carrier Color into a color column.
Without yarn color or yarn carrier color	You have to draw in a **Transfer**, **Cast-off** or **Loop sinking** needle action (no knitting) if you enter additional rows without Yarn Color or Yarn Carrier Color into a color column.
Behavior	◆ The additional rows must contain needle actions as no data will be read from the reference row of the basic pattern. ◆ In additional rows with yarn color or yarn carrier color and the **knitting** needle action **no automatical tuck binding** will be entered into the neighboring yarn field.In additional rows with yarn color or yarn carrier color and the knitting needle action no automatical tuck binding will be entered into the neighboring yarn field.

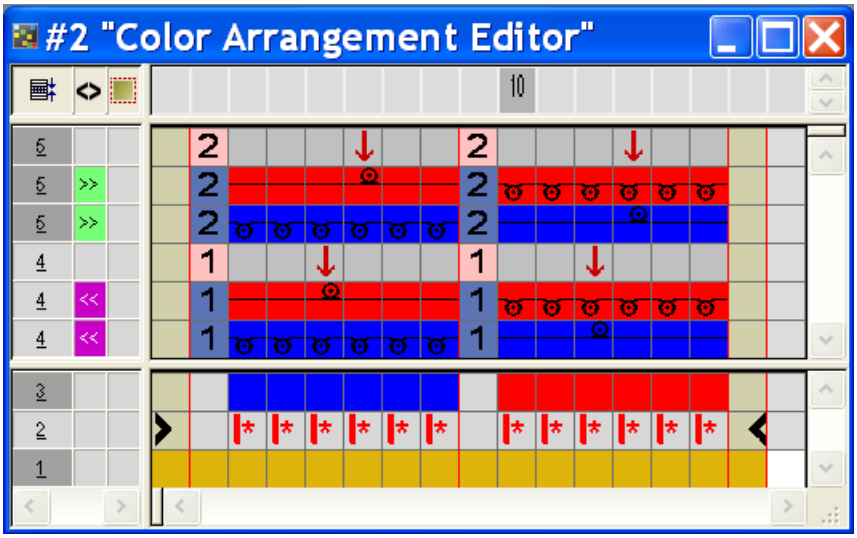
Content of additional rows	Properties and Behavior
	◆ No pattern parameters of the reference row of the basic pattern will be applied to additional rows with yarn color or yarn carrier color and the **knitting** needle action. **Exception: NP-Data.**

II. Generate a Color Arrangement for Jacquard float and transfer:

i Proceed as in the example for the Jacquard with float and casting-off.

1. Insert additional rows in the "CA Editor".

Draw-in the knitting sequence with transfer and the reference rows identification into the additional row.



2. Close the "CA Editor" with .
3. Confirm the query "Save the modified module?" with "Yes".

▶ The marking of the Color Arrangement will automatically be entered in the control column of the selected pattern area.

III. Expanding the Selected Area:

✓ An area is selected.

1. Expand the area with the Color Arrangement via of the "Steps of Processing" toolbar.

▶ The selected area is displayed in the "Symbol View (Preview)".

2. Close the preview with .

23.2 Color Arrangement for Jacquard with Stoll Jacquard Generators

With a **Color Arrangement** in Jacquard areas with **Stoll Jacquard Generators** you define:

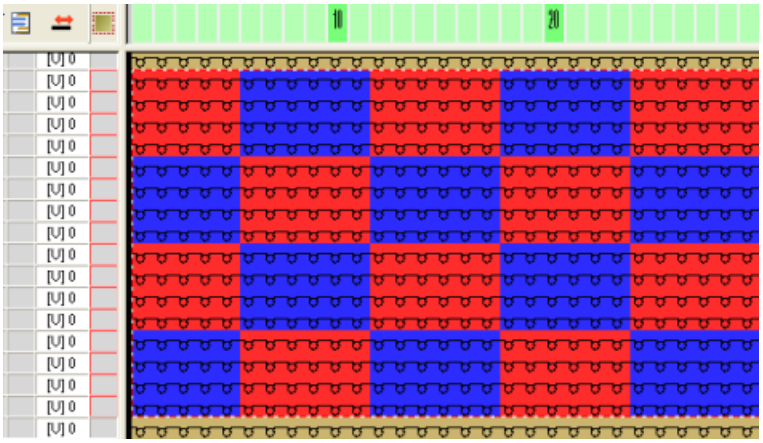
- the color sequence
- the knitting sequence for Intarsia with Jacquard back

Example for Color Arrangements:

- Changing the color sequence
- Knitting Intarsia with Jacquard back with normal yarn carriers

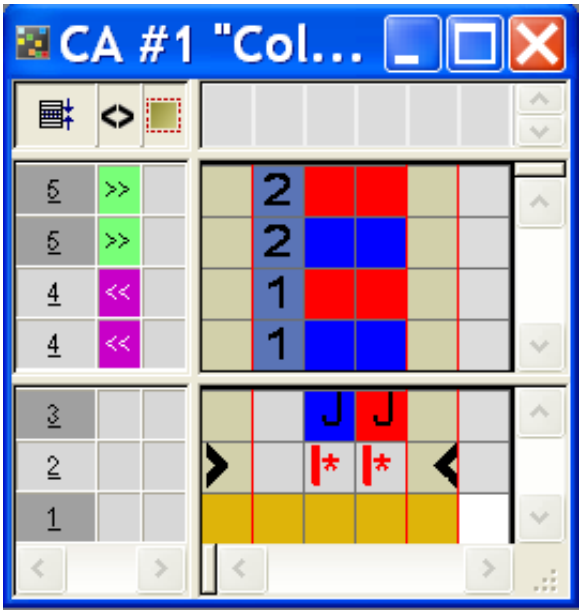
I. Generate Color Arrangement for Modification of the Color Sequence:

1. Copy the 02_Muster_Pattern.mdv pattern and rename it to 02A_Muster_Pattern.mdv
2. Create a row selection over the Jacquard motif.



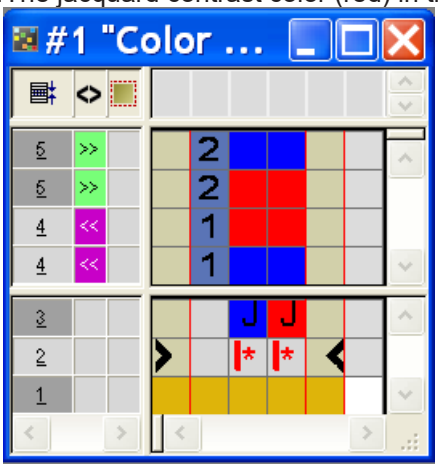
3. Call up the "Jacquard" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.
4. Select the desired jacquard generator e.g. "Net 1X1".
5. Select the "continuously similar" option.
6. Confirm with the "Apply" button.
7. Close the "Jacquard" dialog box.
8. Click the  icon in the "Default" toolbar.
   - or -
   Call up the "Generate from Selection" / "Color Arrangement" function in the "Module" menu.

▶ The color sequence of the selection will be displayed in the "Color Arrangement Editor".



	Function	Meaning
J	**J** symbol	Marking of the search color for an inserted Stoll Jacquard Generator. i: Color sequence corresponds to standard sequence.

9. Change the color sequence in the "Color Arrangement Editor" with the tool.
10. The jacquard contrast color (red) in the reference rows as additional row marking.



Rules for color columns with the J symbol:

- Do not enter a needle action
- Retain the sequence of the referring numbers

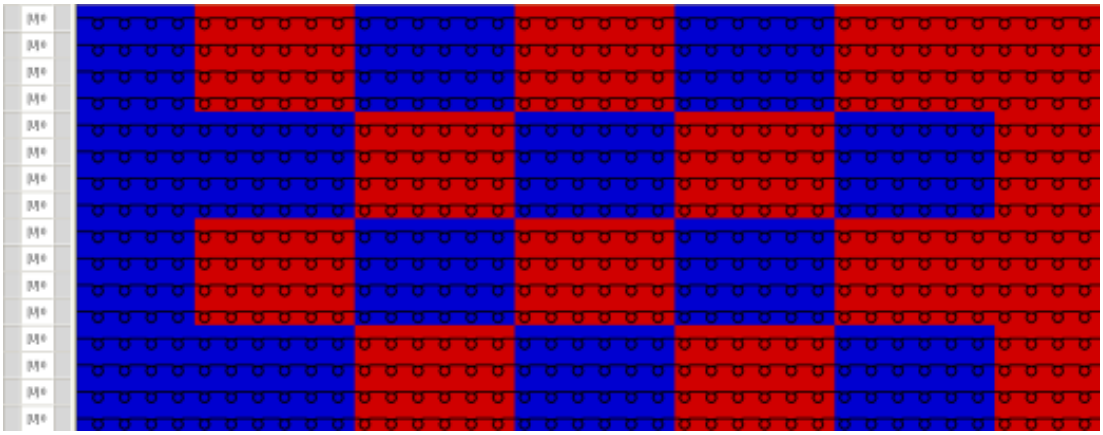
11. Close the "CA editor".
12. Confirm the query "Save the modified module?" with "Yes".

II. Generate Color Arrangement for Intarsia with Jacquard back:

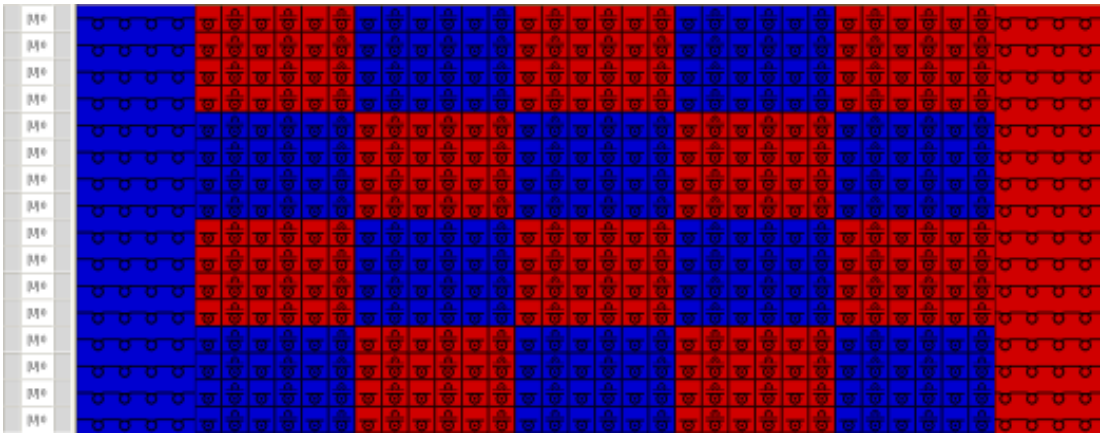
> **i** The pattern shall be knit with normal yarn carrier.

1. Copy the 02_Muster_Pattern.mdv pattern and rename it to 02B_Muster_Pattern.mdv
2. Modify the Jacquard area

▶ At the right and at the left of the Jacquard area one yarn carrier each continues to knit.

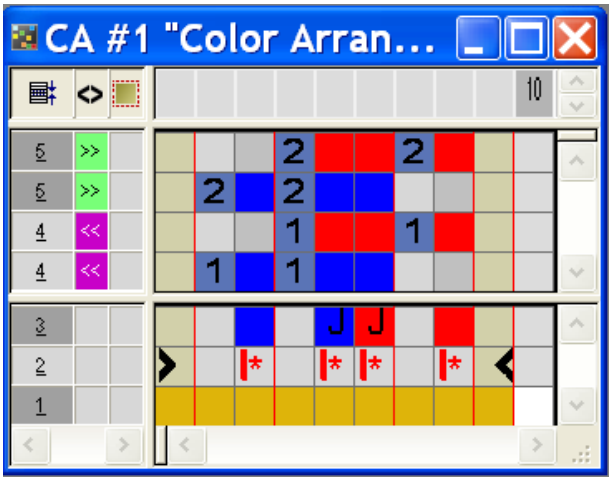


3. Select the Jacquard area with the drawing tool.
4. Call up the "Jacquard" dialog box via the "Edit" / "Generate or Edit Jacquard..." menu.
5. Select the desired jacquard generator e.g. "Net 1X1".
6. Select the "continuously similar" option.
7. Confirm with the "Apply" button.



8. Close the "Jacquard" dialog box.
9. Click the icon in the "Default" toolbar.
   - or -
   Call up the "Generate from Selection" / "Color Arrangement" function in the "Module" menu.

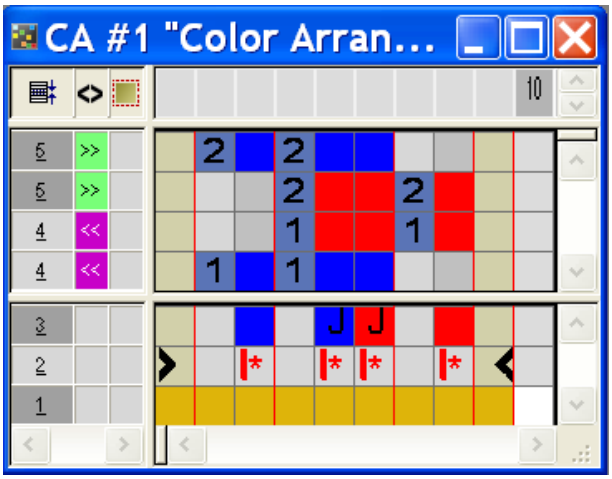
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



10. Change the color sequence in the "Color Arrangement Editor" with the tool.

▶ **Normal Yarn Carrier** can be used due to the change of the color sequence.

11. Mark the reference rows as additional rows.



Rules for color columns with the J symbol:

- Do not enter a needle action
- Retain the sequence of the referring numbers

12. Close the "CA editor".
13. Confirm the query "Save the modified module?" with "Yes".

23.3 Complete the pattern

Complete the pattern:

1. Start the technical processing with .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the Steps of Processing  toolbar.

24 Color Arrangement: Changing the color sequence and combine the yarn carriers

Pattern name	03_Muster-Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	50
Machine type:	◆ CMS 530 HP	
Setup Type	Setup2:	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Intarsia with Color Arrangement in order to: ◆ change the color sequence ◆ Combine the yarn carriers	

24.1 Generate pattern and Color Arrangement for the color sequence

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw intarsia motif with yarn colors.

---

i Do not use the same color repeatedly in one pattern row.

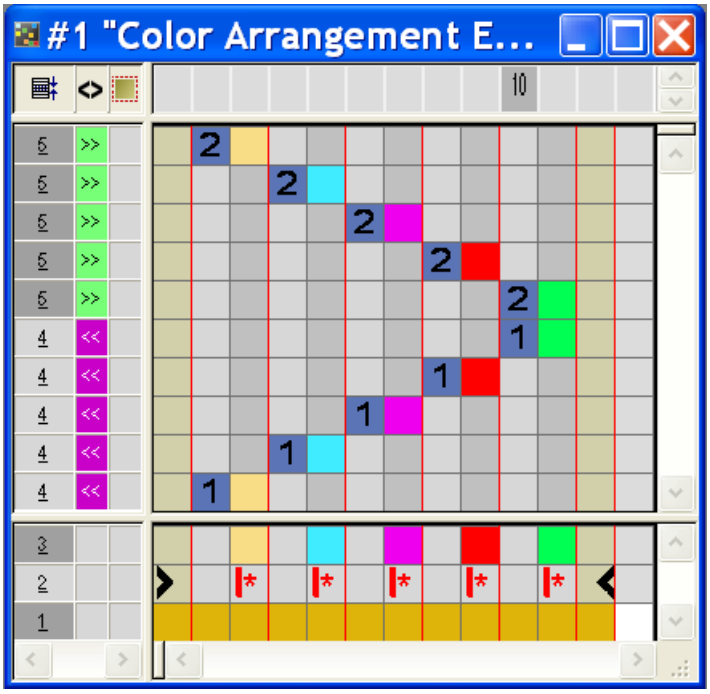
II. Generate Color Arrangement for the color sequence:

1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the  icon in the "Default" toolbar.

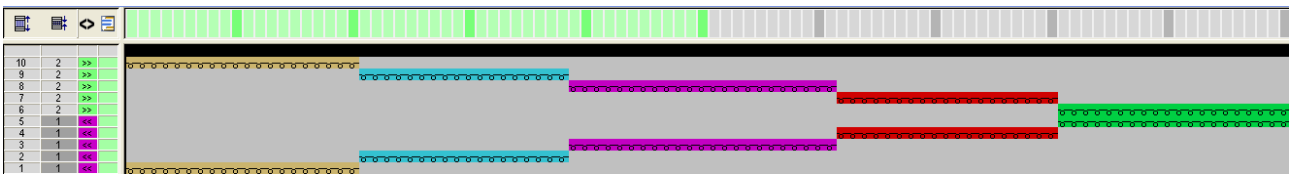
▶ The "Properties of: CA #1" dialog box appears.

3. Close the dialog box with "OK".

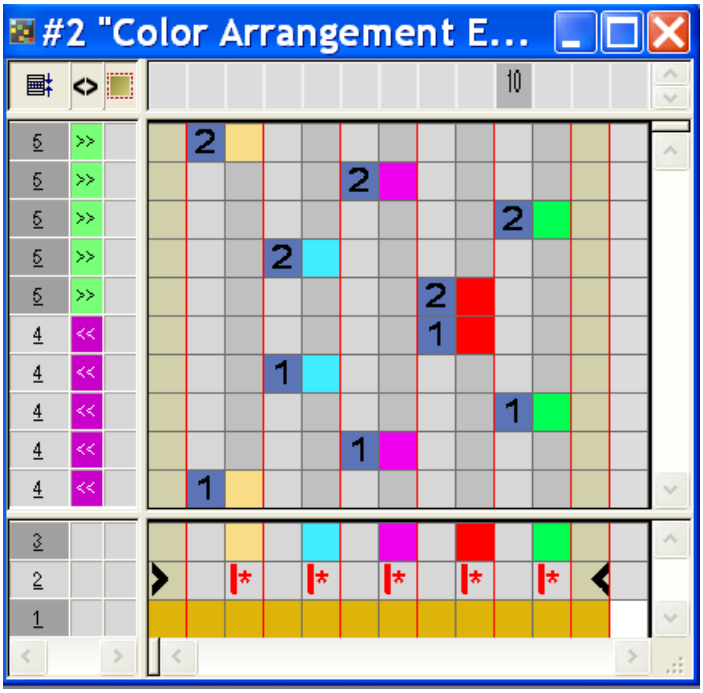
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



Result after expanding with unchanged CA:



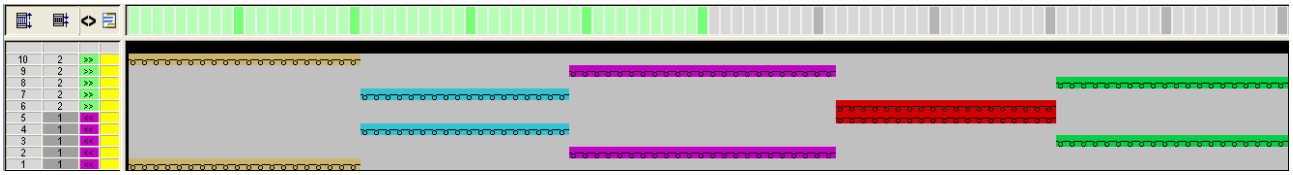
4. Change the color sequence in the "Color Arrangement Editor" with the  drawing tool



5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".
7. Expand the selected rows.

▶ The preview appears.

Result after expanding with modified CA:



8. Close the preview window with .
9. Delete selection.
10. Edit the pattern further.

24.2 Generate Color Arrangement for combining the yarn carriers

Generate a Color Arrangement for combining the yarn carriers:

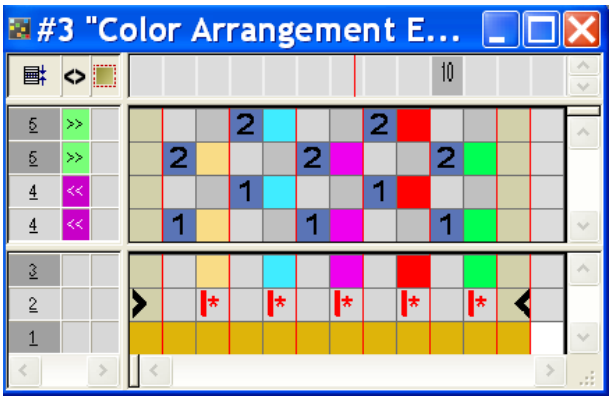
1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The "Properties of: CA #1" dialog box appears.

3. Close the dialog box with "OK".

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

4. Change the color sequence in the displayed "Color Arrangement" Editor with the drawing tool

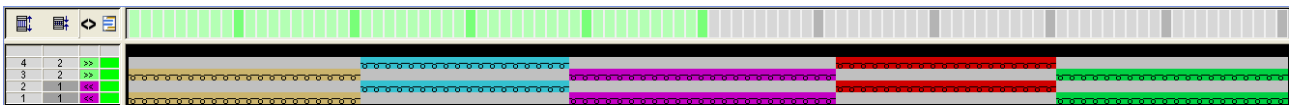


i	When combining the yarn carriers pay attention to the color field distances. The technical processing will not check it.

5. Select empty rows in the CA and delete with "Del".
6. Close the "Color Arrangement Editor" with .
7. Confirm the query "Save the modified module?" with "Yes".
8. Expand the selected rows.

▶ The preview appears.

Result after expanding with modified CA:



9. Close the preview window with .
10. Delete selection.
11. Edit the pattern further.

24.3 Complete the Pattern

Complete the pattern:

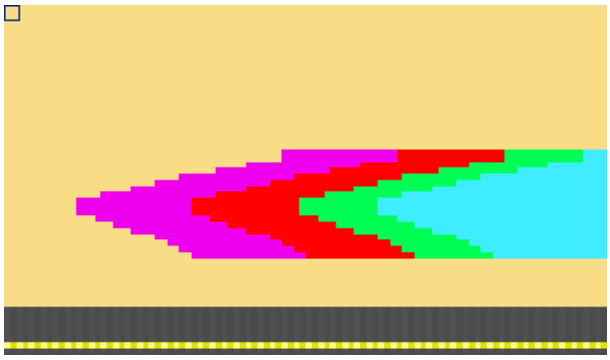
i	If necessary, you can make further settings in the "Yarn Field Allocation" dialog box.

1. Expand the pattern with icon of the "Steps of Processing" toolbar.
2. Start the technical processing with the icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click  in the Steps of Processing toolbar.

25 Color Arrangement: Intarsia Knitting in and out



Pattern name	04_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	50
Machine type:	CMS 530	
Setup Type	Setup2	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Intarsia with Color Arrangement in order to: ◆ Knitting-in and out the yarn carriers	

25.1 Generate Pattern and Color Arrangement for Knitting-in

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw intarsia motif with yarn colors.

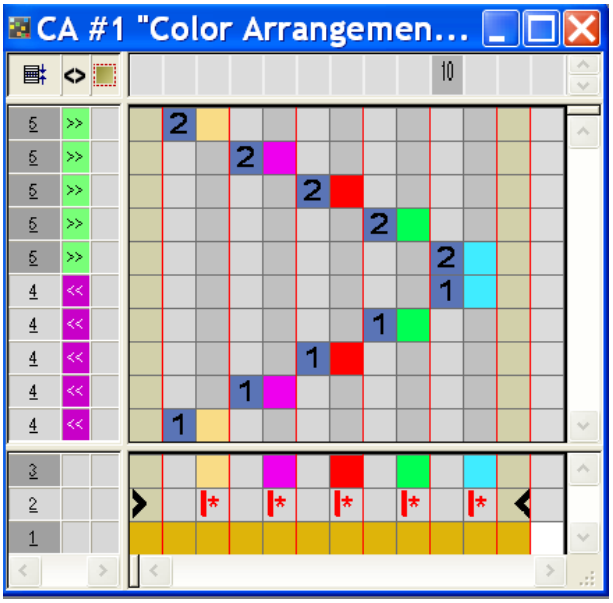
---

i Do not use the same color repeatedly in one pattern row.

II. Generate Color Arrangement for knitting-in the yarn carriers:

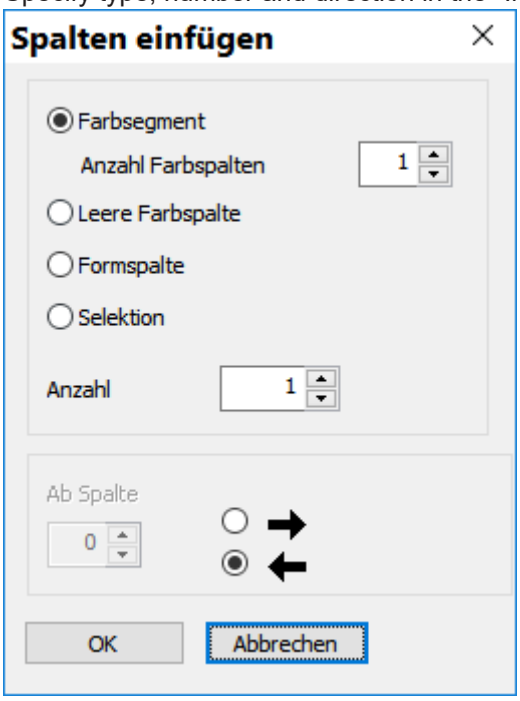
1. Select the intarsia pattern rows via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

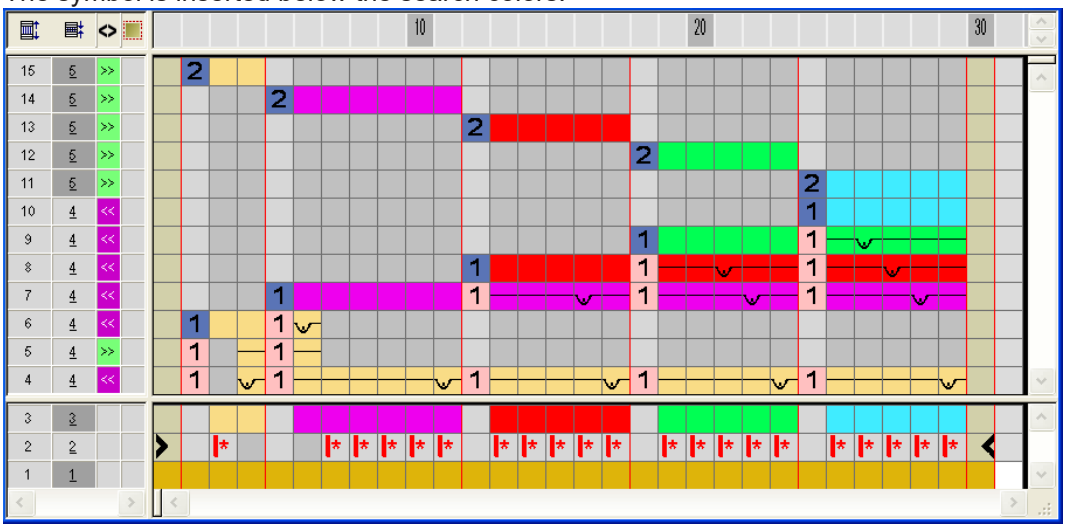


3. Modify the knitting in in the "Color Arrangement Editor":

- Specify type, number and direction in the "Insert Columns" dialog box.

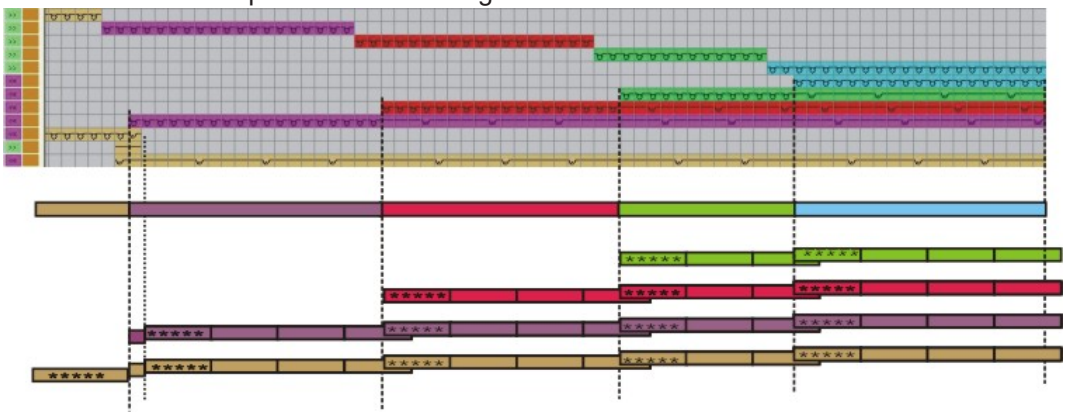


- Select and insert rows.
- Change the knitting in of the yarn carriers.
- The symbol is inserted below the search colors.

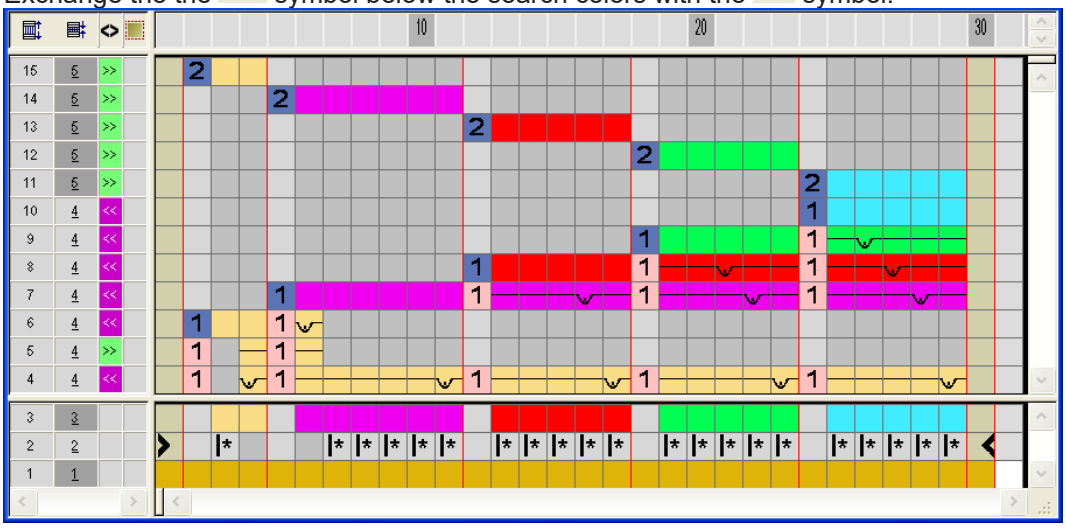


Effect:

- With the  icon the tuck structure will be arranged irregularly as the cycle mark will be inserted from the respective left color edge.

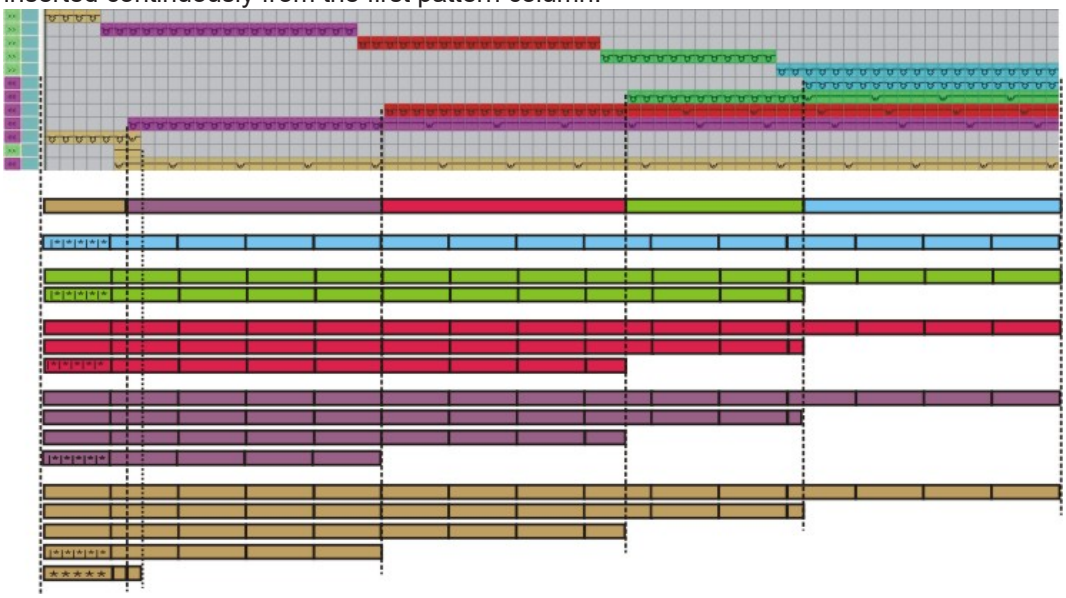


4. Exchange the the  symbol below the search colors with the  symbol.



Effect:

- With the icon the tuck structure will be arranged uniformly as the cycle mark will be inserted continuously from the first pattern column.



Meaning of the symbols for cycle marking:

	Function	Meaning
	Repetition starting from the left color edge	The cycle marks will be inserted by the respective color edge from the left
	Repetition, starting from the left pattern edge	The cycle marks will be inserted by the first pattern column from the left
	Repetition starting from the right pattern edge	The cycle marks will be inserted by the last pattern column from the right

5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local Color Arrangement** in the "Modules" toolbar.

i	For knitting-out a Color Arrangement can be generated following the same procedure.

25.2 Complete the pattern

Complete the pattern:

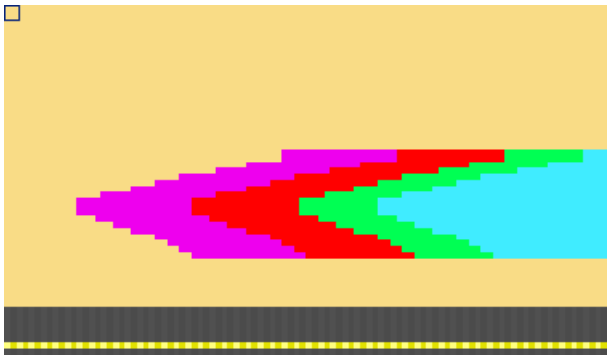
1. If necessary, you can make further settings in the "Yarn Field Allocation" dialog box.
2. Expand the pattern with of the "Steps of Processing" toolbar.

3. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".
5. Call-up "Sintral check" via "MC program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

26 Color Arrangement: Intarsia Edge Editing



Files	05_Muster_Pattern_CA.mdv 06_Muster_Pattern_CA.mdv 07_Muster_Pattern_CA.mdv 08_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	50
Machine type:	CMS 530	
Setup Type	Setup2:	
Gauge	8	
Start	1x1	
Basic Pattern:	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Color Arrangement (CA) for the border processing in case of Intarsia ◆ with the + icon ◆ with the H symbol ◆ with the H symbol and color ◆ with the H symbol and + symbol	

26.1 Color Arrangement with the + symbol

i symbol

You can influence the Intarsia binding at the color field border with the "" icon in the **Color Arrangements**.

I. Create and draw a new pattern:

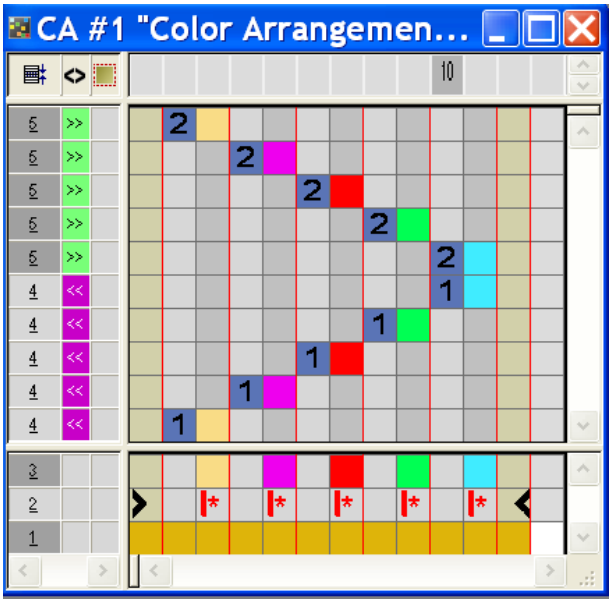
1. Create a new pattern with "Design Pattern" setting.
2. Draw intarsia motif with yarn colors.

II. Generate a Color Arrangement for Intarsia Binding with symbol +:

✓ A structure, e.g. an inclined running 3x3 rib, is drawn-in into the intarsia pattern.

1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



3. Insert columns:

- Create selection.
- Specify number of columns to be inserted.
- Column type: select "Empty column" or "Selection".

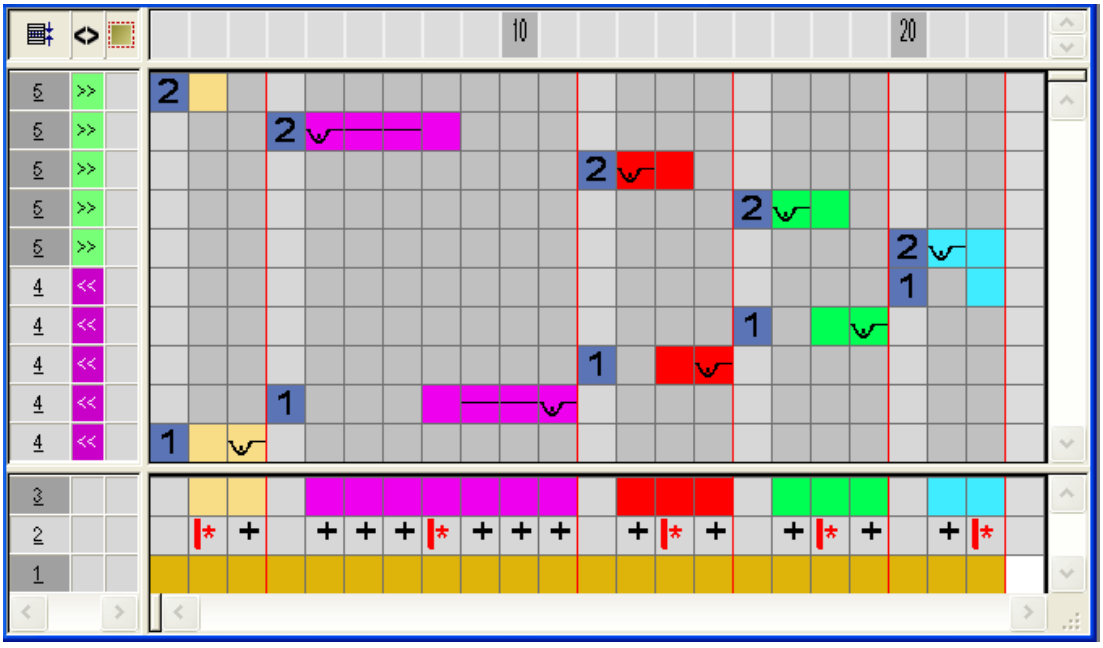
4. Draw-in the desired binding with "Binding elements" into the columns for the **Binding intarsia** at the color field border.

> In the columns with the **Symbol** you always have to enter **color and needle actions** or **no entry**.

5. Insert the icon below the search color in the columns for the **Intarsia Binding**.

▶ The columns marked with the icon will be inserted in the defined width at the color field border once.

Example: Binding intarsia by means of symbol +



Meaning of the symbol:

	Function	Meaning
	Excess Width	**Widening** of the color field by the number of columns marked with the + symbol up to the shape edge at max.. : The **+ symbol** deactivates the "Binding / Gore" setting of the "Configuration" or the "Yarn Field Allocation" dialog box
	Excess Width also at the Shape Edge	**Widening** of the color field by the number of columns marked with the # symbol also at the shape edge. **Effect:** The color area will be widened by the specified column number within shape and beyond the shape edge. Here, **Outside shape** is set to **Within shape**.

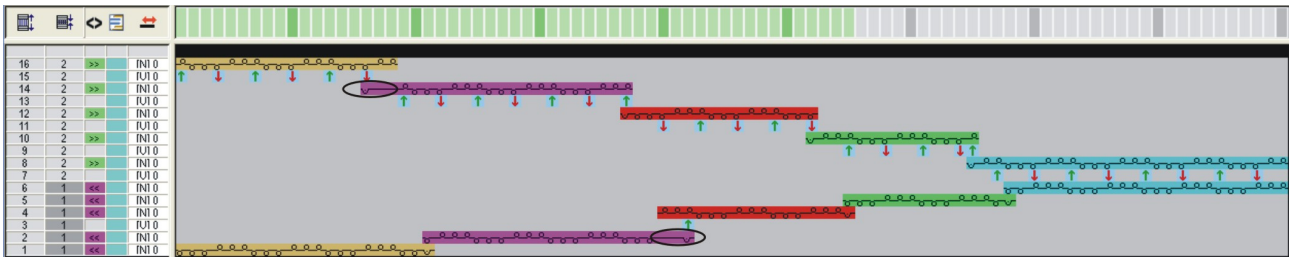
	Function	Meaning
		i: The **# symbol** deactivates the "Binding / Gore" setting of the "Configuration" or the "Yarn Field Allocation" dialog box.

6. Close the "Color Arrangement Editor" with .
7. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

8. Expand the selected rows.

▶ The preview window will be opened.



9. Close the preview with .
10. Delete selection.
11. Edit the pattern further.

> i The data **not** influenced by the Color Arrangement will be entered during **expanding**.

26.2 Color Arrangement with symbol H

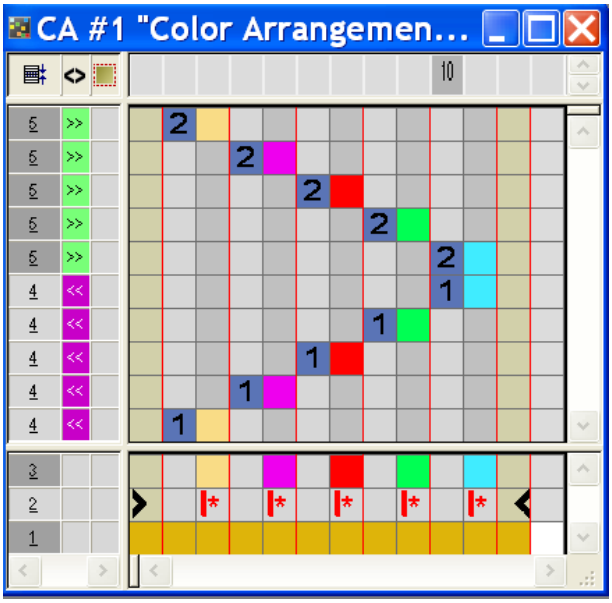
> i **H** symbol
>
> You can influence the the automatically resulting border processing **H** Feeding" by the " icon in the **Color Arrangement** toolbar.

Generate Color Arrangement for the border processing with the **H** symbol and needle actions:

> i You cannot specify **Reduce** by a Color Arrangement.

1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The color sequence of the selection will be displayed in the "Color Arrangement Editor".



3. Insert columns:
- Create selection.
- Specify number of columns to be inserted.
- Column type: select "Empty column" or "Selection".

4. Draw-in the desired binding with "Needle Actions" into the columns for the **Feeding binding**.

---

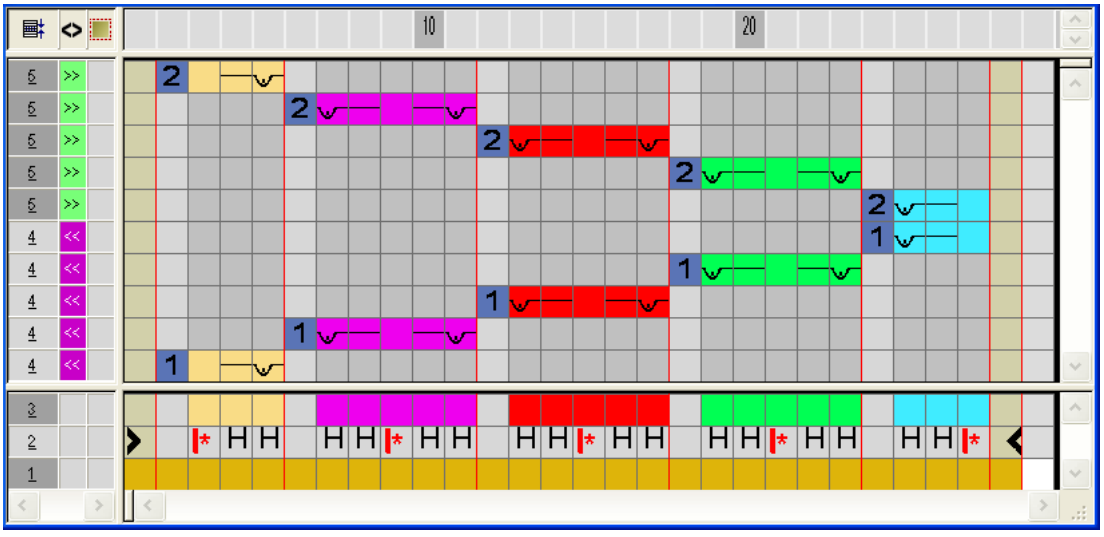
i You can draw the binding of feeding as desired with "Needle Actions".

---

5. Insert the H icon below the search color into the inserted columns.

▶ The columns marked with the H icon will be inserted at the color field border repeatedly to position the yarn carrier for the next pattern row.

Example: Feeding with binding tuck and float



Meaning of the symbol:

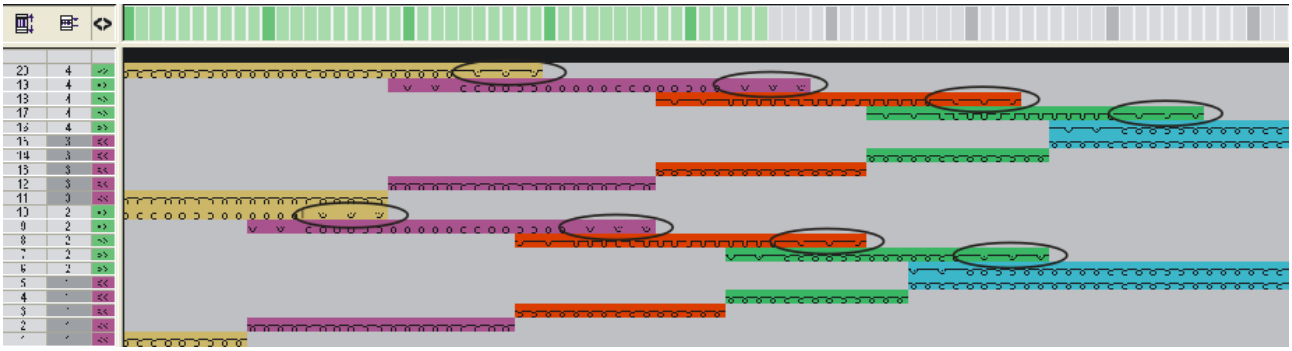
	Function	Meaning
H	**Border Processing**	The yarn carrier is positioned at the color field edge with the specified binding (= feeding).

6. Close the "Color Arrangement Editor" with .
7. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Modules" toolbar.

8. Expand the selected rows.

▶ The preview window will be opened.



9. Close the preview with .
10. Delete selection.
11. Edit the pattern further.

> **i** The data **not** influenced by the Color Arrangement will be entered during **expanding**.

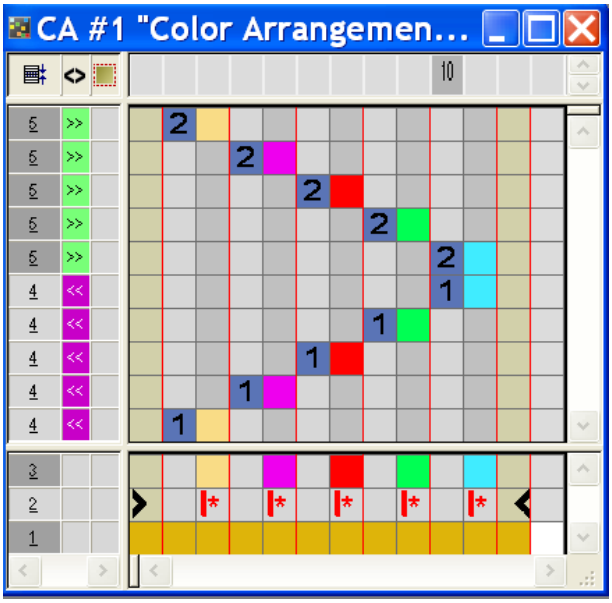
26.3 Color Arrangement with the symbol H and color

Generate Color Arrangement for the border processing with the symbol H and color:

✓ A structure, e.g. an inclined running 3x3 rib, is drawn into the intarsia pattern.

1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

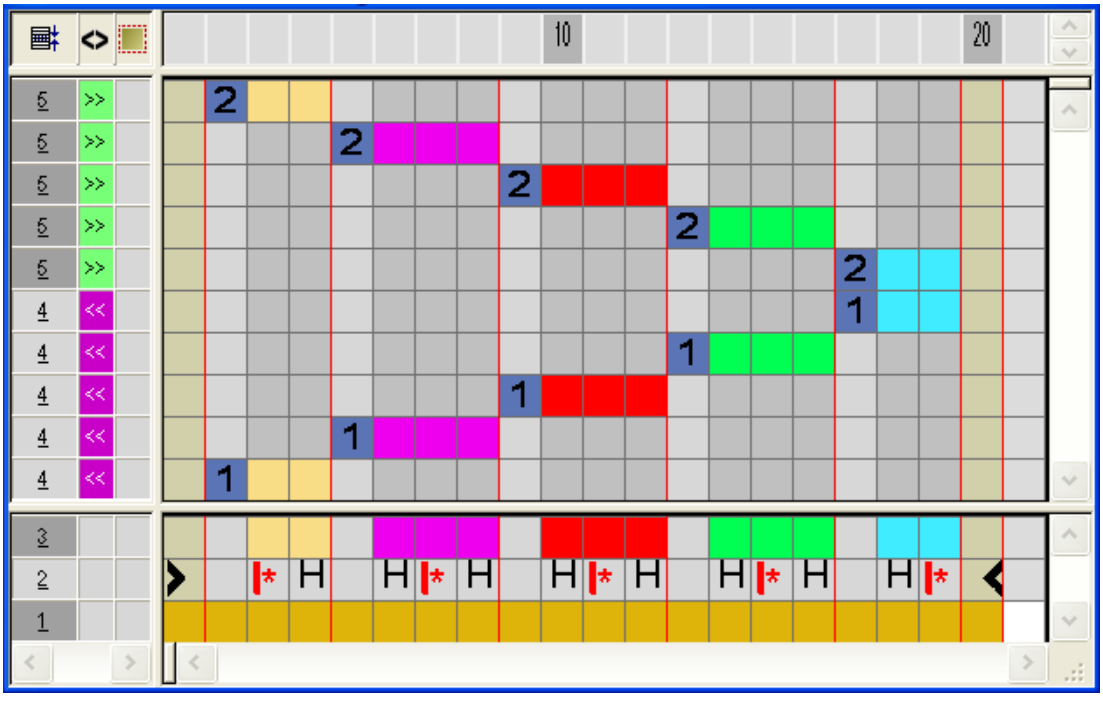


3. Insert columns:
- Create selection
- Specify number of columns to be inserted
- select the "Selection" type of column.

4. Insert the H icon below the search color into the inserted columns.

▶ The columns marked with the H icon will be inserted repeatedly with the structure existing in the basic pattern at the color field border to position the yarn carrier for the next pattern row.

Example: Feeding the yarn carriers

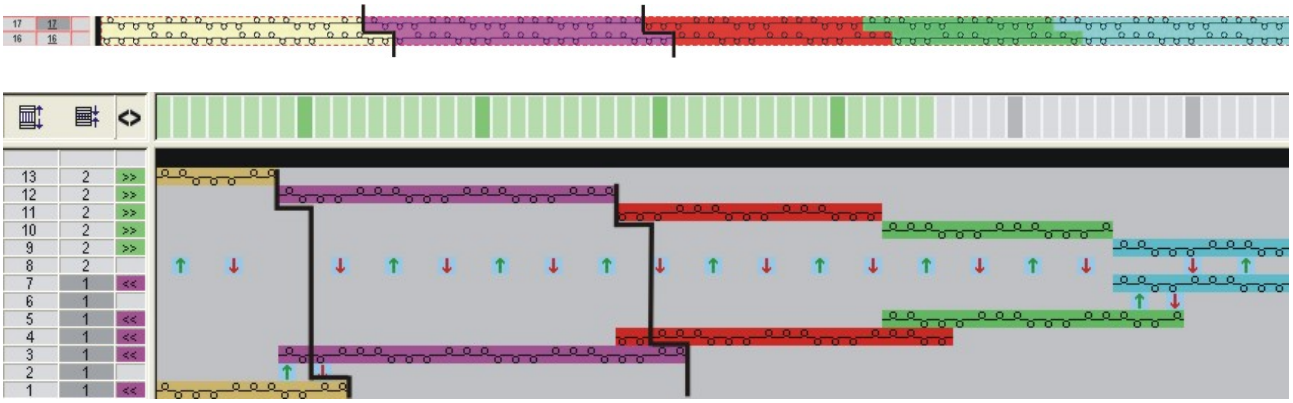


5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

7. Expand the selected rows.

▶ The preview window will be opened.



> **i** The structure from the wider color field will be laid into the narrower color field.

8. Close the preview with .
9. Delete selection.
10. Edit the pattern further.

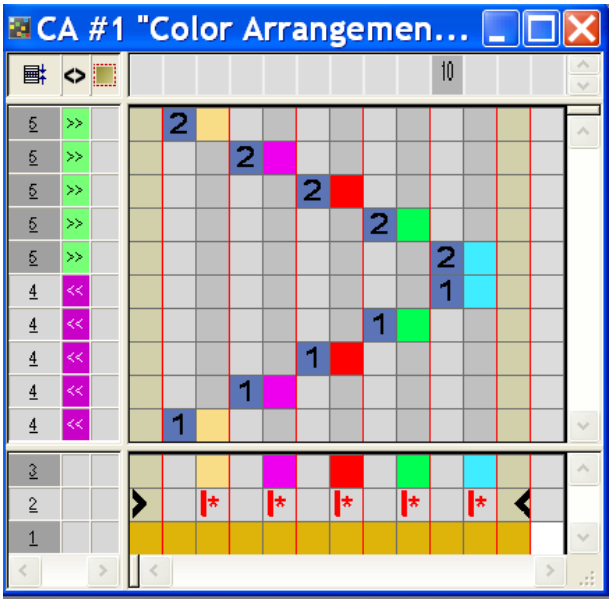
26.4 Color Arrangement with the symbol H and +

Generate Color Arrangement for the border processing with symbol H and binding intarsia with the symbol +:

✓ A structure, e.g. an inclined running 3x3 rib, is drawn into the intarsia pattern.

1. Select the corresponding intarsia pattern rows via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



3. Insert columns.
- Create selection
- Specify number of columns to be inserted
- Column type: select "Empty column" or "Selection".

4. Insert the H icon for **Feeding** below the search color.

▶ The columns marked with the H icon will be inserted repeatedly with the structure existing in the basic pattern at the color field border to position the yarn carrier for the next pattern row.

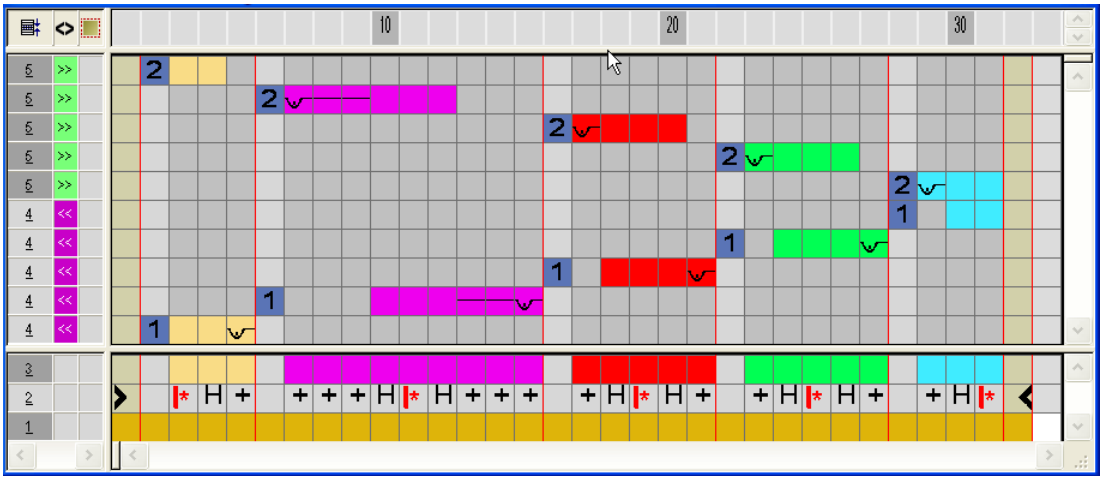
5. Draw-in the desired binding with "Needle Actions" into the columns for the **Binding intarsia** at the color field border.

i	In the columns with the **+** symbol you always have to enter **color and needle actions** or **no entry**.

6. Insert the + icon below the search color in the columns for the **Binding intarsia**.

▶ The columns marked with the + icon will be inserted in the defined width at the color field border once.

Example: Feeding with the symbol H and intarsia binding by means of the symbol +

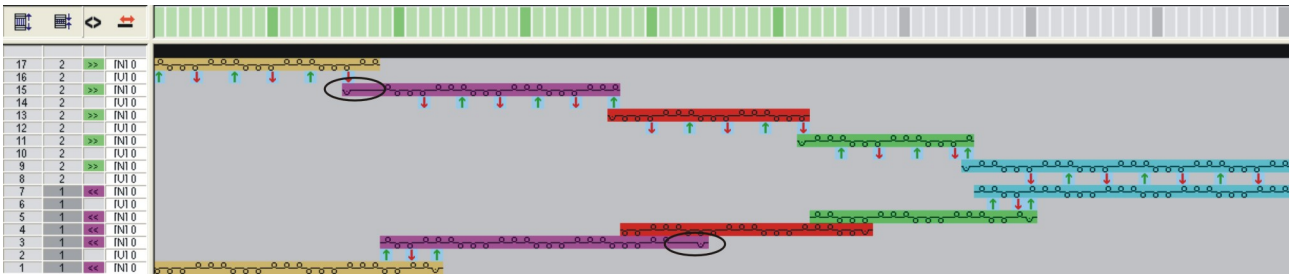


7. Close the "Color Arrangement Editor" with .
8. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

9. Expand the selected rows.

▶ The preview window will be opened.



10. Close the preview with .
11. Delete selection.
12. Edit the pattern further.

> **i** The data **not** influenced by the Color Arrangement will be entered during **expanding**.

26.5 Complete the pattern

Complete the pattern:

> **i** If necessary, you can make further settings in the "Yarn Field Allocation" dialog box.

1. Expand the pattern with icon of the "Steps of Processing" toolbar.
2. Start the technical processing with the icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click " in the "Steps of Processing  toolbar.

27 Color Arrangement: Additional Rows

Pattern name	09_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	50
Machine type:	CMS 530	
Setup Type	Setup2:	
Gauge	8	
Start	1x1	
Basic Pattern:	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Color Arrangement for ◆ Intarsia with additional rows	

27.1 Generate pattern and Color Arrangement with additional rows

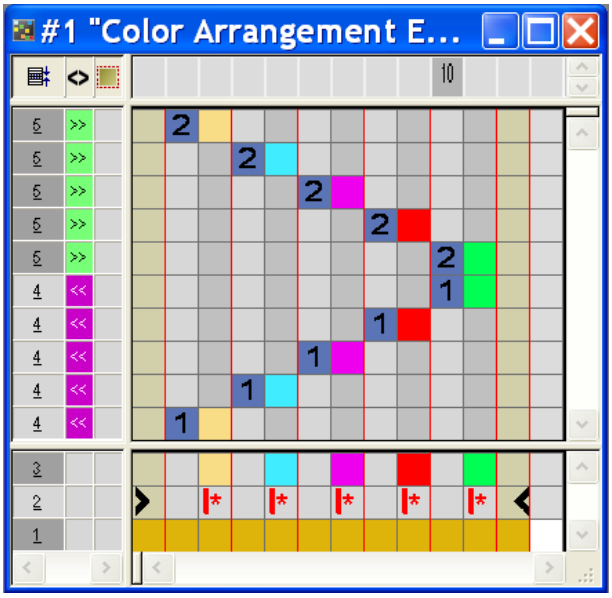
I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw Intarsia motif

II. Generate Color Arrangement with additional rows:

1. Select the intarsia pattern rows via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



3. Select the rows and click the "Ins" key.

▶ The "Insert rows" dialog box appears.

4. Specify type, number and direction in the dialog box.
5. Select the columns and click the "Ins" key.

▶ The "Insert columns" dialog box appears.

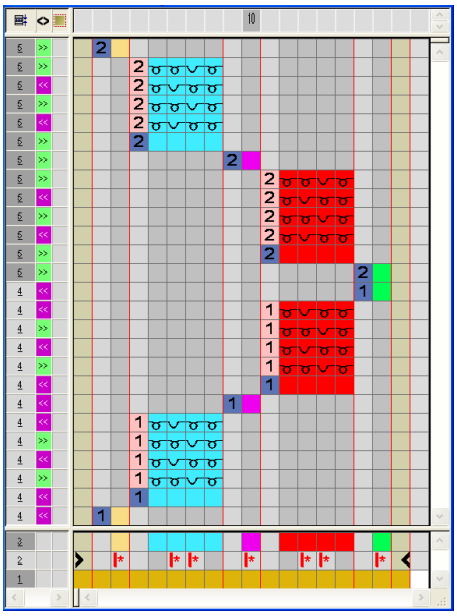
6. Specify type, number and direction in the dialog box.
7. Draw-in the desired knitting cycle with yarn colors and needle actions.
8. Define inserted rows and columns as additional rows using the  symbol and numbers.

---

i The additional rows are technical rows, which are not drawn-in in the basic pattern.
These additional rows must contain knitting information or specifications for transferring / casting-off.

---

9. Enter the carriage direction in the additional rows.



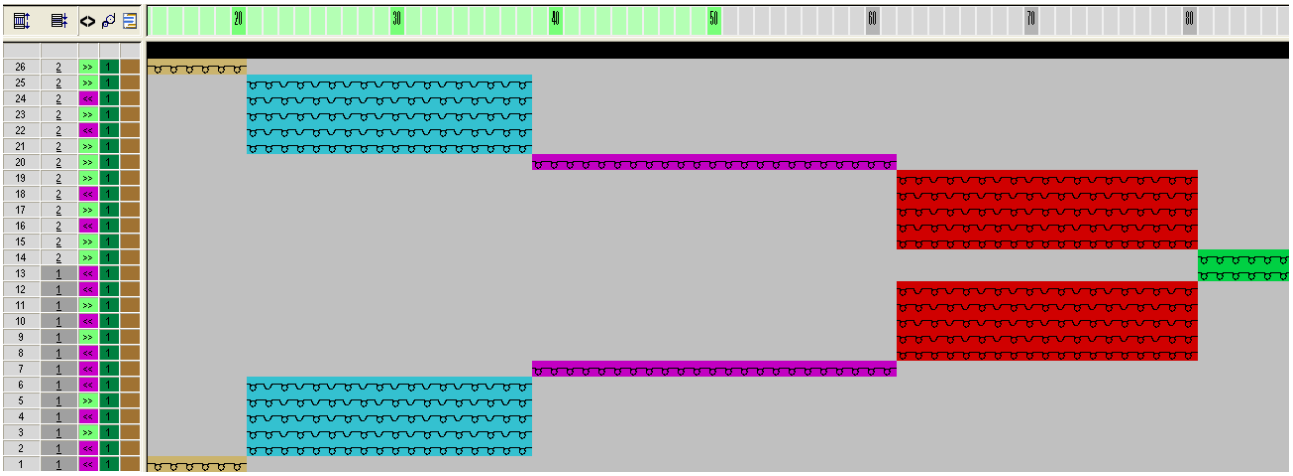
	Function	Meaning
	light red	For marking additional row(s)
		Additional row(s) to the **first** reference row
		Additional row(s) to the **second** reference row
	Enter numbers from 5 to 999	

10. Close the "Color Arrangement Editor" with  .
11. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

12. Expand the selected rows.

▶ The preview window will be opened.



13. Close the preview window with .
14. Delete selection.
15. Edit the pattern further.

III. Content and Behavior of Additional Rows:

Content of additional rows	Properties and Behavior
With yarn color or yarn carrier color	You have to draw in a "Knitting" needle action into these color columns if you enter Additional Rows with Yarn Color / Yarn Carrier Color into a color column.
Without yarn color or yarn carrier color	You have to draw in a needle action without knitting ("Transfer", "Cast-off" or "Loop sinking") if you enter additional rows without Yarn Color / Yarn Carrier Color into a color column.
Behavior	1. The additional rows must contain needle actions as no data will be read from the reference row of the basic pattern. 2. In additional rows with yarn color or yarn carrier color and the "knitting" needle action **no automatical tuck binding** will be entered into the neighboring yarn field. 3. No pattern parameters of the reference row of the basic pattern will be applied to additional rows with yarn color or yarn carrier color and the "knitting" needle action. **Exception: NP-Data.**

27.2 Complete the pattern

Complete the pattern:

If necessary, you can make further settings in the "Yarn Field Allocation" dialog box.

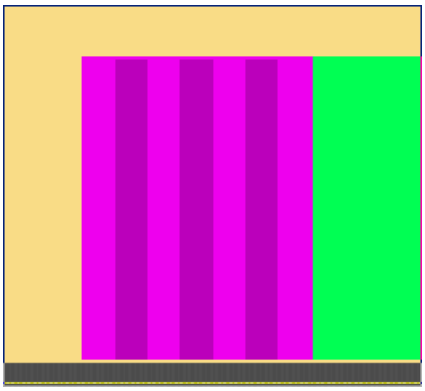
1. Expand the pattern with  of the "Steps of Processing" toolbar.
2. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click " in the "Steps of Processing  toolbar.

Complete the pattern

28 Color Arrangement: Additional Yarn Carriers



Pattern name	10_Muster-Pattern_CA.mdv	
Pattern size	Width:	154
	Height:	132
Machine type:	CMS 530	
Setup Type	Setup2	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Color Arrangement for additional yarn carrier in the Intarsia area	

28.1 Generate pattern and Color Arrangement for the additional yarn carrier

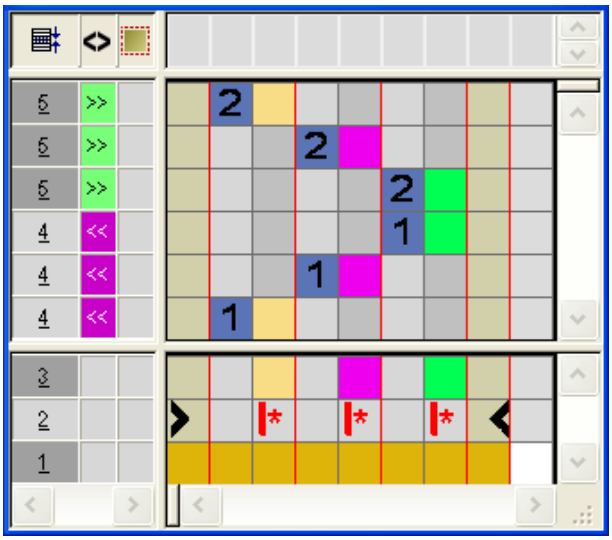
I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw intarsia motif with **yarn colors**.

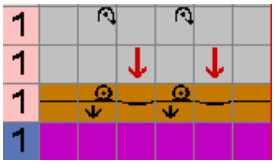
II. Generate Color Arrangement with an additional yarn carrier:

1. Select the corresponding pattern rows via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The color sequence of the selection will be displayed in the "Color Arrangement Editor".

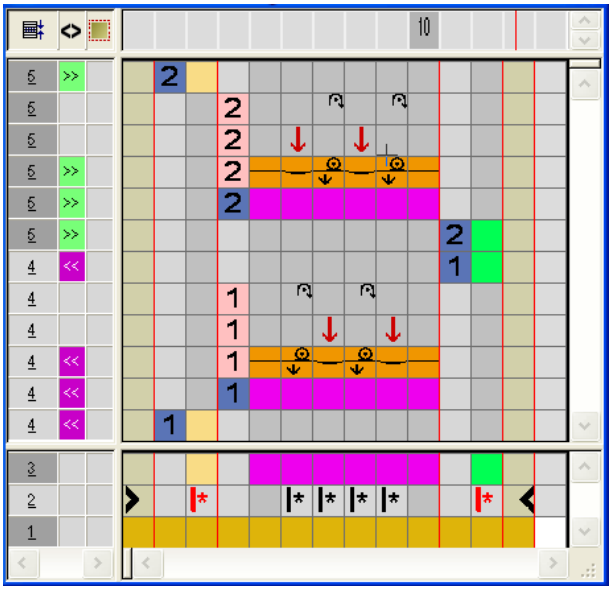


3. For the width cycle (structure), insert the corresponding number of columns within a color segment (yarn color).
   Example: Insertion of 5 columns as selection
4. For the **additional yarn carrier**, insert each time 3 rows after the first and the second reference row.
5. Mark the inserted rows as **Additional Rows**.



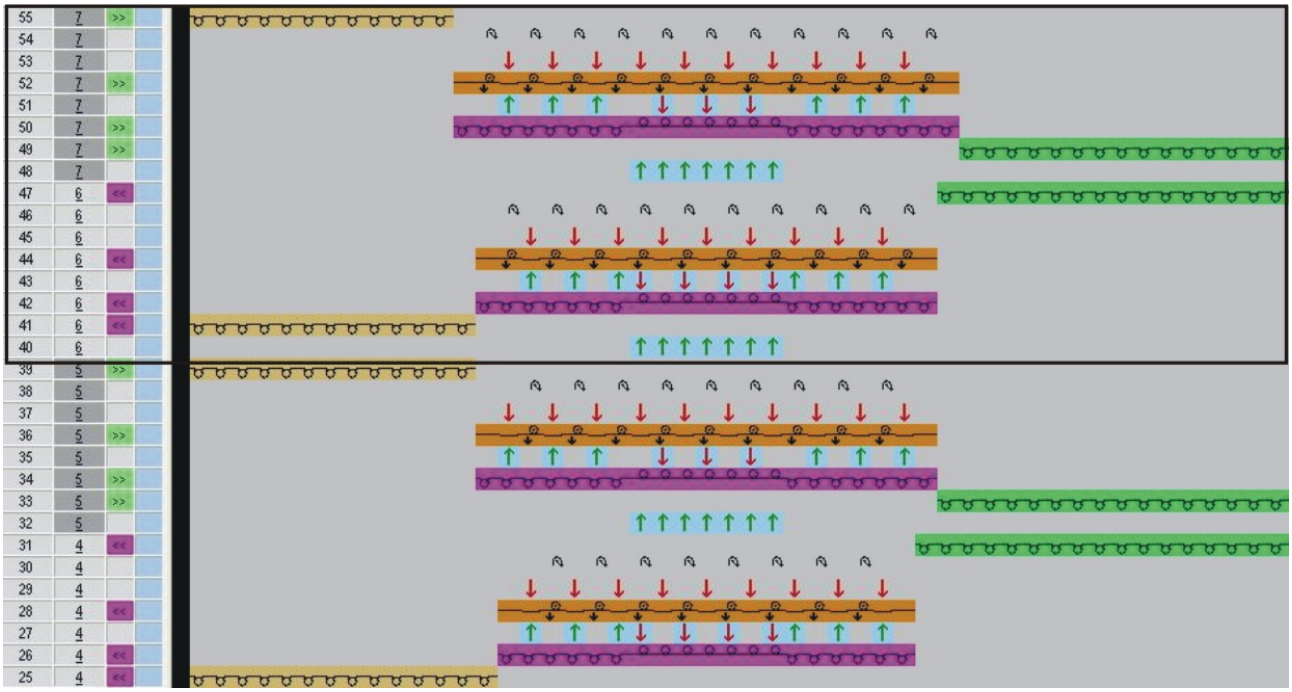
- For the **additional yarn carrier**, draw-in a new yarn color and the corresponding needle actions.
- For the **additional yarn carrier**, draw-in the corresponding transfer and cast-off.

Use **needle actions with automatical transfer** to draw the structure.



6. Change the |* symbol in the inserted columns below the search color in to the |* symbol.
7. Delete the |* symbol in the two outer color columns for the edge.
8. Expand the selected rows.

▶ The preview window will be opened



9. Close the preview window with ☒.

10. Close the "Color Arrangement Editor" with .
11. Confirm the query "Save the modified module?" with "Yes".
12. Edit the pattern further.

28.2 Complete the pattern

Complete the pattern:

1. Expand the pattern with of the "Steps of Processing" toolbar.
2. Start the technical processing with the icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the "Steps of Processing" toolbar.

29 Color Arrangement for CMS 330/530 W: Weft Yarn with Weft Yarn Presser Feet in Different Structures

Pattern name:	11_Muster_Pattern_CA.mdv	
Pattern size:	**Gauge**	E7.2
	Width:	196
	Height:	90
Machine type:	◆ CMS 530 HP W	
Setup Type	Setup2:	
Start:	Tubular	
Basic Pattern:	Front Stitch with Transfer	
Knitting Technique:	◆ SJ + DJ structure	
Pattern description:	**Color Arrangements for:** ◆ Right-Right ◆ moss stitch ◆ 2x2 structure With weft yarn, weft yarn presser foot and presser foot corrections	

29.1 Generate Pattern and Color Arrangements

I. Generate pattern without shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select a start.

You can insert a start after drawing the basic pattern as well.

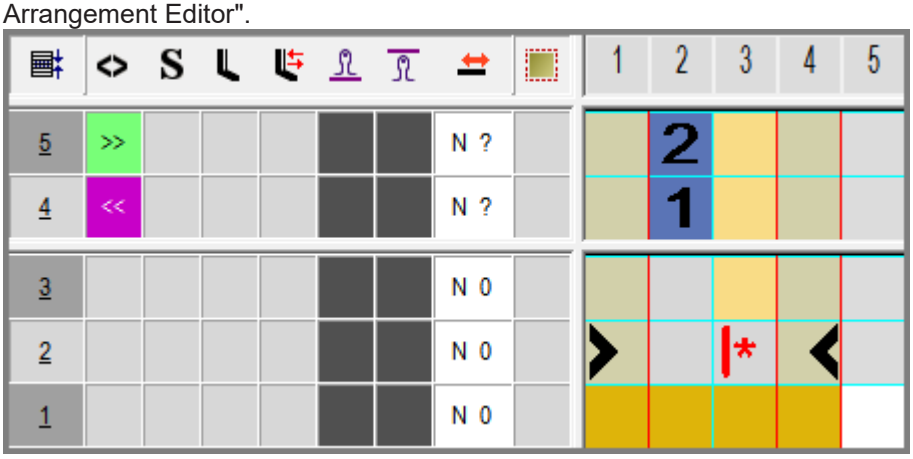
---

7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

II. Generate a Color Arrangement for double jersey with weft yarn presser foot:

1. Select both the pattern rows after the start in the row selection bar.
2. Click the icon in the "Default" toolbar.
   ▷ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".



3. Insert rows for the weft yarn into the executing area.
4. Draw in the Float needle action with any desired yarn color and define these rows as additional rows .
5. Enter the needle action at yarn color #31 in the reference row.
6. Make entries to the following control columns:

- Sequence of Technical Rows :
  - The symbol in the technical row with the weft yarn
  - The symbol in the technical row to enclose the weft yarn by knitting
- Weft yarn presser foot :
  - The W 2 symbol in the technical row to enclose the weft yarn by knitting
- Presser Foot Correction :
  - Set a different ESCI index for each of both the carriage directions in those technical rows in which the weft yarn presser foot is active.

Result:

7. Close the "Color Arrangement Editor" with .
8. Confirm the query "Save the modified module?" with "Yes".

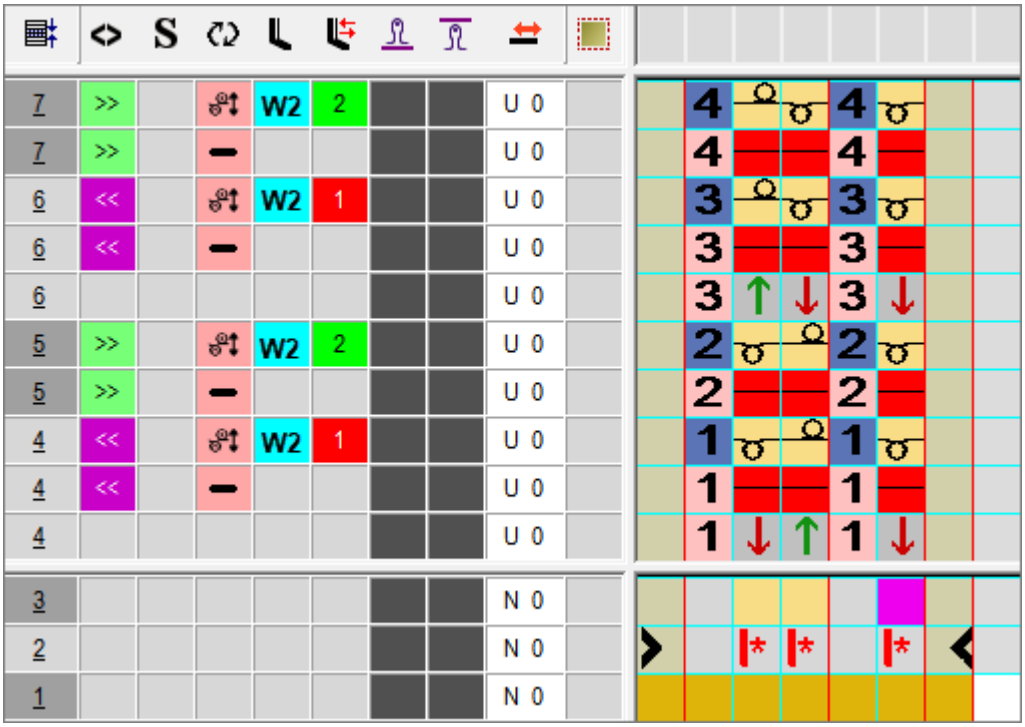
III. Generate a Color Arrangement for moss stitch structure with weft yarn presser foot:

> **i** For patterns with alternating structures it is recommended to work out a border.
> This requires to draw in an additional search color in the border area of the Color Arrangement.

1. Draw in another search color next to the double jersey area in the desired width and height at the left and right edge.
2. Then select the area for the **moss stitch** structure via the row selection bar.
3. Click the icon in the "Default" toolbar.
   ▷ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

4. Draw-in the required quantity of rows and columns corresponding to the desired structures in the processing area.
5. Draw in the knitting process for the moss stitch structure with weft yarn in the Color Arrangement.
6. Group the technical rows to correct pattern rows.
7. Make the correspondent entries in the control column just the same way as with DJ.

Result:



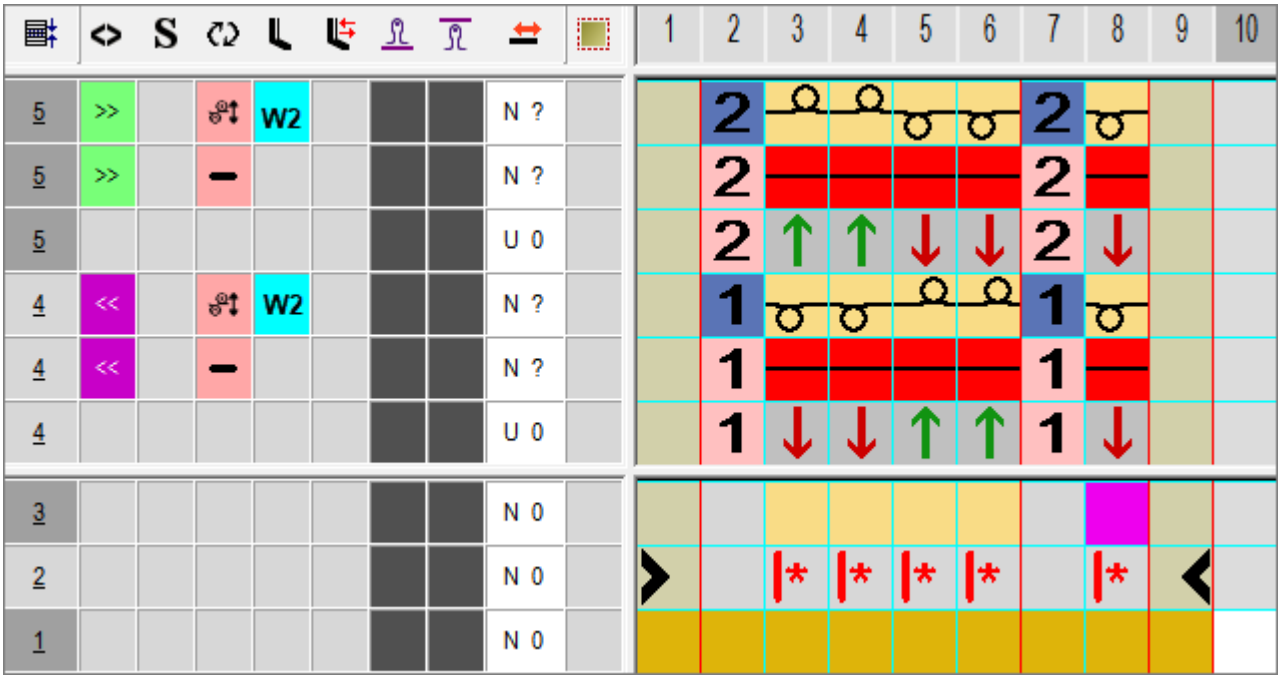
8. Close the "Color Arrangement Editor" with .
9. Confirm the query "Save the modified module?" with "Yes".

IV. Generate a Color Arrangement for 2x2 structure with weft yarn presser foot:

1. Draw in another search color next to the moss stitch area in the desired width and height at the left and right edge.
2. Then select the area for the **2x2 structure** via the row selection bar.
3. Click the icon in the "Default" toolbar.
   ▷ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".
4. Draw-in the required quantity of rows and columns corresponding to the desired structures in the processing area.
5. Draw in the knitting process for the **2x2 structure** with weft yarn in the Color Arrangement.

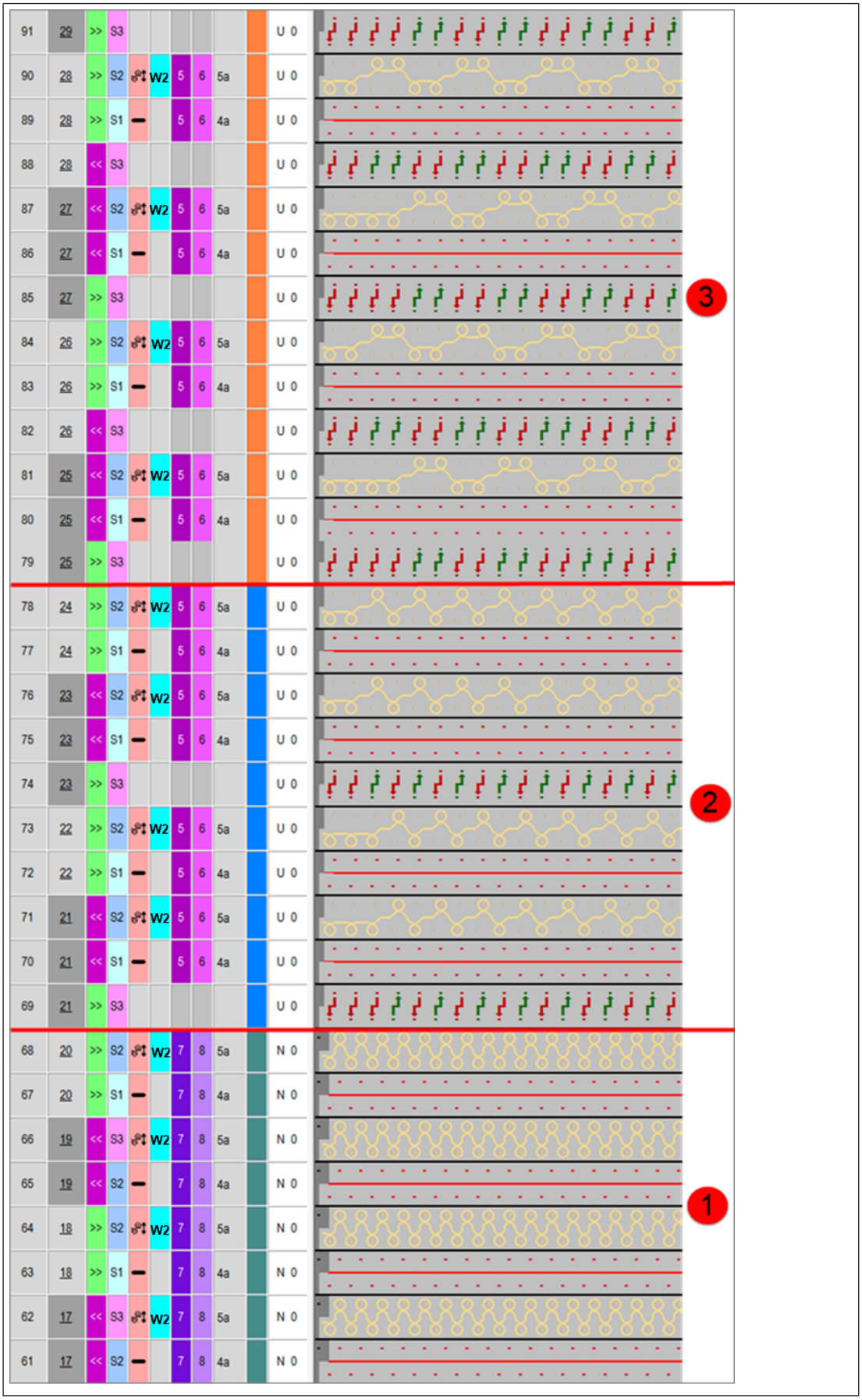
6. Make the correspondent entries in the control column just the same way as with moss stitch.

Result:



7. Close the "Color Arrangement Editor" with .
8. Confirm the query "Save the modified module?" with "Yes".

Result after technical processing:


91 29 >> S3 U 0
90 28 >> S2 W2 5 6 5a U 0
89 28 >> S1 5 6 4a U 0
88 28 << S3 U 0
87 27 << S2 W2 5 6 5a U 0
86 27 << S1 5 6 4a U 0
85 27 >> S3 U 0
84 26 >> S2 W2 5 6 5a U 0
83 26 >> S1 5 6 4a U 0
82 26 << S3 U 0
81 25 << S2 W2 5 6 5a U 0
80 25 << S1 5 6 4a U 0
79 25 >> S3 U 0
78 24 >> S2 W2 5 6 5a U 0
77 24 >> S1 5 6 4a U 0
76 23 << S2 W2 5 6 5a U 0
75 23 << S1 5 6 4a U 0
74 23 >> S3 U 0
73 22 >> S2 W2 5 6 5a U 0
72 22 >> S1 5 6 4a U 0
71 21 << S2 W2 5 6 5a U 0
70 21 << S1 5 6 4a U 0
69 21 >> S3 U 0
68 20 >> S2 W2 7 8 5a N 0
67 20 >> S1 7 8 4a N 0
66 19 << S3 W2 7 8 5a N 0
65 19 << S2 7 8 4a N 0
64 18 >> S2 W2 7 8 5a N 0
63 18 >> S1 7 8 4a N 0
62 17 << S3 W2 7 8 5a N 0
61 17 << S2 7 8 4a N 0
3
2
1

1	Double jersey with weft yarn
2	Moss Stitch with weft yarn
3	2x2 structure with weft yarn

29.2 Complete the Pattern

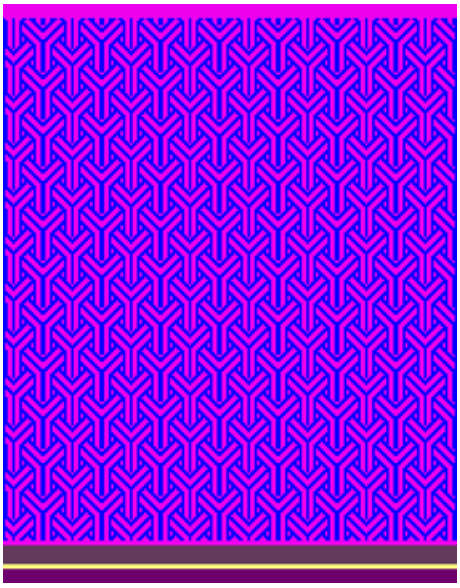
Complete the pattern:

1. You can make further settings in the "Yarn Field Allocation" dialog box if necessary.
2. Expand the pattern with  of the "Steps of Processing" toolbar.
3. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".
5. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click " in the "Steps of Processing  toolbar.

30 Color Arrangement for CMS 330/530 W: Weft yarn with weft yarn presser foot



Pattern name:	11A_Muster_Pattern_CA.mdv	
Pattern size:	**Gauge**	E7.2
	Width:	200
	Height:	250
Machine type:	◆ CMS 530 HP W	
Setup Type	Setup2:	
Start:	Tubular	
Basic Pattern:	Front Stitch with Transfer	
Knitting Technique:	◆ SJ structure	
Pattern description:	**Color Arrangement for** ◆ Structure with weft yarn, weft yarn presser foot and presser foot corrections	

30.1 Generate pattern and Color Arrangement

I. Generate pattern without shape:

1. Select "File" / "New" from the menu bar.
   - or -
   Click .
2. Enter a Pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch with transfer" basic knitting mode.
6. Select a start.

You can insert a start after drawing the basic pattern as well.

---

7. Confirm the settings with "Generate Design Pattern".
   ▷ The "Symbol view [Basic]" will be opened.

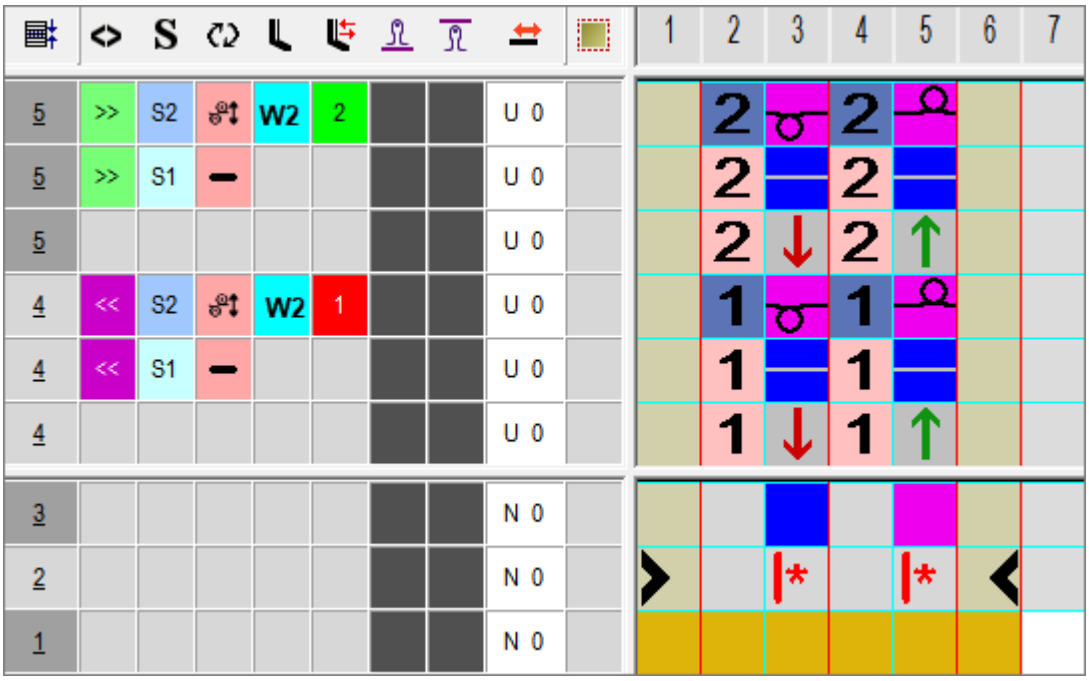
II. Generate a Color Arrangement for structure with weft yarn presser foot:

1. Select the complete height of the pattern (without start and sj rows at fabric end) in the row selection bar.
2. Click the icon in the "Default" toolbar.
   ▷ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".
3. Insert rows for the weft yarn and transferring into the executing area.
4. Draw in the Float needle action with any desired yarn color and define these rows as additional rows .
5. Draw-in the the needle actions for search color #3 and for search color #6 into the reference rows at yarn color #6.
6. Make entries to the following control columns:

- System :
  - specify the desired system allocation (not mandatory)
- Sequence of Technical Rows :
  - The symbol in the technical row with the weft yarn
  - The symbol in the technical row to enclose the weft yarn by knitting
- Weft yarn presser foot :
  - The W 2 symbol in the technical row to enclose the weft yarn by knitting

- Presser Foot Correction :
  - Set a different ESCI index for each of both the carriage directions in those technical rows in which the weft yarn presser foot is active.

Result:



7. Close the "Color Arrangement Editor" with .
8. Confirm the query "Save the modified module?" with "Yes".

30.2 Complete the Pattern

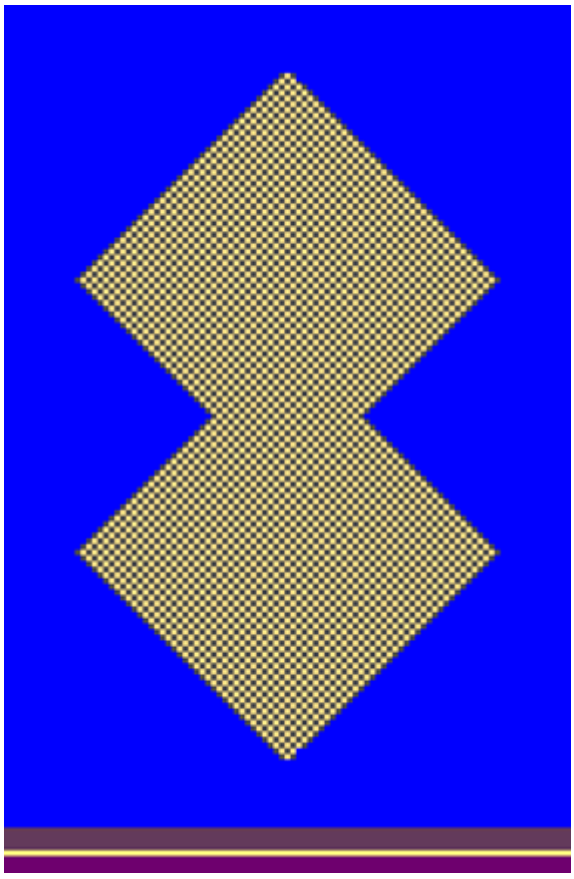
Complete the pattern:

1. You can make further settings in the "Yarn Field Allocation" dialog box if necessary.
2. Expand the pattern with of the "Steps of Processing" toolbar.
3. Start the technical processing with .

▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".
5. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click " in the "Steps of Processing toolbar.

31 Color Arrangement for CMS 330/530 W: Selective weft yarn inlay with weft yarn presser foot



Pattern name	12_Muster_Pattern_CA.mdv	
Pattern size	Width:	200
	Height:	300
Machine type	ADF 530-32 W	
Gauge	E7.2	
Start	1x1 Start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Color Arrangement for selective weft yarn insert with weft yarn presser foot and presser foot corrections**	

31.1 Generate pattern without shape

Create a new pattern:

1. Select the "File" / "New" menu.
   - or -
   Click the  icon.

▶ The "New Pattern" dialog box appears.

2. Enter the desired name at **Pattern name**.
3. Under **Machine** use  to open the "Select machine" dialog box:

▶ Select the tab "Stoll machines" or "My machines".

4. Make settings:

- Machine type: **ADF 530-32 W**
- Gauge / Needle hook gauge: **E7.2**
- Setup Type: **Setup2:**

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the desired start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

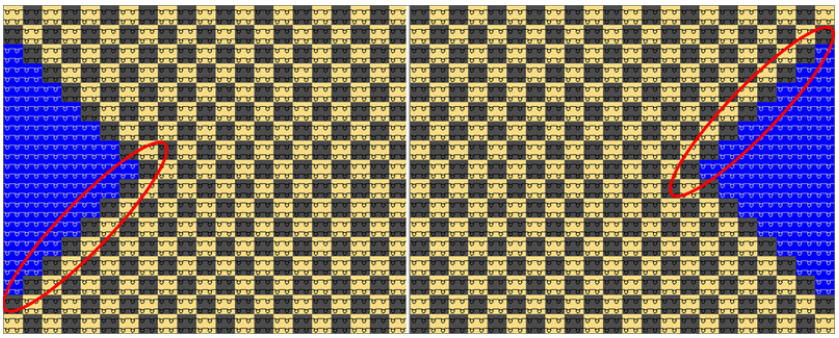
▶ The new pattern appears in the symbol view.

31.2 Draw basic pattern with the area for the weft yarn

I. Draw basic pattern:

1. Select yarn color #3 from the "Yarn Color table".
2. Exchange yarn color #31 to yarn color #3 (basic)
3. Draw the pattern area for the selective insert of weft yarn with yarn color #2 and #31:

- Yarn color #2: Weft Yarn
- Yarn color #31: Front Stitch



i	Draw yarn color #2 to the outer edge of the area for the selective weft yarn. With any desired stepping.

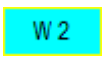
31.3 Generate Color Arrangement

I. Generating Color Arrangement and entering it:

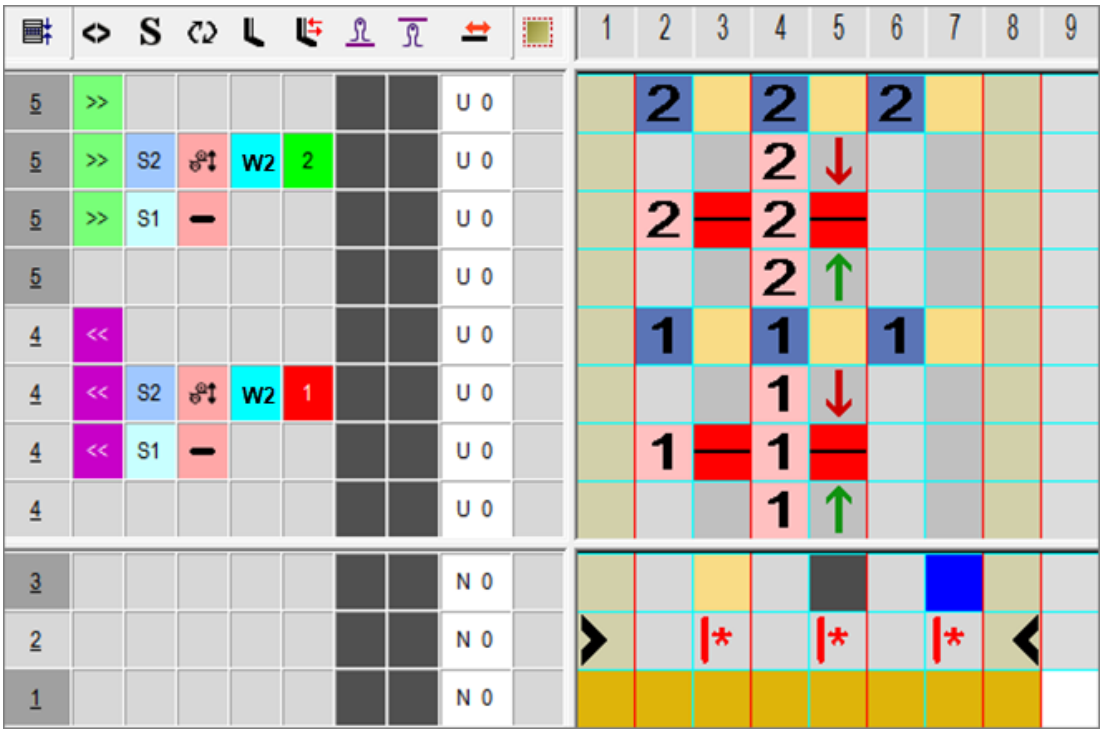
1. Select the pattern in the entire height.
2. Click the  button.
   ▷ The Color Arrangement Editor will be opened.
3. Modify the Color Arrangement:

- Insert additional rows into the processing area of the weft yarn.
  - Enter yarn color #7 and  "Float" needle action at search color #31.
  - Enter yarn color #7 and  "Float" needle action at search color #2 as well.
  - Insert the corresponding reference row number for the additional rows in the reference column in the processing area
- Insert additional rows for transferring into the processing area.
  - Enter "Transfer to rear" needle action at search color #7 before the float.
  - Enter "Transfer to front" needle action at search color #7 after the float.
  - Insert the corresponding reference row number for the additional rows in the reference column in the processing area

4. Make entries to the following control columns:

- "System"  control column:
  - Enter the S1 system specification for the weft yarn carrier in order to drive it by the S1 system.
  - Specify S2 for the following enclosing by transfer
- Sequence of Technical Rows  :
  - The  symbol in the technical row with the weft yarn
  - The  symbol in the technical row to enclose the weft yarn by knitting
- Weft yarn presser foot  :
  - The  symbol in the technical row to enclose the weft yarn by transfer
- Presser Foot Correction : 
  - Set a different ESCI index for each of both the carriage directions in those technical rows in which the weft yarn presser foot is active.

Result:



i	Enter index values in the "Presser Foot Correction" control columns in order to make any necessary corrections of the presser foot on the machine afterwards.

5. Close the Color Arrangement Editor with .

▶ The CA is saved and the color entry is entered in the control column.

31.4 Two variants for knitting in or out the yarn carriers of the area with selective weft yarn inlay

i	Weft yarn carriers are knit in or out by the "Float" needle action.

I. Knitting-in and out a weft yarn carrier with SJ structure:

i	Front stitch (SJ) only is knitted in the basic pattern next to the area with the selective weft yarn. With it, the weft yarn carrier can be knit out or in easily by the "Float" needle action.

✓ The basic pattern with the area for selective weft yarn is drawn and the color arrangement is created.

1. Open the Yarn Field dialog box by .
2. Define the desired specifications in the following columns.

- Knitting-in:
  - In the  "Module for knitting-in" column the "Float" module
  - In the  "Binding/Knot at start" column the "Float" module
- Knitting-out:
  - In the  "Module for knitting-out" column the "Float" module
  - In the  "Binding/Knot at end" column the "Float" module

3. Close the dialog box.

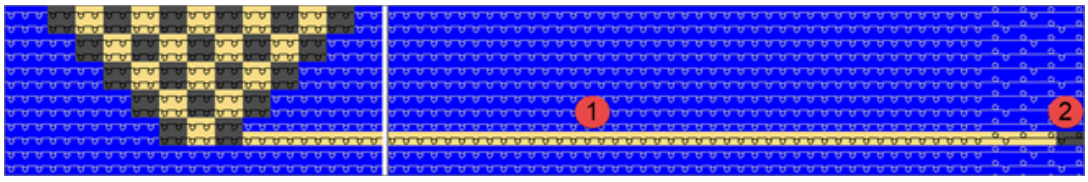
II. I. Knitting-in and out a weft yarn carrier with structure:

i	A structure (e.g. border) is knitted in the basic pattern next to the area with the selective weft yarn. With it, knitting in or out the weft yarn carrier may make problems. You can fix the problem by locking the weft yarn at the border when knitting in or out.

✓ The basic pattern with the area for selective weft yarn is drawn and the color arrangement is created.

1. Modify the pattern row for knitting-in:

1. Draw yarn color #2 (weft yarn) on the desired quantity of needles at the fabric selvedge.
2. Exchange yarn color #3 to yarn color #31 up to the start of the motif (selective weft yarn area).



1	Yarn color #31 up to the start of the motif with weft yarn
2	Yarn color #2 (weft yarn) with desired quantity of needles for locking Example: 2 needles

3. Modify the knitting-out following the same procedure.

31.5 Border Processing of the Area with Selective Weft Yarn

i	For patterns with the machine with presser feet and selective weft yarn, the border of the area for the weft yarn (color field) must be corrected. The border processing (correction) ensures to catch and keep deep the weft yarn by the presser foot in the reversal of the weft yarn carrier. The border processing will be done within the whole pattern.

Activate the 'border processing' function.

1. Open the dialog via the "Pattern Parameters" / "Configuration..." menu.
2. Select the "Further Settings" tab.
3. Activate the ☑ "Enclose the weft yarn at the last needle" function under "Weft Yarn at Color Field Border".
   ▷ The color fields (areas) with weft yarn are adapted throughout the pattern by the technical processing depending on the carriage stroke direction.

i	No border processing will be entered for weft yarn insertions over the complete pattern width.

Requirements for setting up the border processing:

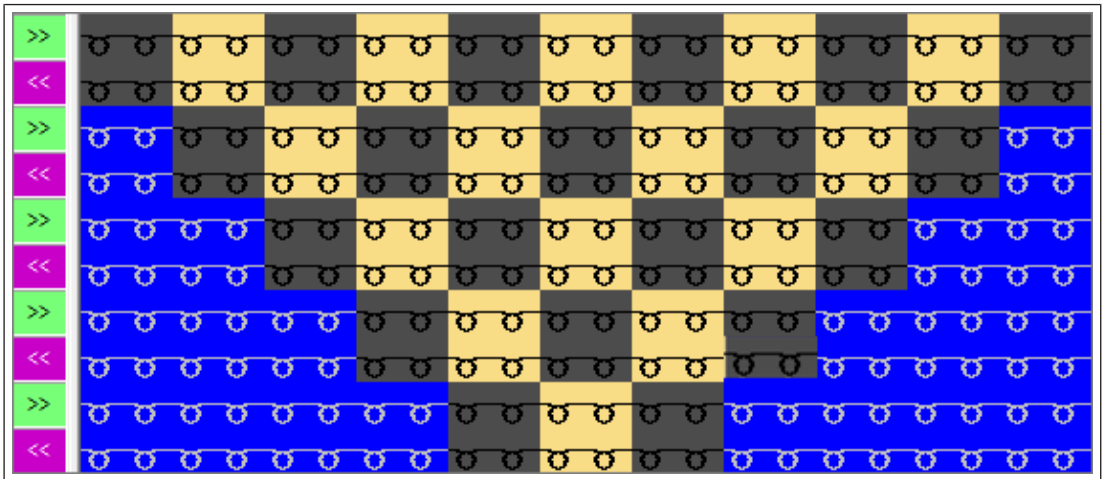
- The presser foot must be activated in this row of weft inlay.

i	**Attention!** Border processing depends on the carriage direction

31.5.1 Pattern Examples for Border Processing

Pattern template

Example



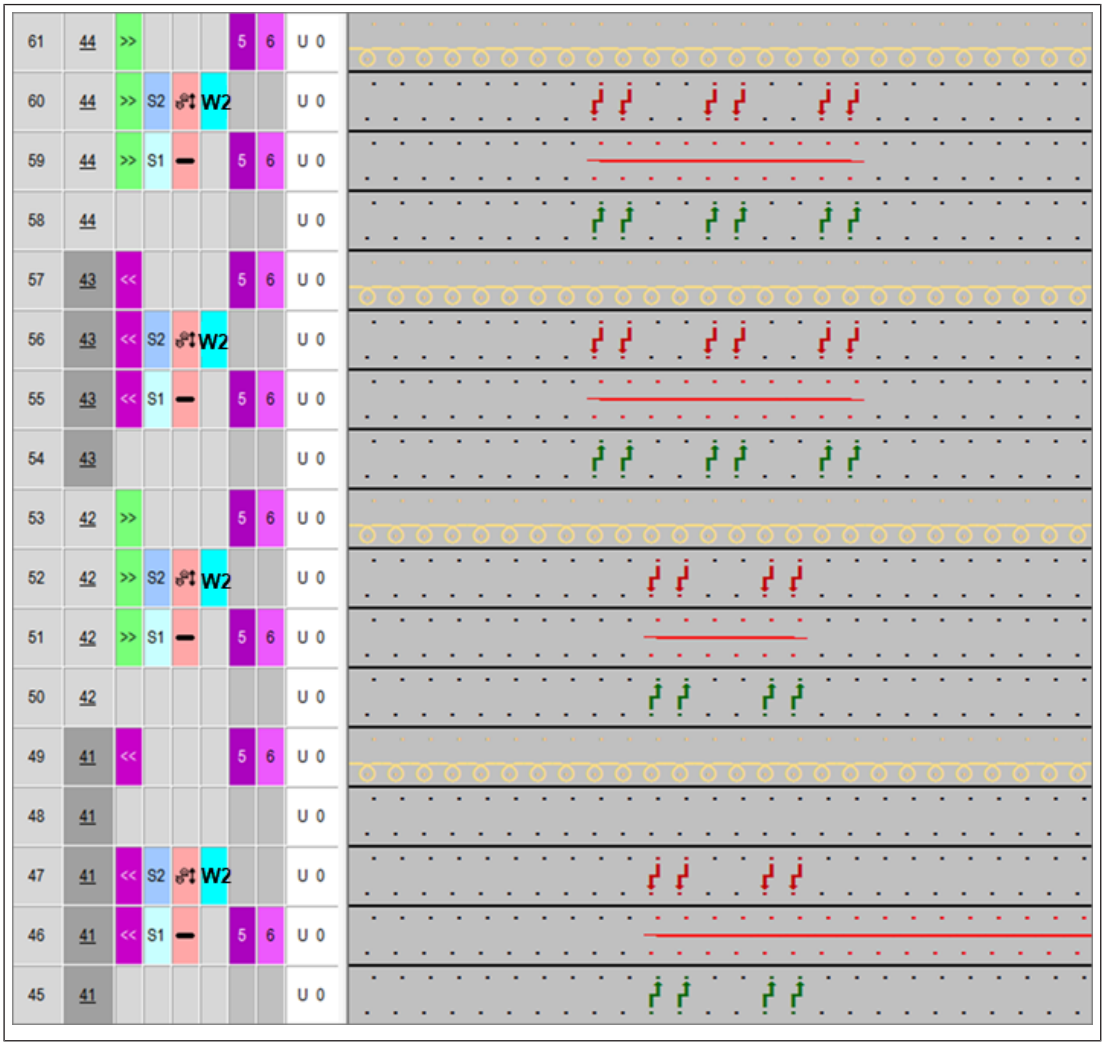
Border Processing 'Weft Yarn at Color Field Border'

Attention!

Border processing depends on the carriage direction

Result after expanding

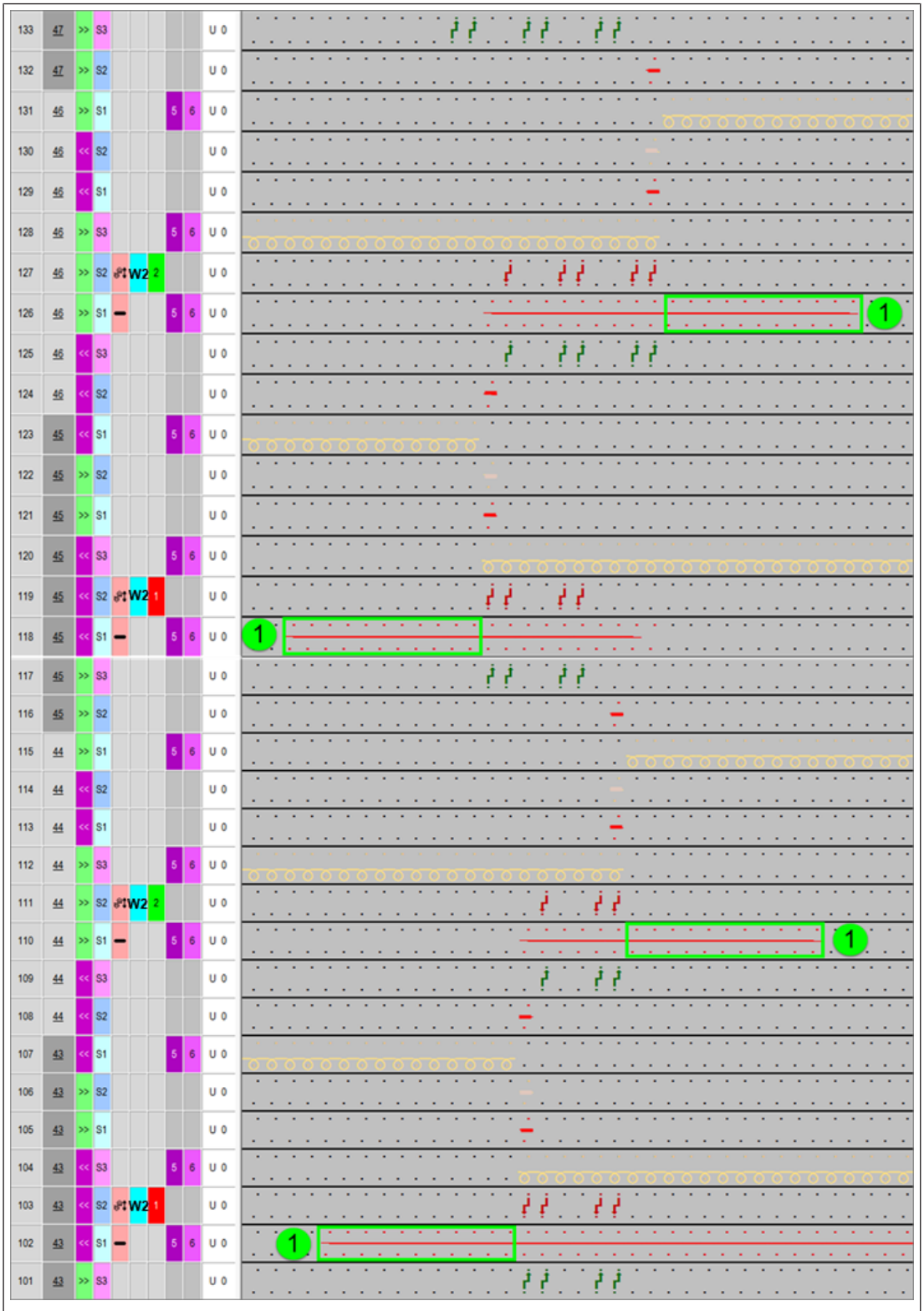
- **with normal yarn carrier**



Rule:

The last needle have to enclose the weft yarn by transfer at the edge of area with selective weft inlay.

Result after technical processing
◆ **with normal yarn carrier**



1	"Float" needle action is entered so that the weft yarn carrier can be positioned correctly to switch-off the weft yarn presser foot.

31.6 Complete the Pattern

Complete the pattern:

i	Before performing the processing you can define a cycle for length regulation, if necessary.

1. Start the technical processing via the "Steps of Processing" toolbar with the  button.

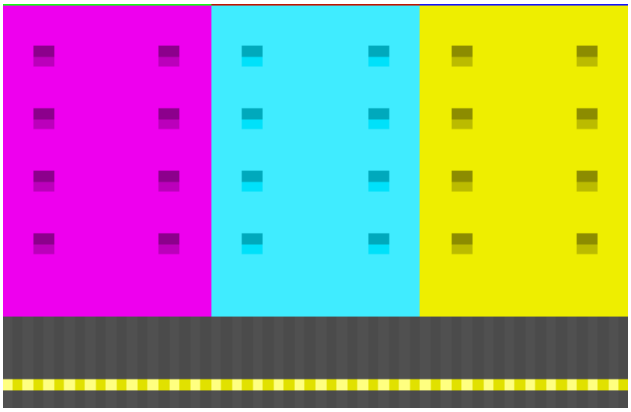
▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

▶ The "Save pattern as" dialog box appears.

3. Enter the "File name" and specify the path.
4. Close the dialog box with "Save".
5. Call up the "Sintral Check" with  and execute it.

32 Color and Module Arrangement: Influence Transferring



Pattern name	13_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	50
Machine Type	◆ CMS 530 HP	
Setup Type	Setup2:	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Intarsia pattern with cable stitch	
Pattern description	**Color Arrangement** for ◆ Auto Transferring ◆ Structure transfer (basic pattern) **Module Arrangement** for ◆ Transferring the structure of the modules in use in a pattern row	

32.1 Pattern with Color Arrangement for structure and auto transferring

i	You can influence the cycle for **structure and auto transferring** with "Color Arrangements".

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw intarsia motif with yarn colors and "Cable 3x2" module.

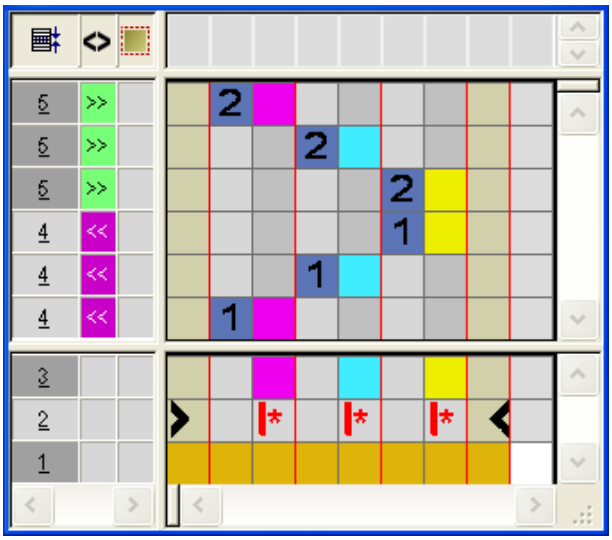
i	The modules in use are to be positioned on the same pattern row.

II. Generate Color Arrangement:

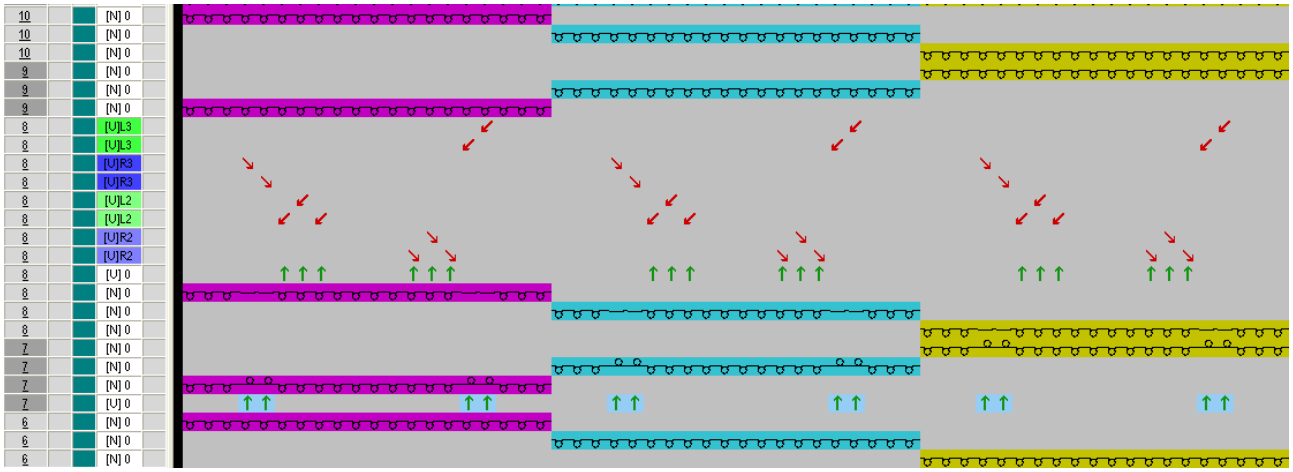
1. Select the pattern rows with the cable modules via the row selection bar.

2. Click the  icon in the "Default" toolbar.

▶ The selection will be displayed in the "Color Arrangement Editor".



Pattern after expanding



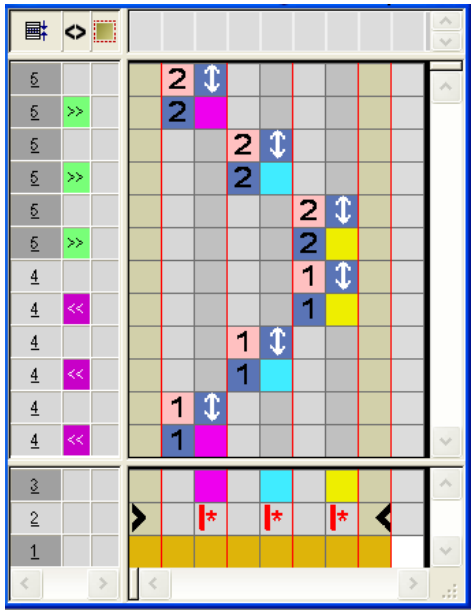
i	With a pattern in intarsia technique, all colors of a pattern row will be knitted first and then all structure transfers (modules) or auto transfers (structure of the basic pattern) that exist in one row will be processed together.

III. Generate a Color Arrangement for structure transferring:

1. Open the generated Color Arrangement and insert rows into the executing area.

i	To influence the **transferring structure** an additional row is afterwards necessary for every yarn color (color segment) present in the pattern.

2. Define the inserted rows as additional rows with  + number.
3. Insert the **Transferring the structure**  symbol into the inserted rows.



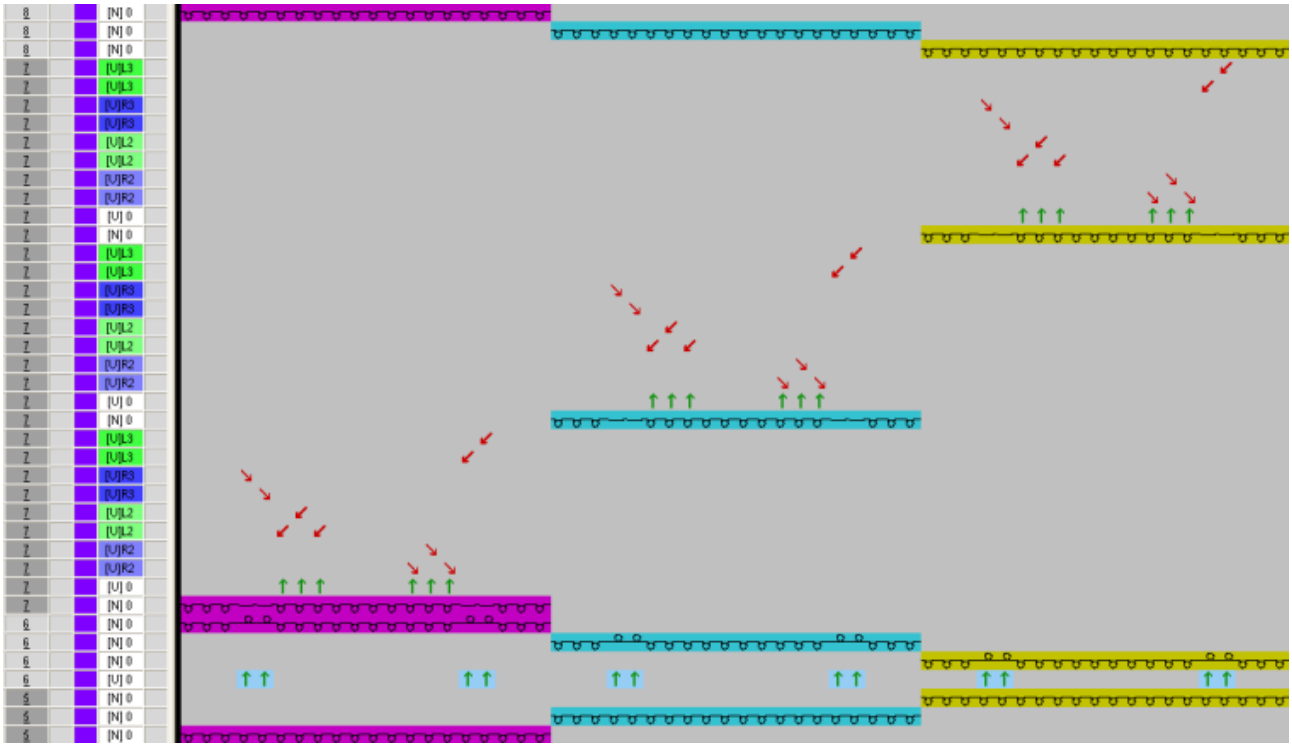
	Function	Meaning
	Settings for Transferring the Structure	The transferring of the structure (module) will be carried out at this position (additional row).

4. Close the "Color Arrangement Editor" with .
5. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

6. Expand the selected rows.

▶ The preview window will be opened.



Result:

The structure transfer (module) is carried out **after knitting** the respective yarn colors.

7. Close the preview window with .
8. Delete selection.
9. Edit the pattern further.

IV. Generate a Color Arrangement for auto transferring:

1. Create a new Color Arrangement.
   - or -
   Open the existing Color Arrangement.
2. Insert rows into the executing area of the Color Arrangement.

i	To influence the **auto transferring** an additional row is previously necessary for every yarn color (color segment) present in the pattern.

3. Define the inserted rows as additional rows with + number.
4. Insert the **Auto Transferring** symbol into the color columns.

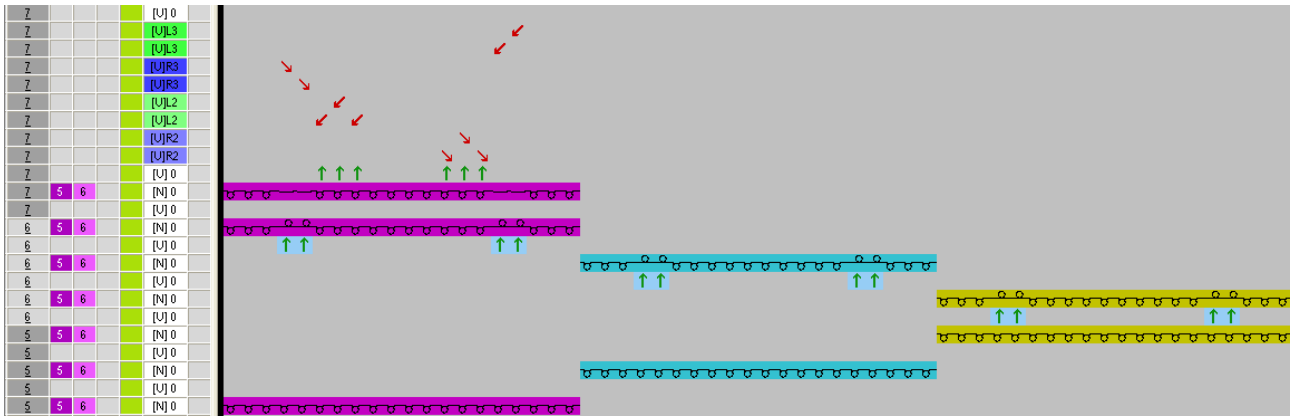
	Function	Meaning
	Settings for Auto Transferring	The automatic transferring of the basic pattern structure will be carried out at this position (additional row).

5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

7. Expand the selected rows.

▶ The preview window will be opened.



Result:

The auto transfer (basic pattern structure) is carried out **before knitting** the respective yarn colors.

32.2 Module Arrangement for transferring in the module

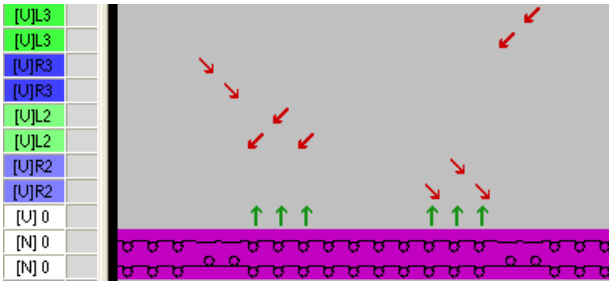
i	You can influence the sequence of **transfer processes in the module** using a "Module Arrangement".

I. Pattern processing without Module Arrangement

✓ The basic pattern processing step is loaded.

1. Expand the pattern with the key.

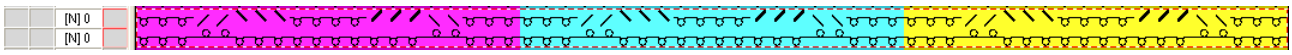
Result with default processing of the modules:



II. Generate the Module Arrangement and change the transfer cycle:

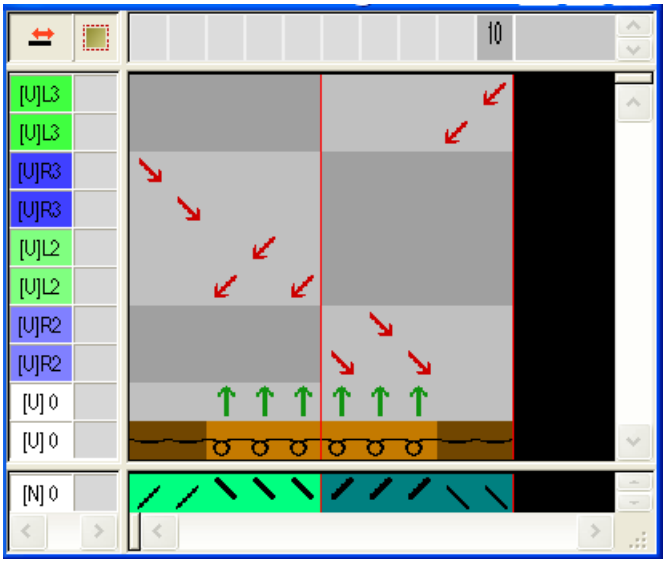
✓ The basic pattern processing step is loaded.

1. Select the pattern rows, for which a Module Arrangement is to be generated via the row selection bar.

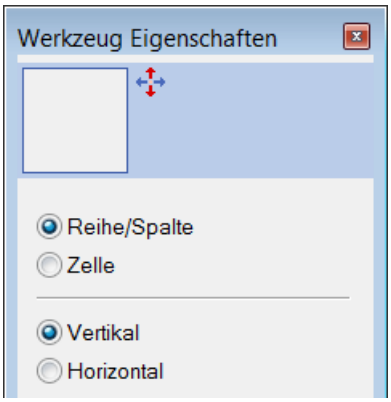


2. Click on the "Generate new Module Arrangement from a Selection" icon in the "Standard" toolbar.
   - or -
   Call up the function "Generate from Selection" / "Module Arrangement" in the "Module" menu.

▶ The selection will be displayed in the "Module Arrangement Editor".

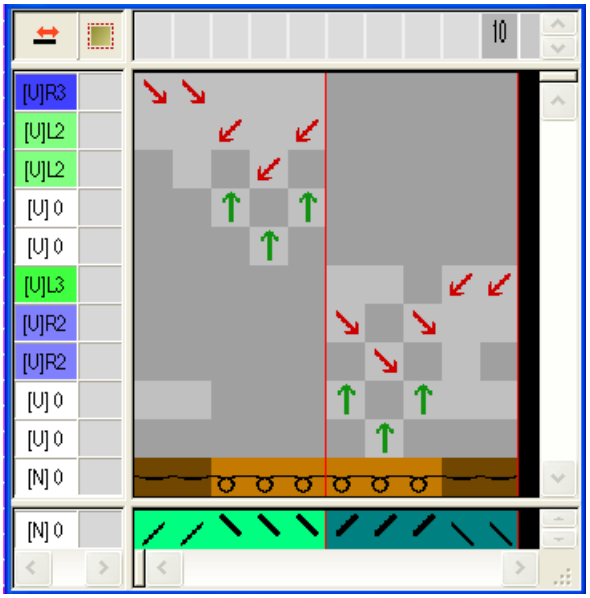


3. Select the **Aligning** icon in the "Drawing Tools" toolbar.
4. Activate the "Row" option in the "Tool Properties" dialog box.



5. Place the cursor in the desired row, hold the "LMB" down and move to the new position.

- Yellow frame: The entry will be inserted in the existing row.
- Yellow bar: The entry will be inserted in a new row.
- Yellow frame with red cross: The entry can **not** be inserted in this row.



6. Select empty rows and delete with the "DEL" key.
7. Close the "Module Arrangement Editor" with .
8. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local Module Arrangement** in the "Modules" toolbar.

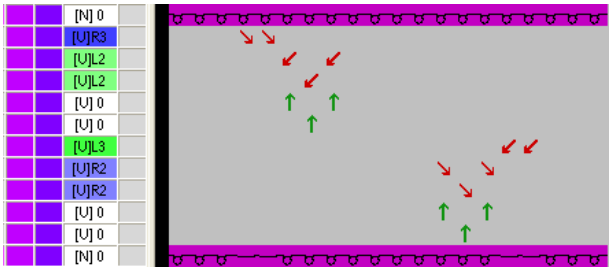
9. Expand the pattern with of the "Steps of Processing" toolbar.

■ If a row selection exists in the pattern, the selected area will be displayed expanded in the "Symbol view Preview".

■ If no selection exists in the pattern, the entire pattern is expanded.

10. Close the preview with .

Result:



i	If a Color Arrangement and a Module Arrangement are used in a pattern area, the CA is processed first when expanding and then the MA.

32.3 Complete the pattern

Complete the pattern:

i	If necessary, further settings can be made in the "Yarn Field Allocation" dialog box.

1. Expand the pattern with  of the "Steps of Processing" toolbar.
2. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

33 Color Arrangement: Displace Transfer

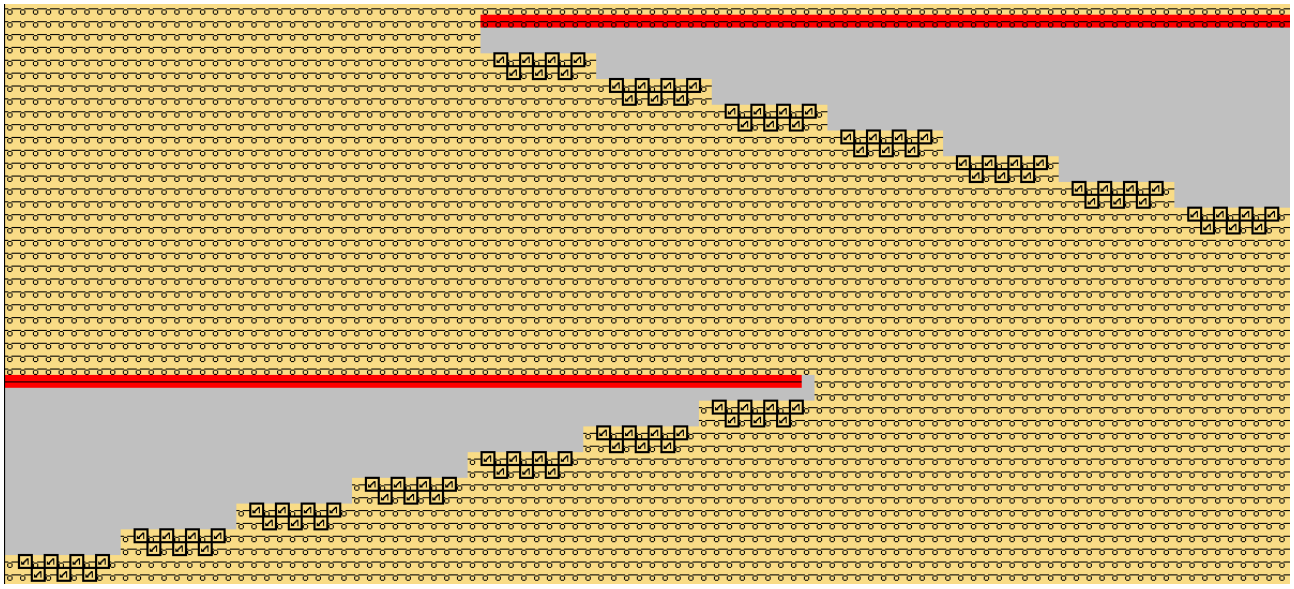
Pattern name	14_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	80
Machine type:	◆ CMS 530 HP	
Setup Type	Setup2:	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Gore steppings with transferring (Petinet)	
Pattern description	Color Arrangement for ◆ Displace transfer	

33.1 Create pattern with Color Arrangement for displacing transfer

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw gore motifs with **Yarn color # 31** and **No needle action**  .
3. Then draw the desired "Petinet" module in the gore stepping.
4. Draw-in another **Yarn color** e.g. **# 7** as additional search color at the end of the gore.

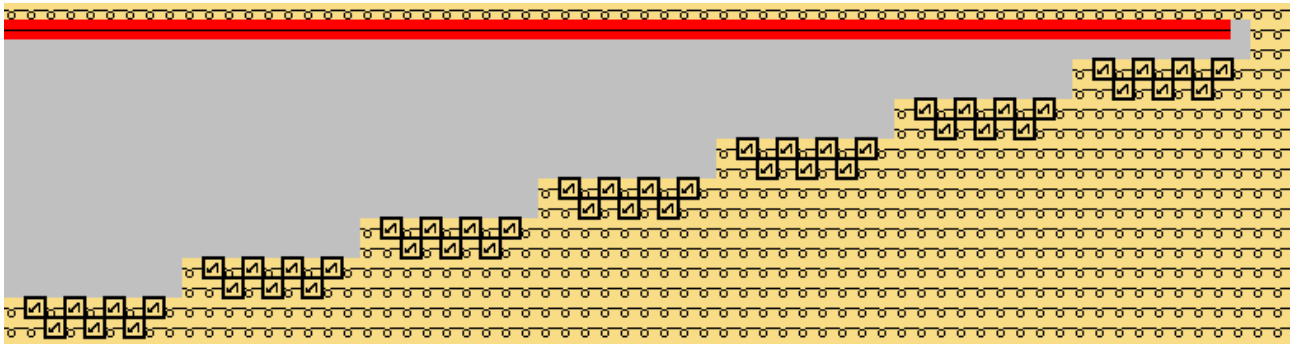
Result:



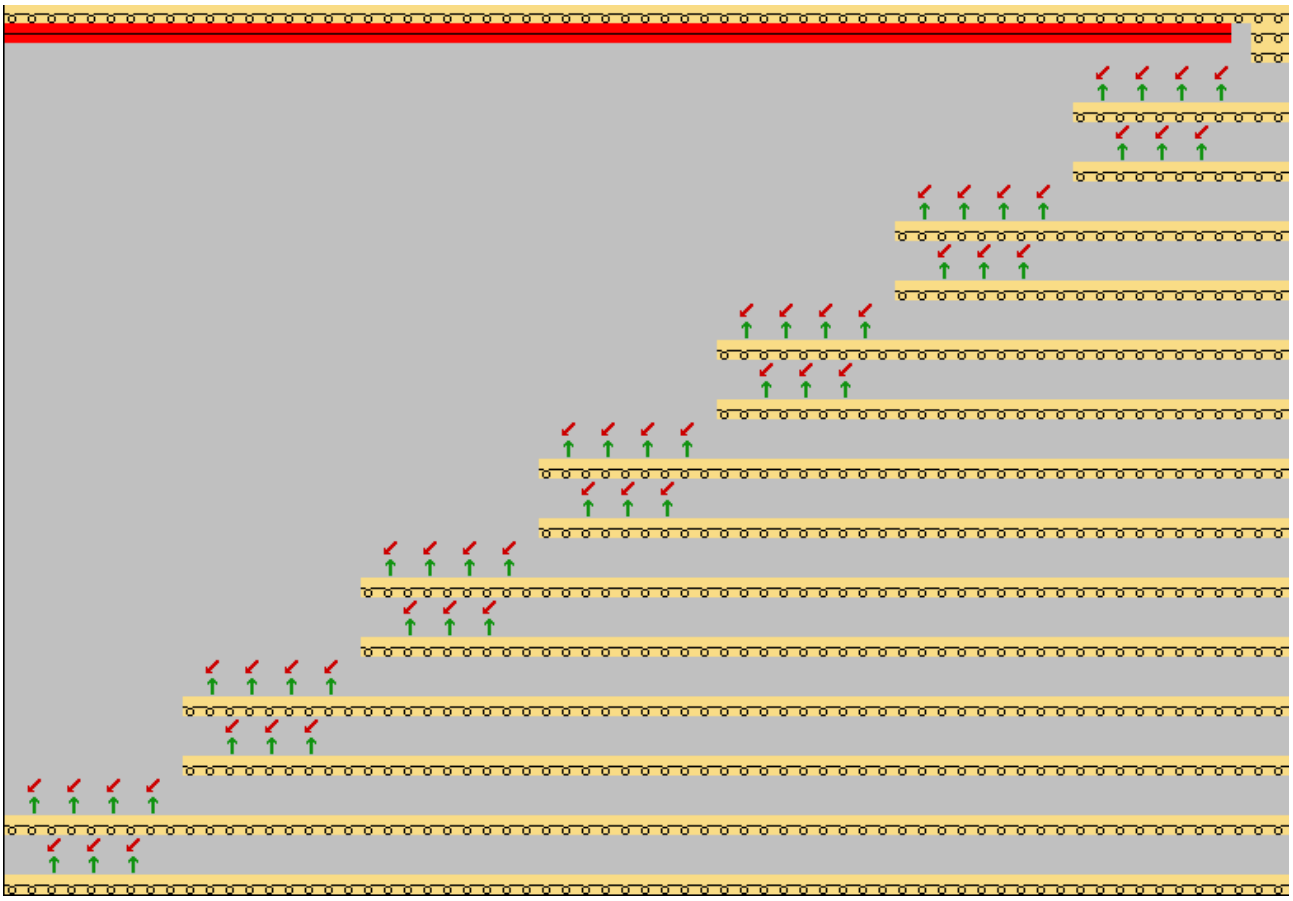
II. Pattern processing without Color Arrangement:

> **i** **Structure transferring** (module) is automatically carried out when **processing without Color Arrangement** after a knitted row (default processing).

Pattern before expanding:



Pattern after expanding:

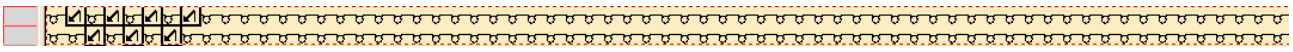


i	When processing **with** a **Color Arrangement without specifications for structure transferring** you will achieve the same result.

III. Example 1: Create Color Arrangement for displacing transfer:

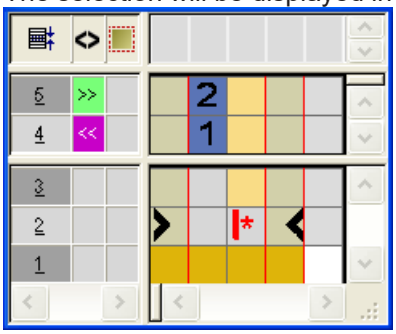
i	With the help of a Color Arrangement, the transfer cycles can be grouped (displaced). This can increase the productivity.

1. Select the desired pattern rows via the row selection bar.

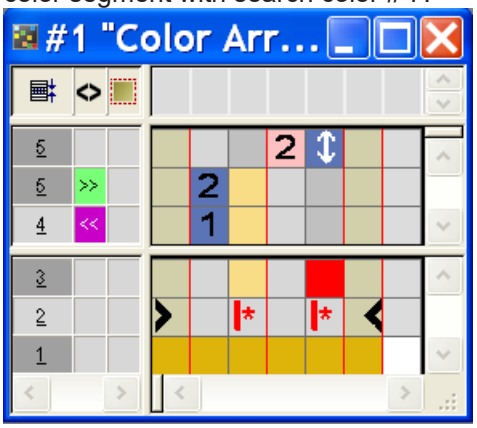


2. Click the  icon in the "Default" toolbar.
   - or -
   Call up the "Generate from Selection" / "Color Arrangement" function in the "Module" menu.

▶ The selection will be displayed in the "Color Arrangement Editor".



3. Select the color column and insert a color segment.
4. In the search area, draw-in the **search color** e.g. **# 7** and the  symbol additionally selected in the basic pattern.
5. Select the last row in the CA and insert one row.
6. Define the inserted row in the reference column as  additional row and number it accordingly.
7. Enter the "Setting for transferring the structure"  symbol into the additional row of the color segment with search color # 7.

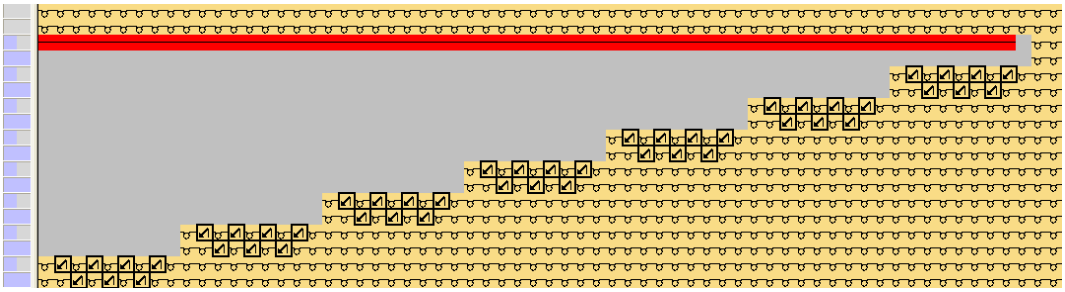


	Function	Meaning
	**Settings for Transferring the Structure**	The transferring of the structure (module) will be carried out at this position (additional row).

8. Close the "Color Arrangement Editor" with  .
9. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

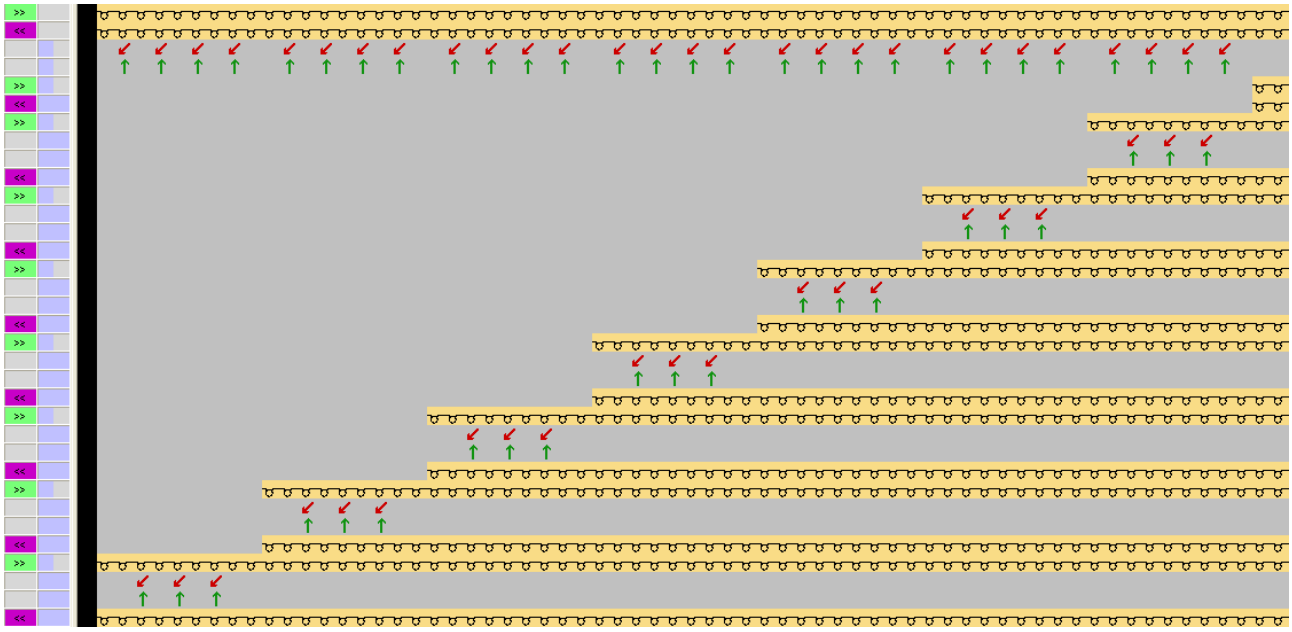
10. Insert the changed Color Arrangement in the entire height of the gore into the control column.



> **i** If the search color # 7 is drawn-in directly at the basic color, the tuck binding (intarsia binding) is automatically inserted.

11. Select all the rows and expand the selection.

▶ The preview window will be opened.



> **i** If a structure transferring (module) is present between two knitting rows it will be displaced until a **Setting for transferring the structure** takes place in the Color Arrangement.

12. Close the preview window with .
13. Delete selection.

IV. Example 2: Create Color Arrangement for displacing transfer:

1. Select the first two pattern rows in the gore via the row selection bar.

2. Click the icon in the "Default" toolbar.
   - or -
   Call up the "Generate from Selection" / "Color Arrangement" function in the "Module" menu.

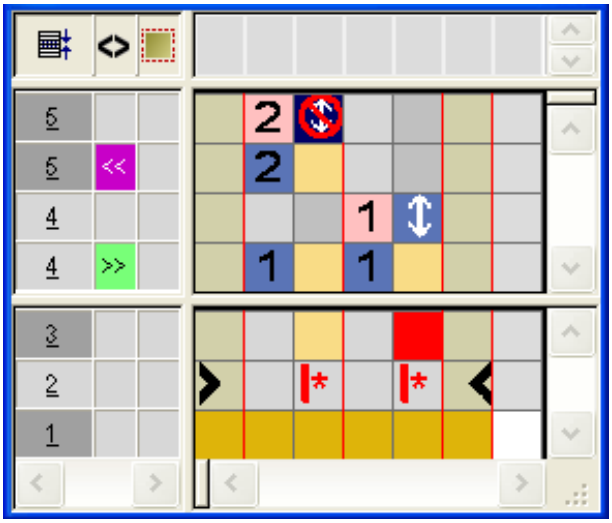
▶ The selection will be displayed in the "Color Arrangement Editor".

3. Select the color column and insert a color segment.
4. In the search area, draw-in the **search color** e.g. **# 7** and the * symbol additionally selected in the basic pattern.
5. Select the first reference row in the CA and insert a row.
6. Enter in this additional row in the color segment with search color #7:

- in the reference row: Marking as additional row + number
- in the color column: the **Setting for transferring the structure** symbol

7. Select the second reference row in the CA and insert a row.
8. Enter in this additional row in the color segment with search color #31:

- in the reference row: Marking as additional row + number
- in the color column: the **Transferring the Structure not Allowed** symbol



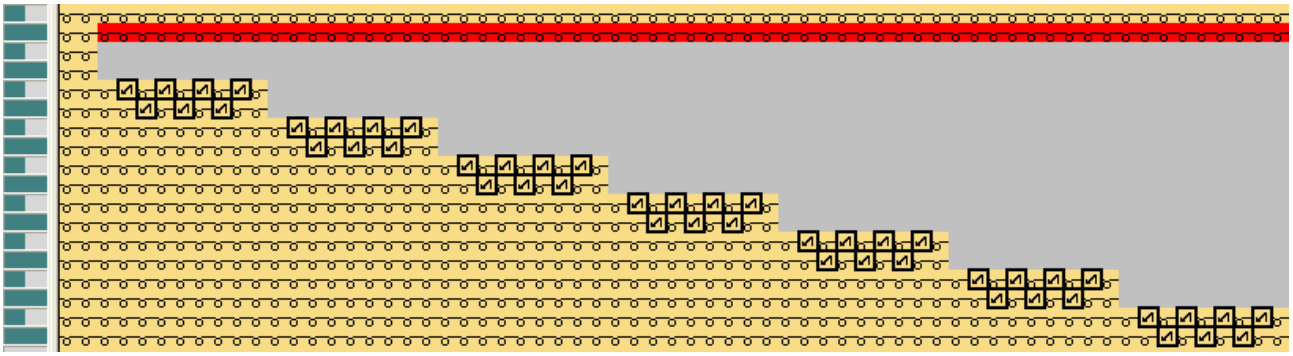
	Function	Meaning
	Transferring the structure not allowed	The transferring of the structure (module) will **not** be carried out at this position (additional row) (**lock**).

i If transferring of the structure (module) is to be displaced over a following knitting row, then a **Setting for transferring the structure not allowed** (lock) has to be entered at the original position in the Color Arrangement.
This 'locking', however, requires a **Setting for transferring the structure** (allow) at a desired position.

9. Close the "Color Arrangement Editor" with .
10. Confirm the query "Save the modified module?" with "Yes".

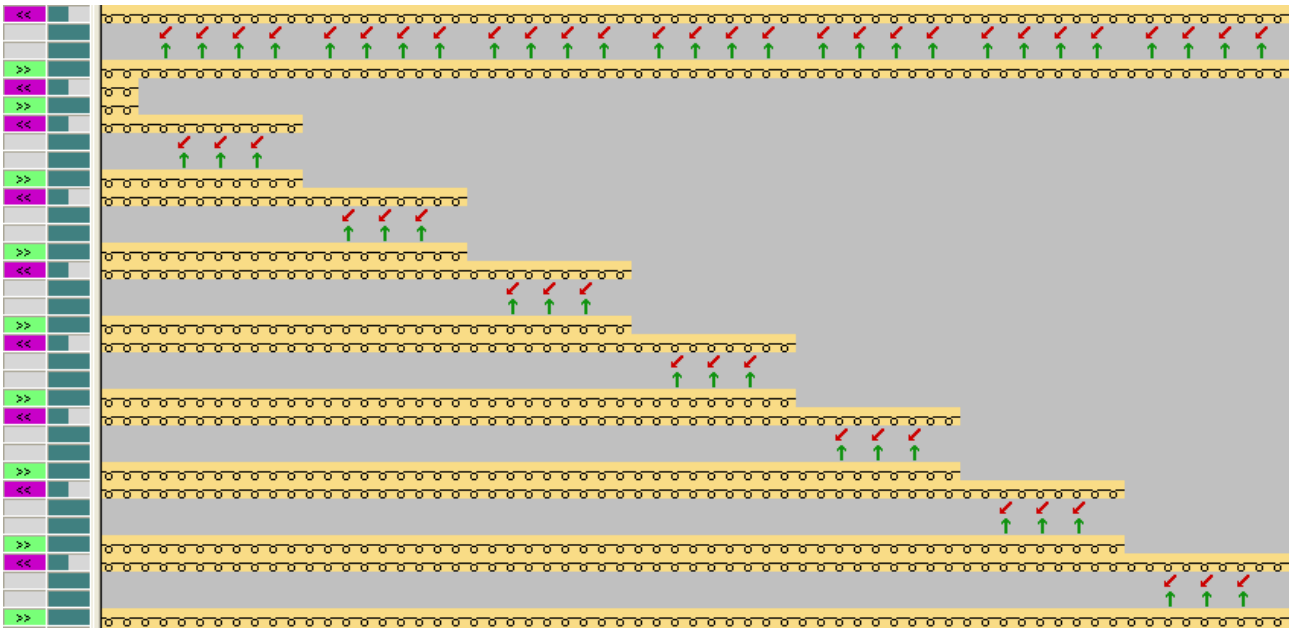
▶ The Color Arrangement will be automatically entered in the control column of the selected pattern area and saved as **Local CA** in the "Module Bar".

11. Insert the changed Color Arrangement in the entire height of the gore into the control column.



12. Select all the rows and expand the selection.

▶ The preview window will be opened.



i Behavior of 'locking'

If **transferring the structure not allowed** (lock) is used on a position and after the next knitting row it is not locked or allowed again, then the locking is ignored.
This means that **transferring the structure** is entered in the pattern after the default processing.

13. Close the preview window with .
14. Delete selection.

33.2 Complete the pattern

Complete the pattern:

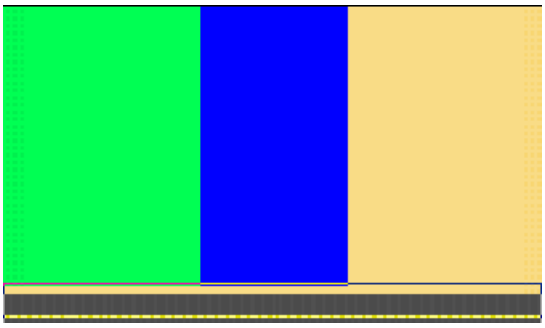
i	You can make further settings in the Yarn Field Allocation dialog box if necessary, e.g. tuck binding with the gore.

1. Expand the pattern with  of the "Steps of Processing" toolbar.
2. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

34 Color Arrangement: Multi Gauge Technique in the 1:3 ratio



Pattern name	15_Muster_Pattern_CA.mdv	
Pattern size	Width:	150
	Height:	80
Machine type:	CMS 530	
Gauge	8	
Setup Type	Setup2:	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Multi-Gauge with coarse and fine areas in the 1:3 ratio	
Pattern description	Color Arrangement for ◆ Multi Gauge with a stitch ratio of 1:3	

34.1 Color Arrangement: Multi Gauge 1:3 Technique

> **Fine area:** Knitting every pattern row with all the needles with fine yarn.
>
> **Coarse area:** Knitting every third stitch row with every second needle (1x1) with coarse yarn.

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw the motif:

- Fine areas with yarn colors of the **Yarn colors (default)** table
- Coarse areas with yarn colors of the **Yarn colors (1:2 MGauge)** table

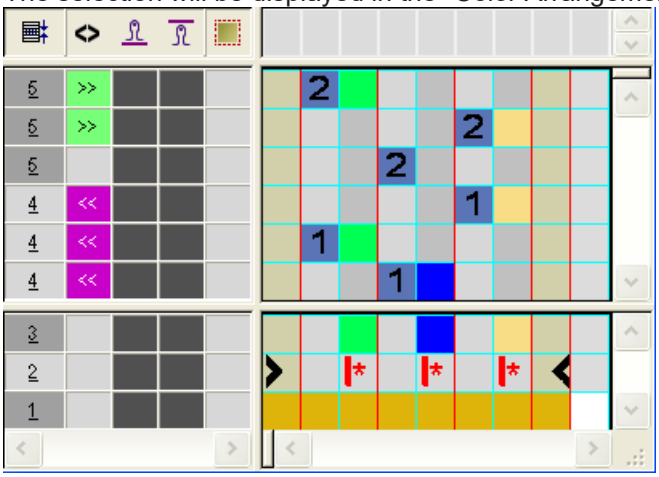
> **Pattern example**
>
> The following Color Arrangements are suitable for a motif with vertical color edges up to the fabric end only.

II. Generate Color Arrangement for multi gauge start:

1. Select the first two pattern rows via the row selection bar.

2. Click the icon in the "Default" toolbar.

▶ The selection will be displayed in the "Color Arrangement Editor".



3. Change the Color Arrangement for **multi gauge start**.

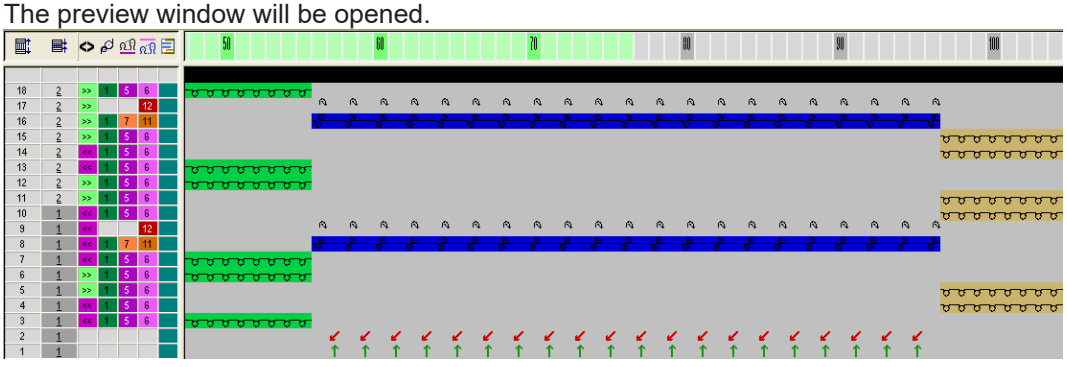
- Transition from knitting with all needles to knitting in 1x1

■ Knitting sequence Multi Gauge in the 1:3 ratio

i	6 reference rows from the basic pattern are necessary in the Color Arrangement to be able to knit in the ratio of 3 rows in the fine area to 1 row in coarse row for both carriage stroke directions each.

4. Enter a separate stitch length in the coarse area for knitting and for casting-off.
5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".
7. Enter the Color Arrangement in the control column in the first 6 pattern rows.
8. Select rows and expand with the key.

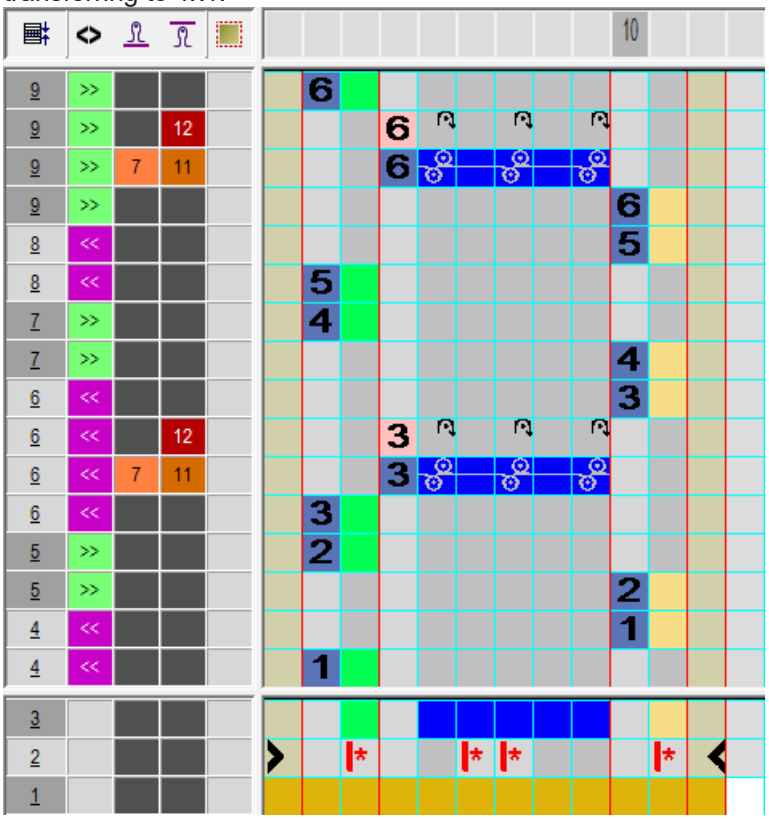
▶ The preview window will be opened.



9. Close the preview window with .
10. Delete selection.

III. Generate Color Arrangement for multi gauge:

1. Copy and rename the existing Color Arrangement.
2. Open the Color Arrangement double-clicking and delete the additional rows by transferring to 1x1.

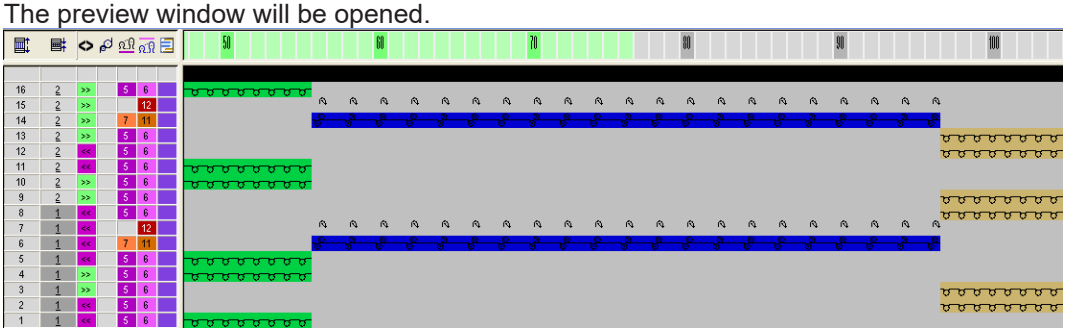


3. Close the "Color Arrangement Editor" with .
4. Confirm the query "Save the modified module?" with "Yes".

▶ The Color Arrangement is saved as **Local CA** in the "Module Bar".

5. Draw-in the Color Arrangement in the control column up to the pattern end.
6. Select the desired rows and expand with the key.

▶ The preview window will be opened.



7. Close the preview window with .

8. Delete selection.

i	For motifs with not vertically running color edges and for the transition from a coarse to a fine area are necessary further Color Arrangements.

34.2 Complete the pattern

Complete the pattern:

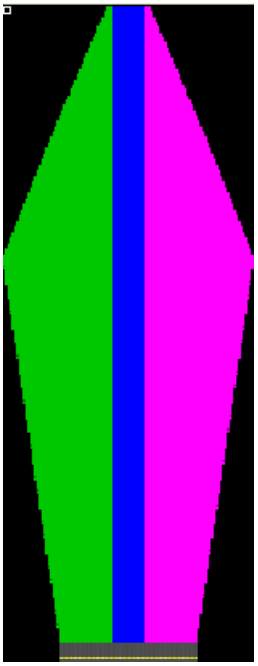
1. If necessary, further settings can be made in the "Yarn Field Allocation" dialog box.
2. Expand the pattern with  of the "Steps of Processing" toolbar.
3. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

4. Confirm the query with "OK".
5. Call-up "Sintral check" via "MC program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

Complete the pattern

35 Color Arrangement: Fully Fashion - Narrowing

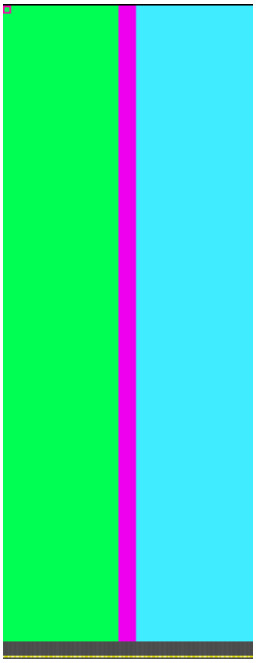


Pattern name	16_Muster_Pattern_CA	
Pattern size	Width:	112
	Height:	285
Machine type:	CMS 530	
Setup Type	Setup2	
Gauge	8	
Start	1x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Intarsia	
Pattern description	Color Arrangement ◆ Influence narrowing	

35.1 Pattern and Color Arrangement for fully fashion

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw a basic pattern as intarsia motif with **yarn colors**.



3. Call up the "Shape" / "Open and Position Shape..." menu.
4. Select the Raglan-Sleeve-38.shv shape.

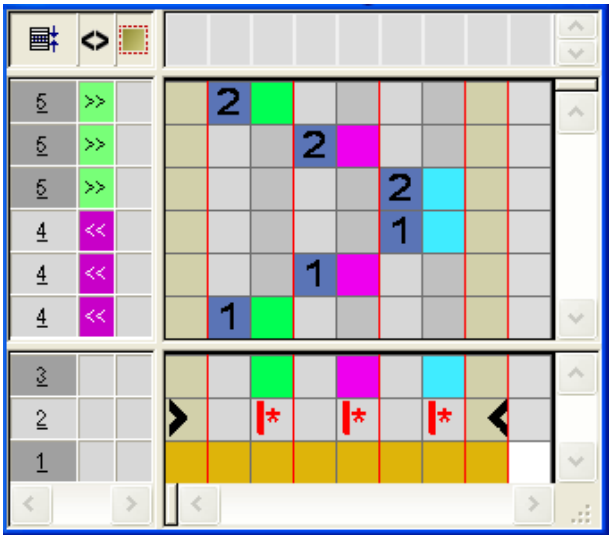
▶ The shape will be positioned in the basic pattern.

5. Position the shape in the basic pattern with the active drawing tool  on the basic pattern.

II. Generate a Color Arrangement for shape transferring:

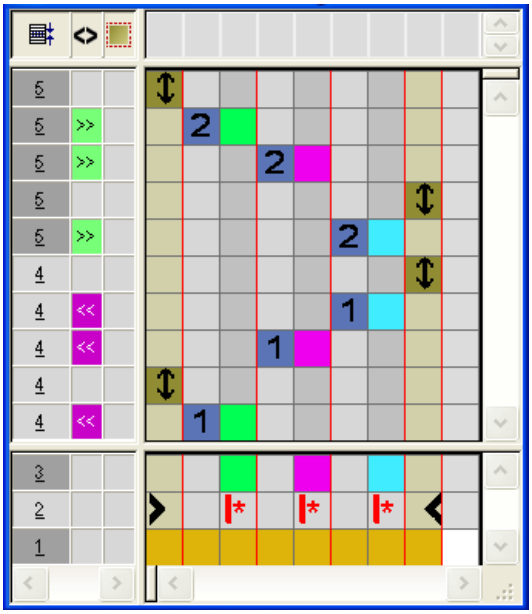
1. Select two pattern rows in the narrowing area via the row selection bar.
2. Click the  icon in the "Default" toolbar.

Original Color Arrangement:



3. Select and insert rows.
4. Draw-in the  symbol into the **shape column** of the inserted rows.

Example: Shape transferring

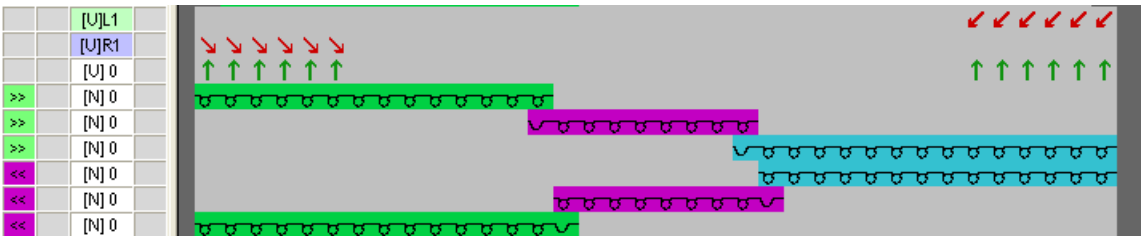


	Function	Meaning
	Settings for Transferring the Shape	The transfer of the narrowing or of the widening from the shape will be carried out at this position.

5. Close the "Color Arrangement Editor" with  .
6. Confirm the query "Save the modified module?" with "Yes".
7. Enter the Color Arrangement in the height of the narrowing area in the control column.
8. Cut out the shape with  of the "Steps of Processing" toolbar.

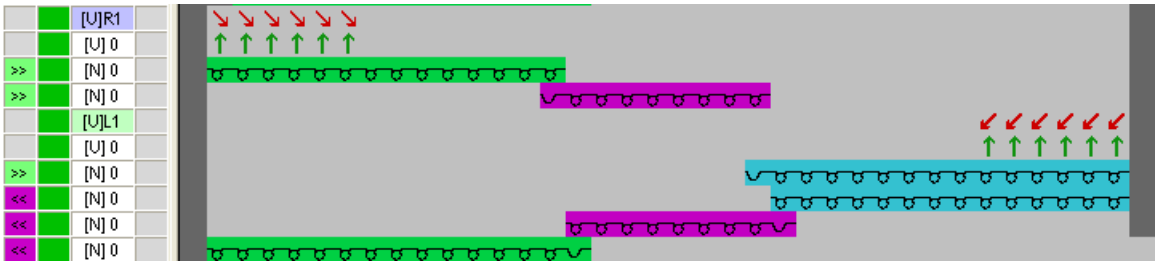
9. Expand the pattern with  of the "Steps of Processing" toolbar.

Expanded pattern without Color Arrangement:
As default the transferring of the shape is carried out after knitting a complete pattern row.



Expanded pattern with Color Arrangement:

The transfer of the shape will be carried out at the position of the  symbol of the CA.



i	The specifications of transferring the shape of the Color Arrangement does not influence the shape.

10. Continue editing the pattern.

35.2 Complete the pattern

Complete the pattern:

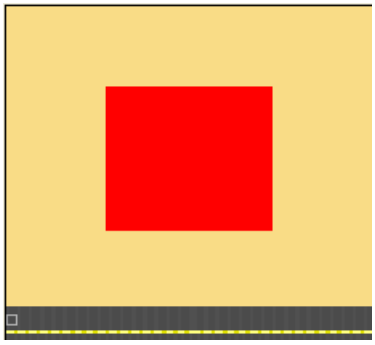
i	If necessary, further settings can be made in the "Yarn Field Allocation" dialog box.

1. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".
3. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

36 Color Arrangement: Shirt pocket



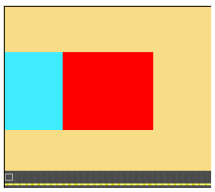
Pattern name	17_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	80
Machine type:	CMS 530	
Setup Type	Setup2	
Gauge	8	
Start	2x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Shirt pocket	
Pattern description	**Color Arrangement for** ◆ Shirt pocket knitted with two yarn carriers ◆ Binding-off	

36.1 Pattern and Color Arrangement for shirt pocket with two yarn carriers

I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw a basic pattern with three different **yarn colors**.

▶ The yarn colors are not yet allocated to any yarn carrier rail.



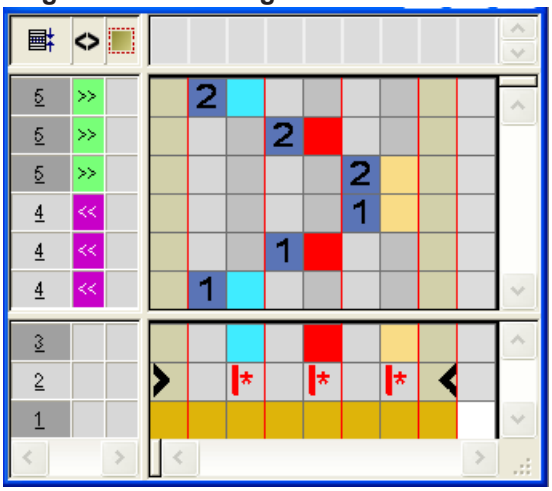
i	Create all pattern areas even-numbered in height.

	The pattern can also be drawn with yarn carrier colors. The yarn carriers will be positioned on the bars due to the selected yarn carrier colors then.

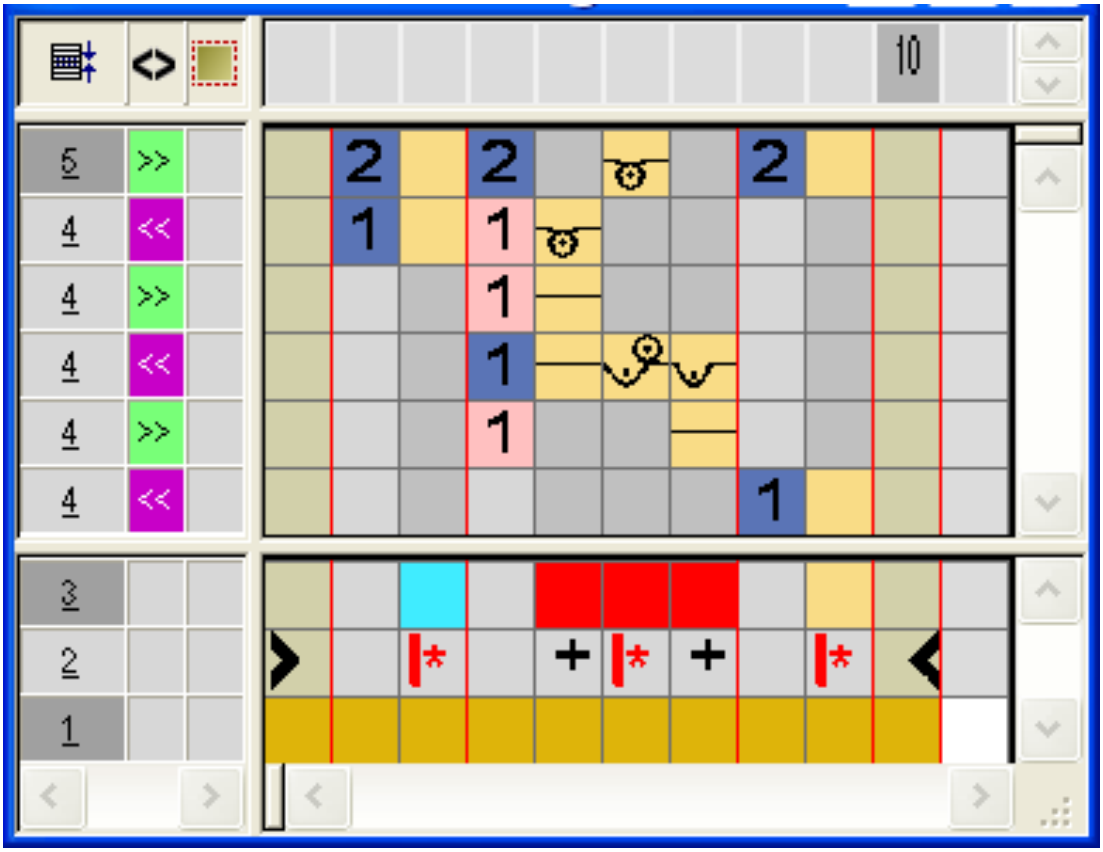
II. Generate Color Arrangement for pocket start:

1. Select the first two pattern rows in the pocket area via the row selection bar.
2. Click the  icon in the "Default" toolbar.

Original Color Arrangement:



3. Modify CA: **Start of Pocket**



- In the processing area of the red search color:
  - Insert rows:
    Draw-in knitting sequence for pocket start and additional rows with reference row number.
  - Insert columns:

    Draw-in moving of the yarn carrier and mark the columns with .
- Enter carriage direction and stitch tensions.

---

i Other stitch tensions can be set for the pocket start.

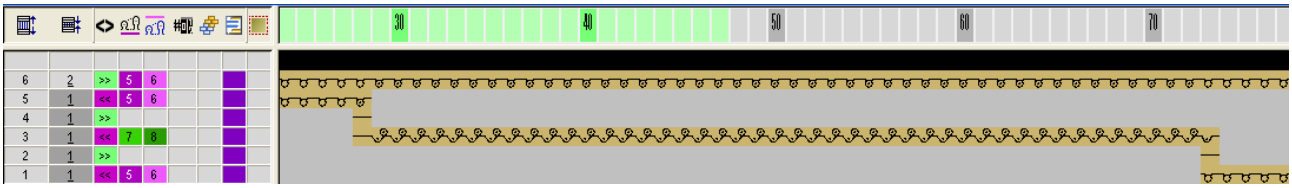
---

4. Close the "Color Arrangement Editor" with .

▶ CA will be saved under local Color Arrangements.

5. Enter CA in the control column of the first two pattern rows of the pocket area.

▶ **Expanded pattern for pocket start:**

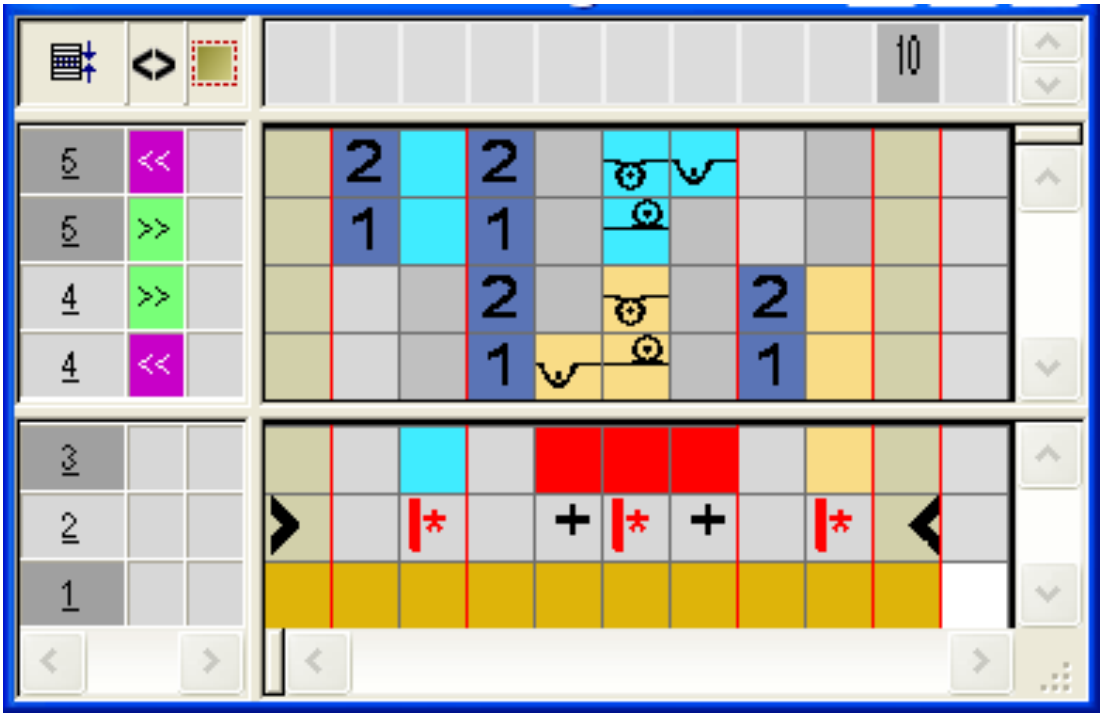


III. Generate Color Arrangement for pocket:

1. Select the pattern rows in the pocket area via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The original Color Arrangement (see above) is displayed.

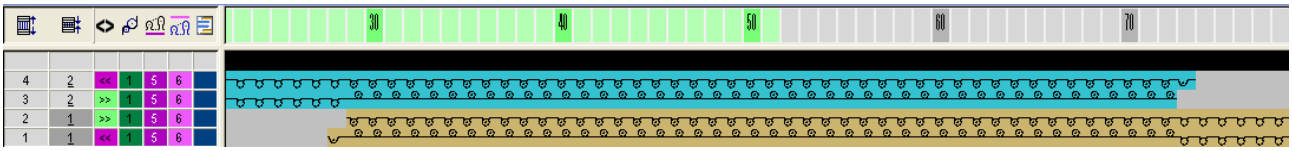
3. Modify CA: **Pocket**



- In the processing area of the red search color
  - Insert rows: Draw-in knitting sequence for pocket and reference row number.
  - Insert columns: Draw-in the binding at the pocket border and mark the columns with  .
- Enter carriage direction and stitch tensions.

4. Close the "Color Arrangement Editor" with  .
5. Enter CA in the control column of the pattern rows of the pocket area.

▶ **Expanded pattern for the pocket:**

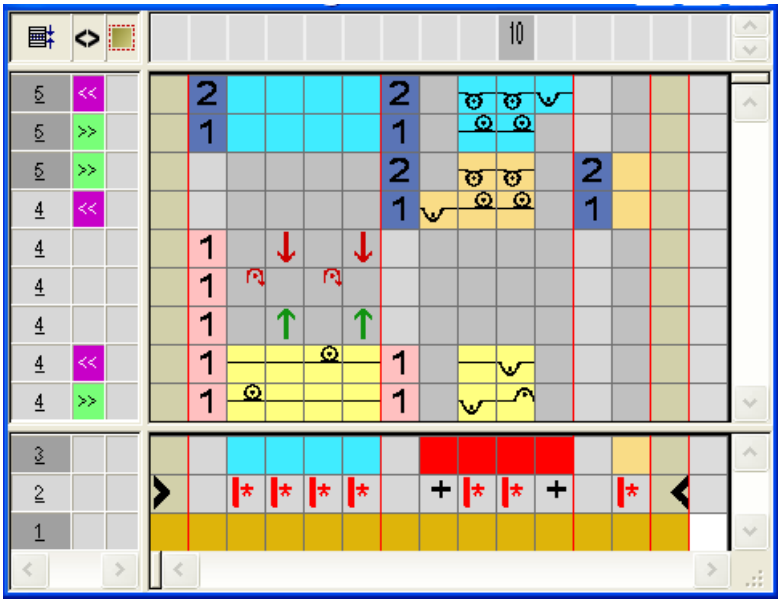


IV. Generate Color Arrangement for pocket end with draw thread:

1. Select the last two pattern rows in the pocket area via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The original Color Arrangement (see above) is displayed.

3. Modify CA:
   Pocket end

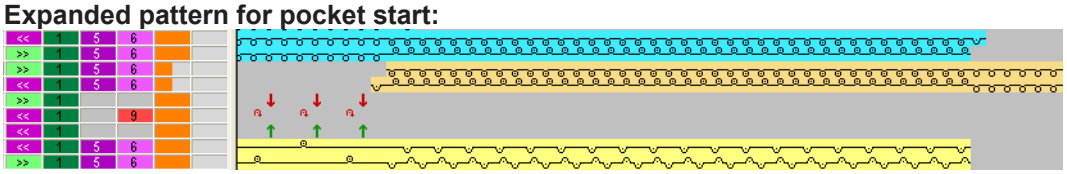


- Insert rows / columns and draw-in the knitting-in and out with casting-off the draw thread with the technique color #207 and mark them as additional rows.
- In the processing area of the red search color:
  - Insert rows.
    Draw-in knitting sequence for pocket and reference row number.
  - Insert columns.

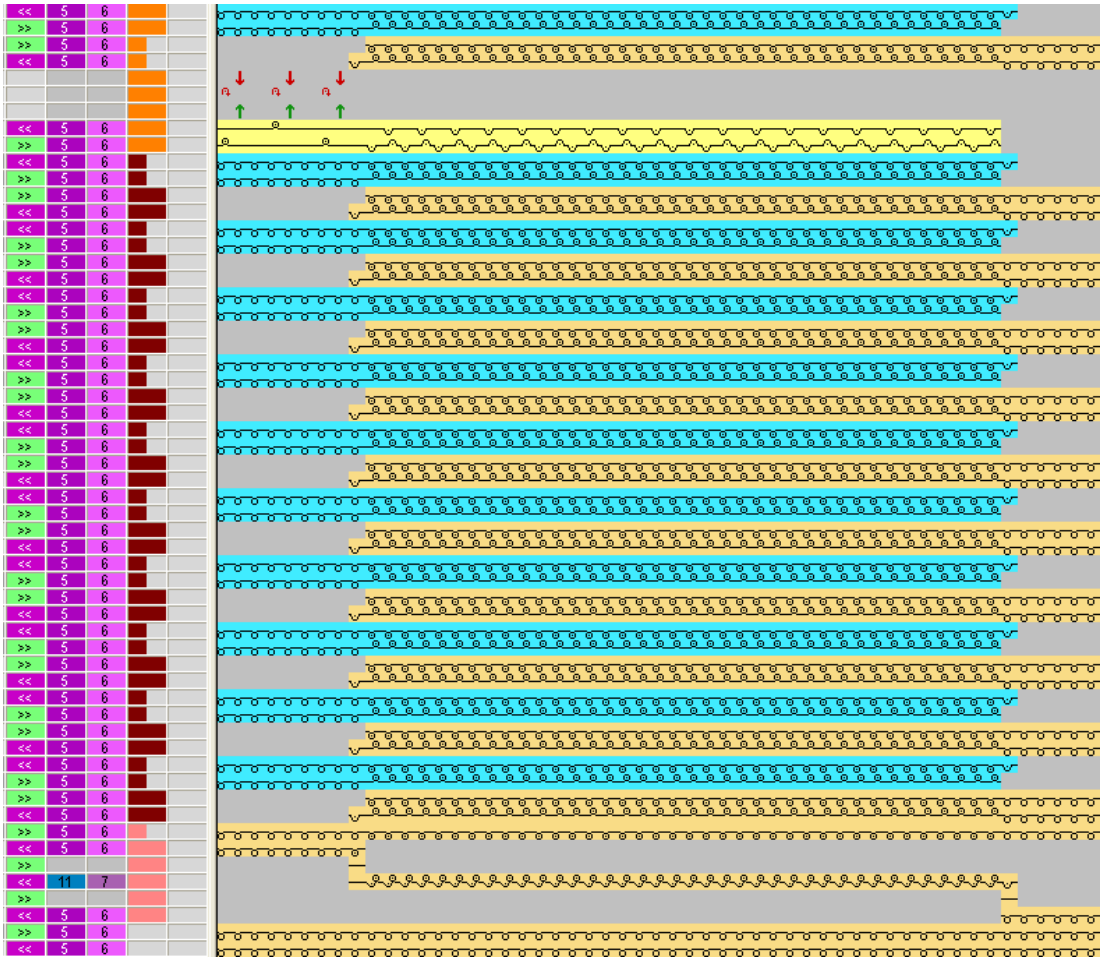
    Draw-in the binding at the pocket border and mark the columns with  .
- Enter carriage direction and stitch tensions.

4. Close the "Color Arrangement Editor" with  .
5. Enter CA in the control column of the last two pattern rows of the pocket area.

▶ **Expanded pattern for pocket start:**



V. Expanded pattern of the shirt pocket:



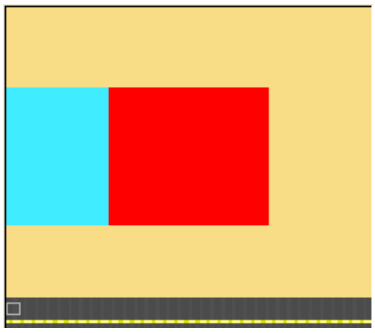
36.2 Color Arrangement: Binding-off for shirt pocket

I. Modify pattern:

> **i** The binding-off of the pocket is carried out from the left to the right.

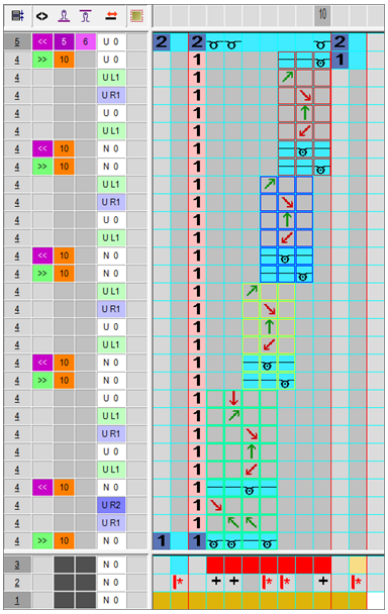
1. The yarn color on the left of the pocket is used for binding-off.

▶ The yarn carrier allocated to this yarn color will be used for binding-off and then it will be brought into home position.

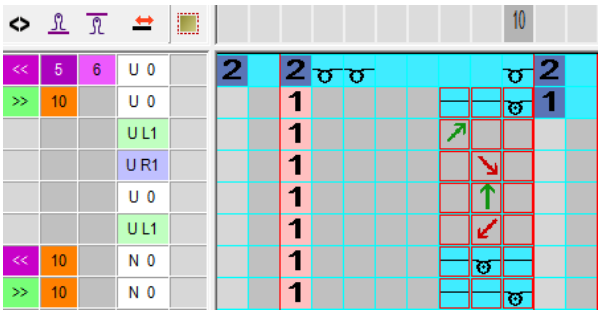
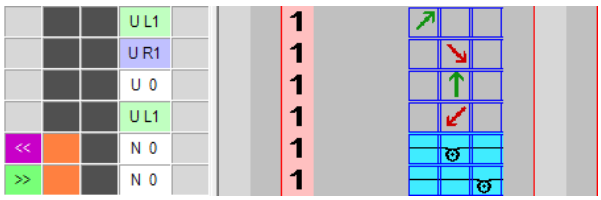
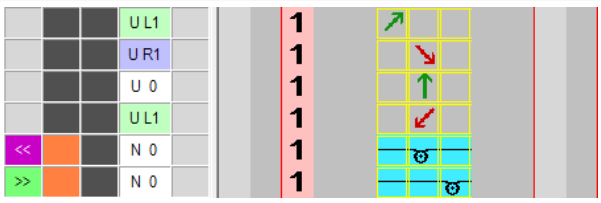
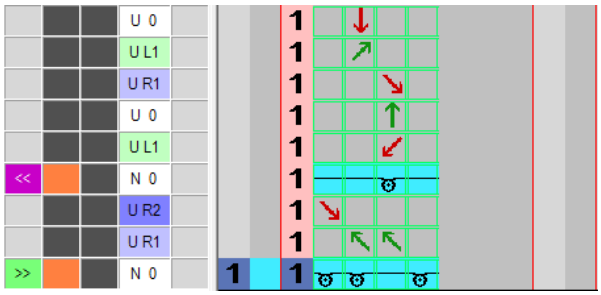


II. Generate Color Arrangement for binding-off the pocket:

1. Select the last two pattern rows in the pocket area and click on the  symbol in the "Default" toolbar.
   - or -
   In the Modul-Explorer Datenbank under
   - or -
   "Technique" / "Binding-off CA" / "Single Jersey" select a Color Arrangement for binding-off, create a copy and edit it.
2. Generate a knitting sequence for the Color Arrangement:



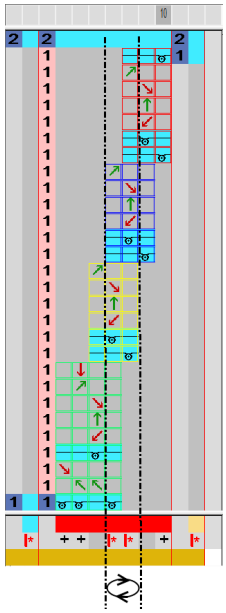
Areas of the Color Arrangement for binding-off:		
Knitting and transfer sequence	Designation	Function

Areas of the Color Arrangement for binding-off:		
	**Binding-off End**	The module will be inserted once at the end of binding-off. Knit the final row to the left over the entire pattern width.
	**Binding-off further repetitions**	The module is inserted repeatedly, according to the number of stitches that are to be bound off. Each time 1 stitch racked to the right.
	**Binding-off first repetition**	The module is racked to the right by the stitch previously bound-off.
	**Binding-off start**	The module will be inserted once at the beginning of binding-off. Binding-off direction to the right. In the example one needle is to be "freed" for the binding-off start, since the pocket area has to layers.

3. Close the "Color Arrangement Editor" with .

▶ The Color Arrangement will be automatically entered in the two selected pattern areas and saved as local module in the Module Bar.

II. Function of the symbols and in the search area.



The columns with the symbol widen the color field at the beginning and at the end, thus the start and end position for binding-off are set.

The number of columns with mark the width of the repetition of knitting rows outside the binding-off areas.

The minimum inserting width of color arrangement with bind-off areas is defined by the quantity of columns (no function = empty). The minimum width (= binding-off width) is 2 stitches in this example, since the start and the end module are always inserted.

36.3 Complete the pattern

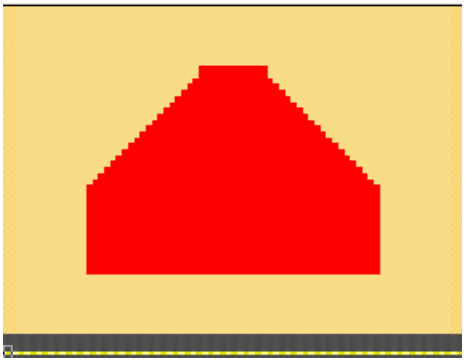
Complete the pattern:

1. Open the "Yarn field allocation" dialog box.
2. In the **Intarsia binding at the left** and **Intarsia binding at the right** columns for the yarn fields in the pocket area deactivate the tuck binding.
3. Expand the pattern with of the "Steps of Processing" toolbar.
4. Start the technical processing with .

▶ The query "Generate MC Program" appears.

5. Confirm the query with "OK".
6. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click in the "Steps of Processing" toolbar.

37 Color Arrangement: Kangaroo Pocket



Pattern name	18_Muster_Pattern_CA.mdv	
Pattern size	Width:	100
	Height:	80
Machine type:	CMS 530	
Setup Type	Setup2:	
Gauge	8	
Start	2x1	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	Pocket with inclined mouth	
Pattern description	**Color Arrangement for** ◆ Kangaroo pocket knitted with two yarn carriers	

37.1 Pattern and Color Arrangement for kangaroo pocket

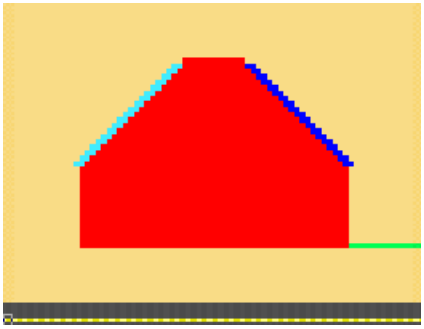
I. Create and draw a new pattern:

1. Create a new pattern with "Design Pattern" setting.
2. Draw a basic pattern with different **yarn colors**.

▶ The yarn colors are not yet allocated to any yarn carrier rail.

---

i All pattern areas are even-numbered in height.

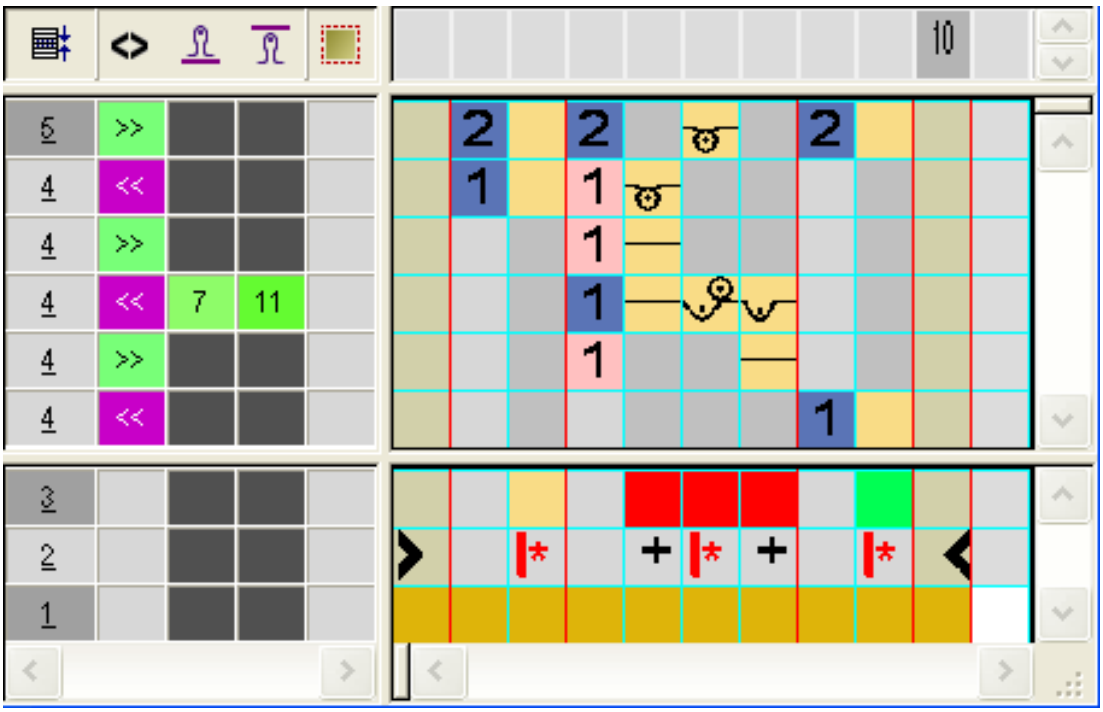


II. Generate Color Arrangement for pocket start:

1. Select the first two pattern rows in the pocket area via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The original Color Arrangement is displayed.

3. Modify the Color Arrangement for the **pocket start**.



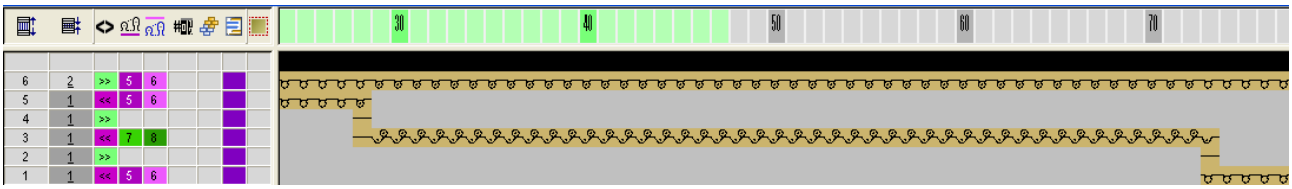
- In the processing area of the red search color
  - Insert rows: Draw-in knitting sequence for pocket start and additional rows with reference row number.
  - Insert columns: Draw-in moving of the yarn carrier and mark the columns with .
- Enter carriage direction and stitch tensions.

Other stitch tensions can be set for the pocket start.

---

4. Close the "Color Arrangement Editor" with .
5. Enter the CA in the control column of the first two pattern rows of the pocket area.

▶ **Expanded pattern for pocket start:**

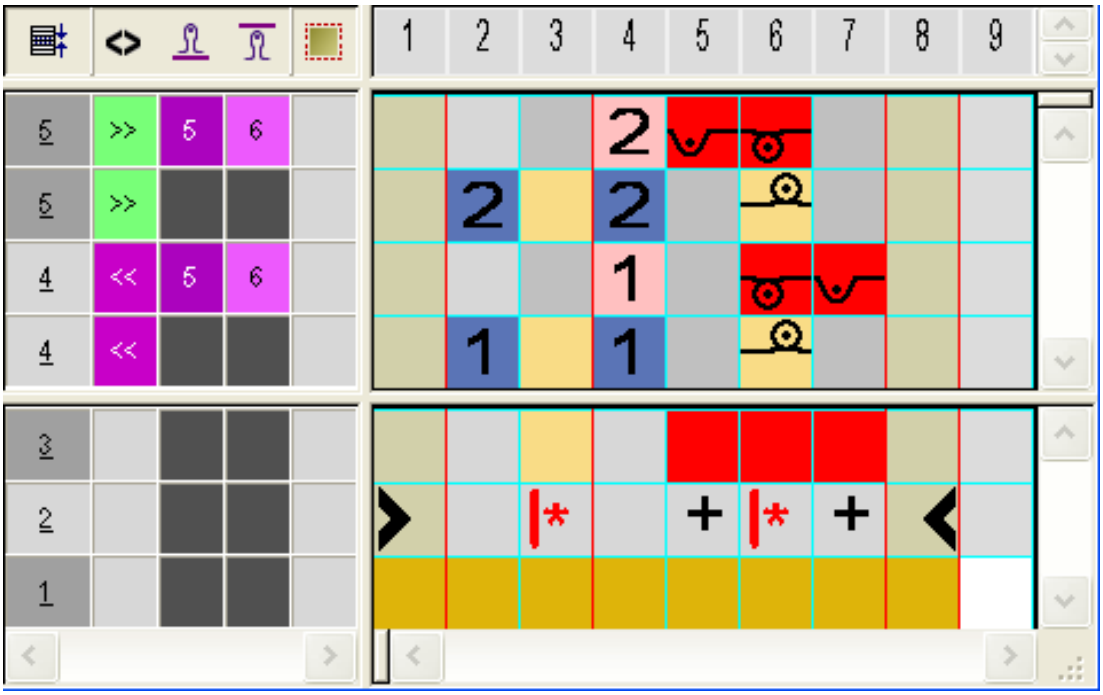


III. Generate Color Arrangement for pocket:

1. Select the pattern rows in the pocket area (height of the pocket lining) via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The original Color Arrangement is displayed.

3. Modify the Color Arrangement for the **pocket**.

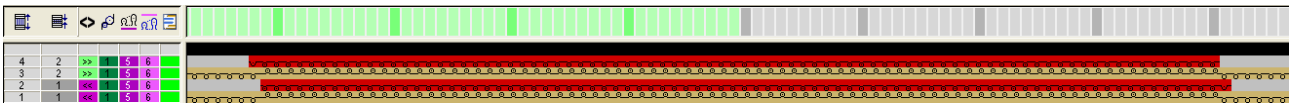


- In the processing area of the red search color
  - Insert rows: Draw-in knitting sequence for pocket and reference row number.
  - Insert columns: Draw-in the binding at the pocket border and mark the columns with  .
- Enter carriage direction and stitch tensions.

i	The pocket will be knitted with an additional yarn carrier. This yarn carrier is defined as intarsia yarn carrier due to the specifications in the CA.

4. Close the "Color Arrangement Editor" with  .
5. Enter CA in the control column at the height of the pocket lining.

▶ **Expanded pattern for the pocket lining:**

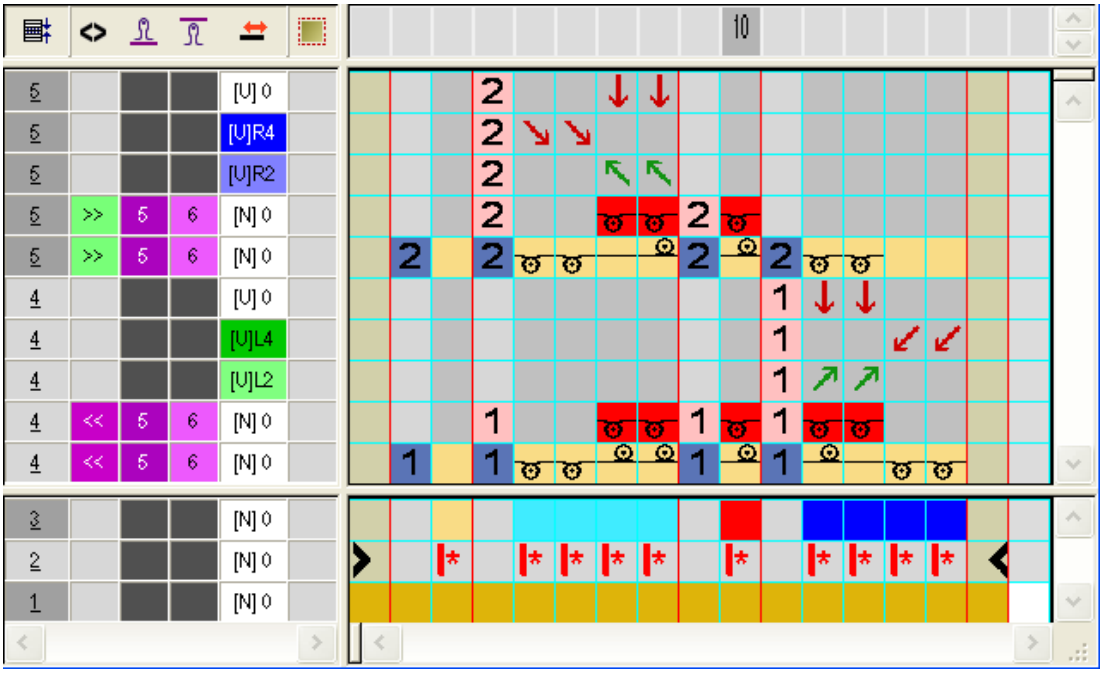


IV. Generate Color Arrangement for pocket mouth with narrowing:

1. Select the first two pattern rows in the narrowing area of the pocket via the row selection bar.
2. Click the  icon in the "Default" toolbar.

▶ The original Color Arrangement is displayed.

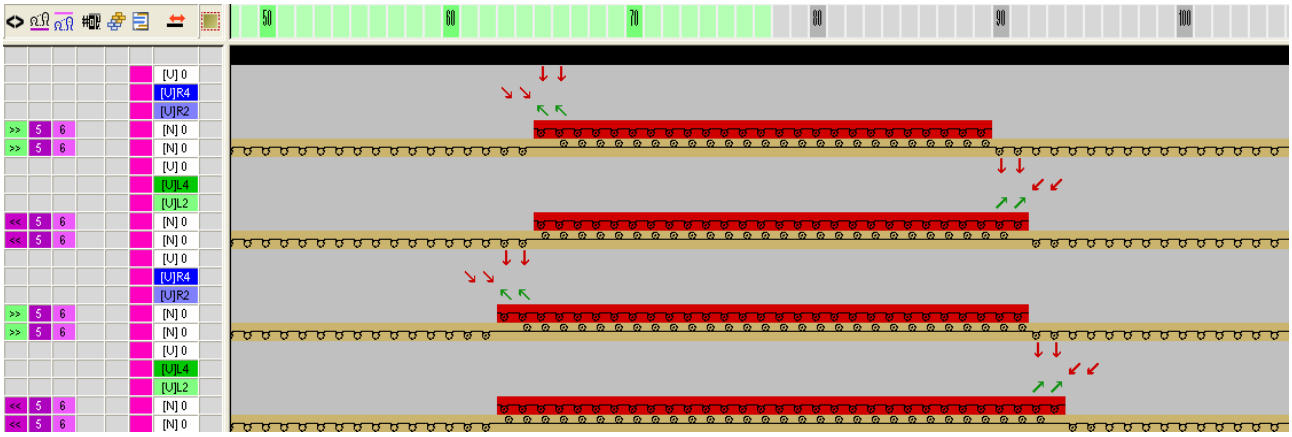
3. Modify the Color Arrangement for the **narrowing of the pocket**.



- In the processing area of the corresponding search color (light blue + blue)
  - Insert rows: Draw-in knitting sequence for pocket with narrowing and reference row number.
- Enter carriage direction and stitch tensions.

4. Close the "Color Arrangement Editor" with .
5. Enter CA in the control column at the height of the pocket mouth.

▶ **Expanded pattern for the pocket mouth:**

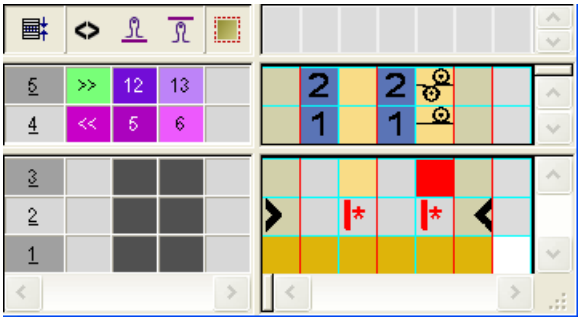


V. Generate Color Arrangement for pocket end:

1. Select the last two pattern rows in the pocket via the row selection bar.
2. Click the icon in the "Default" toolbar.

▶ The original Color Arrangement is displayed.

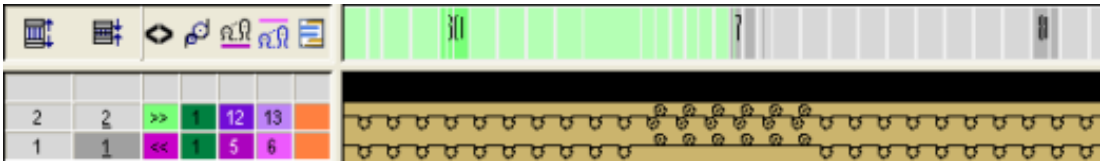
3. Modify the Color Arrangement for the **pocket end**:



- Delete Rows.
- Define new stitch tensions for every knitting row.

4. Close the "Color Arrangement Editor" with .
5. Enter CA in the control column of the last two pattern rows of the pocket area.

▶ **Expanded pattern for the pocket end:**



i	The transfer at the end will be entered automatically (Auto-transferring).

37.2 Complete the pattern

Complete the pattern:

1. Display the control column.

▶ The control column does not contain any entry for YCIn.

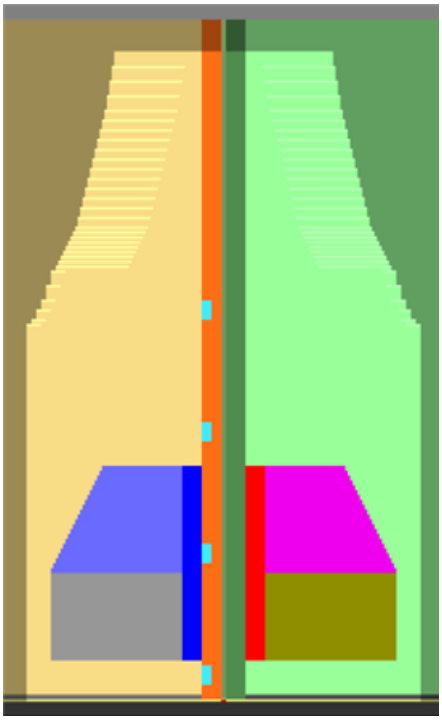
i	No entry means that the data of the table of YC is used.

2. Via the "Pattern parameters" / "Setup data..." open the "Setup2 Editor".
3. Select the "Yarn carrier" key and open the YC/YCI tab.
4. Enter the correction values for the corresponding yarn carrier and confirm with the "Apply" key.
5. Close the Setup2 Editor.
6. Expand the pattern with of the "Steps of Processing" toolbar.
7. Start the technical processing with .

▶ The query "Generate MC Program" appears.

8. Confirm the query with "OK".
9. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.

38 Color Arrangement: FF waistcoat with border and pocket



Pattern name	19_Muster_Pattern_CA	
Pattern size	Width:	200
	Height:	300
Machine Type	CMS 530	
Setup Type	Setup2:	
Gauge	8	
Start	Draw thread_end for tubular (with 1 system without elastic yarn)	
Basic Pattern	Front Stitch with Transfer	
Pattern description	Color Arrangements for a left + a right waistcoat front with ◆ Borders ◆ Button holes ◆ Knitted-in pockets	

38.1 Create the shape in the M1plus Shape Editor

1. Open the shape editor via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Create a **basic shape for the front** element.

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion	Gruppe	Kommentar
1		0	-266	0	-80	0	-80	1	0	0			Basis	0	
2		2	0	1	0	1	0	1	0	0				0	Trennfaden
3		5	0	2	0	2	0	1	0	0				0	Anfang
4		123	0	48	0	48	0	1	0	0				0	
5		107	0	42	0	42	0	1	0	0				0	
6		143	0	56	0	56	0	1	0	0				0	
7		10	0	4	0	4	0	1	0	0				0	
8		10	13	4	4	2	2	2	0	0	6		Mindern	0	
9		20	13	8	4	4	2	2	0	0	6		Mindern	0	
10		30	13	12	4	6	2	2	0	0	6		Mindern	0	
11		46	30	18	9	2	1	9	0	0	30		Mindern	0	
12		123	40	48	12	4	1	12	0	0	30		Mindern	0	
13		46	10	18	3	6	1	3	0	0	30		Mindern	0	
14		15	0	6	0	6	0	1	0	0				0	
15		0	146	0	44	0	44	1	0	0				0	

No.	
2	Height for the draw thread with casting-off: **1** **i**: The first row of the shape contains **Within Shape** and knits over the total width of the front parts of the waistcoat.
3	Height of the start of the tubular: **2** **Reason:** The start is formed by a CA in the height of 2 rows. The basic shape will be positioned on the first starting row.
11 - 13	Edge lines for narrowing the tubular border **i**: The defined narrowing width has to be changed manually in the Shape View.

3. Create a new element for opening and select it under **Opening** type.
4. Height of the opening: Enter **266 Rows** (total height of the basic element – 1 = height of the opening).
5. Enter the value 1 for the **Opening** element under "y distance to…" "base line".

▶ The **Basic Element** will be separated by the **Opening** element starting from the second row, meaning knit as two front parts of the waistcoat.

6. Select the element "Basic shape" under "Elements "and set the "Distance of shape halves".
   Example: 10

▶ An area will be generated between the shape halves in order to park the yarn carriers (= outside shape).

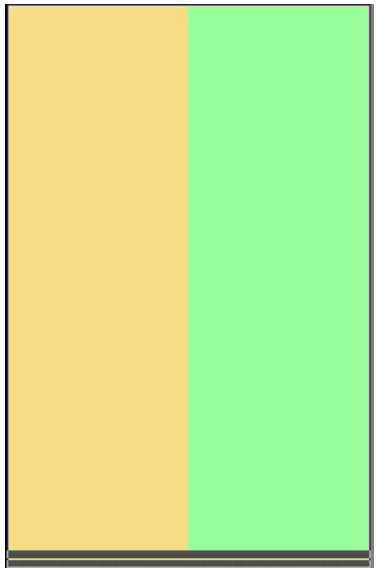
38.2 Create a pattern without shape and open the shape

Create pattern:

1. Generate a new pattern with the following settings:

- **Basic pattern (pattern without shape)**
- **Design Pattern**
- **Start:**
  "Stoll high Performance" / "1System" / "without elastic thread" / "Draw thread_end" / "tubular"

2. Draw in a second yarn color up to the centre in the "Symbol View [Basic]".



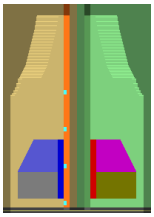
3. Call up the "Shape" / "Open and Position Shape..." menu.

▶ The shape will be positioned in the basic pattern.

4. Activate  "Move shape".
5. Position the shape in the basic pattern on the **row for the draw thread**.
6. Draw-in an additional yarn color between the two shape parts in the row of the draw thread.
7. Draw in yarn color # 201 from the "Yarn Color (technical yarns)" palette into the first two rows after the "Draw Thread_End" start in the right shape part.
8. Draw in yarn color # 202 into the left shape part in the same way.
9. Draw-in the area for the tubular border in the left and right shape part with two further yarn colors.
10. Draw-in an additional yarn color for button hole in the left shape part.

Recommendation: An even-numbered height of the button holes.

11. Draw-in the pockets in the left and right shape part with further yarn colors.

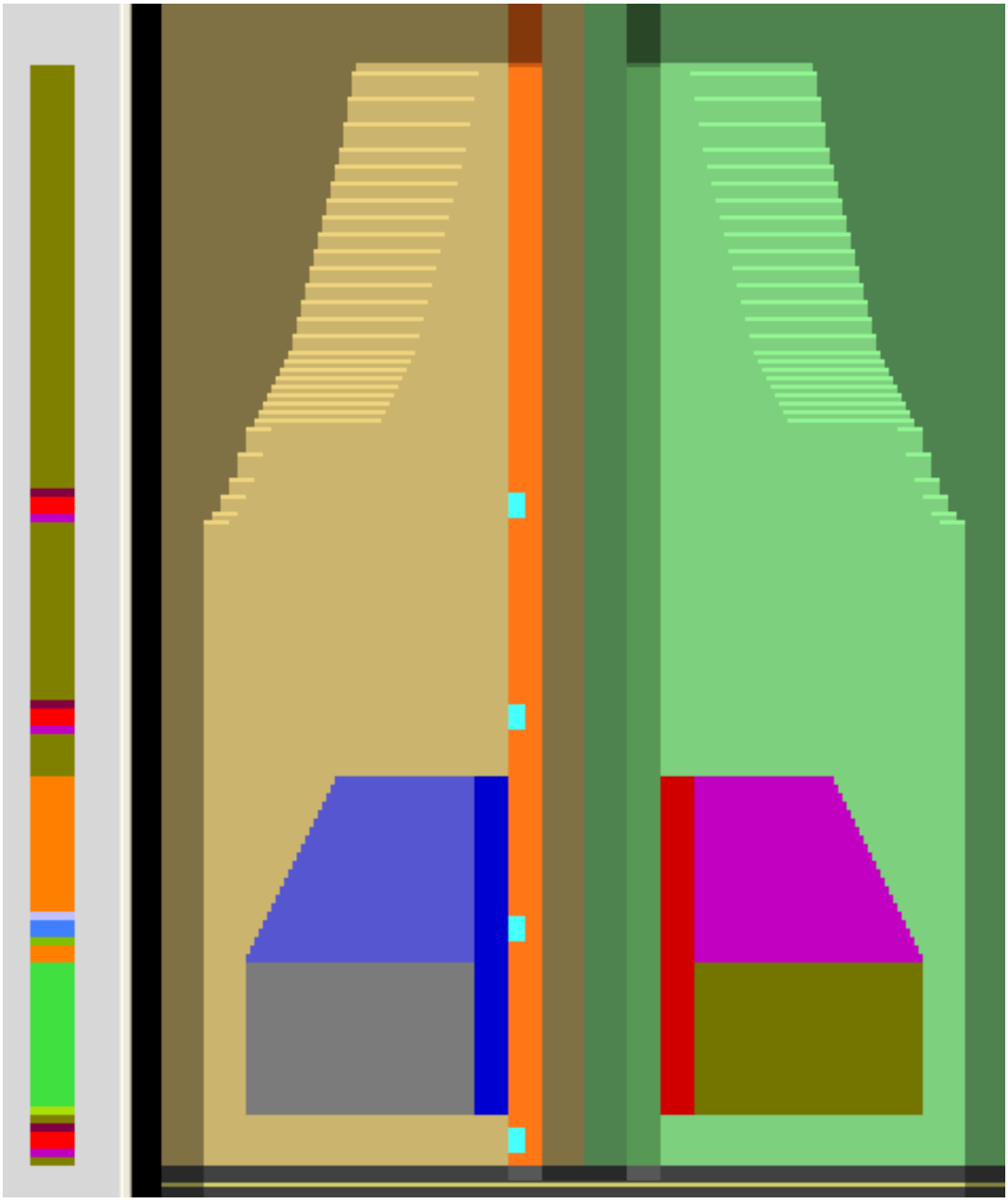


38.3 Color Arrangements for border, button hole and pocket

Generate Color Arrangements for fully fashion waistcoat with tubular borders and pockets:

- Color Arrangement #1: Cast-off after the draw thread
- Color Arrangement #2: Tubular start with RS1 cycle counter and loose row
- Color Arrangement #3: Single Jersey with tubular borders
- Color Arrangement #4: Start of button hole
- Color Arrangement #5: Height of button hole
- Color Arrangement #6: End of button hole
- Color Arrangement #7: Start of Pocket
- Color Arrangement #8: Pocket lining
- Color Arrangement #9: Pocket mouth
- Color Arrangement #10: Pocket + start of button hole
- Color Arrangement #11: Pocket + height of button hole
- Color Arrangement #12: Pocket + end of button hole

Result: Color Arrangements # 1-12 inserted in the basic pattern



- Color Arrangement #1 [267]
- Color Arrangement #4 [270]
- Color Arrangement #5 [271]
- Color Arrangement #6 [272]
- Color Arrangement #7 [273]
- Color Arrangement #8 [274]
- Color Arrangement #9 [275]
- Color Arrangement #10 [276]

- Color Arrangement #11 [🗋 277]
- Color Arrangement #12 [🗋 278]

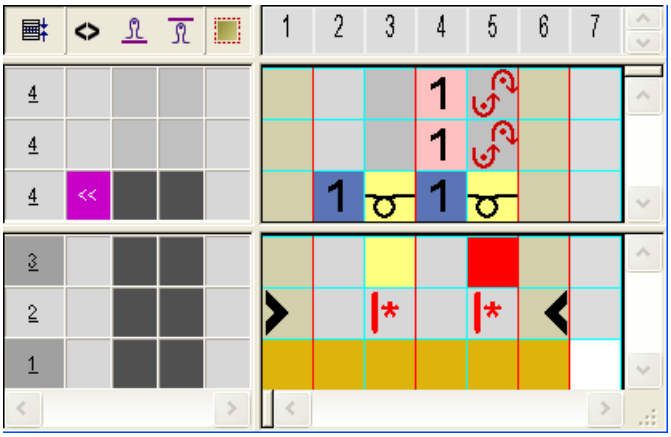
38.3.1 Color Arrangement #1

Generate a CA for casting-off after the draw thread:

1. Select the last pattern row after the "Draw Thread_End" start in the row selection bar.
2. Click the  icon in the "Default" toolbar.

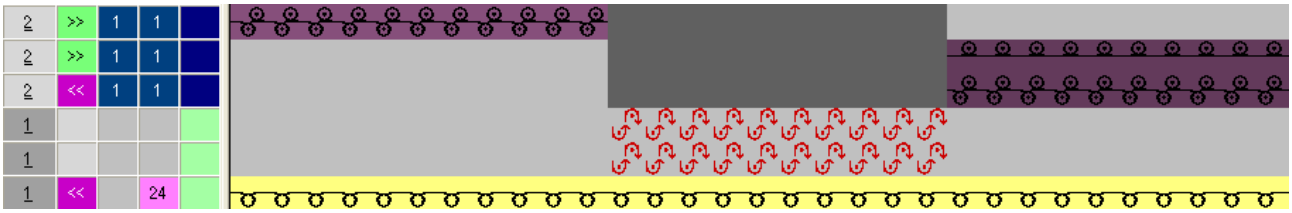
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

Expanded presentation:



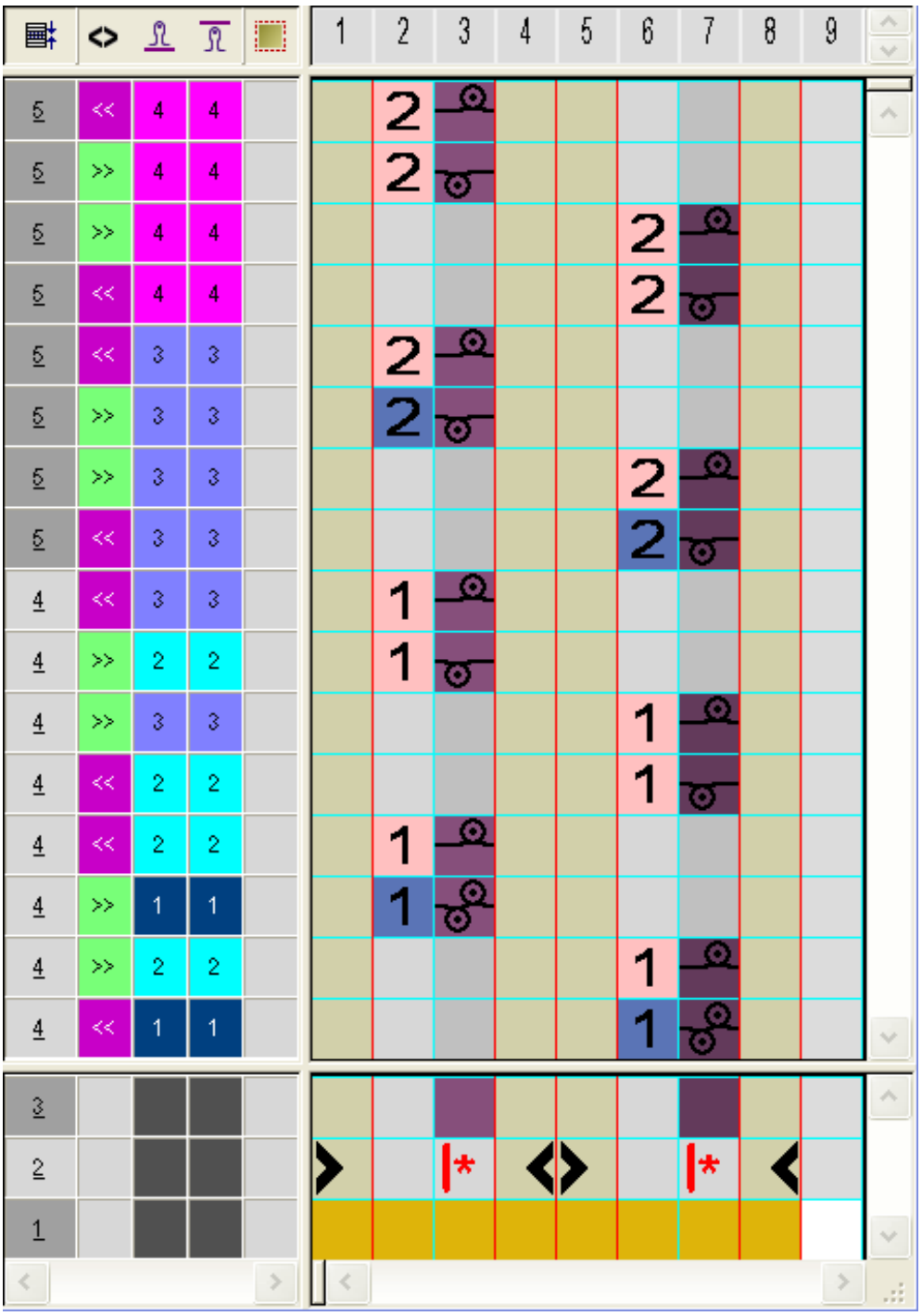
38.3.2 Color Arrangement #2

Generate a CA for the tubular start with RS1 cycle counter and loose row:

1. Select the pattern rows for the start in the row selection bar.
2. Click the  icon in the "Default" toolbar.

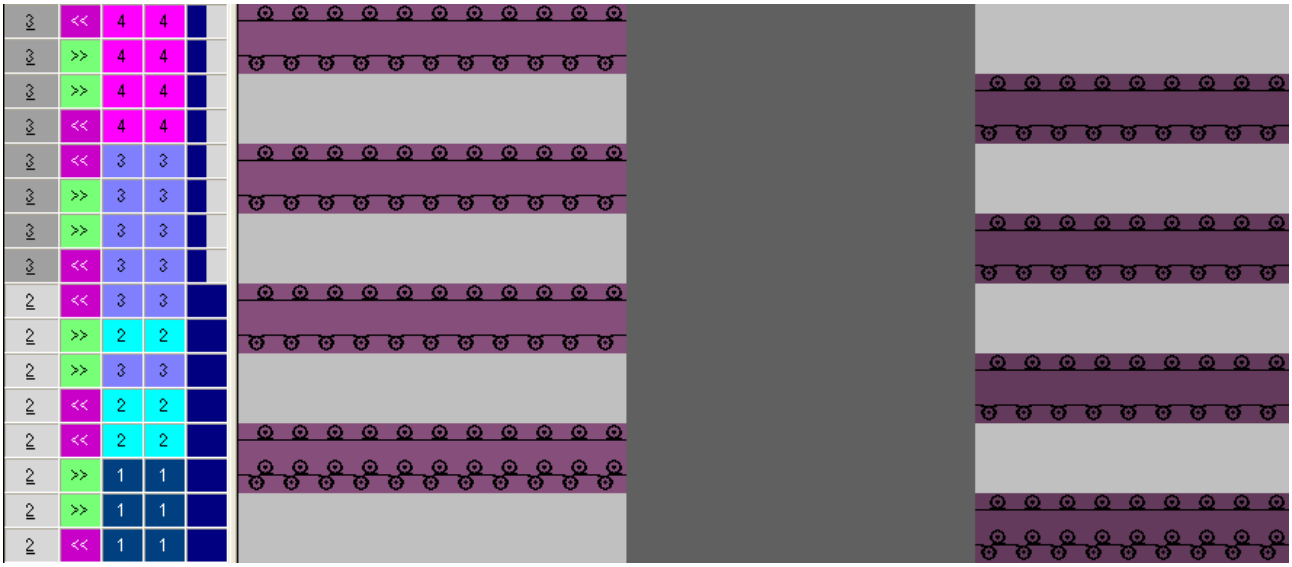
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with .

Expanded presentation:



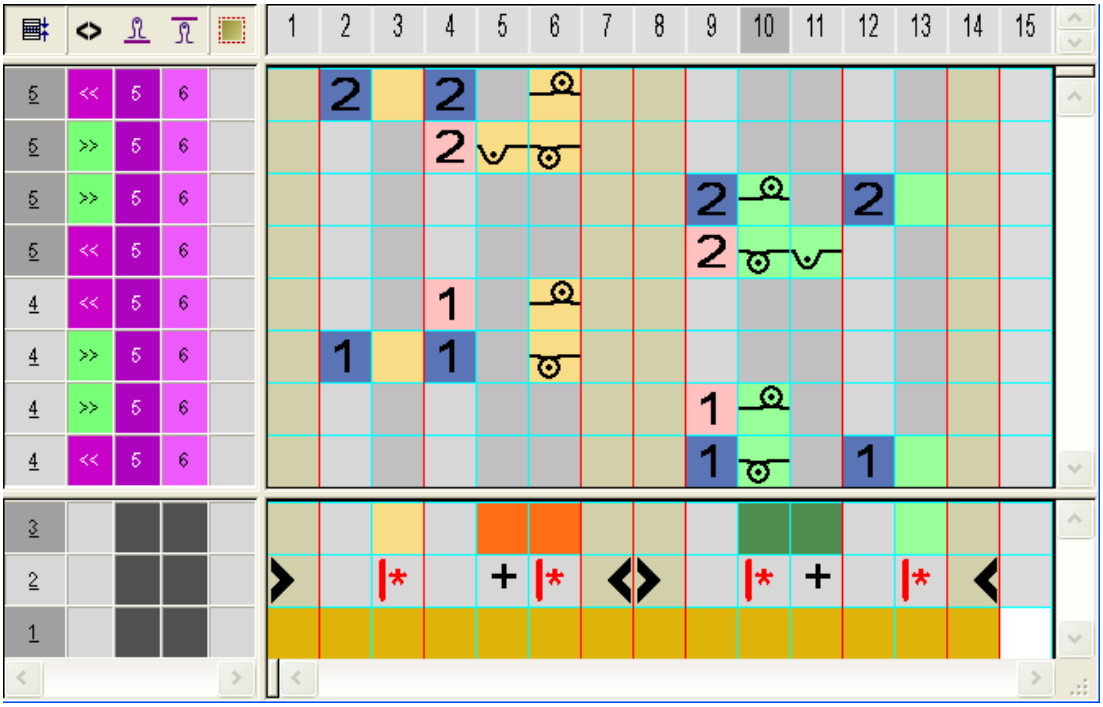
38.3.3 Color Arrangement #3

Generate a CA for single jersey with tubular border in the right and left shape part:

1. Select both the pattern rows after the start in the row selection bar.
2. Click the  icon in the "Default" toolbar.

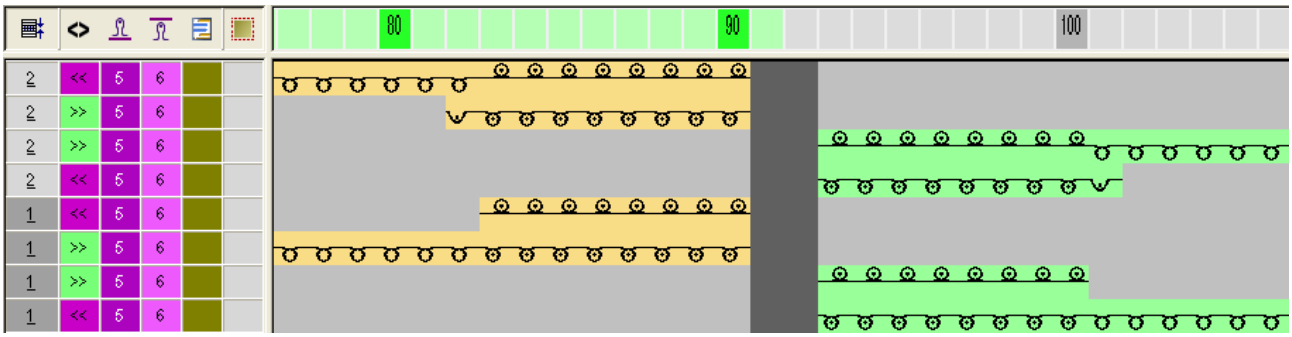
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with .

Expanded presentation:



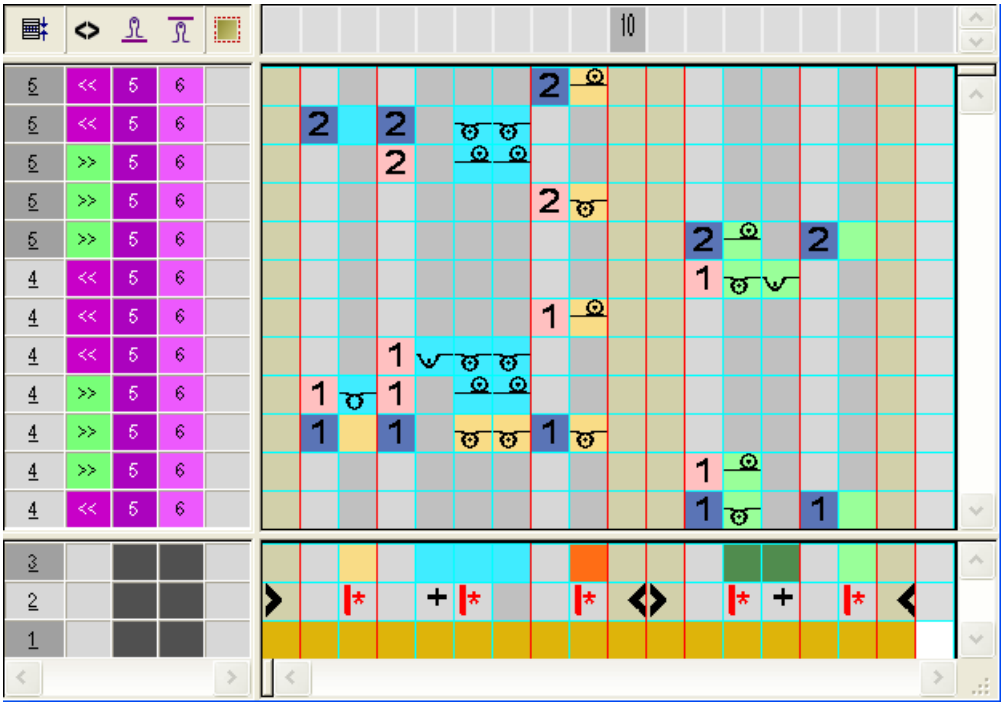
38.3.4 Color Arrangement #4

Generate a CA for tubular border in the right / left shape part and start of the button hole in the left shape part:

1. Select both of the following pattern rows for the start of the button hole via the row selection bar.
2. Click the icon in the "Default" toolbar.

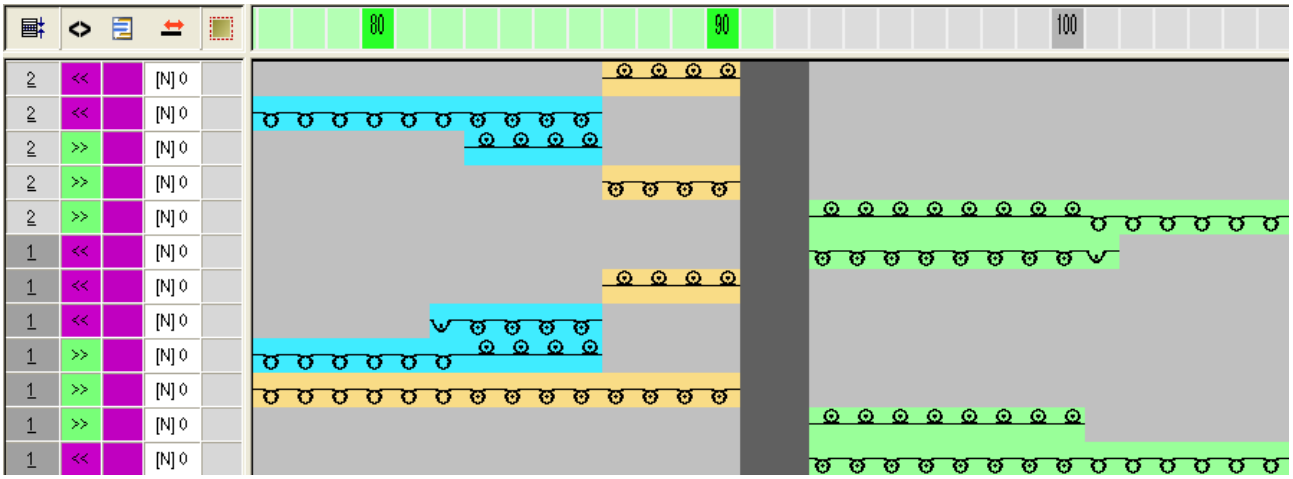
▶ The color sequence present in the selection will be displayed in the "Color Arrangement Editor".

3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with .

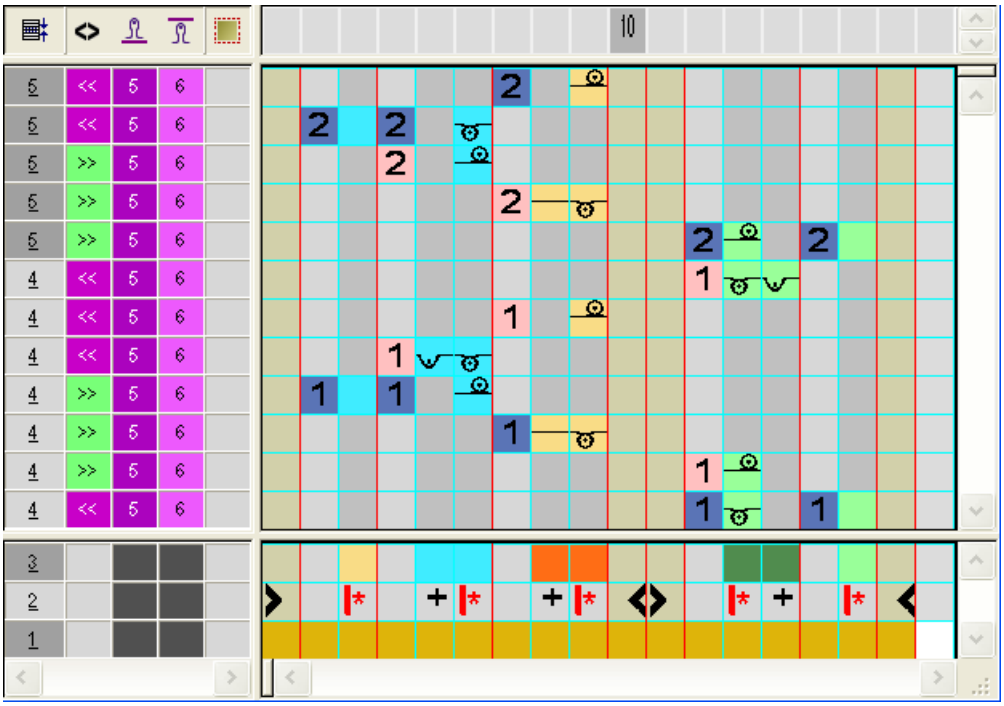
Expanded presentation:



38.3.5 Color Arrangement #5

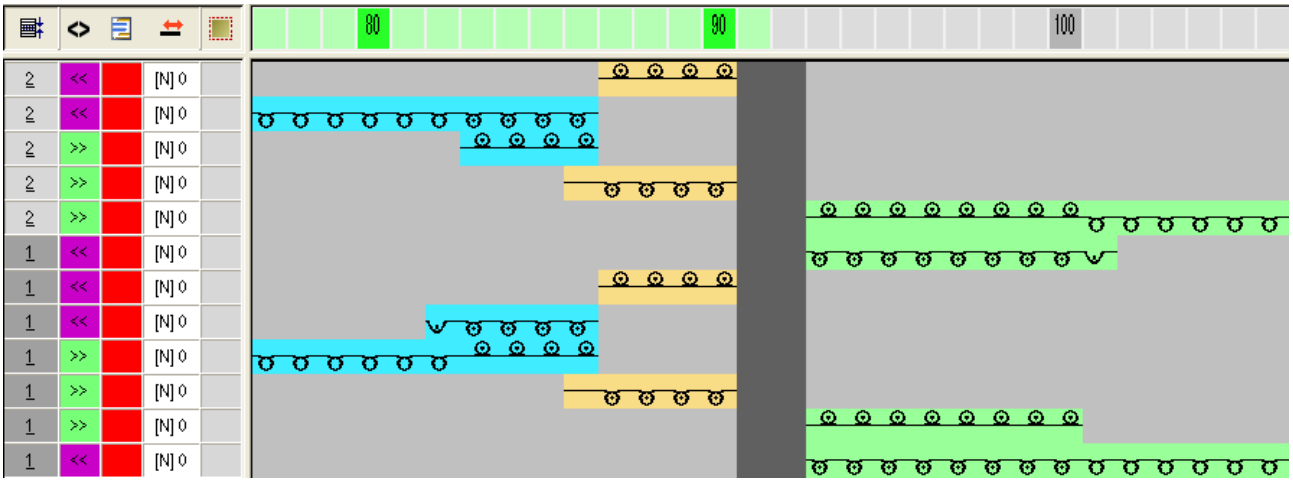
Generate a CA for tubular border in the right / left shape part and height of the button hole in the left shape part:

1. Select the pattern rows for the height of the button hole via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

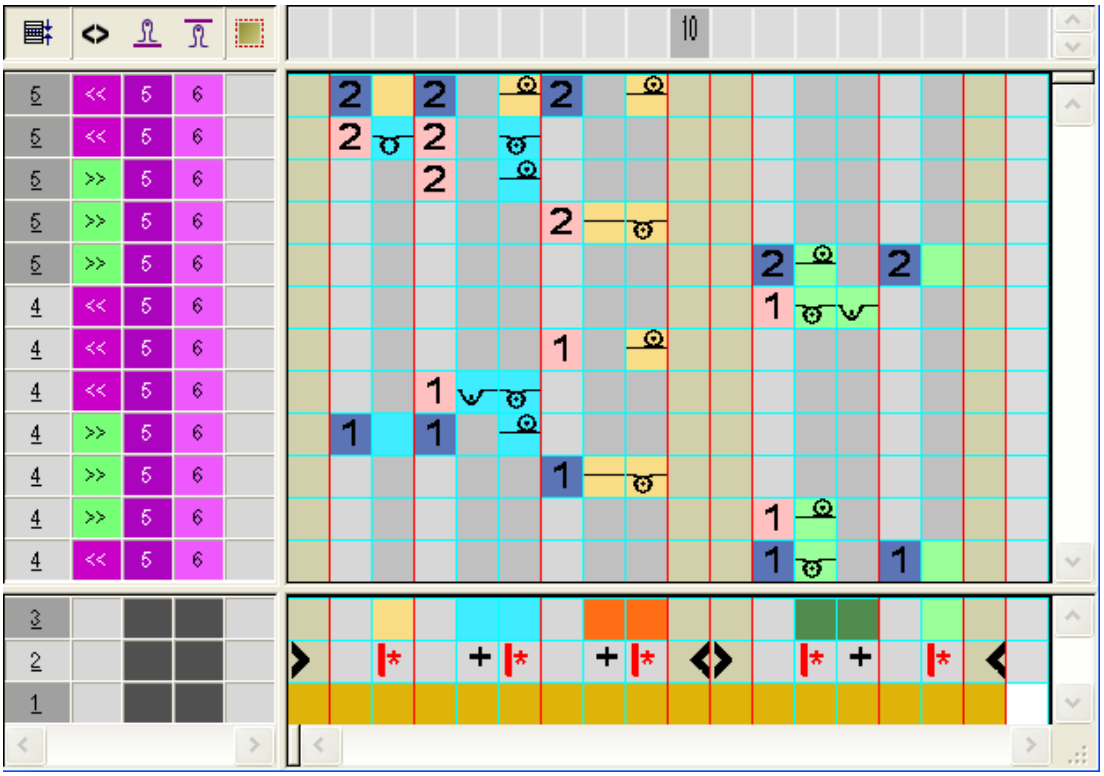
Expanded presentation:



38.3.6 Color Arrangement #6

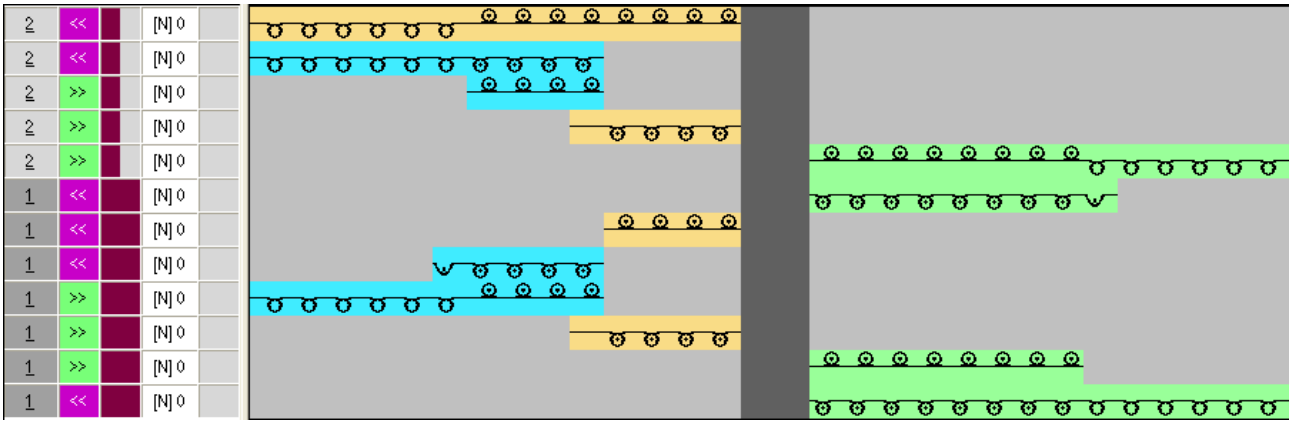
Generate a CA for tubular border in the right / left shape part and end of the button hole in the left shape part:

1. Select the pattern rows for the end of the button hole via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

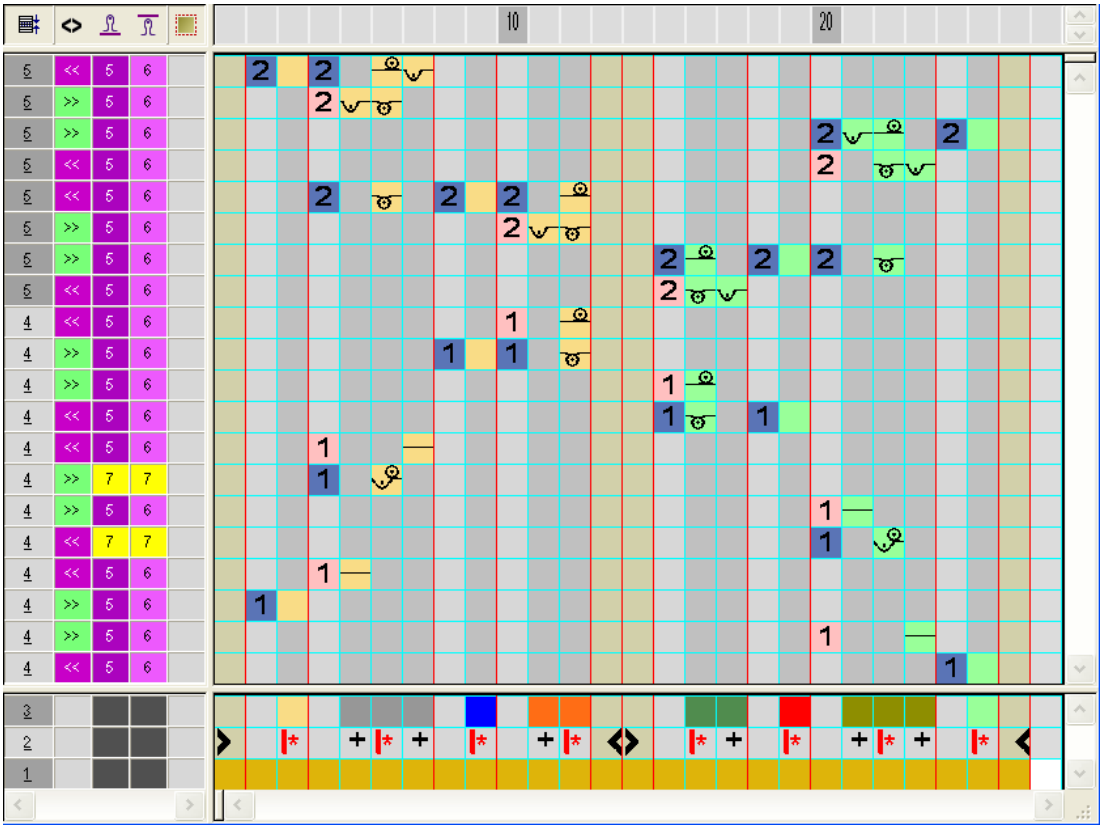
Expanded presentation:



38.3.7 Color Arrangement #7

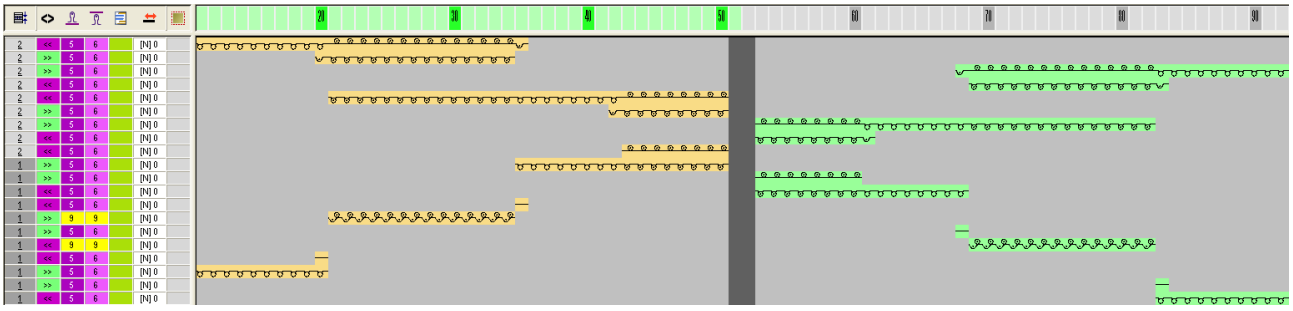
Generate a CA for tubular border and start of the pockets in right / left shape part:

1. Select the two pattern rows for the start of the pocket via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

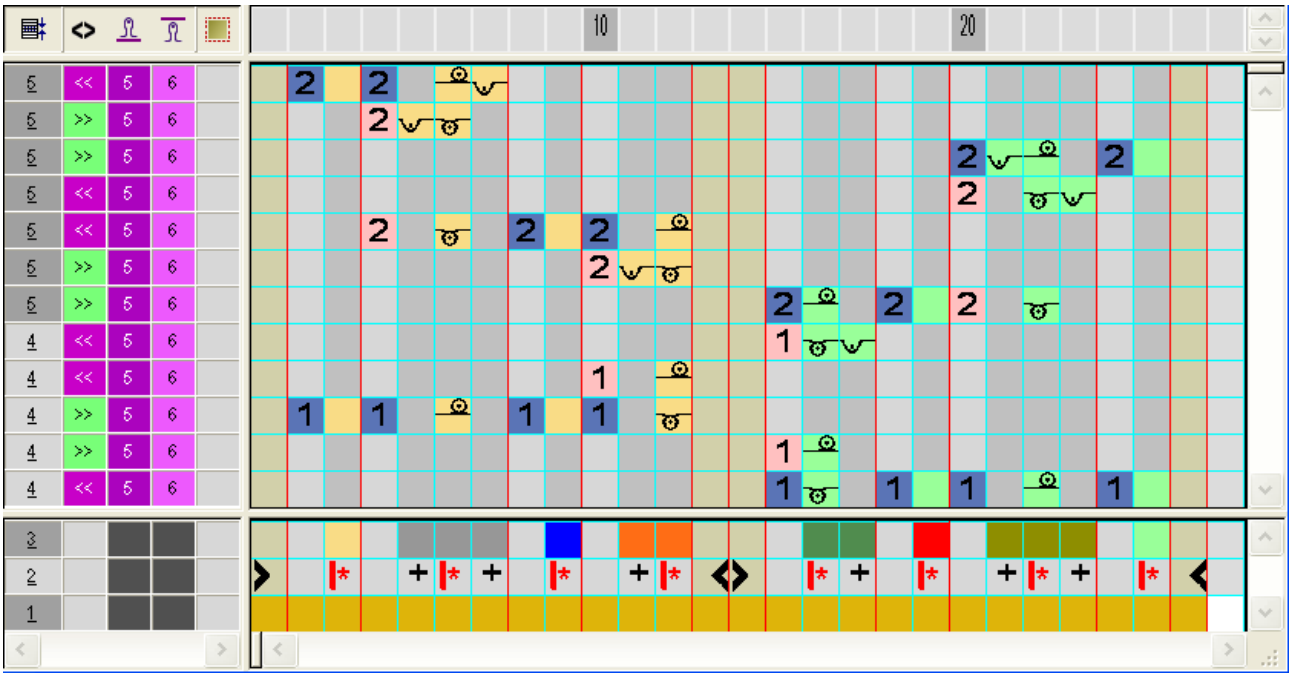
Expanded presentation:



38.3.8 Color Arrangement #8

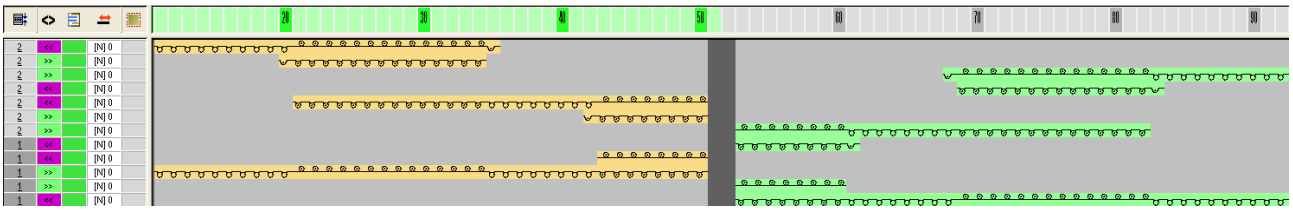
Generate a CA for tubular border and height of the pockets in right / left shape part:

1. Select two pattern rows for the height of the pocket via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

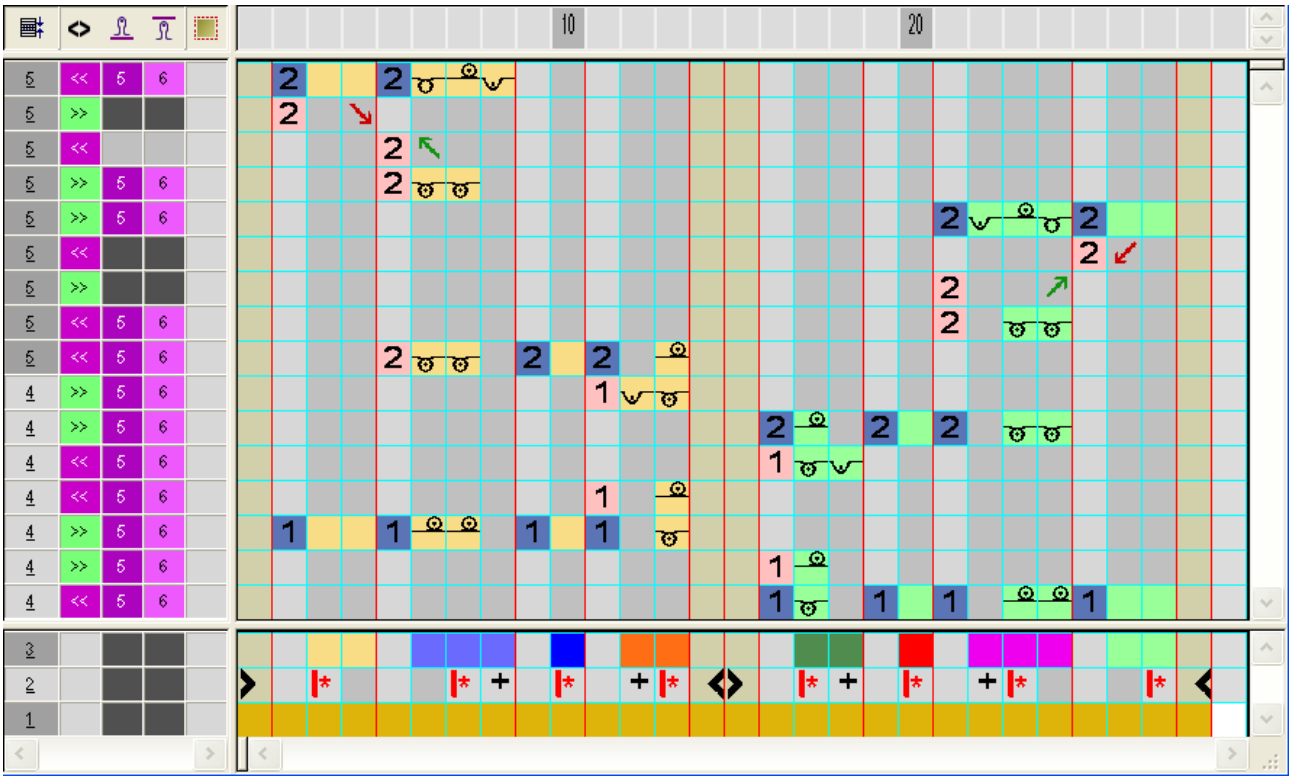
Expanded presentation:



38.3.9 Color Arrangement #9

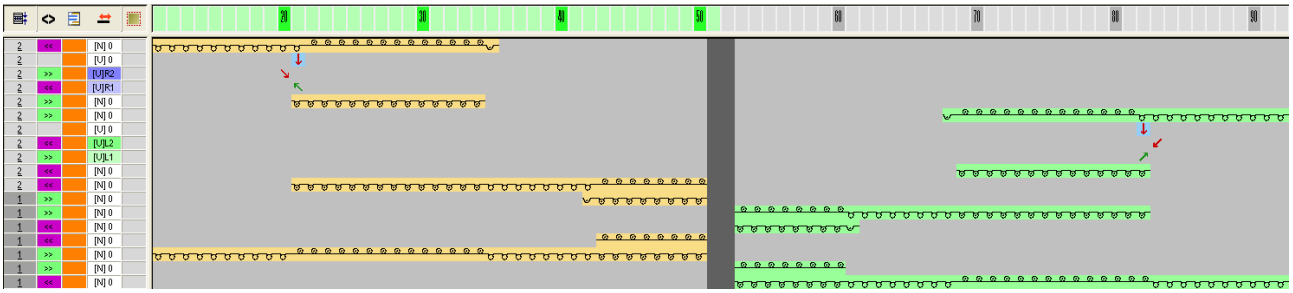
Generate a CA for tubular border and narrowing of the pocket edge in right / left shape part:

1. Select two pattern rows for narrowing the pocket edge via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

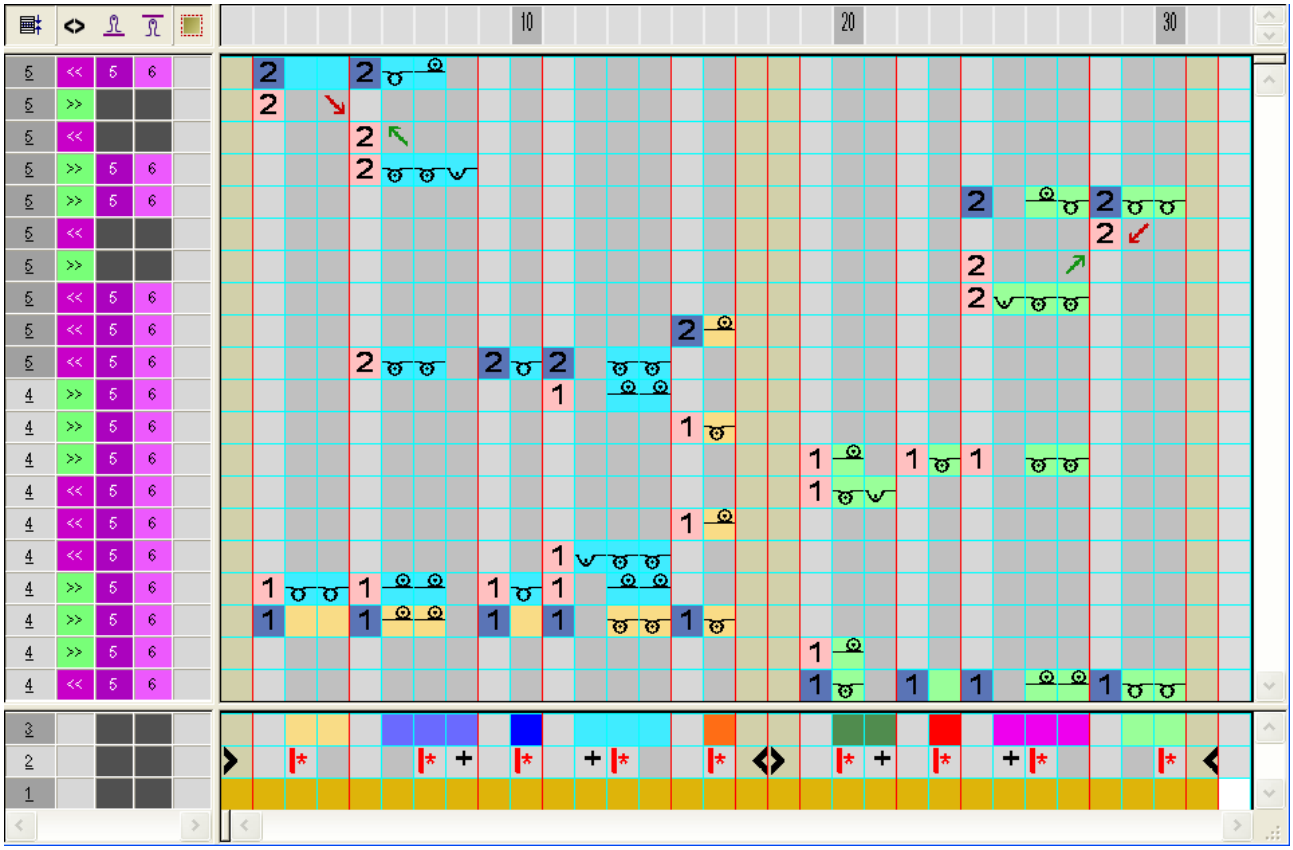
Expanded presentation:



38.3.10 Color Arrangement #10

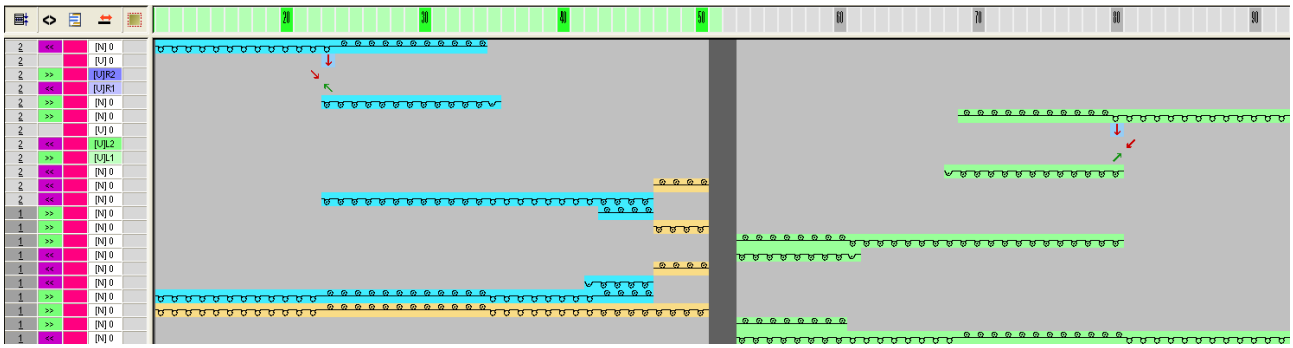
Generate a CA for tubular border, narrowing the pocket edge in right / left shape part and start of the button hole:

1. Select two pattern rows for narrowing the pocket edge and start button hole via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

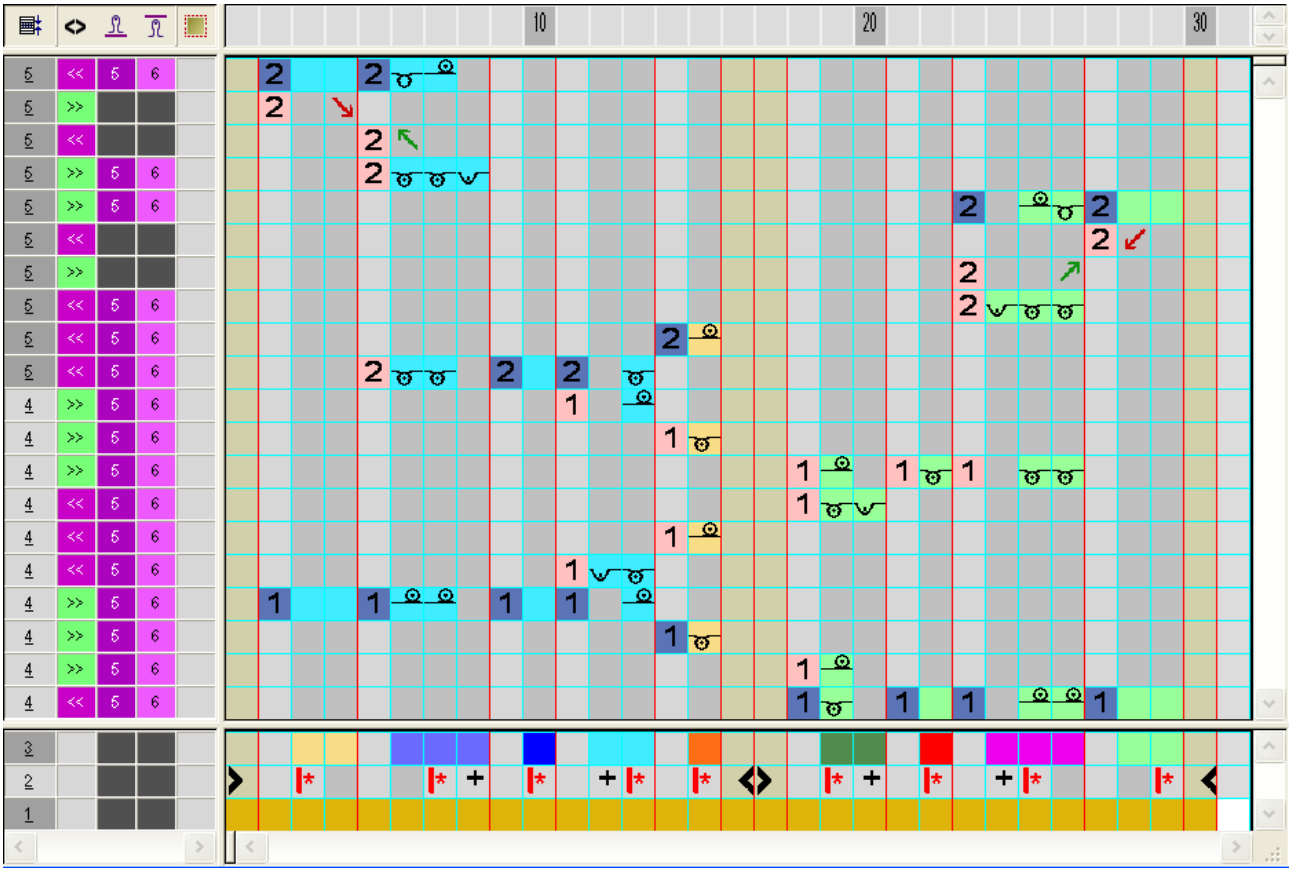
Expanded presentation:



38.3.11 Color Arrangement #11

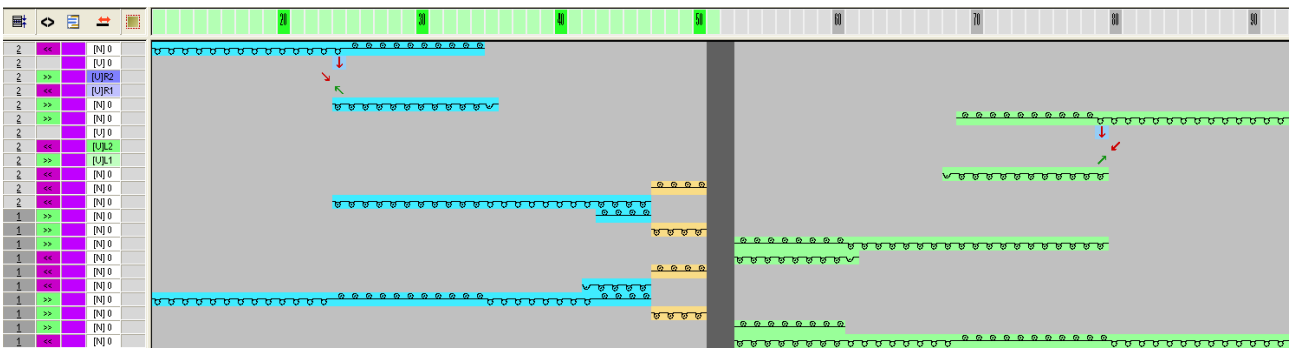
Generate a CA for tubular border, narrowing the pocket edge in right / left shape part and height of the button hole:

1. Select two pattern rows for narrowing the pocket edge and height of the button hole via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

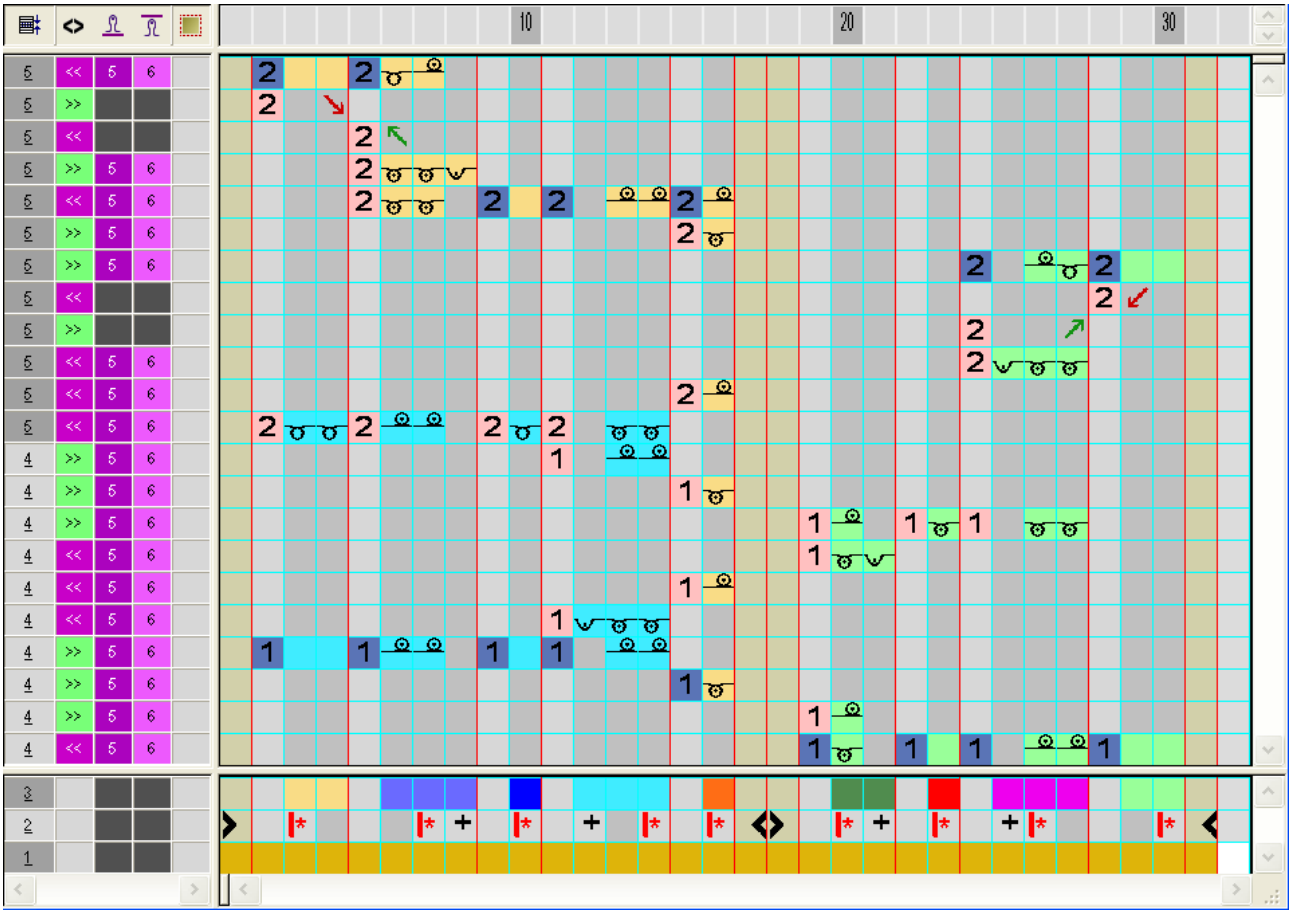
Expanded presentation:



38.3.12 Color Arrangement #12

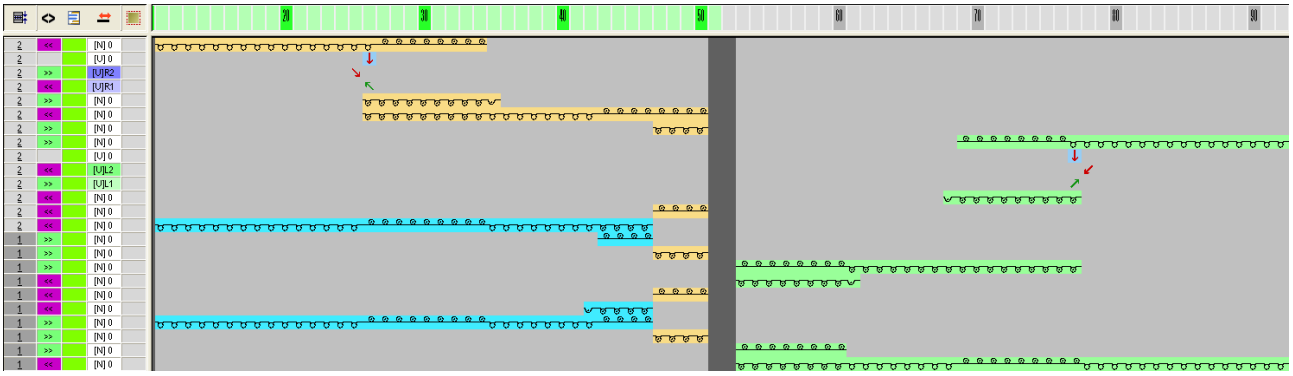
Generate a CA for tubular border, narrowing the pocket edge in right / left shape part and end of the button hole:

1. Select two pattern rows for narrowing the pocket edge and end of the button hole via the row selection bar.
2. Click the  icon in the "Default" toolbar.
3. Modify the Color Arrangement.



4. Close the "Color Arrangement Editor" with  .

Expanded presentation:



38.4 Further processing steps

I. Modifications in the Yarn Field Allocation dialog box:

> **i** Enter a higher value in the "Configuration" dialog box in the **Further Settings** tab under **Group yarn fields with a distance up to (rows)**.
> Example: 50

1. Call up the "Yarn Field Allocation" dialog box with  .
2. Redefine the rib yarn carrier in the "Yarn Field View" with "Apply Yarn Carrier".

▶ The yarn carrier below the draw thread knits the start and body of the right shape part.

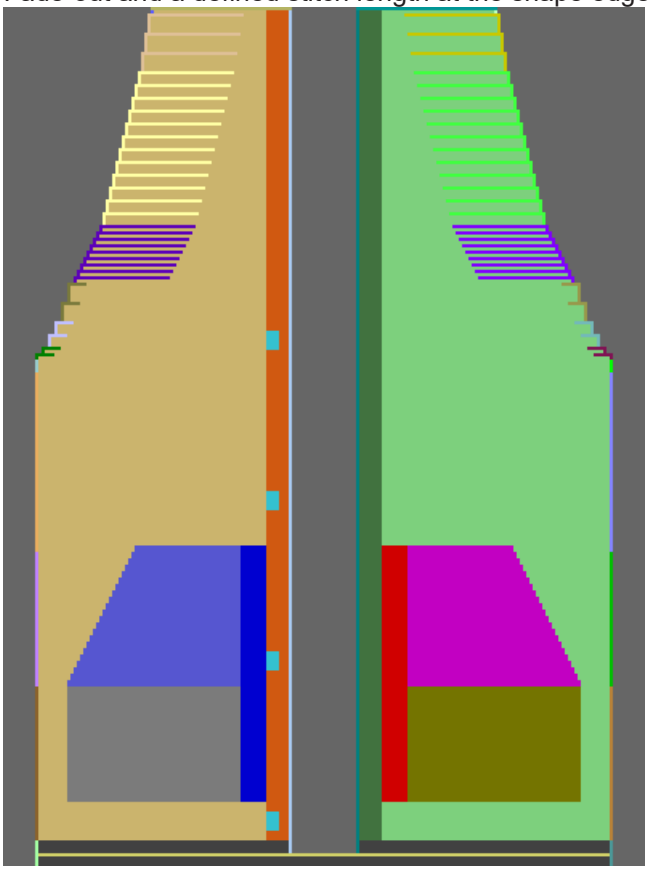
3. Position the additional rib yarn carrier for the left shape part in the "Yarn Field Allocation" dialog box at **Yarn carrier undefined** on the left side.
4. Position the additional yarn carrier for the button hole on the left side as well.
5. Close the "Yarn Field Allocation" dialog box with "OK".

II. Cut-out the shape:

> **i** In the example it is not the double jersey tubular border, which is narrowed, but the basic pattern.

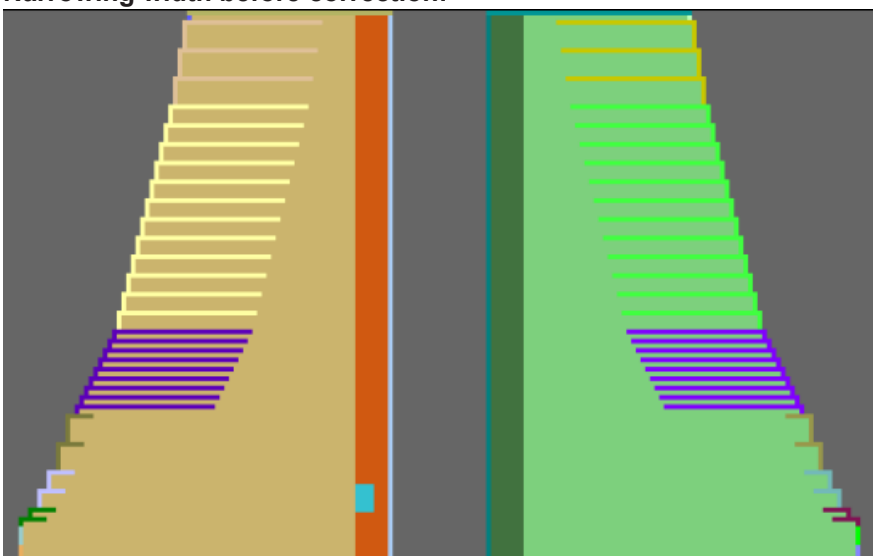
1. Click on  "Cut-out shape".

▶ Fade-out and a defined stitch length at the shape edge will be inserted.

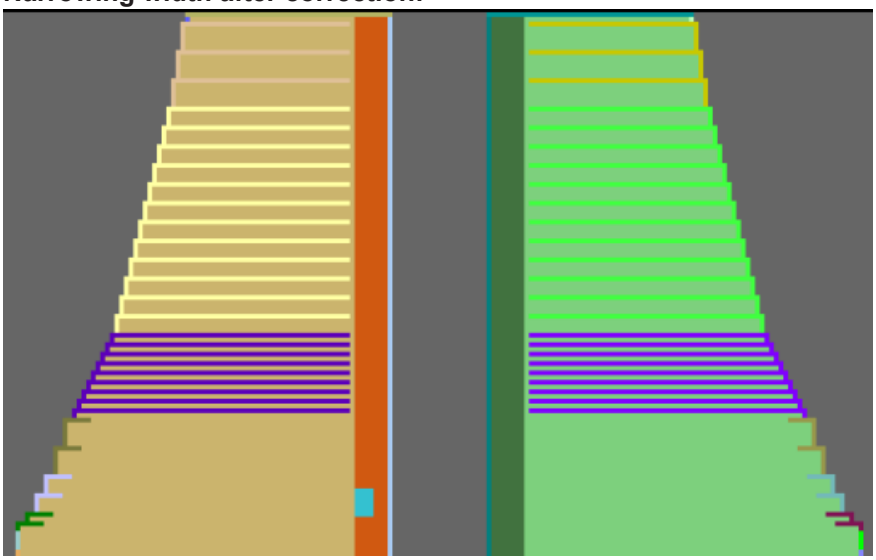


2. Correct the narrowing width in the area of the tubular border manually.

Narrowing width before correction:



Narrowing width after correction:



38.5 Complete the pattern

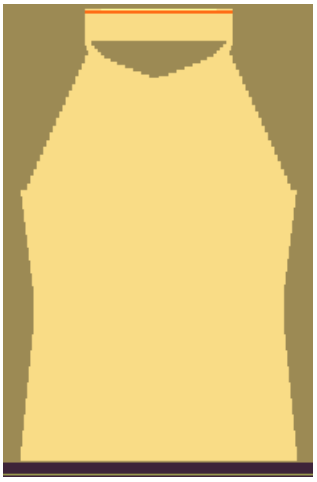
Complete the pattern:

1. Expand the pattern with  of the "Steps of Processing" toolbar.
2. Start the technical processing with the  icon.

▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".
4. Call-up "Sintral check" via "MC program / Conduct Sintral Check..." menu.
   - or -
   Click  in the "Steps of Processing" toolbar.

39 Color Arrangement: FF neck gore with separate processing



Pattern name	20_Muster_Pattern_CA	
Pattern size	Width:	200
	Height:	300
Machine Type	CMS 530	
Setup Type	Setup2:	
Gauge	8	
Start	As desired	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	FF neck gore with separate processing	
Pattern description	Color Arrangement with ◆ Cycles	

39.1 Create the shape in the M1plus Shape Editor

1. Open the shape editor via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu.
2. Create a **basic shape left lines** element.

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion
1		0	-286	0	-86	0	-86	1	0	0			Basis
2		266	26	80	8	10	1	8	0	0			Mindern
3		76	0	23	0	23	0	1	0	0			
4		213	-26	64	-8	8	-1	8	0	0			Zunehmen
5		36	0	11	0	11	0	1	0	0			
6		0	13	0	4	0	4	1	0	0			Abketteln
7		253	126	76	38	4	2	19	0	0			Mindern
8		13	-6	4	-2	2	-1	2	0	0	1	1	Zunehmen
9		6	0	2	0	2	0	1	0	0		1	
10		73	0	22	0	22	0	1	0	0		0	
11		0	153	0	46	0	46	1	0	0		10	Abketteln

3. Create a **basic shape right lines** element.

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion
1		0	286	0	86	0	86	1	0	0			Basis
2		266	-26	80	-8	10	-1	8	0	0			Mindern
3		73	0	22	0	22	0	1	0	0			
4		213	26	64	8	8	1	8	0	0			Zunehmen
5		40	0	12	0	12	0	1	0	0			
6		0	-13	0	-4	0	-4	1	0	0			Abketteln
7		253	-126	76	-38	4	-2	19	0	0			Mindern
8		13	6	4	2	2	1	2	0	0	1	1	Zunehmen
9		6	0	2	0	2	0	1	0	0		1	
10		73	0	22	0	22	0	1	0	0		0	
11		0	-153	0	-46	0	-46	1	0	0		10	Abketteln

i When using the "Closing Stitch with Kick-back (Structure single jersey)" module with the **widening** it is necessary that the shape edges (lines 3+5) are arranged displaced in the height.

4. Allocate the following edge shape attributes:

No.	Widening	Narrowing	Binding-off
2		L-R separate transfer (Structure single jersey)	
4	Closing Stitch with Kick-back (Structure single jersey)		
6			Binding-off RL with fixing 01

No.	Widening	Narrowing	Binding-off
7		L-R separate transfer (Structure single jersey)	
8	Default (Structure single jersey)		
11			Binding-off end

5. Create new **Gore** element.
6. Deactivate the "Mirrored" checkbox.

▶ The shape edges can be created displaced in the height now.

7. Enter **Left lines**:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion
1	✓	70	-140	21	-42	0	0	0	0	0		0	
2		3	0	1	0	1	0	1	0	0		0	
3		0	140	0	42	0	42	1	0	0			

8. Create the following edge in the table under **Line editor** for the line no. 1.

Factor Grouped	Group	Height Steps	Width Steps	Factor	Width - - -	Width \ \ \
		21	**-42**			
1	0	**0**	-6	1	0	0
1	0	2	-5	4	0	0
1	0	2	-4	2	0	0
1	0	2	-2	4	0	0
1	0	1	0	1	0	0

9. Enter **Right lines**:

Nr.	Linien Editor	Höhe mm	Breite mm	Höhe Maschen	Breite Maschen	Höhe Stufen	Breite Stufen	Faktor	Höhe Rest	Breite Rest	Breite ---	Breite \\\	Funktion
1	✓	70	140	21	42	0	0	0	0	0		0	
2		6	0	2	0	2	0	1	0	0		0	
3		0	-140	0	-42	0	-42	1	0	0			

10. Create the following edge in the table under **Line editor** for the line no. 1.

Factor Grouped	Group	Height Steps	Width Steps	Factor	Width - - -	Width \ \ \
		21	**42**			
1	0	**1**	6	1	0	0

Factor Grouped	Group	Height Steps	Width Steps	Factor	Width - - -	Width \ \ \
1	0	2	5	4	0	0
1	1	2	4	2	0	0
1	1	2	2	4	0	0

i	The gore at the right is displaced in the height by 1 knitting row and is 1 row higher at the gore end (line 2).

11. Enter the value **20** under **y-distance to ... the end line**.

▶ Positioning of the gore element in the basic element.

12. Save the shape via the "File" / "Save" or "Save As…" menu.

13. Close the "M1plus Shape Editor" with .

39.2 Create a pattern and open the shape

I. Generate pattern without shape:

1. Call-up "File" / "New" menu and create a new pattern.
2. Enter a pattern name.
3. Select the machine type and the desired setup type.
4. Select **Basic pattern (pattern without shape)** and "Design Pattern".
5. Set pattern size and select the "Front stitch" basic knitting mode.
6. Select a start.
7. Confirm the settings with "Generate Design Pattern".

▶ The "Symbol view [Basic]" will be opened.

II. Open the shape and position it in the pattern:

1. Load shape via "Shape" / "Open and Position Shape..." .

▶ The "Open" dialog box will be displayed.

2. Specify path and select the desired shape in the shp format.
3. Click the "Open" button.

▶ The shape will be laid on the first pattern row in the **shp** format.

39.3 Draw-in the structure and generate Color Arrangements

I. Draw-in 1x1 structure and wave in the collar:

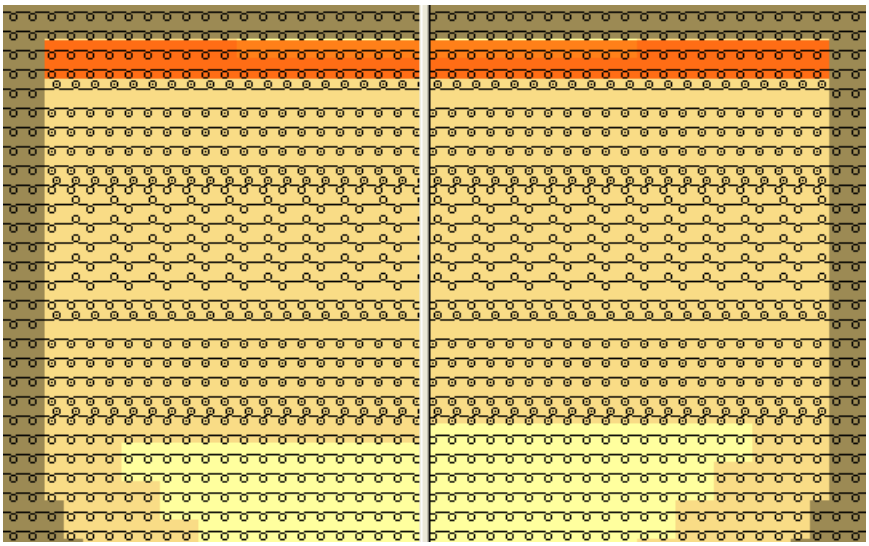
✓ The shape is placed.

1. Draw-in another color in the last two rows if necessary.

▶ A separate yarn carrier is used for binding-off.

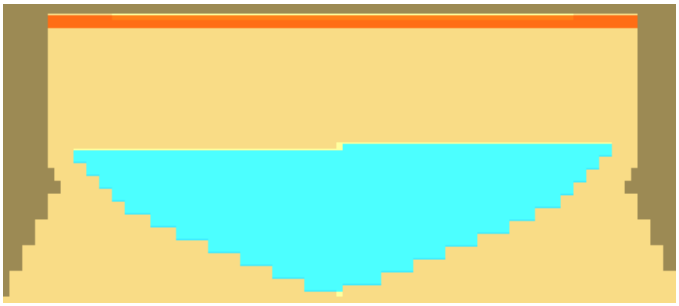
2. Draw-in in the collar area the 1x1 structure and a wave with the necessary stitch tensions and cycle counters before **cutting out**.

Display of the structure

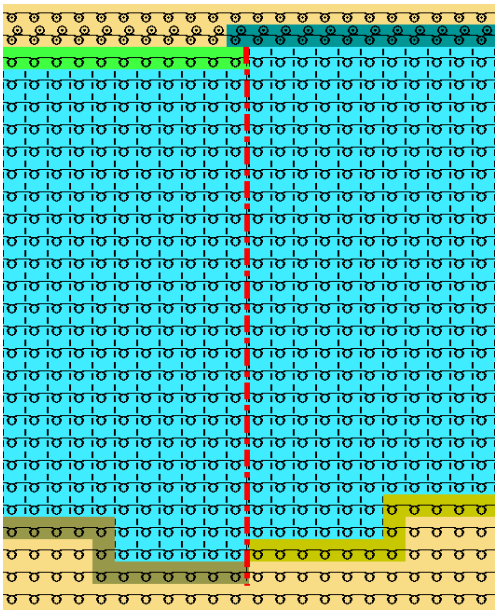


II. Modify the pattern for the separate processing of the neck gore:

1. Activate the shape symbols with the key.
2. Fill an additional color (e.g. # 10) in the area of the neck gore with .



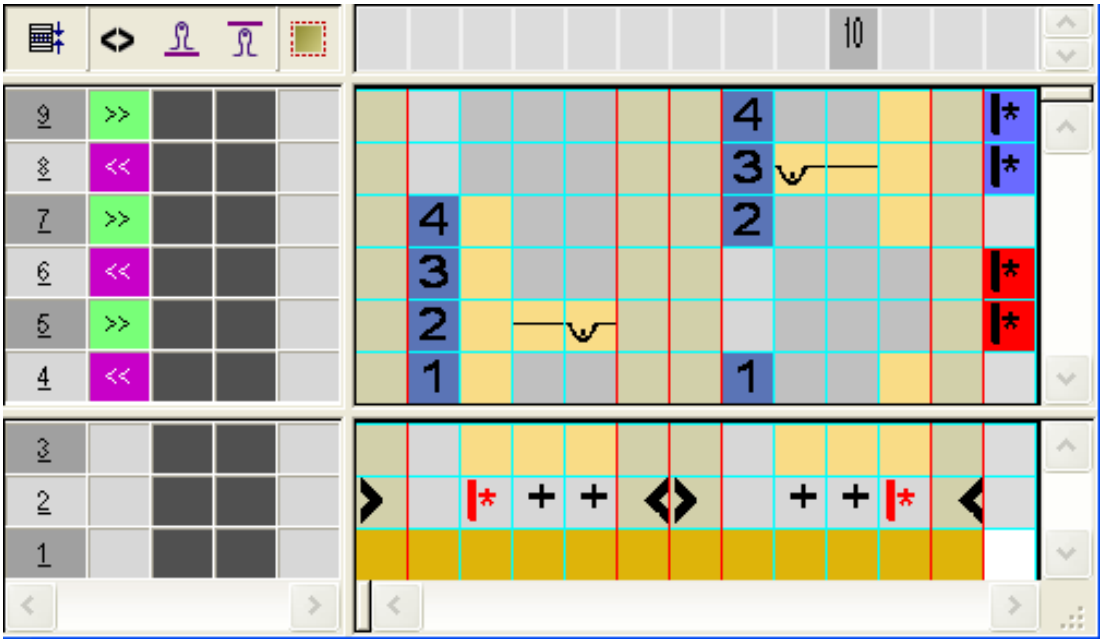
3. Draw-in the separation shape symbol in the center between the two gore areas (left/ right) over the entire height.



i Regarding the shape symbol in the gore area, the two shape columns are inserted in the CA and the gore can be processed separately with the help of the CA.

III. Generate Color Arrangement:

1. Create a selection over the entire height starting with a row below the gore element.
2. Click the button.
3. Modify the original Color Arrangement.



Symbol for cycles	Function
+ any desired color	Entry in the column for cycles : Entry in those rows, which are to be re-peated.

4. Insert the markings for the cycles in the right-most column.

▶ The rows with the cycle markings are repeated according to the pattern rows present in the gore area.

5. Close the "Color Arrangement Editor" with .
6. Confirm the query "Save the modified module?" with "Yes".
7. Enter the CA in the control column starting one row below the gore and over the entire gore height.

Behavior of a cycle defined in the CA:

i	The M1plus calculates the number of repetitions per defined cycle in each shape part based on the inserted CA.

Calculation:

1. Determine the number of pattern rows in the rows of the inserted CA.
   = total height
2. Deduct the number of rows without repetition in the CA from the total height.
   = number of rows to repeat
3. Divide the number of rows to repeat by the number of rows in the cycle.
   = integer number

Formula:
(Rows of the pattern - Rows of the CA without repetition) ÷ Rows of the CA with repetition = Integer Number

39.4 Complete the pattern

Complete the pattern:

1. Open the "Yarn field allocation" dialog box.
2. Select the yarn fields in the area of the gore and insert the  "no module" icon in the  +  columns.

▶ No additional binding will be inserted in the area of the gore.

3. Cut out the shape with  of the "Steps of Processing" toolbar.
4. Open the dialog box via "Pattern Parameters" / "Configuration..." and select the "Knitting Areas" tab.
5. Deactivate the module allocated for the protection rows under "Special fabric pieces" via the "Protection rows (with comb)" list field.

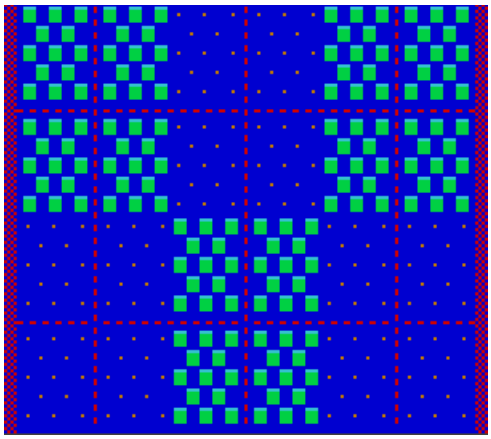
i	The module allocated in the shape for binding-off already contains protection rows.

6. Expand the pattern with  of the "Steps of Processing" toolbar.
7. Start the technical processing with  .

▶ The query "Generate MC Program" appears.

8. Confirm the query with "OK".
9. Call-up "Sintral Check" via the "MC Program / Conduct Sintral Check..." menu.
   - or -
   Click " in the "Steps of Processing  toolbar.

40 Training Pattern 1

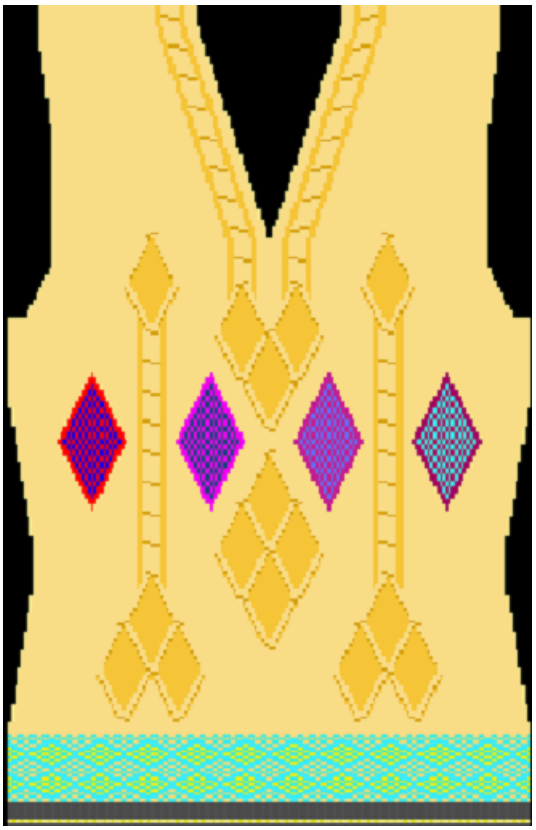


Pattern name	21_Muster_Pattern1_CA	
Pattern size	**Width:**	151
	Height:	134
Machine Type	CMS 530	
Gauge	8	
Start	As desired	
Basic Pattern	Front Stitch with Transfer	
Pattern description	2-color Jacquard with Float and Structure	

Your task:

1. Generate new pattern.
2. Draw the motif.
3. Generate a Color Arrangement for a 2-color Jacquard with float and structure.
4. Expand entire pattern .
5. Complete the pattern.
6. Knit pattern.

41 Training Pattern 2



Pattern name	22_Muster_Pattern2_CA	
Pattern size	Width:	250
	Height:	300
Machine Type	CMS 530	
Gauge	8	
Start	As desired	
Basic Pattern	Front Stitch with Transfer	
Pattern description	Fully Fashion with structure, Jacquard and Intarsia	

Your task:

1. Generate new pattern.
2. Generate any desired shape with attributes.
3. Generate fade-out modules for the V-neck and allocate them to the shape edges.
4. Lay shape on.
5. Draw in the structure and the Intarsia motif.

6. Generate a Color Arrangement for a 2-color Jacquard with float.
7. Generate a Color Arrangement for Intarsia with structure.
8. Generate a Module Arrangement for cable or aran.
9. Expand entire pattern .
10. Complete the pattern.
11. Knit pattern.