STOLL

ADF Training

CE

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11/2017

1 General information

I. Term: ADF = Autarkic Direct Feed

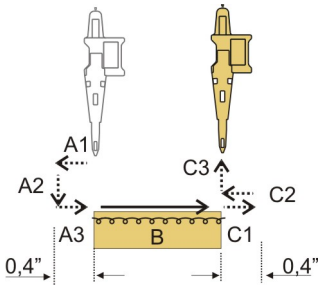
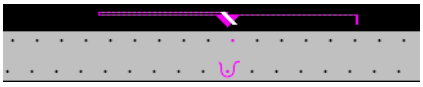
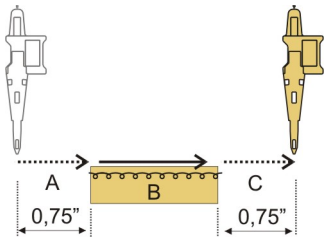
The machine has autarkically driven yarn carriers, which can be moved independently of a knitting system in an horizontal and vertical direction.
There are 8 yarn carrier rails with 2 yarn carrier tracks each, which are double allocated with autarkic yarn carriers (= a total of 32 autarkic yarn carriers).

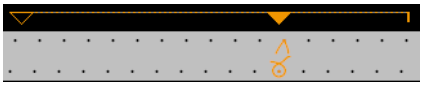
II. Yarn carrier designation:

YCA = Yarn Carrier Autarkic (Autarkic Yarn Carrier) .

III. Possibilities of the yarn carrier movement:

i	The **autarkic yarn carrier** does not perform **any swiveling movement**. This yarn carrier performs an upward / downward movement, which equals the swiveling of an intarsia yarn carrier. For the knitting process the yarn carrier is positioned low and moved horizontally.

Conventional Intarsia yarn carrier	Autarkic yarn carrier	Presentation of autarkic yarn carriers movement
Yarn carrier swiveled	The yarn carrier is positioned in its color field. **i**: The overrun path is 0.4" (6 nic). This ensures a secure yarn insertion during the following knitting.	 Graphic presentation in the technical view: 
Yarn carrier not swiveled	The yarn carrier is positioned in the neighboring color field. **i**: The behavior is similar to a normal yarn carrier, i.e. the overrun path is 0.75" (12 nic).	 Graphic presentation in the technical view:

Conventional Intarsia yarn carrier	Autarkic yarn carrier	Presentation of autarkic yarn carriers movement
		
	ℹ: The specification **nic** means: **1 nic = 1/16 inch = 1.5875 millimeter.**	

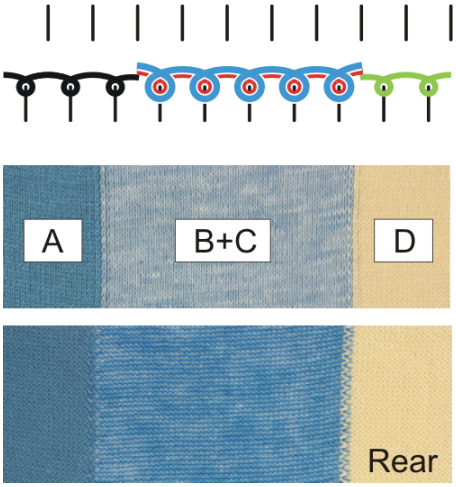
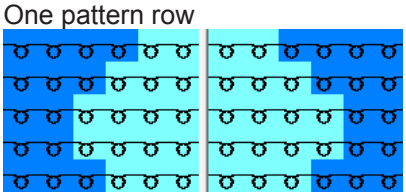
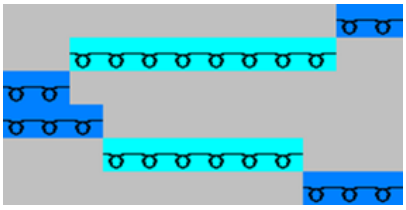
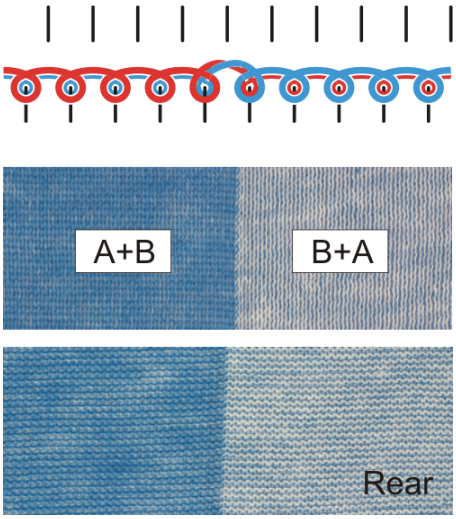
Possibilities	Meaning
System related yarn carrier run	Yarn carrier run with knitting action in the allocated system in the carriage direction
Reverse system related yarn carrier run	Yarn carrier run with knitting action in the allocated system opposite to the carriage direction ℹ: Only allowed via a needle path of two neighboring knitting needles!
System independent yarn carrier run	Yarn carrier run without allocated system (**autarkic**) **Possibilities:** ◆ before stroke ◆ between the systems (e.g. weft yarn carrier Q) ◆ after stroke

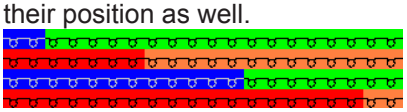
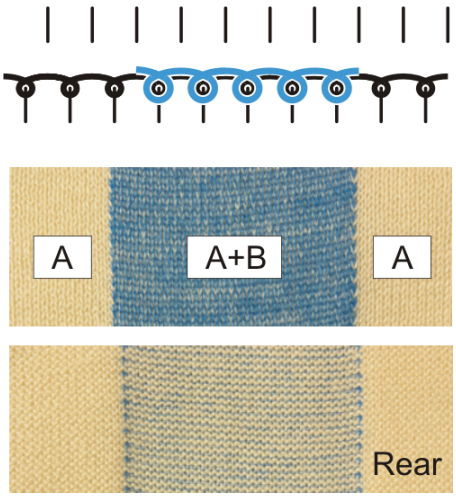
IV. Additional entries in the control columns:

Control column	Entry	Meaning
<>		System independent yarn carrier run to the left ℹ: autarkic: No knitting system necessary!
		System independent yarn carrier run to the right
		System independent yarn carrier run undetermined ℹ: When to use: In the module, if the direction of the yarn carrier run is not determined.
S	Y	**Yarn carrier run without overrun path** The minimum distance between the yarn carrier and the yarn insertion in the first needle is 6 nic. ℹ: The yarn carriers are not staggered automatically within the fabric.
	-Y-	**Yarn carrier run with overrun path (standard specification)** ℹ: The yarn carriers are staggered automatically within the fabric. Automatic staggering for yarn carriers at the same position: 1. The first yarn carrier is positioned with an overrun path of 12 nic . 2. Further yarn carriers are positioned with an overrun path of 12 nic + 6 nic etc.

Control column	Entry	Meaning
		: The specification **nic** means: **1 nic = 1/16 inch**

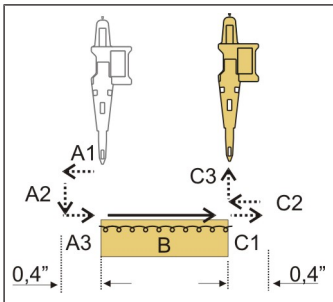
V. Definition of plating techniques

Designation of the knitting techniques	Definition	Stitch notation
Intarsia Plated	Two (or more) yarns work together in one intarsia area. The yarns are not used in neighboring areas.	
Inverse Plating	Two (or more) yarns work together in one area and change their position (home position, plating position) with system change. : Change between the systems. **Result:** One pattern row  is divided to several technical rows. 	

Designation of the knitting techniques	Definition	Stitch notation
Stoll-ikat plating ®	Two yarns work together in one area and change their position (home position, plating position) without system change. i: Change in the system. **Result:** One pattern row corresponds to one technical row. In each pattern row, two yarns work, which knit in one system and change their position as well. 	
Selective Plating	Two (or more) yarns work together only in one selected area. In the same knitting row at least one yarn is also used outside the selected area.	

1.1 Intarsia - Distances of the yarn carriers

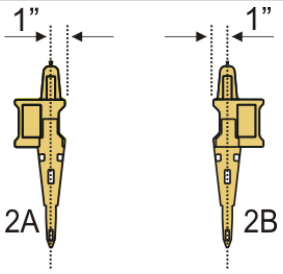
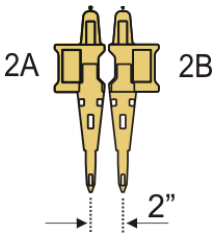
Stop motion of the ADF-yarn carriers within its own color field (Intarsia swiveled)



A1	Overrun path: 0.4 inch (6 nic) Yarn carrier moves in upper position out of its color field by the overrun path.
A2	Yarn carrier moves in lower position.
A3	Yarn carrier moves to the beginning of its color field.
B	The yarn carrier works in its color field.
C1	Overrun path: 0.4 inch (6 nic) Yarn carrier moves further at the end of the color field by the overrun path.

	C2	Yarn carrier in lower position moves back to its color field.
	C3	Yarn carrier moves to upper position.

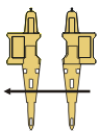
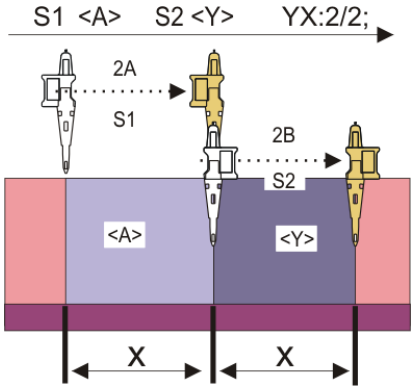
Mechanical-induced distances:

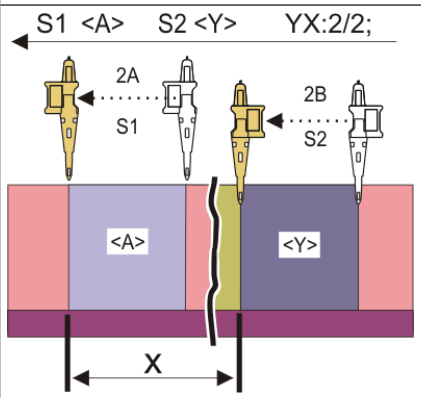
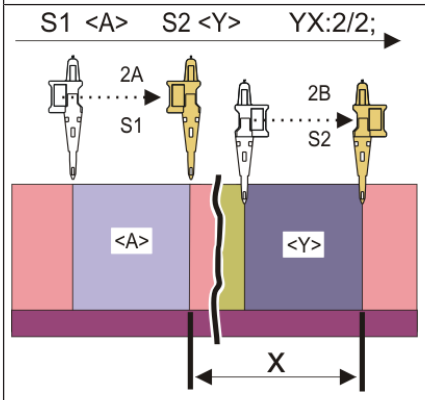
	The width of the ADF-yarn carrier from the yarn carrier tip to the short side is **1 inch**.
	Two yarn carriers on the same track: The minimum distance is **2 inches**.

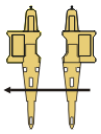
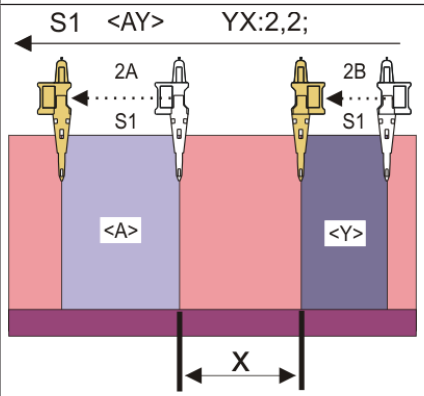
Pattern related yarn carrier distances:

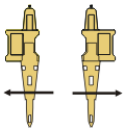
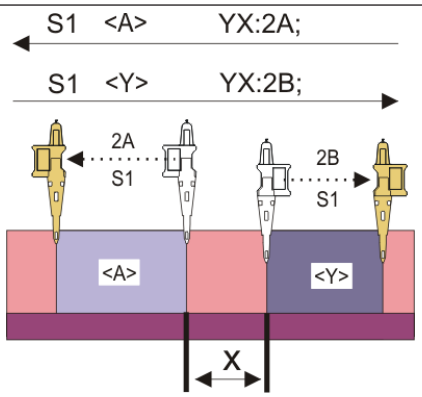
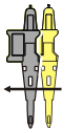
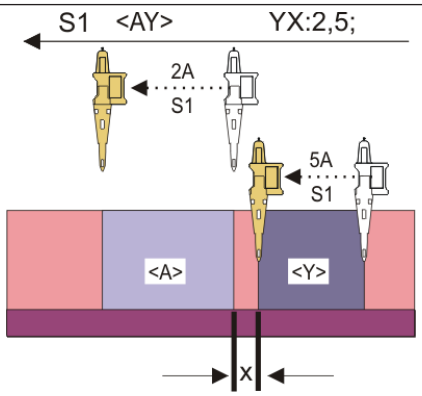
The distances are dependent:

- on the intarsia binding between the color fields.
- on the parking position of the yarn carrier in the preceding row.
  With diagonally running color fields (e.g. diamonds) a larger distance results.
- on the yarn carrier correction value K<I>, that can be adjusted on M1plus.

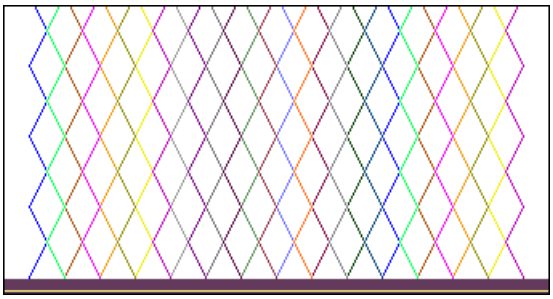
Function	Systems		Distance (x) by inches
Two yarn carriers on the **same track** work in the **same carriage direction** 	with 2 systems		2,4“ (1"+1"+0,4")

Function	Systems		Distance (x) by inches
			2,4“ (1"+1"+0,4")
			2,4 (1"+1"+0,4")

Function	Systems		Distance (x) by inches
Two yarn carriers on the **same track** work in the **same carriage direction** 	with one system		2,8“ (1"+0,4"+1" +0,4")

Function	Systems		Distance (x) by inches
Two yarn carriers on the **same track** work in the **different carriage direction** 	with one system		2,4“ (1"+1"+0,4")
Two yarn carriers on the **different tracks** work in the **same carriage direction** 	with one system		0,7“

2 Single Jersey structure with ornamental stitch



Pattern name	01_RL-Struktur mit Zierstich.mdv	
Pattern number database	1210209	
Pattern size	Width:	353
	Height:	660
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start If necessary modify "'Transition loose row "': Change the last row to "Front stitch with transfer".	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ Basic color with one yarn carrier ◆ Ornamental stitch in 22 different colors with the "Stitch_Tuck" structure	

2.1 Create Pattern

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: E 7.2

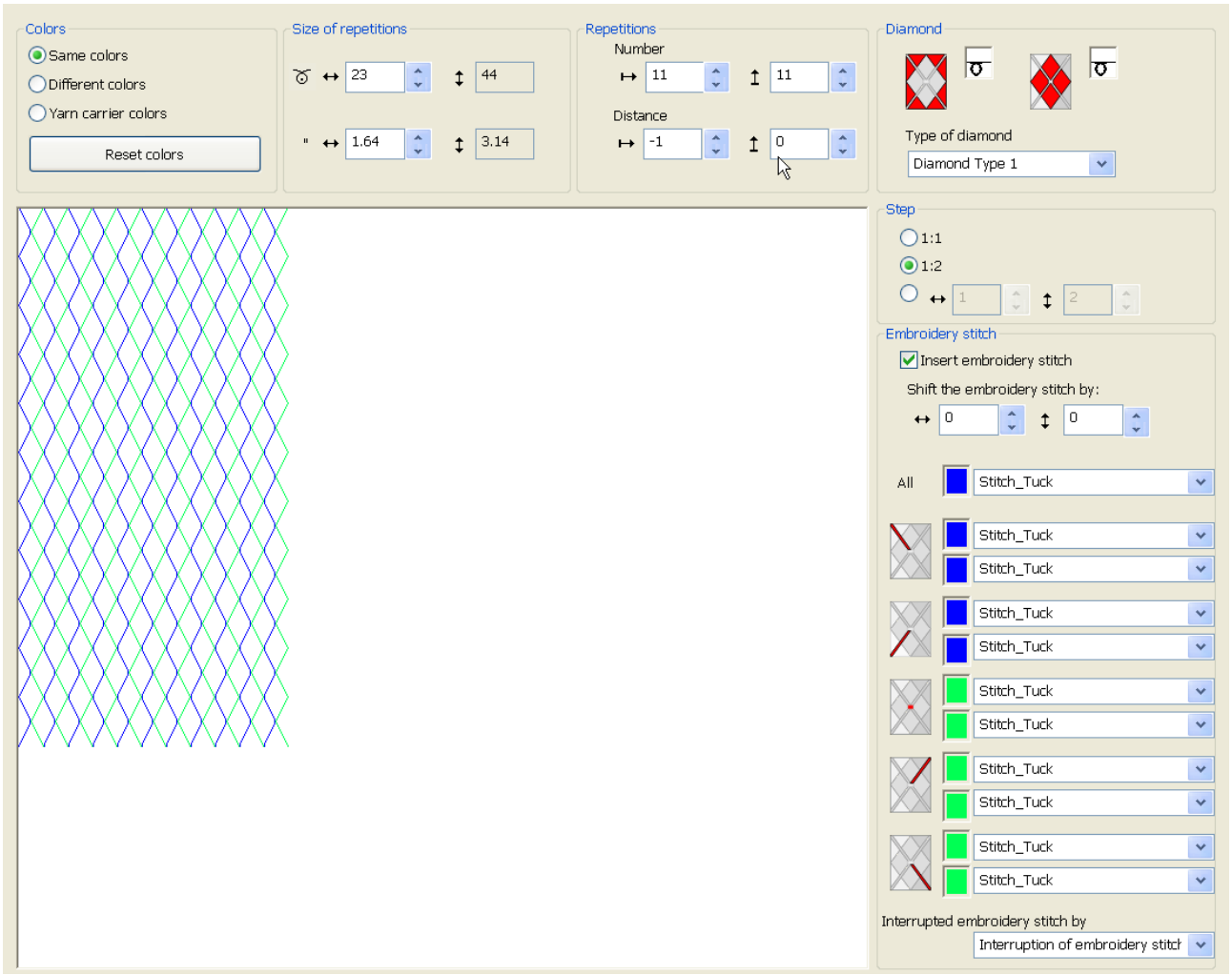
5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1 start**.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

2.2 Create Ornamental Stitch

Create the ornamental stitches with the drawing tool Argyle:

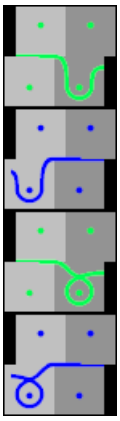
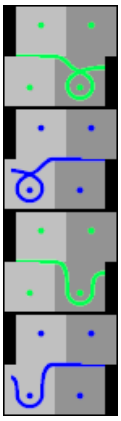
1. Open the Argyle dialog box with  .
2. Generate a pattern element with the following settings:



3. Replace the diamond color with the color #1.

Generate module for ornamental stitch:

1. Open the Modul-Explorer Datenbank.
2. Under Jacquard/ Stoll/ Flottung Zierstich/ 2-farbig select the "Stitch_Float" jacquard.
3. With the right mouse button create a copy and rename it.
4. Open the copied Jacquard and correct into "Stitch_Tuck" or "Tuck_Stitch".

Changed Jacquard modules			
"Stitch_Tuck"		"Tuck_Stitch"	

5. Close the changed module with .
6. In the Argyle dialog box in the selection menus for ornamental stitches, select the module.

Create the pattern element for ornamental stitch and insert it in the basic pattern:

1. Click on the "Create pattern element" key.
2. Draw-in the pattern element into the basic pattern on the first row.
3. Delete the first and the second pattern row. The diagonals start with a distance of 1. The yarn carriers are knitted-in consecutively.
4. Replace the basic color in the pattern with the basic color of the pattern element.

2.3 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

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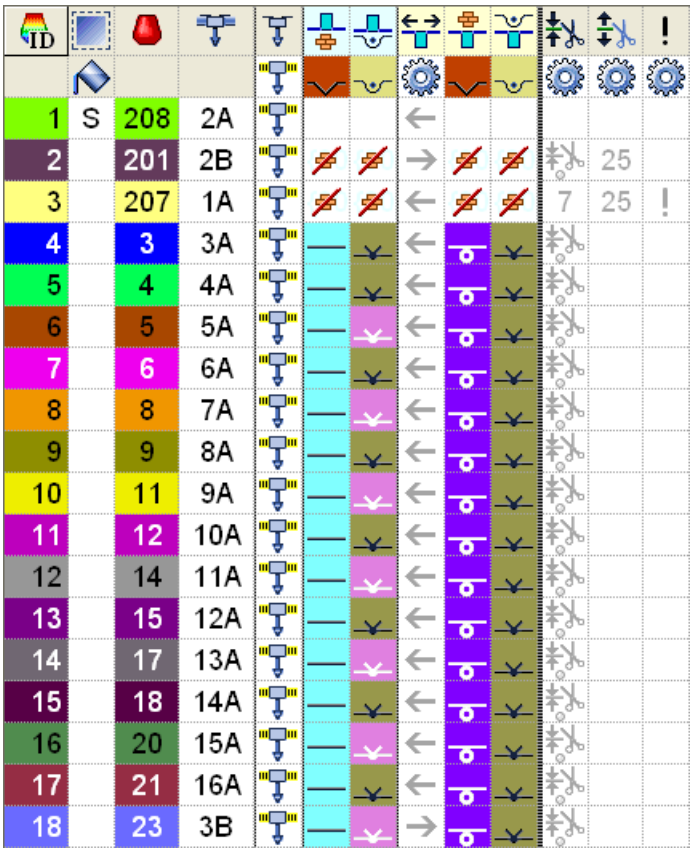
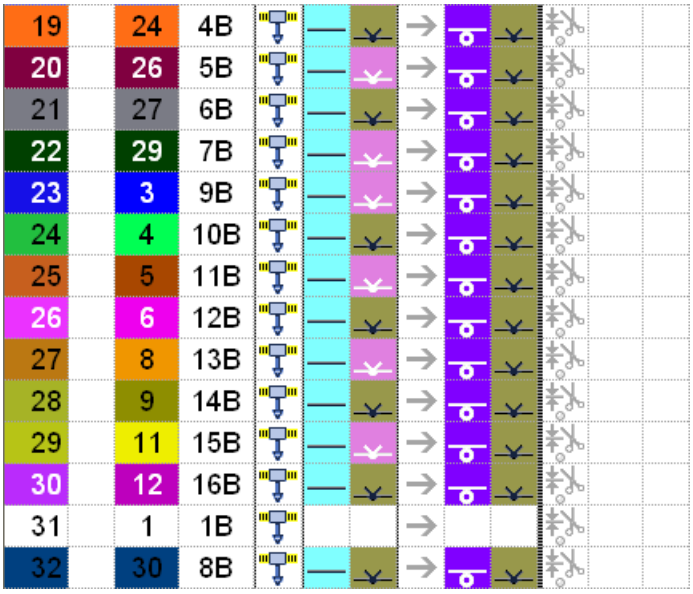
i The basic color knits through, wherefore no specifications are necessary.

- **Yarn Carrier Type**
  Select the standard specification **Autarkic** .
- **Combine Yarn Carriers**
  Select the standard specification Combine yarn carriers .

- **Modules for Knitting-in**
  for all ornamental stitch yarn carriers select the "Float" module.
- **Binding or knot at the start**
  - for all the continuous embroidery stitches select the "Knot split with fixing 5" module
  - for ornamental stitches with interruption: Overdraw with "Front stitch with transfer" or delete the first two rows from the basic pattern.

> **i** For knitting-out, make the desired settings in the and columns.





2.4 Complete the Pattern

Complete the pattern:

i	For editing the pattern, split cams are necessary since the yarn carriers are knitted-in and out with "Knot split". In the "Pattern Parameters" / "Machine Attributes…" menu in the "System functions" tab activate "Receive split" for the front + rear cam box.

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.

3 Intarsia with petinet

Pattern name	02_Intarsia mit Petinet.mdv	
Pattern number database	1210184	
Pattern size	Width:	245
	Height:	150
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Intarsia with petinet** Color Arrangement for: – Combine the yarn carriers – Petinet full production = Knitting in racking	

3.1 Create Pattern

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: E 7.2
- 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 a **Tubular start**.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

3.2 Draw basic pattern

I. Draw the motif:

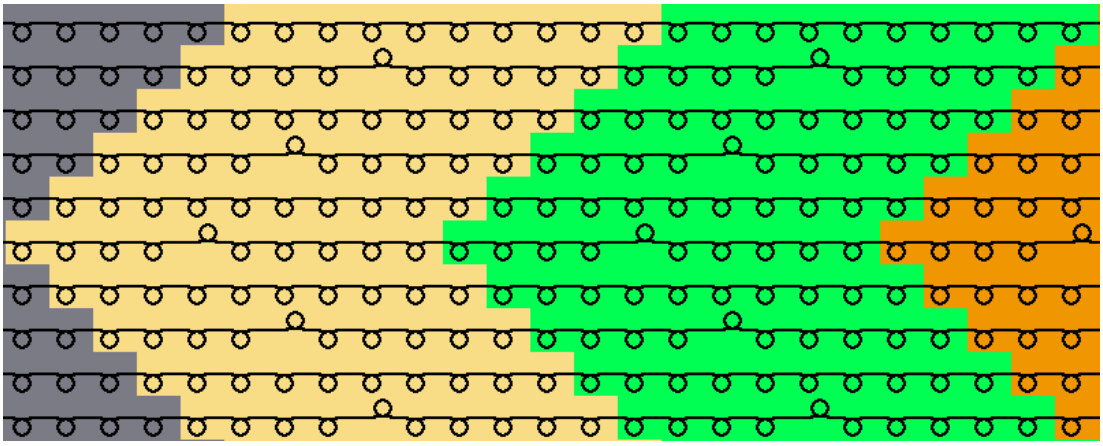
1. Draw-in the desired motif with yarn colors.

i	When drawing pay attention to the distances between the color fields. A distance of ~2.8 inches is necessary, if yarn carriers are combined (double assignment).

Distances between the color fields that are worked in the same system:

ADF - yarn carrier ("swiveled")	Min. distance between the color fields
Yarn carriers on different rails	**0.7 Inch**
Yarn carriers on the same rail	**~ 2.8 inches** (for each yarn carrier 1 inch + 6 nic)

2. Draw-in the following structure in the color fields.



i	The first pattern row is worked with V0 racking where the stitch is knitted at the rear. In the next row with VR1 racking the stitch then is transferred to the front and the pattern row is knitted.

3. Save pattern.

3.3 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.

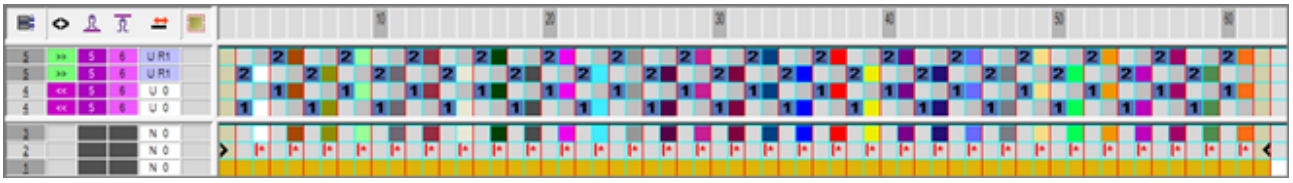
3. Modify the Color Arrangement:

■ Change the knitting sequence by combining the yarn carriers in two systems.
  – The 3. system is used for transferring

■ For the second reference row in the  racking control column enter [U] R1.
  – Transfer of the stitches in racking and following knitting in racking.

4. Close the Color Arrangement Editor with  .

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



3.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

- **Modules for Knitting-in**
- **Binding or knot at the start**
- **Modules for knitting-out**
- **Binding or knot at the end**

3.5 Complete the Pattern

Complete the pattern:

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

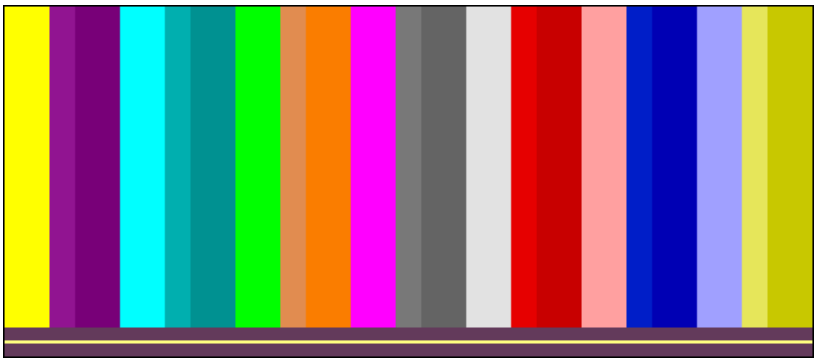
▶ The query "Generate MC Program" appears.

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.

4 Intarsia with different stitch tensions



Pattern name	03_verschiedene Festigkeiten.mdv	
Pattern number database	1210193	
Pattern size	Width:	252
	Height:	102
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Use of yarn carrier colors with sub-colors** – for determining the areas in the Color Arrangement ◆ **Intarsia areas with single jersey structure** ◆ **Intarsia areas single jersey combined with all needle knit** Color Arrangement for – Combine the yarn carriers – Knitting of the different structures in different systems (different stitch tensions for the combination single jersey + all needle knit)	

4.1 Create Pattern

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

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

▶ The new pattern appears in the symbol view.

4.2 Draw basic pattern

I. Draw the motif:

✓ There is still no start inserted.

1. Draw-in the motif with color stripes of different widths with yarn carrier colors  . (Color stripe width e.g. 14 needles and 22 needles)

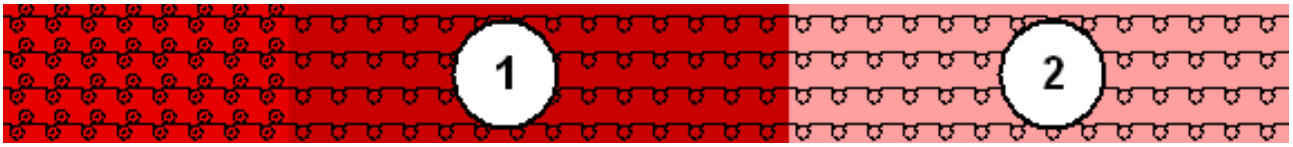
▶ In the "Yarn Field Allocation" dialog box the yarn carriers are positioned on the rails.

i	When drawing pay attention to the distances between the color fields.

2. Define the yarn carrier sub-colors for the intarsia areas with all needle knit structure.

i	In every second (wide) colored stripe the all needle knit structure is to be worked with another stitch tension in another system.

3. With the respective sub-color in the area of the corresponding yarn carrier color (e.g. 8 needles) and the  needle action draw in the structure.



1	Colored stripe with single jersey structure drawn with the main color from the table of the yarn carrier colors
	Colored stripe with all needle knit structure drawn with the generated sub-color
2	Colored stripe with single jersey structure drawn with another yarn carrier color of the table

4. Insert the desired start.
5. Save pattern.

4.3 Generate Color Arrangement

Generate a Color Arrangement for separate stroke and stitch length

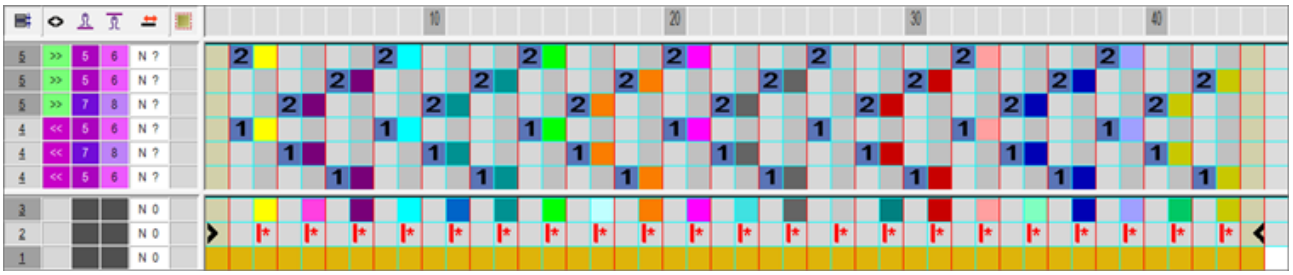
1. Select the pattern in the entire height.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

■ Adapt the knitting sequence
  – Combining the yarn carriers (all yarn carrier main colors) to to two systems
  – The sub-colors (for different stitch length) are combined to one system

■ In the control columns draw-in other stitch lengths.

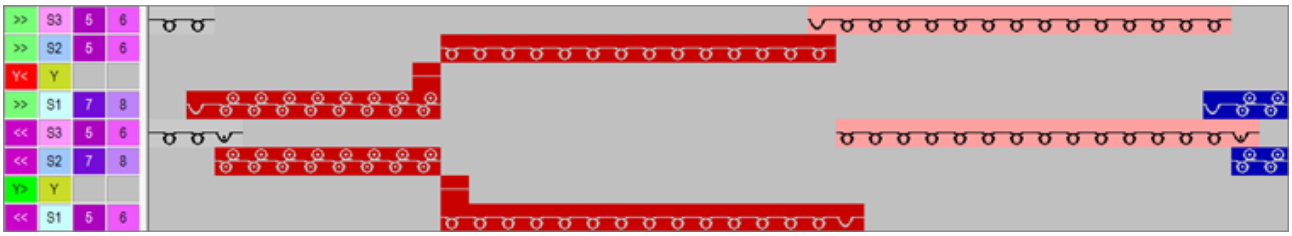


i	A yarn carrier main color (RL) and a sub-color (RR) will be used as search color in the basic pattern. The yarn carrier main color (SJ+DJ) will be used in the executing area of the Color Arrangement.

4. Close the Color Arrangement Editor with .

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

Neckline: Color Arrangement after technical processing:



4.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

- **Modules for Knitting-in**
- **Binding or knot at the start**
- **Modules for knitting-out**
- **Binding or knot at the end**

4.5 Complete the Pattern

Complete the pattern:

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

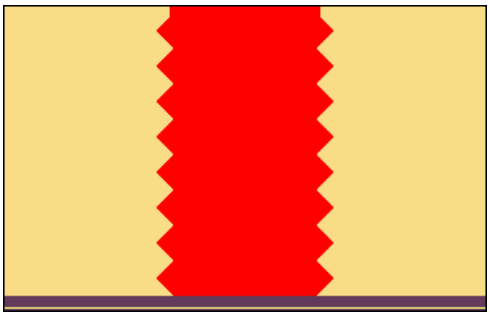
▶ The query "Generate MC Program" appears.

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.

5 Inverse Plating



Pattern name	04_Wendeplattieren.mdv	
Pattern number database	1210182	
Pattern size	Width:	260
	Height:	500
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **1x1 start modified: Use of the plating color P1** ◆ **Inverse Plating** between the systems = autarkic shifting of the yarn carriers during knitting ◆ Interlock border in 1x1	

5.1 Create Pattern

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: **E 7.2**

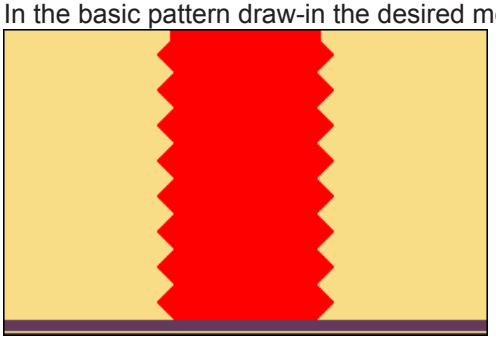
5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

5.2 Draw basic pattern and define plating colors

I. Draw motif and define plating colors

1. In the basic pattern draw-in the desired motif with another yarn color.



2. Open the Plating dialog box with  .
3. In the dialog box enter the used motif colors in the first two of the four columns.

▶ The first plating color, which is displayed in the first column of the window, is generated. It can be changed.

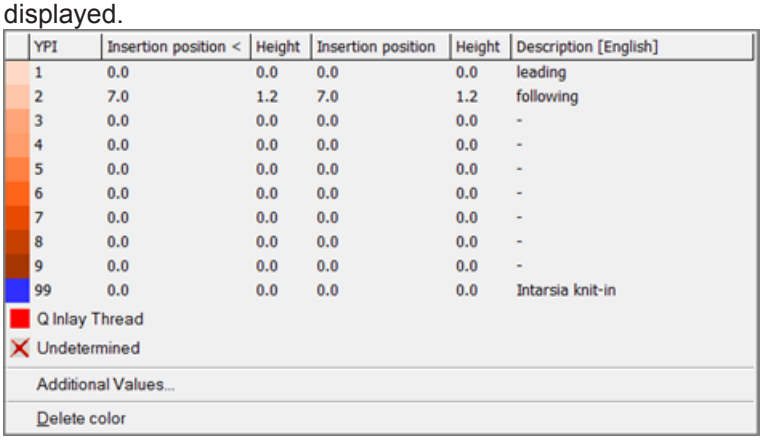
4. For changing the plating color, position the cursor in the column on the plating color to be modified.
5. Call up the menu with the "right mouse button" and select "Change color".
6. In the "Color" dialog box select the desired color and confirm the entry with "OK".

▶ The color is applied.

> **i** Inverse plating (with system change)
>
> For the so called Inverse Plating (with system change) one needs a different plating color for each color change.

7. Position the cursor in the area of the four columns of the dialog box and call up the menu with the "right mouse button".

▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.



Column	Specifications
YPI	Table of the **YPI** indexes **i**: Index YPI 1 up to YPI 9 possible.
Insert Position <<	**Horizontal Offset** of the driving unit of a yarn carrier for the carriage direction to the left ◆ **Positive values:** The yarn carrier works following. ◆ **Negative values:** The yarn carrier is leading
Height <<	**Vertical Offset** of the yarn carrier for the carriage direction to the left **i**: The home position of the yarn carrier = knitting position = value 0. ◆ **Positive values:** The yarn carrier is moved upwards. ◆ **Negative values:** The yarn carrier is moved downwards.
Insert Position >>	**Horizontal Offset** of the driving unit of a yarn carrier for the carriage direction to the right ◆ **Positive values:** The yarn carrier works following. ◆ **Negative values:** The yarn carrier is leading
Height >>	**Vertical Offset** of the yarn carrier for the carriage direction to the right ◆ **Positive values:** The yarn carrier is moved upwards. ◆ **Negative values:** The yarn carrier is moved downwards.
Description	Description of the yarn carriers, which are used when plating. **Example:** 2 yarn carriers are plating, therefore the first is leading and the second is following.

i	This table can also be opened via the "Pattern Parameters" / "Plating" menu. The default values of the table are in the **globalparameters_681** file.

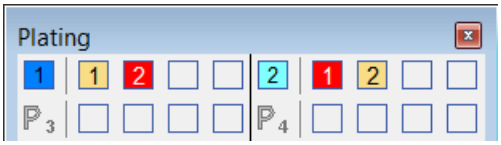
8. Select the desired YPI index (1) from the table.
9. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

▶ The index (1) will be allocated to the motif color (leading yarn carrier). Default: 0.0.

10. Allocate the YPI index (2) to the second motif color (= following yarn carrier).
11. Enter the settings for the selected YPI index in the table.
12. Change the order of the yarn colors for the second plating color.
13. The allocation of the YPI index keeps untouched.

i	The exchange of yarn colors in the "Plating" dialog box determines the change (inverse plating) of the yarn carriers.

Result:



i	The generated plating colors are required in the pattern and if necessary in the start (P1).

II. Import of templates (images) for patterns with inverse plating:

✓ The image must be reduced to 2 colors in a image processing application.

1. Open M1plus and create a new pattern with .
2. Import the image using the image import under "File / Import / Picture as pattern element...".

3. Draw-in the pattern element into the basic pattern.

▶ The pattern element with 2 colors is placed in the basic pattern.

4. Modify the image manually.

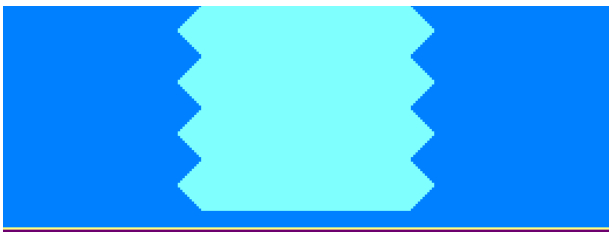
i	When inverse plating at least 2 pixel per color are to knit neighboring. This way a 'clean' inversing of the yarn carriers is ensured.

5. Define one plating color for each pattern color using the dialog box.
6. Change the pattern colors into plating colors.

5.3 Draw-in the Plating Colors in the Pattern.

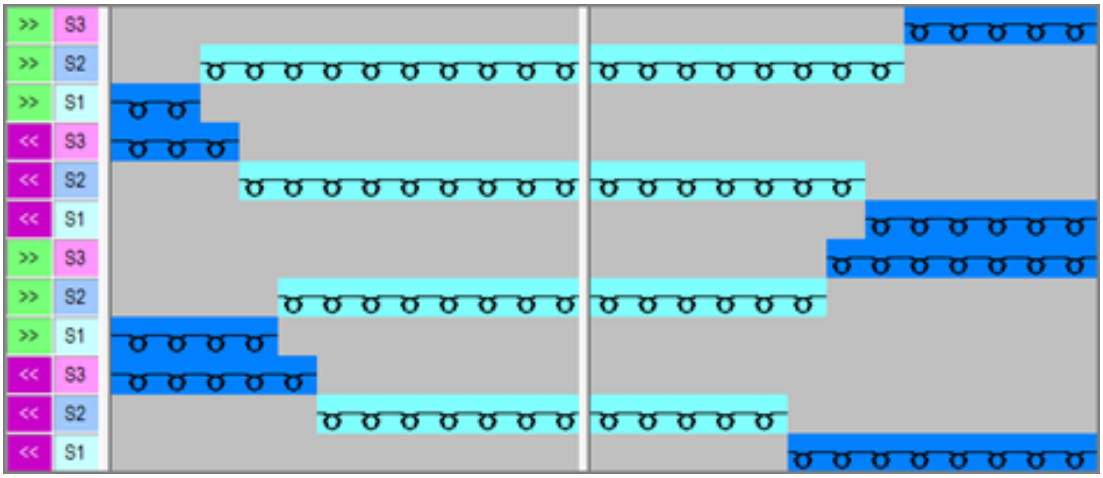
I. Enter the created plating colors in the pattern:

1. In the basic pattern fill the areas with the corresponding plating colors.



i	The 1x1 start is plated as well. The plating color P1 is used in the example.

II. Knitting sequence of Inverse Plating with system change (change between the systems):



i	The autarkic moving of the yarn carriers is not shown in the processed pattern.

5.4 Complete the Pattern

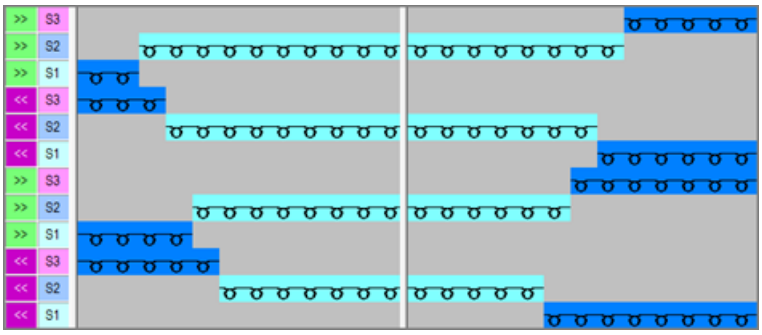
Complete the pattern:

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

1. In the "Configuration" dialog box in the "More Settings" tab under **Inverse Plating** make the following selection:

Inverse Plating		
	Do not separate knitting rows, Stoll-ikat-plating	
	27	Max. quantity of needles with separating i: The default setting depends on the gauge: 2 inch minus one needle.
		Separate knitting row up into several systems (inverse plating)

Result:



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

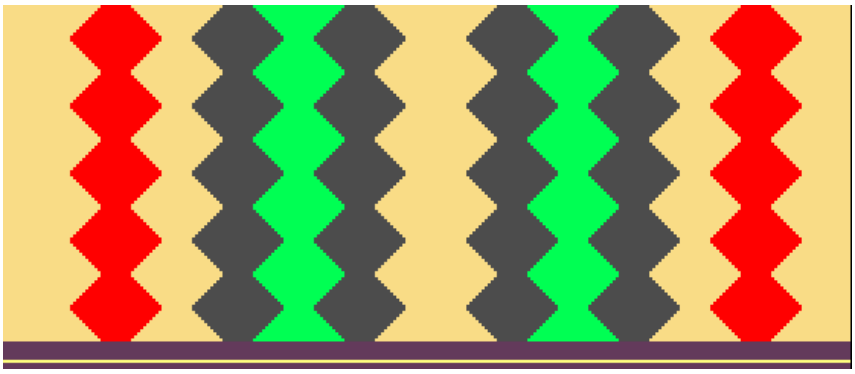
▶ The query "Generate MC Program" appears.

3. Confirm the query with "OK".

▶ The "Save pattern as" dialog box appears.

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

6 Intarsia combined with Inverse Plating



Pattern name	05_Intarsia+Wendeplattieren.mdv	
Pattern number database	1210207	
Pattern size	Width:	258
	Height:	486
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Intarsia combined with Inverse Plating** between the systems = autarkic shifting of the yarn carriers while knitting	

6.1 Create Pattern

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: **E 7.2**

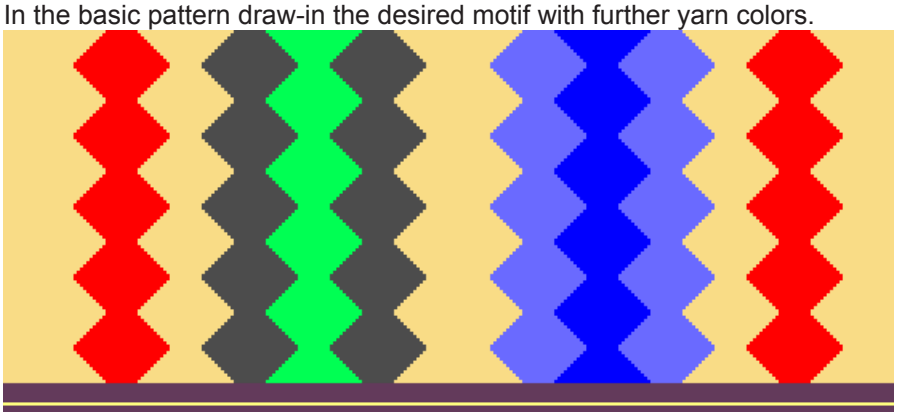
5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

6.2 Draw basic pattern

I. Draw motif and define plating colors

1. In the basic pattern draw-in the desired motif with further yarn colors.



i	In two areas of the pattern it is to be worked with inverse plating. For each of these areas there are to be drawn-in 2 different yarn colors, which are used for defining the plating colors.

2. Open the "Plating" dialog box with  .
3. In the dialog box enter the used motif colors in one of the four columns.

▶ A total of 4 plating colors (2 colors for each area) are to be generated.

4. Position the cursor in the area of the four columns of the dialog box and call up the menu with the "right mouse button".

▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.

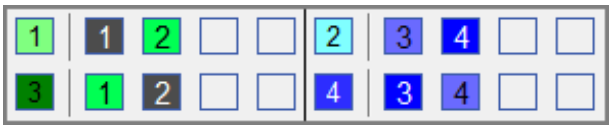
5. Select the desired YPI index from the table.
6. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

▶ The index will be allocated to the motif color (following yarn carrier).

7. Allocate YPI indices also to all the other motif colors.
8. Enter the settings for the selected YDI index in the table.

i	It is recommended to use a different YDI index for each area of the Inverse Plating.

Result:



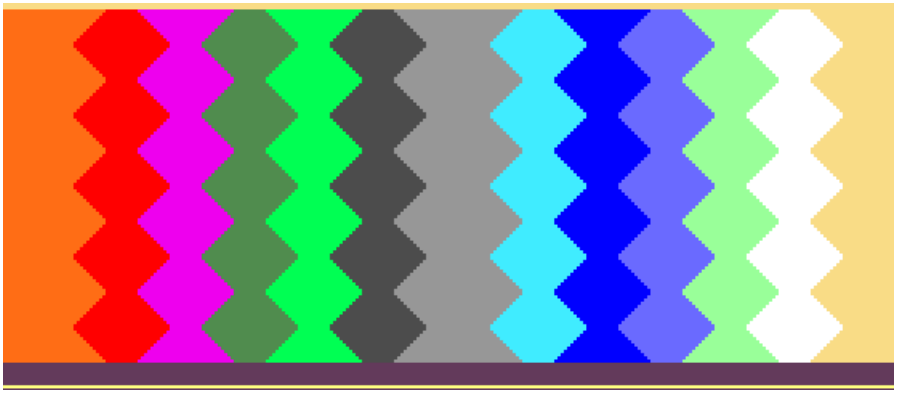
i	The generated plating colors are required in the pattern for the areas with inverse plating.

6.3 Generate Color Arrangement

i	With the help of the Color Arrangement, the yarn carriers are combined and in the areas with inverse plating, the corresponding plating colors (2 plating colors for each area) are allocated.

I. Generating Color Arrangement and entering it:

1. In the basic pattern additional yarn colors have to be drawn-in as search colors for the CA.



2. Select the pattern without the last two rows in height.
3. Click the  button.

▶ The Color Arrangement Editor will be opened.

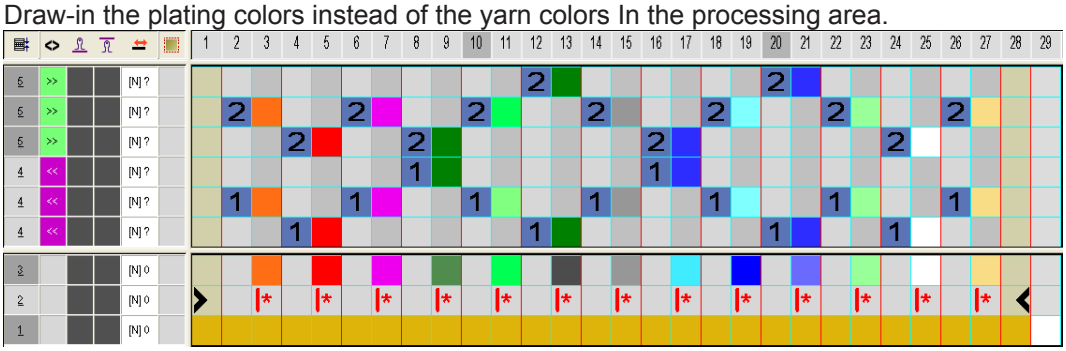
4. Modify the Color Arrangement:

■ Adapt the knitting sequence

– In the two areas of the Inverse Plating

– Combining the yarn carriers in the Intarsia areas

■ Draw-in the plating colors instead of the yarn colors In the processing area.



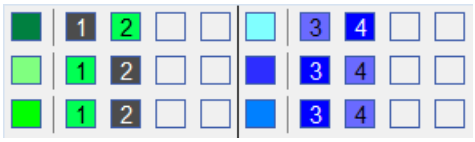
5. Close the Color Arrangement Editor with .

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

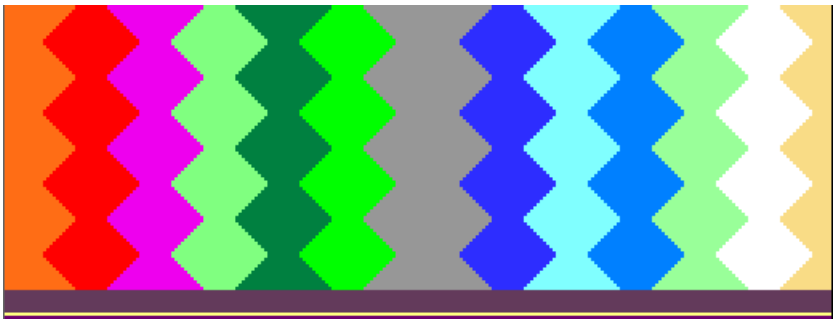
II. Variant when generating the Color Arrangement:

i	Instead of yarn colors, the plating colors are used as search colors in the Color Arrangement.

✓ For each area with inverse plating there must be created also an additional plating color.



1. In the basic pattern the plating colors have to be drawn-in as search colors for the CA.



2. Generate Color Arrangement.

▶ The plating colors are used as search colors in the CA.

3. Modify the Color Arrangement:

■ Adapt the knitting sequence

– In the two areas of the Inverse Plating

– Combining the yarn carriers in the Intarsia areas

4. Close the Color Arrangement Editor with .

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

6.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

- **Modules for Knitting-in**
  for all yarn carriers select e.g. the "Float" module.
- **Binding or knot at the start**
  – for all yarn carriers select the "Knot Split" module.
- **Modules for knitting-out**
  for all yarn carriers select e.g. the "Stitch -o-" module.
- **Binding or knot at the end**
  for all yarn carriers select the "Knot Split" module.
- **Swivel**
  Swivelling automatically of all yarn carriers

6.5 Complete the Pattern

Complete the pattern:

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

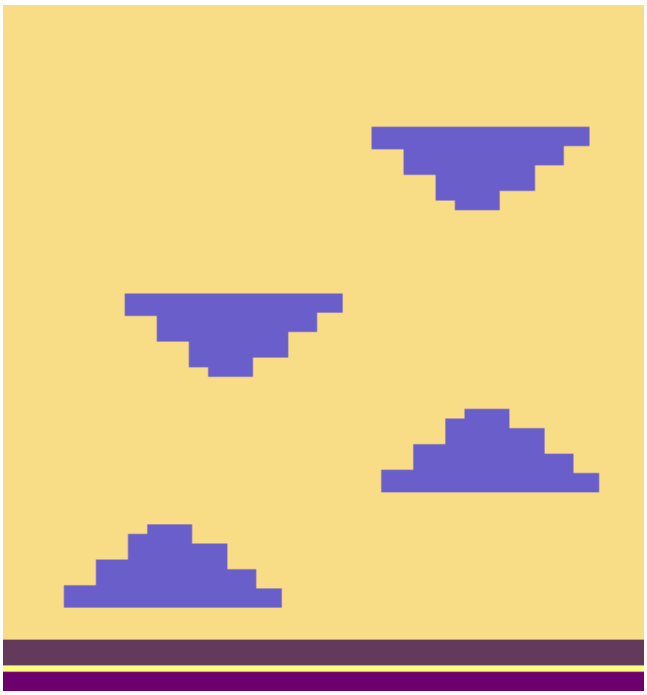
▶ The query "Generate MC Program" appears.

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.

7 Selective Plating



Pattern name	06_Selektives Plattieren.mdv	
Pattern number database		
Pattern size	Width:	200
	Height:	200
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Selective Plating** – One yarn carrier knits the basic color and the one of the plating colors – between the systems = autarkic shifting of the yarn carriers during knitting	

7.1 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: **E 7.2**

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

7.2 Define Plating Colors and Draw Basic Pattern

I. Define plating color and draw the motif:

1. Open the "Plating" dialog box with  .

▶ You have to define one plating color.

2. Paste the yarn color #31 at the first position and an additional yarn color at the second position of the plating color (P1) in the dialog box.

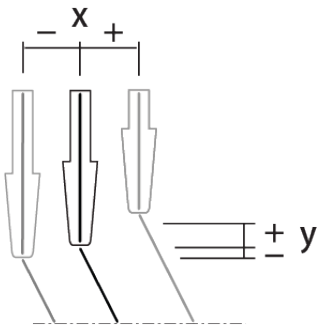
▶ 

3. Position the cursor in the line of (P1) of the dialog box and call up the menu with the "right mouse button".

▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.

4. Select the desired YPI index from the table.

- YPI index (1): Leading yarn carrier
  Leading plating yarn
  Standard: X = 0 mm
- YPI index (2): Following yarn carrier
  Following basic yarn.
  The thread is inserted in the needles later on.
  Standard: X = +7.0 mm

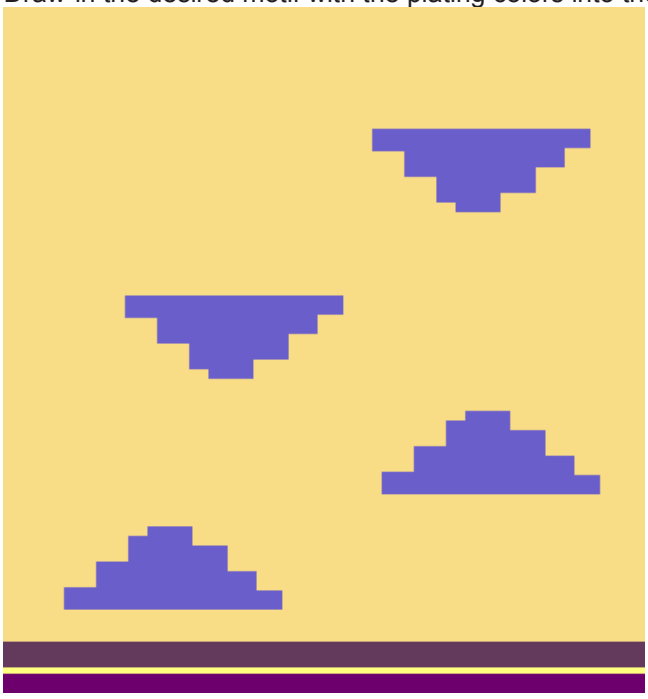


■ 

5. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

▶ The index will be allocated to the first motif color #31 (leading yarn carrier).

6. Allocate a YPI index to the second motif color at (P1) as well.
7. Enter the settings for the selected YDI index in the table.
8. Draw-in the desired motif with the plating colors into the basic pattern.



i	A second plating color will automatically be used for border processing by the following processing of the motif border with selective plating.

7.3 Border Processing for Selective Plating

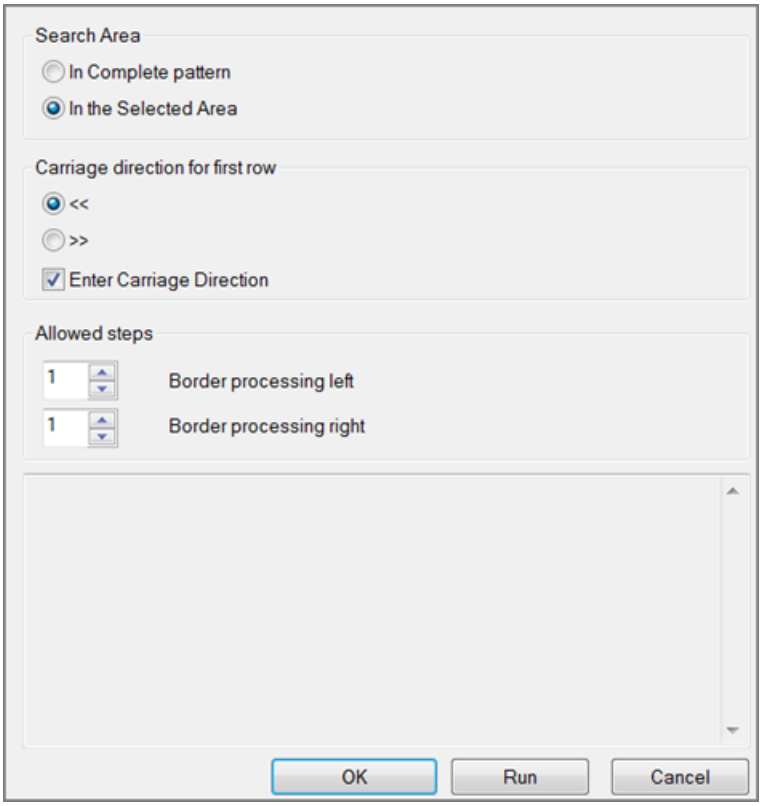
Selective Plating

Several yarn carriers are used within on area with selective plating. Meaning all yarn carriers has to be placed optimally to knitting rows during knitting. This requests a border processing / correction of the motif.

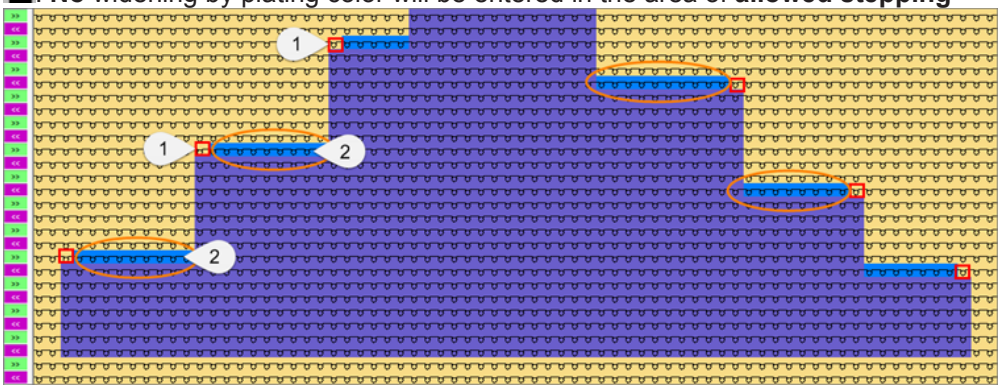
I. Border processing of the motif:

You have to process the border in the basic pattern .
Caution:
The border processing cannot be undone after technical processing of the pattern / !

1. Run the dialog box with the "Border Processing for Selective Plating..." function in the "Edit" menu.



	Function
Border Processing for Selective Plating	
Search Area	

			Function
	◉	In complete pattern	Edit the border processing of the areas within the whole pattern.
	◉	Within the selected area	Edit the border processing of the areas within the selection. ℹ: Multiple selection is possible.
	Carriage direction for first row		
	◉ **<<**		Carriage direction for the first row in the area of selective plating to the left
	◉ **>>**		Carriage direction for the first row in the area of selective plating to the right
	☑ Enter Carriage Direction		Switching carriage directions for the left and right border will be inserted into the pattern.
	Allowed Stepping		
	4.0	Border processing left	Setting for allowed stepping by needles at the left border
	4.0	Border processing right	Setting for allowed stepping by needles at the right border
	ℹ: **No** widening by plating color will be entered in the area of **allowed stepping**  		
	1	Allowed stepping of one needle	
	2	Selvedge correction with an automatically created new plating color  	

ℹ For processing correctly the selvedge correction ensure:

1. When creating the plating color, the color for the selective plating must be entered in the first position in the dialog box.
2. This way the basic color is entered in the second position.

7.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with  .
2. Make the desired settings:

- **Modules for Knitting-in** 
  Select the "Float" module e.g. for the additional yarn carrier.
- **Binding or knot at the start** 
  – Select the "Split Fixation" module for the additional yarn carrier.
- **Modules for knitting-out** 
  Select the "Float Lock Edge" module e.g. for the additional yarn carrier.
- **Binding or knot at the end** 
  Select the "Float" module for the additional yarn carrier.

7.5 Complete the Pattern

Complete the pattern:

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

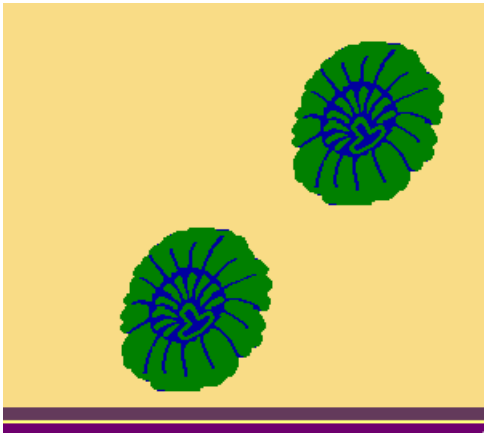
▶ The query "Generate MC Program" appears.

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.

8 Selective Plating Combined With Inverse Plating



Pattern name	07_Selektives_Plattieren+Wendeplattieren	
Pattern number database		
Pattern size	Width:	300
	Height:	252
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Selective Plating Combined With Inverse Plating** – One yarn carrier knits the basic color and the one of the plating colors – A second yarn carrier knits in areas of inverse plating only – between the systems = autarkic shifting of the yarn carriers during knitting	

8.1 Create Pattern

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: **E 7.2**

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

8.2 Define Plating Colors and Draw Basic Pattern

I. Define plating colors and draw the motif:

1. Open the "Plating" dialog box with  .

▶ A total of 2 plating colors (2 colors for each area) are to be generated.

2. Paste the yarn color #31 at the first position and an additional yarn color at the second position of the plating color (P1) in the dialog box.
3. Paste both of the yarn colors in exchanged order next to (P2).

▶ 

4. Position the cursor in the line of (P1) of the dialog box and call up the menu with the right mouse button "RMB".

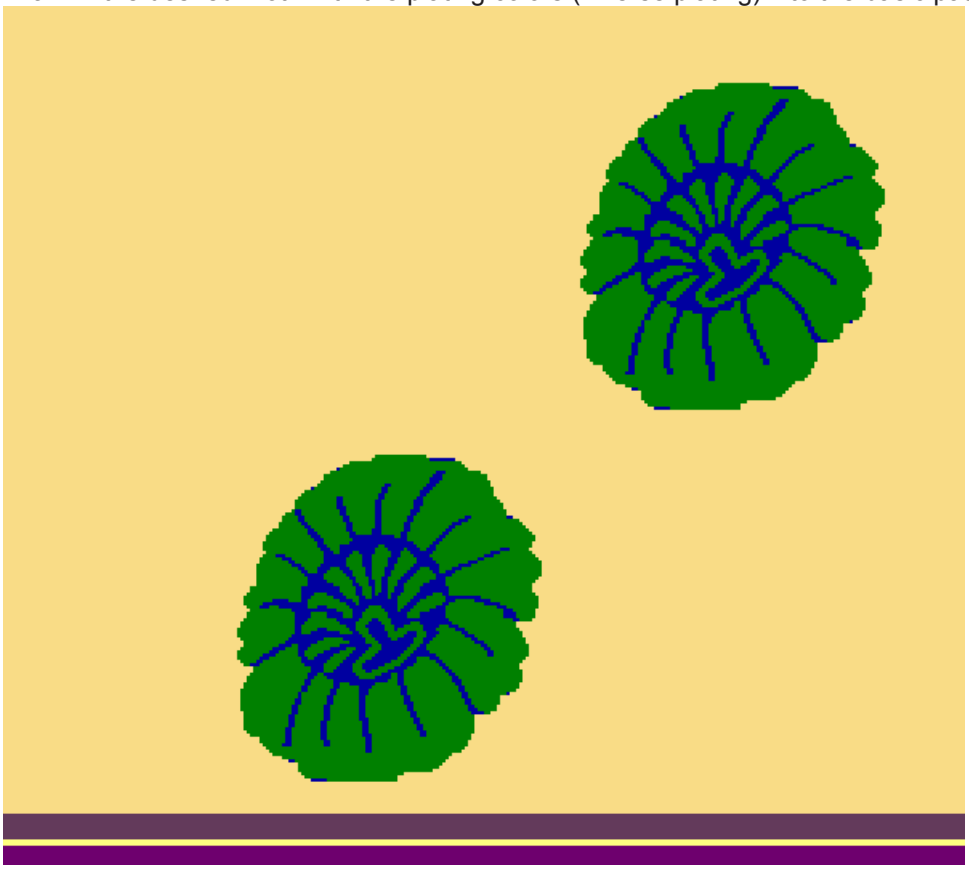
▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.

5. Select the desired YPI index from the table.
   YPI index (1): Leading yarn carrier
   YPI index (2): Following yarn carrier
6. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

▶ The index will be allocated to the first motif color #31 (leading yarn carrier).

7. Allocate a YPI index to the second motif color at (P1) as well.

8. Enter the settings for the selected YDI index in the table.
9. Allocate YPI indices at (P2) as well.
10. Draw-in the desired motif with the plating colors (inverse plating) into the basic pattern.



i	The existing and corresponding plating color will be used for border processing by the following processing of the motif border with selective plating

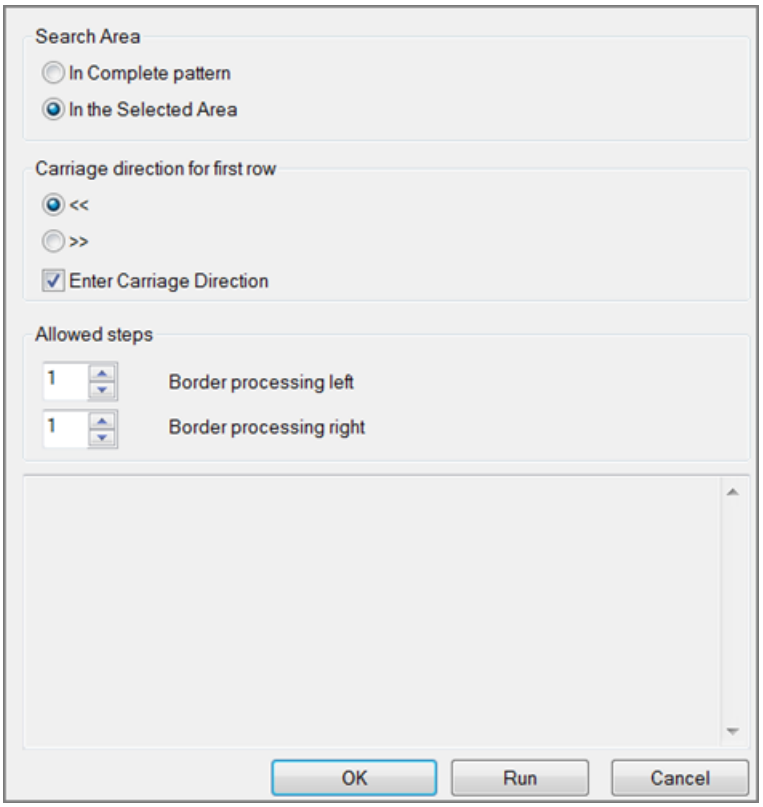
8.3 Border Processing for Selective Plating

i	Selective Plating Several yarn carriers are used within on area with selective plating. Meaning all yarn carriers has to be placed optimally to knitting rows during knitting. This requests a border processing / correction of the motif.

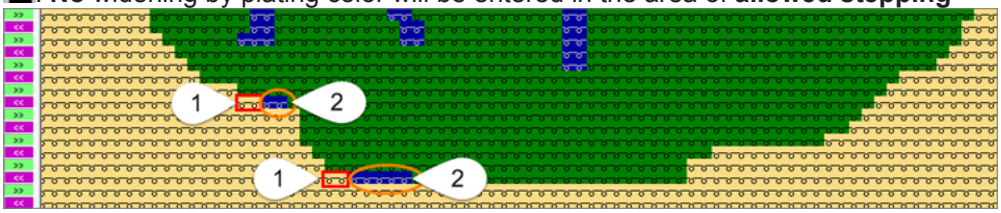
I. Border processing of the motif:

You have to process the border in the basic pattern .
Caution:
The border processing cannot be undone after technical processing of the pattern / !

1. Run the dialog box with the "Border Processing for Selective Plating..." function in the "Edit" menu.



			Function
Border Processing for Selective Plating			
Search Area			
		In complete pattern	Edit the border processing of the areas within the whole pattern.
		Within the selected area	Edit the border processing of the areas within the selection. : Multiple selection is possible.
	Carriage direction for first row		
	<<		Carriage direction for the first row in the area of selective plating to the left

			Function
	>>		Carriage direction for the first row in the area of selective plating to the right
	Enter Carriage Direction		Switching carriage directions for the left and right border will be inserted into the pattern.
	Allowed Stepping		
	4.0	Border processing left	Setting for allowed stepping by needles at the left border
	4.0	Border processing right	Setting for allowed stepping by needles at the right border
	: **No** widening by plating color will be entered in the area of **allowed stepping** 		
	1	Allowed stepping of two needles	
	2	Selvedge correction with the existing plating color	

8.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

- **Modules for Knitting-in**
  Select the "Float" module e.g. for the additional yarn carrier.
- **Binding or knot at the start**
  – Select the "Split Fixation" module for the additional yarn carrier.
- **Modules for knitting-out**
  Select the "Float Lock Edge" module e.g. for the additional yarn carrier.
- **Binding or knot at the end**
  Select the "Float" module for the additional yarn carrier.

8.5 Complete the Pattern

Complete the pattern:

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

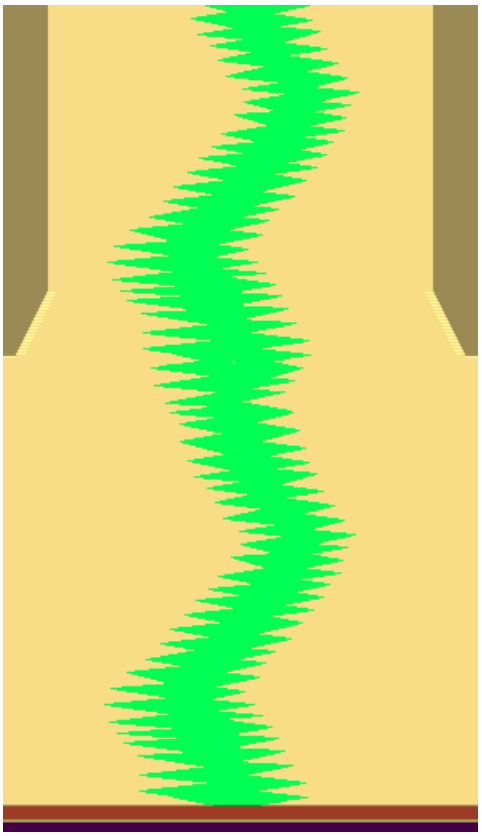
▶ The query "Generate MC Program" appears.

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.

9 Stoll-ikat plating®



Pattern name	08_Ikat-plating.mdv	
Pattern number database	1510061	
Pattern size	Width:	300
	Height:	520
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	2x2 start	
Basic Pattern	Front Stitch with Transfer	
Shape	Self-created, stitch accurate shape **shp**	
Knitting Technique	◆ **2x2 start modified: Use of one plating color** ◆ **Stoll-ikat plating ®**: Change of the position of the yarn carriers without system change = The yarn carriers exchange their positions, remaining assigned to the same system.	

9.1 Create Pattern

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

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the start from "Stoll with protection yarn" / "Standard" / "1 System" / "without elastic thread" / "Transition loose row" / "2x2".
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

9.2 Create the shape in the M1plus Shape Editor

I. Generate a shape:

1. Via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu open the "M1plus Shape Editor" dialog box.

▶ 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 -
   Generate a new shape of the shp format in the Shape Editor via
   - or -
   "File" / "New" or with the  key.
3. Create a "Basic shape" element for a **front**:

■ The "Mirrored" checkbox is activated.

Basic element front left lines:

No.	Lines Editor	Height Stitches	Width Stitches	Height Steps	Width Steps	Factor	Height Remainder	Width Remainder	Width ---	Width \\\	Function	Group	Commen
1		0	-148	0	-148	1	0	0			Basis	0	
2		280	0	280	0	1	0	0		1		0	CMS >6<
3		0	8	0	8	1	0	0			*Bind-off*	0	
4		40	20	2	1	20	0	0	6	1	Narrowing	0	CMS >6<
5		180	0	180	0	1	0	0		1		0	CMS >6<
6		0	120	0	120	1	0	0				0	

4. Allocate the desired shape attributes to the edge lines.
5. Save the shape via the "File" / "Save" or "Save As…" menu.

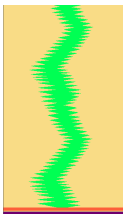
▶ The shape will be saved in the shp format.

6. Close the "M1plus Shape Editor" with .

9.3 Draw basic pattern and define plating colors

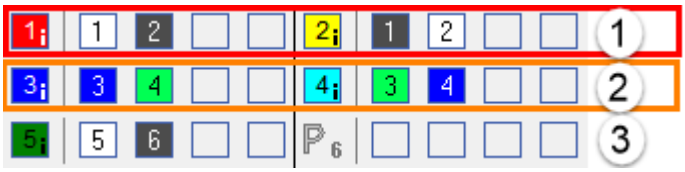
I. Draw motif and define plating colors

1. In the basic pattern (yarn color #31) draw-in the desired motif with another yarn color #4.



2. Open the Plating dialog box with and create following plating colors:

- 4 plating colors for pattern
- 1 plating color for the start

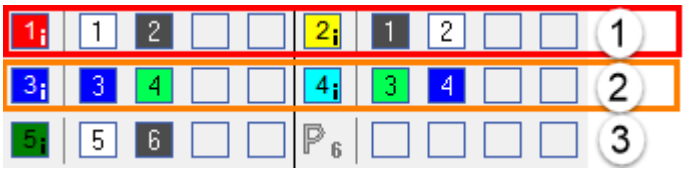


No.	Plating Colors	Use
1	P**1** (red)	Plating color combination for the first pattern row, which is worked in the first system.
	P**2** (yellow)	
2	P**3** (blue)	Plating color combination for the second pattern row, which is worked in the second system.
	P**4** (light blue)	
3	P**5** (dark green)	Plating color for the start
i:	When creating the plating colors for Stoll-ikat plating ® you have to allocate type (i) to the plating color.	

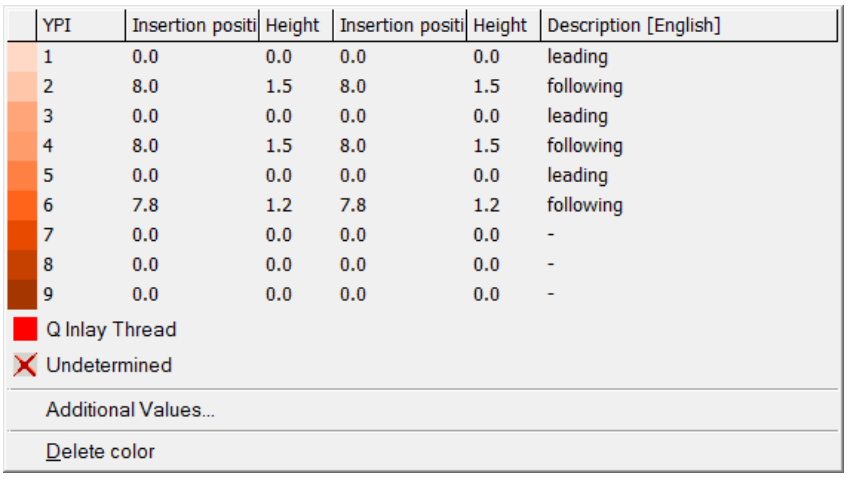
> **i** Stoll-ikat plating ®
>
> For the so-called Stoll-ikat plating® one needs two plating colors (= a plating color combination) per pattern row for each color change in one system.
>
> With Stoll-ikat plating® it is possible to use a different plating color combination in each system.
> A maximum of 30 changes of position are allowed in one pattern row, where a distance of 2 inches (with 1.0 m/s) between the color changes is to be respected.

3. Right click on the corresponding plating color.
4. Select the "ikat" item of the context menu.
   ▷ The plating color is indicated by the i symbol.
5. Right click the corresponding yarn color of a plating color combination.
6. Select the desired YPI index from the table and allocate it.

Result:



No.	YPI Index	
1	YPI **1** + YPI **2**	
2	YPI **3** + YPI **4**	
3	YPI **5** + YPI **6**	



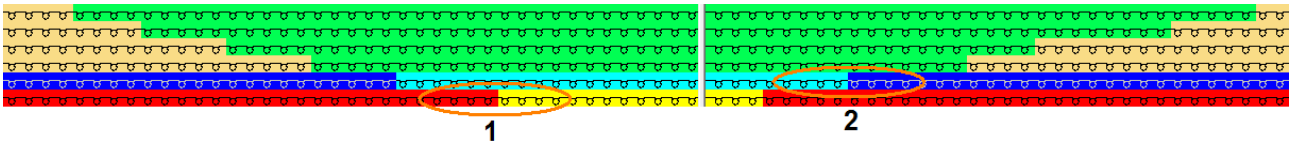
9.4 Draw-in the Plating Colors in the Pattern and load the shape.

I. Enter the created plating colors in the pattern:

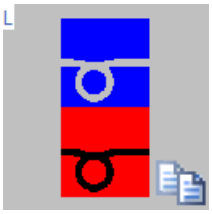
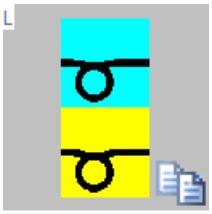
1. In the **1st pattern row** (1) of the motif overdraw the yarn color #31 with the plating color P1 and the yarn color #4 with the plating color P2.
2. In the **2nd pattern row** (2) of the motif overdraw the yarn color #31 with the plating color P3 and the yarn color #4 with the plating color P4.

Draw-in the Plating Colors in the Pattern and load the shape.

Result:



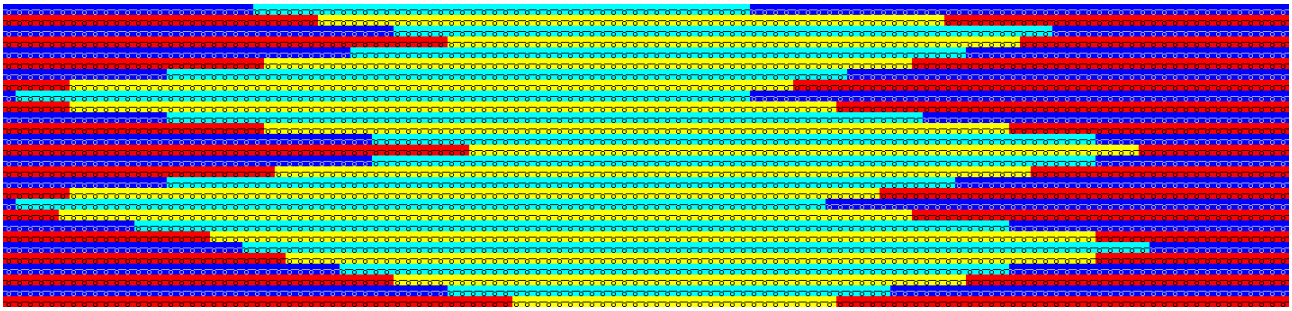
3. Create a selection based on the combinations of plating colors drawn-in.
4. Create a pattern element via the "Module" / "Generate from Selection" / "Pattern Element" menu.

Pattern Element 1	Pattern Element 2
	

5. Fill the motif areas with the drawing tool and filling mode:

- Pattern element 1 for motif area with yarn color #31
- Pattern element 2 for motif area with yarn color #4

Result:



6. In the module 2x2 - Start draw-in the plating color P5.
7. Via the "Shape" / "Open and position shape..." menu load the created shape.
8. In the "Configuration" dialog box in the "More Settings" tab under "Presets for New Plating Colors" make the following selection:

Presets for New Plating Colors

Stoll-ikat-plating® (not separated)

Inverse Plating (separated to several systems)

9. Specify the desired quantity of needles under "Setting for Stoll-ikat-plating ®" up to which you want the technical rows to be separated.

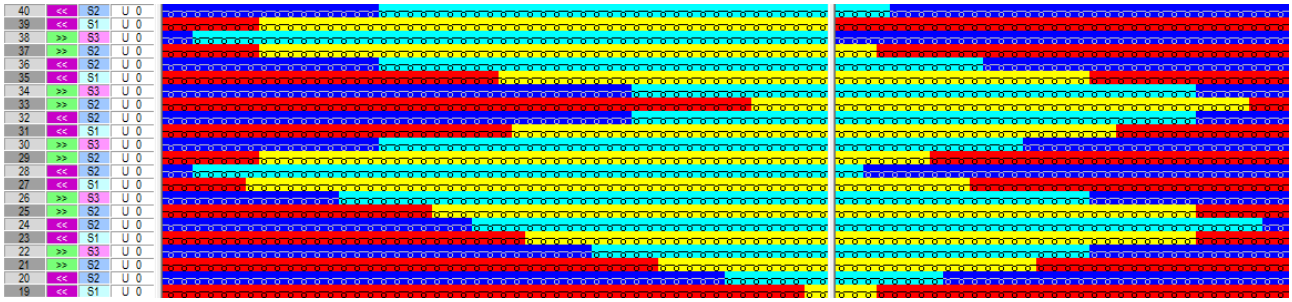
Setting for Stoll-ikat-plating®	
27	Max. quantity of needles with separating

	Result: Color fields up to 27 needles wide are divided up = inverse plating Color fields wider than 27 needles are not divided up = Stoll-ikat plating®
	i: Default setting: 2 inch minus one needle calculated on base of the selected machine gauge.

10.Make the desired settings in the "Yarn Field Allocation" dialog box

II. Knitting sequence of Stoll-ikat plating®:

Result after technical processing:



i	Stoll-ikat plating ® Inverse plating with changing position of the yarn carriers within the same system. This means that the pattern rows are not separated into technical rows.

9.5 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.

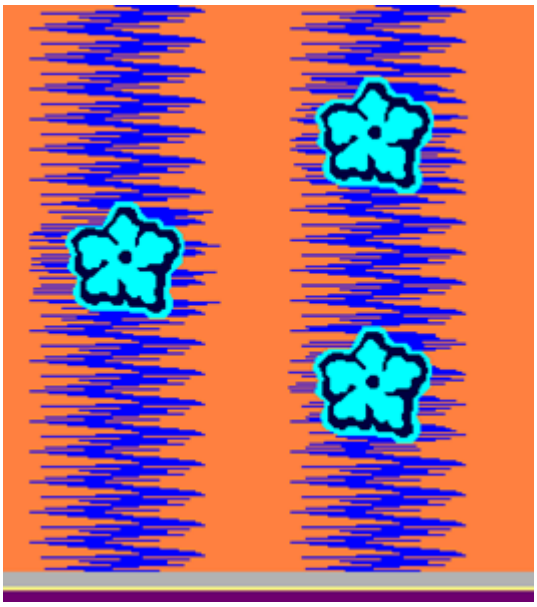
▶ The query "Generate MC Program" appears.

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.

10 Combination of Stoll-ikat plating® with inverse plating



Pattern name	09_Kombination Ikat-plating mit Wendeplattieren.mdv	
Pattern size	Width:	280
	Height:	300
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **1x1 start modified: Use of one plating color** ◆ **Inverse plating:**Change of the position of the yarn carriers with system change = The yarn carriers exchange their positions between two systems. ◆ **Stoll-ikat plating ®**: Change of the position of the yarn carriers without system change = The yarn carriers exchange their positions, remaining assigned to the same system.	

10.1 Create Pattern

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

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the start from "Stoll with protection yarn" / "Standard" / "1 System" / "without elastic thread" / "Transition loose row" / "1x1".
8. Confirm the dialog box with the "Generate Design Pattern" button.

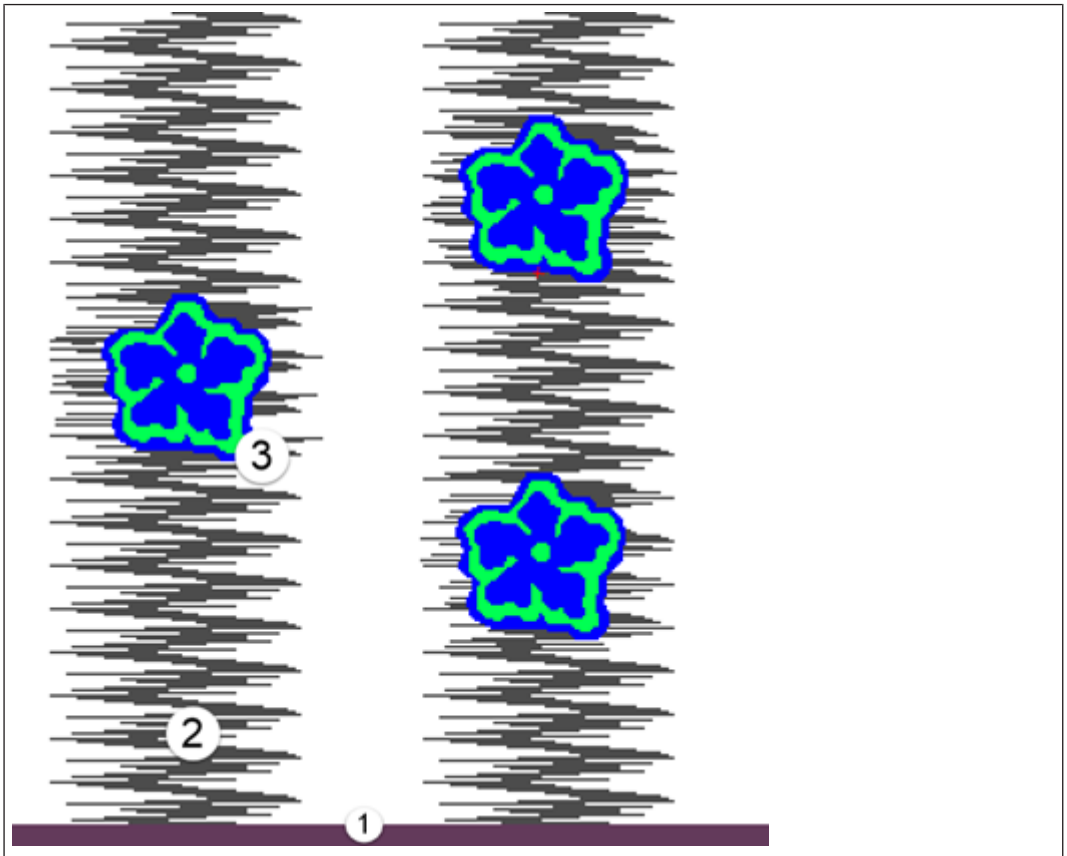
▶ The new pattern appears in the symbol view.

10.2 Draw basic pattern and define plating colors

I. Draw motif and define plating colors

1. In the basic pattern draw-in the desired motif with further yarn colors:

- Exchange yarn color #31 to yarn color #1
- Yarn color #2 for the area of Stoll-Ikat-plating
- Yarn color #3 and #4 for the area of inverse plating



1	1x1 Start
2	Area of Stoll-Ikat-plating®
3	Area of inverse plating

2. Open the "Plating" dialog box with .

i	The "Presets for New Plating Colors" in the "Configuration" / "Further Setting" dialog box are used to create new plating colors. The **i** marking will automatically be applied to the new colors by selecting Stoll-ikat plating®.

3. Create the following plating colors:

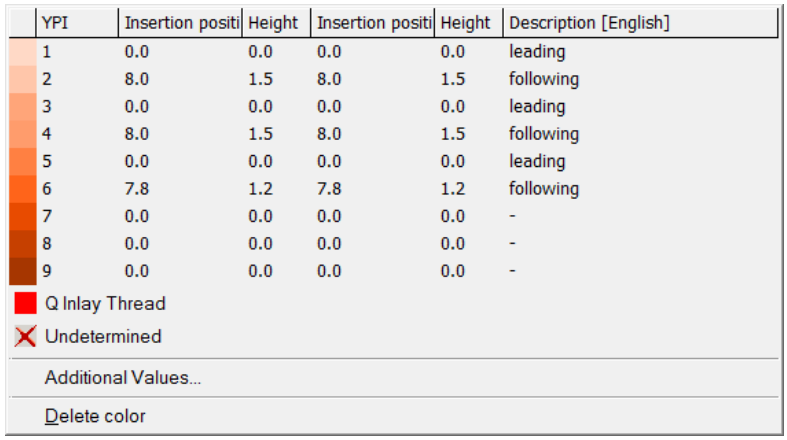
- 2 plating colors for the area of Stoll-ikat plating® with the **i** marking.
- 2 plating colors for the area of inverse plating without marking
- 1 plating color for the start without marking

No.	Plating Colors	Use
1	P**1** (orange)	Combination plating colors for the area of Stoll-ikat plating®
	P**2** (blue)	: When creating the plating colors for Stoll-ikat plating ® you have to allocate type (**i**) to the plating color.
2	P**3** (light blue)	Combination of plating colors for the area of inverse plating
	P**4** (yellow)	
3	P**5** (grey)	Plating color for the start

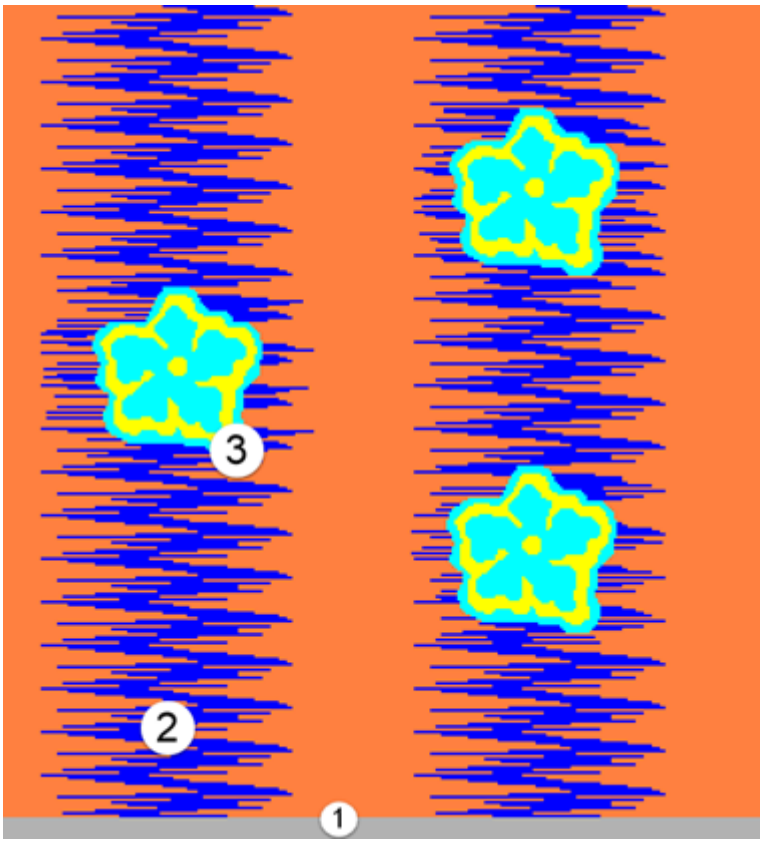
4. Right click on the corresponding plating color.
5. Select the "ikat" item of the context menu.
   ▷ The plating color is indicated by the "i" symbol.

i All plating colors will get the "i" marking if Stoll-ikat plating® is activated in "Pattern Parameters" / "Configuration" / "Further Settings" tab.
Meaning, that you have to cancel the marking of the colors for inverse plating.

6. Right click the corresponding yarn color of a plating color combination.
7. Select the desired YPI index from the table and allocate it.

No.	YPI Index	
1	YPI **1** + YPI **2**	
2	YPI **3** + YPI **4**	
3	YPI **5** + YPI **6**	

8. Exchange the yarn colors in the basic pattern with the corresponding plating colors via the drawing tool



1	Plating color P5
2	Plating color P1 + P2
3	Plating color P3 + P4

i Stoll-ikat plating ®

For the so-called Stoll-ikat plating® one needs two plating colors (= a plating color combination) per pattern row for each color change in one system.

With Stoll-ikat plating® it is possible to use a different plating color combination in each system.
A maximum of 30 changes of position are allowed in one pattern row, where a distance of 2 inches (with 1.0 m/s) between the color changes is to be respected.

10.3 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.

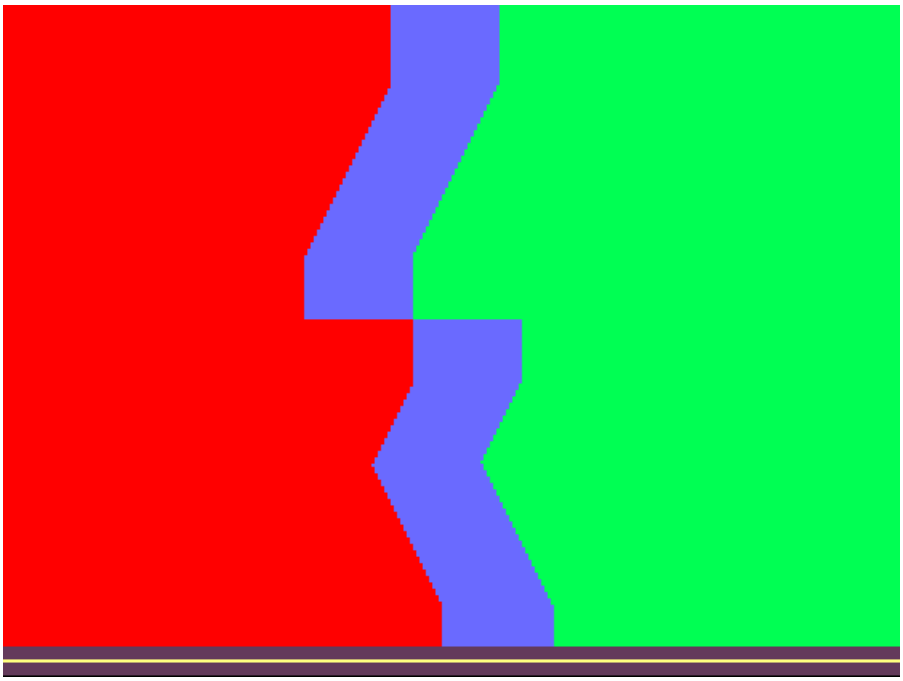
▶ The query "Generate MC Program" appears.

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.

11 Intarsia with ornamental seam



Pattern name	09_Intarsia mit Ziernaht.mdv	
Pattern number database	1210194	
Pattern size	Width:	260
	Height:	480
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Intarsia with 2 additional yarn carriers** for yarn insertion ornamental seam on the left and right edge of the yarn field (= connection of the color fields) ◆ Interlock border in 1x1	

11.1 Create Pattern

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: **E 7.2**

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

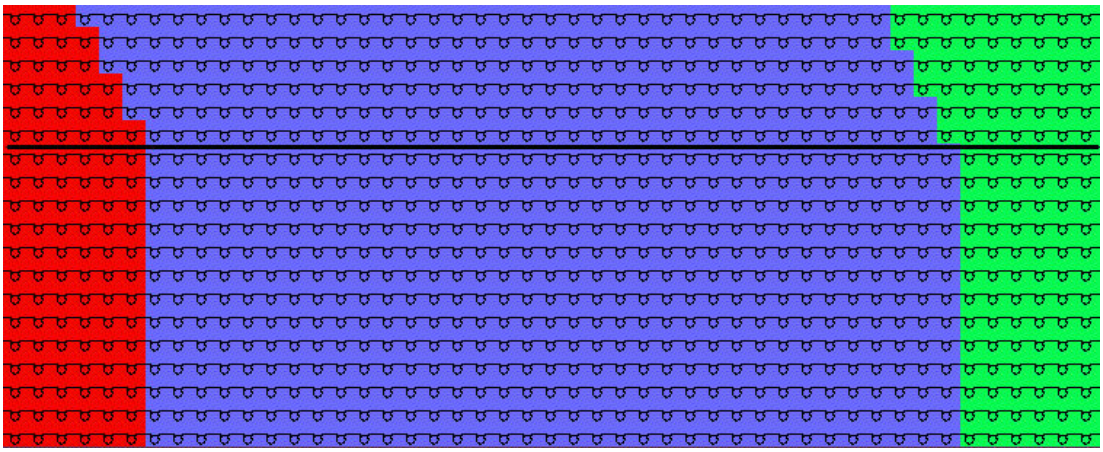
▶ The new pattern appears in the symbol view.

11.2 Draw basic pattern

I. Draw the motif:

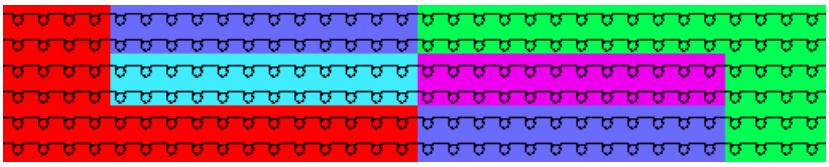
1. In the basic pattern draw the desired motif with yarn colors.

2. Change the basic color #31 on the left e.g. into yarn color #7 and on the right e.g. into yarn color #4.



The modification of the color field is shifted in height by one row. This improves the binding at the color field edge.

3. With two additional yarn colors draw the transition in the basic pattern.



The additional yarn colors are necessary for the Color Arrangement to be generated.

11.3 Generate Color Arrangements

I. Generating Color Arrangement CA #1 and entering it:

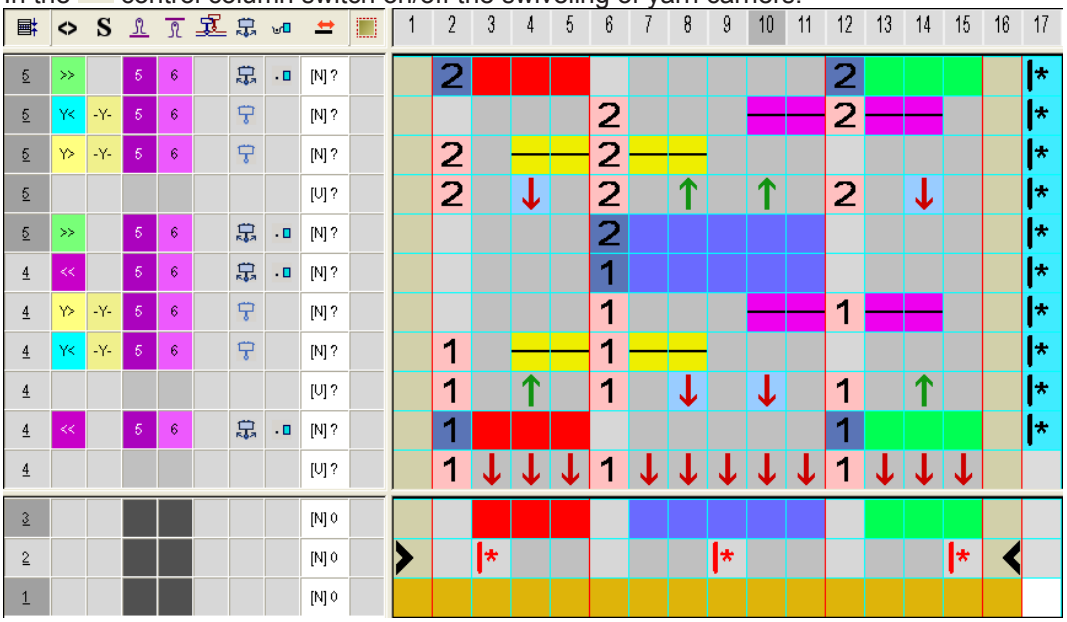
1. Select the first two pattern rows.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

- Insert an additional row for transferring after the start and draw-in the transfer.
- Change the following in the executing area:
  - Insert additional rows for the pattern related transferring and draw-in "Transfer to front" or "Transferring optionally to the front".
  - Rows for the additional yarn carriers that knit the **ornamental seam** on the left and on the right.
- In the **Cycles** column define a cycle.
- Switch-off the intarsia binding in the control column.

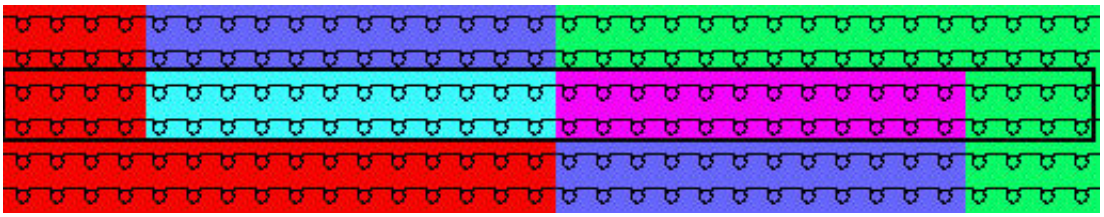
■ In the control column switch on/off the swiveling of yarn carriers.



4. Close the Color Arrangement Editor with .
5. Enter a Color Arrangement up to two rows below the transition.

II. Generating Color Arrangement CA #2 (transition) and entering it:

1. Select the two pattern rows in the pattern with the additional yarn colors.



2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

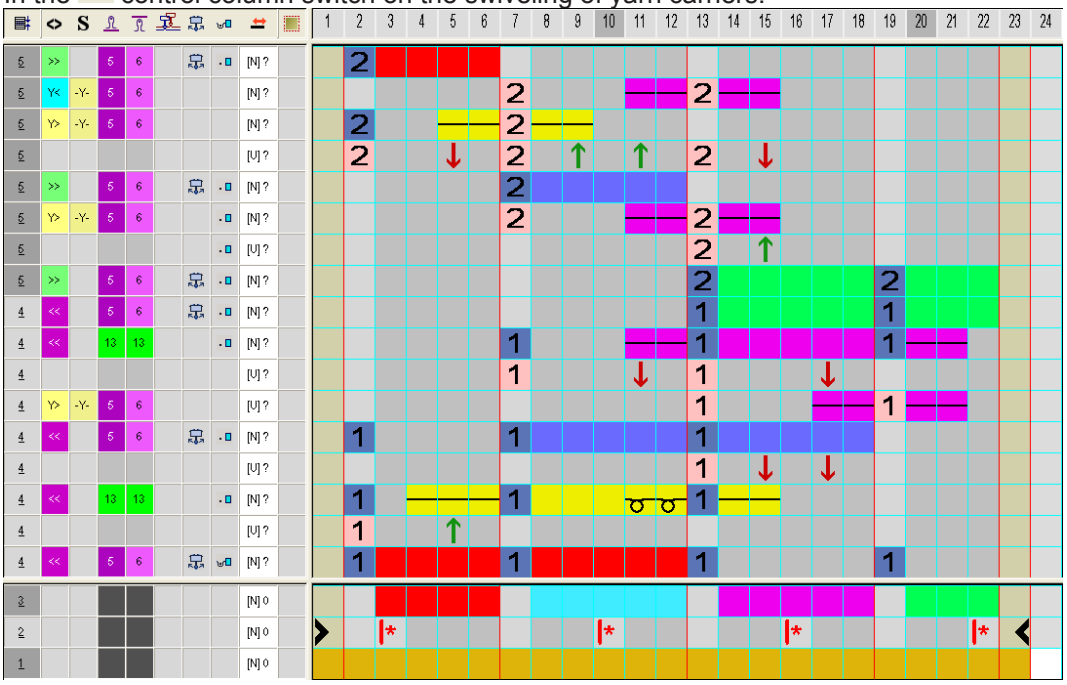
■ Change the following in the executing area:

– Insert additional rows for the pattern related transferring and draw-in "Transfer to front".

– Rows for the additional yarn carriers that knit the **ornamental seam** on the left and on the right.

■ Switch on/off the intarsia binding in the control column.

- In the control column switch on the swiveling of yarn carriers.



4. Close the Color Arrangement Editor with .

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

III. Generating Color Arrangement CA #3 and entering it:

The Color Arrangement CA #3 corresponds to the CA #1 **without the transfer row** after the start. Therefore no cycle is necessary in CA #3.

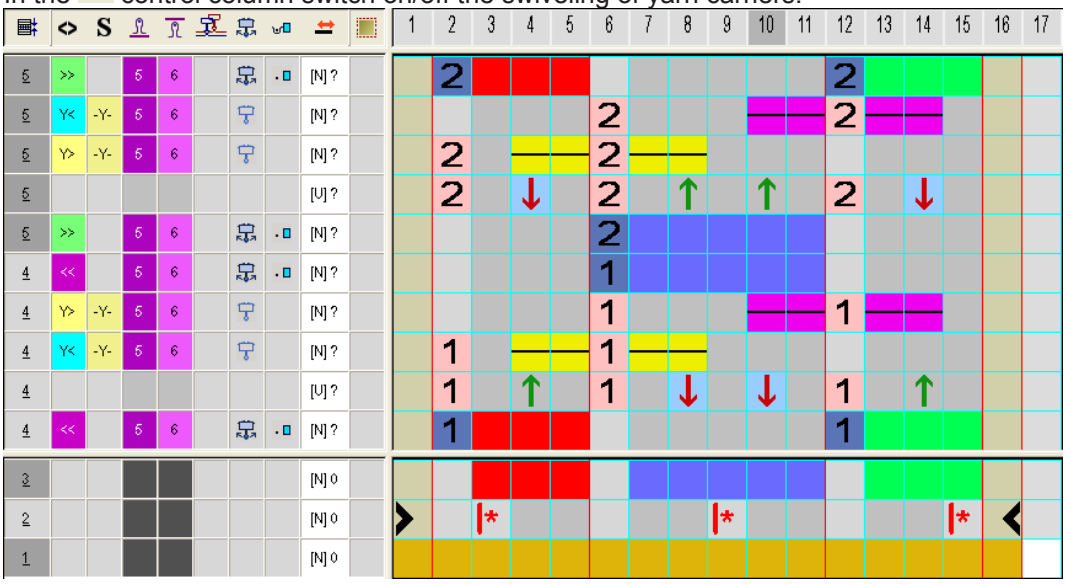
1. Select the following pattern rows until the pattern end.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

- Delete the first row with transfer completely.
- Change the following in the executing area:
  - Insert additional rows for the pattern related transferring, "Transfer to front" and "Transferring optionally to the front".
  - Rows for the additional yarn carriers that knit the **ornamental seam** on the left and on the right.
- Switch-off the intarsia binding in the control column.

- In the control column switch on/off the swiveling of yarn carriers.



4. Close the Color Arrangement Editor with .

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

11.4 Settings in the Yarn Field Allocation dialog box

Make settings in the Yarn Field Allocation dialog box:

1. Call up the "Yarn Field Allocation" dialog box with .
2. Make the desired settings:

- **Modules for Knitting-in**
- **Binding or knot at the start**
- **Modules for knitting-out**
- **Binding or knot at the end**

11.5 Complete the Pattern

Complete the pattern:

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

▶ The query "Generate MC Program" appears.

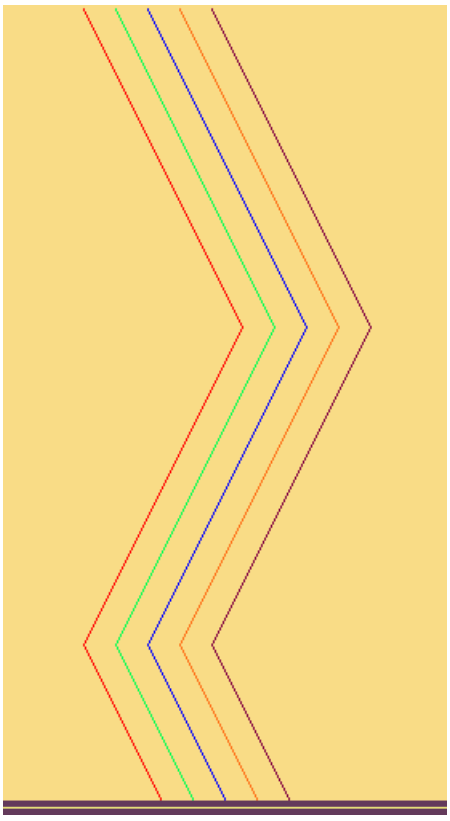
2. Confirm the query with "OK".

▶ 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.

12 Ornamental Stitch via Placed Float



Pattern name	10_Zierstich-1.mdv	
Pattern number database	1210201	
Pattern size	Width:	237
	Height:	496
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Color Arrangement for the ornamental stitch** ◆ **1x1 Interlock border**	

12.1 Create Pattern

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

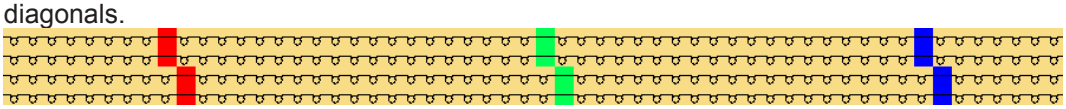
5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

12.2 Draw basic pattern

I. Draw the motif:

1. With the #31 yarn color and with the "Front stitch without transfer" and "Back stitch without transfer" needle actions draw-in the left and right border in 1x1 interlock.
2. With different yarn colors and with the "Float" needle action draw-in the ornamental stitch diagonals.



3. Save the basic pattern.

12.3 Generate Color Arrangements

Generating Color Arrangement #1 and entering it:

i	Two Color Arrangements are necessary since the diagonals change the direction.

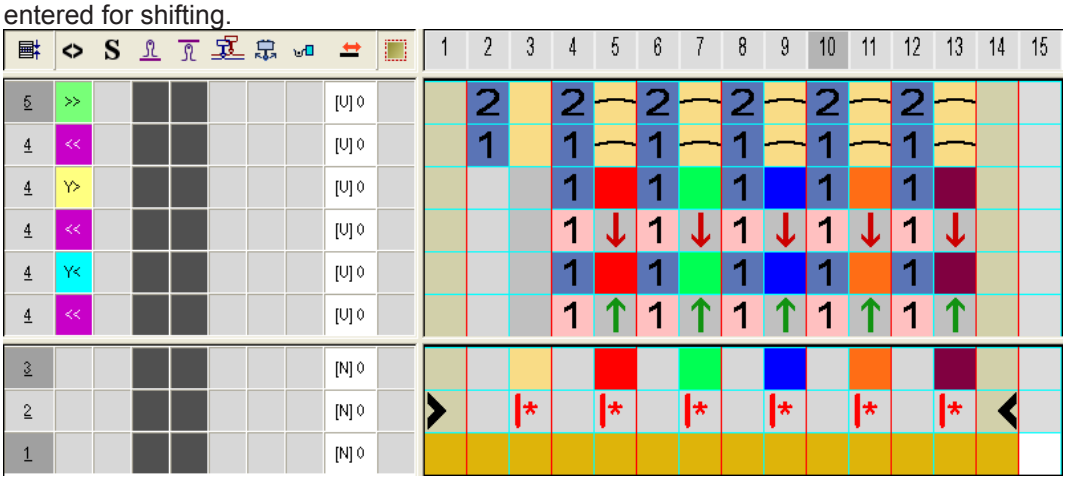
1. Select the first 2 pattern rows in the pattern.
2. Click the  button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:
4. Change the following in the executing area:

■ Insert additional rows for transfer.

■ Insert additional rows for shifting the ornamental stitch yarn carriers and draw-in the yarn color. In the <> control column the necessary carriage direction or Y< / Y> is to be entered for shifting.



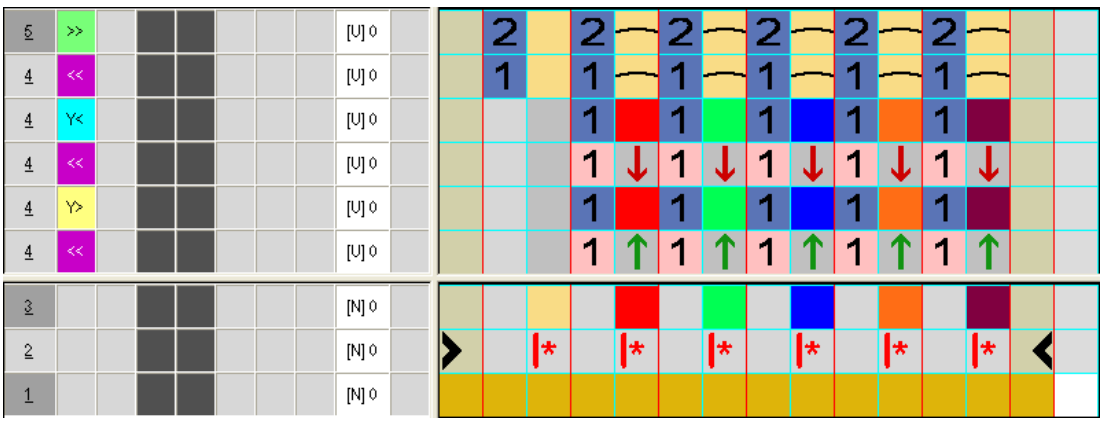
If in the pattern or in the CA is drawn-in only a "Float" needle action with the necessary carriage direction, then an autarkic direction Y< or Y> is automatically entered during the processing.

5. Close the Color Arrangement Editor with .

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

6. Enter CA #1 in the height of the diagonal that run to the left.
7. Following the same procedure generate a new CA (#2) for the diagonal running to the left and enter the color in the control column.

Color Arrangement CA #2:



12.4 Complete the Pattern

Complete the pattern:

i	For editing the pattern, split cams are necessary since the yarn carriers are knitted-in and out with "Knot split". In the "Pattern parameters" / "Machine attributes…" menu in the "System functions" tab activate "Receive split".

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

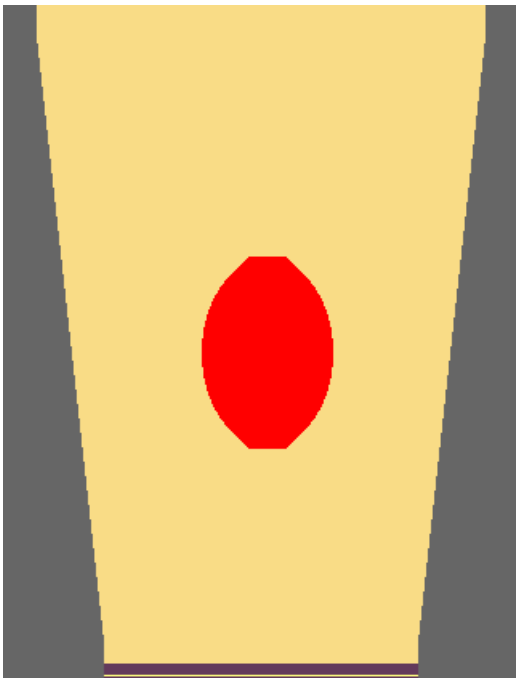
▶ The query "Generate MC Program" appears.

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.

13 Weft Yarn - Insertion via Transfer with / without weft yarn presser foot



Pattern name	11_Schussfaden – Einlage durch Umhängen.mdv	
Pattern number database	1210196	
Pattern size	Width:	320
	Height:	440
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	1x1 start	
Basic Pattern	Front Stitch with Transfer	
Knitting Technique	◆ **Color Arrangement #1 with weft yarn insertion via transfer without weave-in device** ◆ **Color Arrangement #2 with weft yarn insertion via transfer without weave-in device** (Pattern not in Pattern Data Base)	

13.1 Create the shape in the M1plus Shape Editor

I. Generate a shape:

1. Via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu open the "M1plus Shape Editor" dialog box.

▶ 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 -
   Generate a new shape of the shp format in the Shape Editor via
   - or -
   "File" / "New" or with the key.
3. Create a "Basic shape" element for a **front**:

■ The "Mirrored" checkbox is activated.

Basic element front left lines:

No.	Lines Editor	Height Stitches	Width Stitches	Height Steps	Width Steps	Factor	Height Remainder	Width Remainder	Width ---	Width \\\	Function	Group	Comment
1		0	-98	0	-98	1	0	0			Basis	0	
2	✓	407	-42	0	0	0	0	0	1	0	Widening	0	
3		5	0	5	0	1	0	0		0		0	
4		0	140	0	140	1	0	0				0	

4. For line no. 2 open the line editor.
5. Calculate the line with or enter the values manually:

	Factor Grouped	Group	Height Steps	Width Steps	Factor	Width ---	Width \\\
			407	-42			
	1	0	18	-1	1	1	0
	1	0	9	-1	41	1	0
	1	0	20	0	1	1	0

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

▶ The shape will be saved in the shp format.

7. Close the "M1plus Shape Editor" with .

13.2 Generate pattern with 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: **E 7.2**

5. Select **Basic pattern (pattern with shape)** and "Design Pattern".
6. Select the shape.
7. Select the **1x1** start.
8. Confirm the dialog box with the "Generate Design Pattern" button.

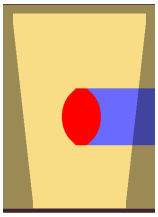
▶ The new pattern appears in the symbol view.

13.3 Draw basic pattern

I. Draw the motif:

✓ The shape is opened in the basic pattern.

1. In the basic pattern draw-in the area for 'weft yarn insertion' (circle) with another yarn color.
2. Then draw-in an additional yarn color as search color at the right of the circle motif.



13.4 Color Arrangement: Two Ways to Insert Weft Yarns

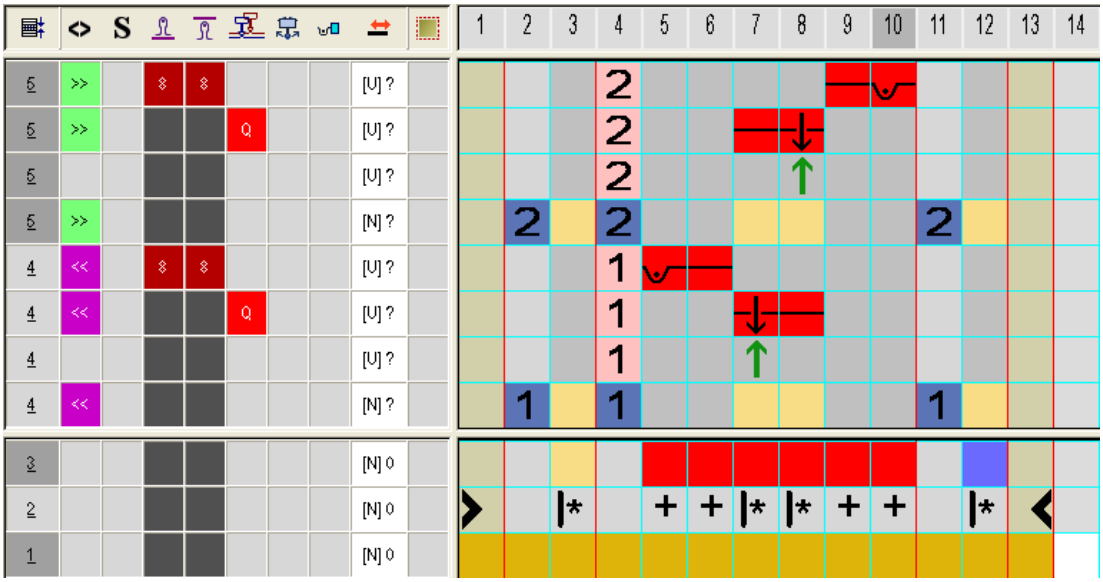
13.4.1 CA #1: Weft yarn and basic yarn are of the same thickness

I. Generating Color Arrangement #1 and entering it:

1. Select the 'circle' motif in the entire height.
2. Click the  button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:



- Insert additional columns in the color segment with the #7 search color (red) for border processing the motif (without function in the search area).
- Change the following in the **executing area**:
  - Change the knitting sequence (the #31 yarn color knits continuously).
  - alter the #23 search color into the #31 yarn color.
  - Insert additional rows for transferring and draw-in transfer symbol.
  - In the additional rows with yarn color #7, draw-in the "Weft yarn / Transferring to the front with float" needle action according to the desired structure.
  - Insert structure / needle actions with yarn color #7 in the columns for border binding.
  - In the  column for the weft yarn carrier insert  .

II. Needle actions for the weft yarn:

Needle action	Meaning
 + **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, transfer to the back is performed.
 + **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, transfer to the front is performed.
 + **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, cast-off at the front needle bed is performed.
 + **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, cast-off in the rear needle bed is performed.

Needle action	Meaning
	: These needle actions cannot be combined with the knitting needle action in the same knitting row.

III. Apply the symbols for the weft yarn in the CA:

■ In the column for the weft yarn carrier insert Q.

Symbol	Meaning
Q	Possible definition for a **yarn carrier as weft yarn carrier** ◆ In the control column, the symbol view or in the Color Arrangement ◆ In the "Plating" dialog box : This yarn carrier runs with a defined distance of 35 nic (~ 80 mm) before the knitting system. In Sintral, the same command as for the **split-stitch technique** is used for the **Q yarn carrier**: ◆ **$XS n – m** : This command allows the driving of a yarn carrier in the knitting system when transferring.

1. Close the Color Arrangement Editor with .

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

13.4.2 CA #2: Weft yarn and basic yarn are of different thickness

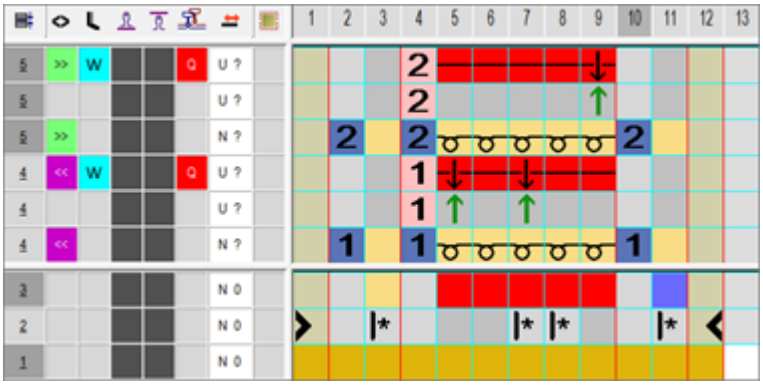
> **i** Yarn thickness of the weft yarn
>
> In general, the weft yarn is much thicker than the basic yarn.

I. Generating Color Arrangement #2 and entering it:

1. Select the 'circle' motif in the entire height.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:



Control Column: "Presser foot"	
Selection Menu: W Weft yarn presser foot ON E Knitting-in presser foot ON WE Weft yarn and knitting-in presser foot O Presser foot Off	
W	Switch-on weft yarn presser foot i: The weft yarn presser foot is active ahead of the knitting system
E	Switch-on knitting presser foot i: The weft yarn presser foot is active following the knitting system
WE	Swith-on weft yarn presser foot and knitting-in presser foot

Attention!

Presser feet at front and rear must not be activated at the same time, otherwise they will collide.

These unallowed combinations will be detected by the technical processing and the processing will be canceled.

- Insert additional columns in the color segment with the #7 search color (red) for border processing the motif (without a function in the search area).
- Change the following in the **executing area**:
  - Change the knitting sequence (the #31 yarn color knits continuously).
  - Change the search color #23 into the yarn color #31.
  - Insert additional rows for transferring and draw-in transfer symbols.
  - In the additional rows with yarn color #7, draw-in the "Weft yarn / Transferring to the front with float" needle action according to the desired structure.

- Insert structure / needle actions with yarn color #7 in the columns for border binding.
- In the column for the weft yarn carrier insert .
- Insert the symbol for the "weave-in device" in the column of the weft yarn carrier.

4. Close the Color Arrangement Editor with .

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

13.5 Complete the Pattern

Complete the pattern:

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

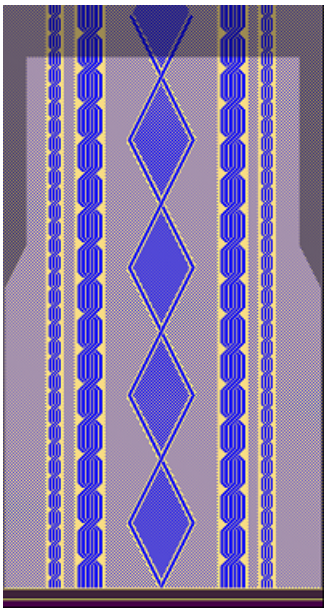
▶ The query "Generate MC Program" appears.

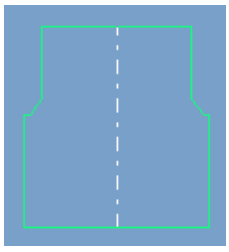
2. Confirm the query with "OK".

▶ 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.

14 Weft yarn with ADF 530-32 W



Pattern name	12_Schussfaden mit Einstreifer.mdv	
Pattern number database	1510062	
Pattern size	Width:	300
	Height:	550
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch with Transfer	
Shape	 Private shape **shp**	
Knitting Technique	◆ Structure with weft yarn ◆ Weft yarn with the use of the weave-in device – The ADF machine has **32 yarn carriers** – **‚W‘** stands for **‚weave in‘** and means that the MC has a weave-in device in each system.	

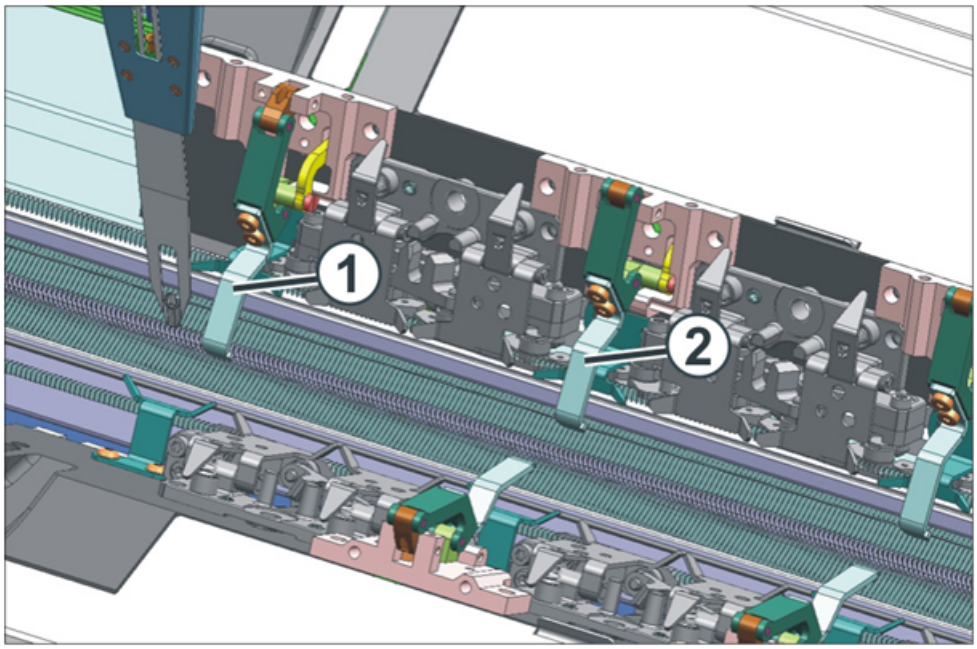
14.1 Special features of ADF 530-32 W

I. How to Read the Machine Designation ADF 530-32 W:

- **ADF** means **A**utarkic **D**irect **F**eed
- The machine has **32** autarkic yarn carriers
- **'W'** means **'weave in'** and is a synonym for **weave-in device**

II. Technical innovations:

- EP control (monophasic control)
- **PEP** – **P**roductivity **E**nhancement **P**ack
  - Optimization of the knitting processes through adapted carriage speeds
  - Improvement of the possibilities of yarn carrier staggering
- Each system has a **weave-in device**
- The jack openers are not spring-loaded.

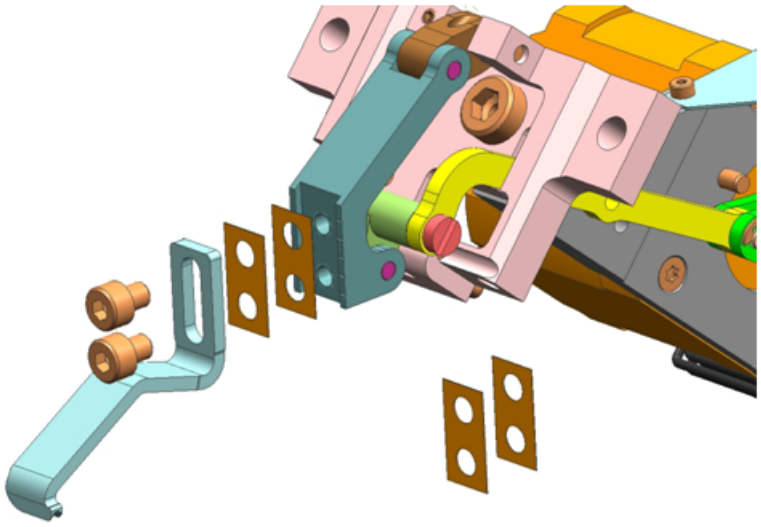


1	Weave-in device in operation
2	Weave-in device out of operation

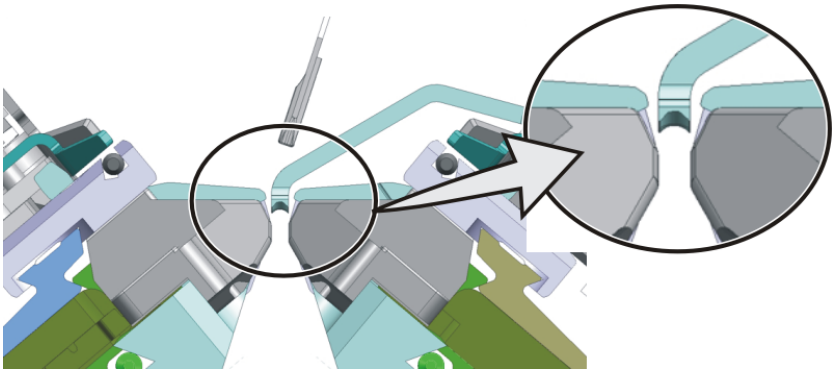
III. Carriages:

During assembly / disassembly the following must be observed:

- Washers for the weave-in device for adjusting the position in the needle bed gap center



- Washers for the jack openers for adjusting the opening width of the jacks

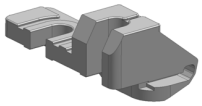


i Jack opener

Between the opened jack and the jack opener, there should be a small gap to prevent the jack butt from wearing.

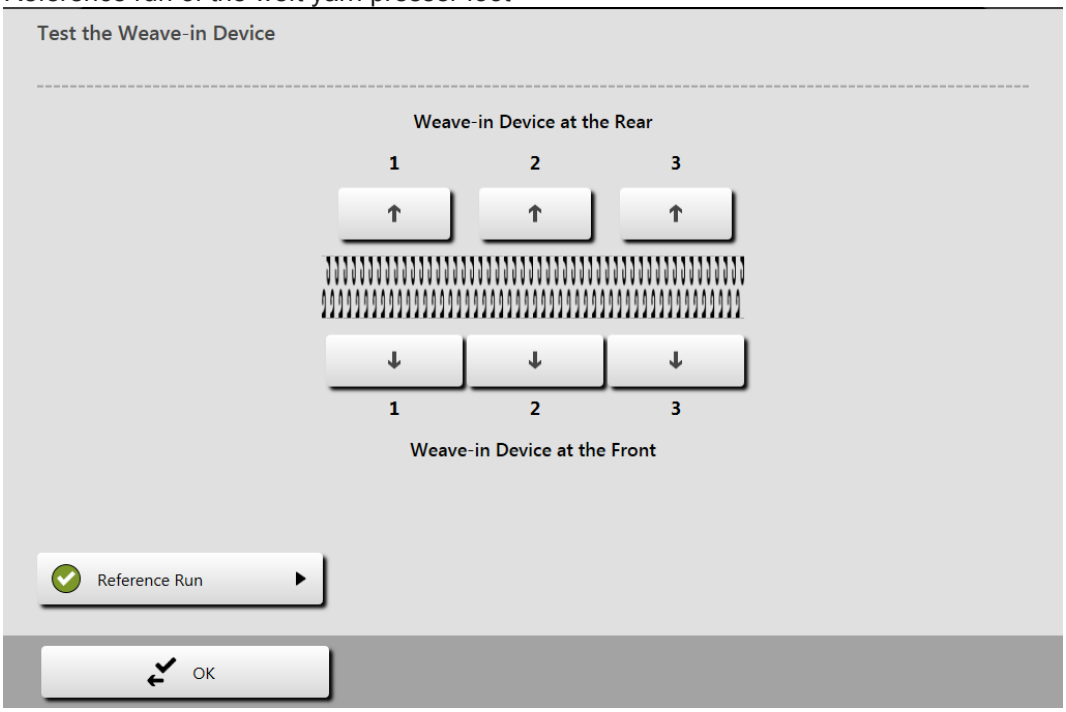
IV. Needle bed:

- Other limiters, as a wider needle bed gap is necessary.



V. Necessary reference runs at the machine:

- Carriage reference run
- Yarn carrier reference run
- Reference run of the weft yarn presser foot

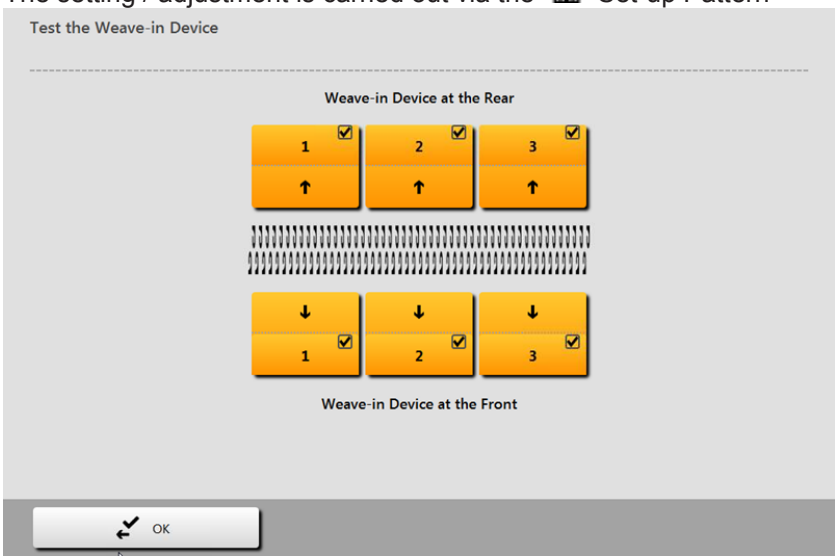


i Presser foot reference run

This reference run may be carried out only in the needle bed area. **No yarn carrier** may be located in the carriage as well.
Never carry out a reference run in the area of the clamping and cutting bed.

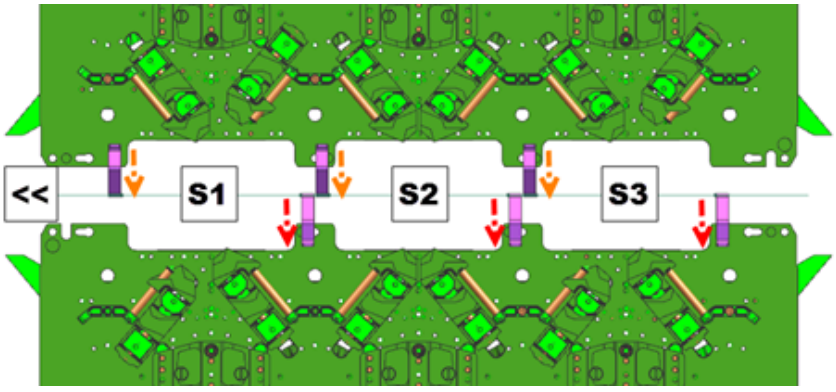
VI. Setting / Adjustment of the presser feet:

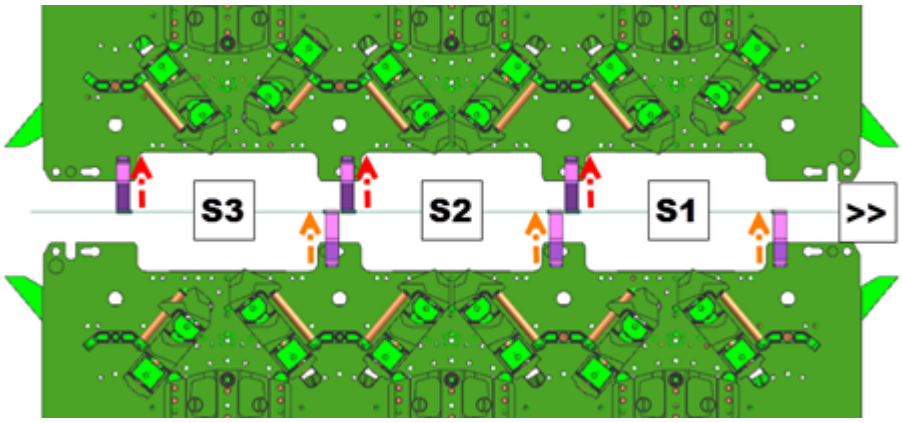
- The setting / adjustment is carried out via the Set-up Pattern



14.2 How the weft yarn presser foot works

i	The use of the weft yarn presser foot depends on the carriage direction. The weft yarn presser foot is always **ahead** of the knitting system active.

Knitting direction to the left:	
	◆ Red arrow = presser foot unit inactive ◆ Orange arrow = presser foot unit active
◆ Within the carriage stroke to the left the presser foot works as weft yarn presser on the rear. ◆ The weft yarn presser foot are **ahead** of the knitting system active. ◆ Front presser foot units are inactive.	
Knitting direction to right	



- Within the carriage stroke to the right the presser foot works as weft yarn presser on the front.
- The weft yarn presser foot are **ahead** of the knitting system active.
- Rear presser feet are inactive.

14.3 Create Pattern

I. Generate 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

5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select the start from "Stoll with protection yarn" / "Standard" / "1 System" / "without elastic thread" / "Transition loose row" / "Tubular".
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

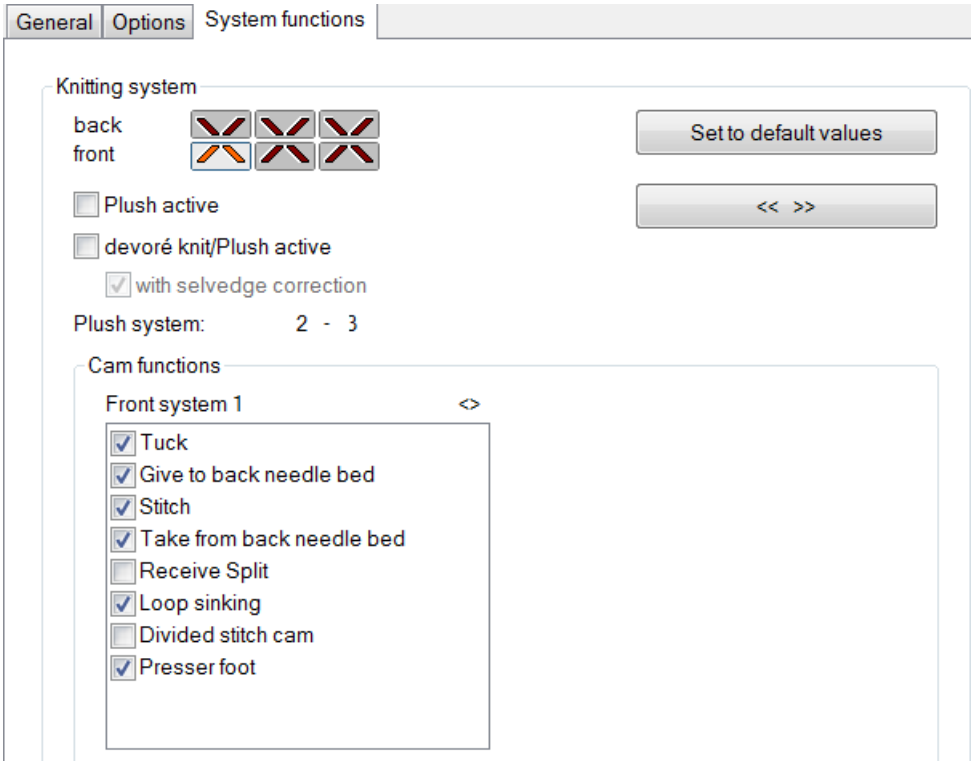
II. Possible settings with the MC attributes:

Presser Foot

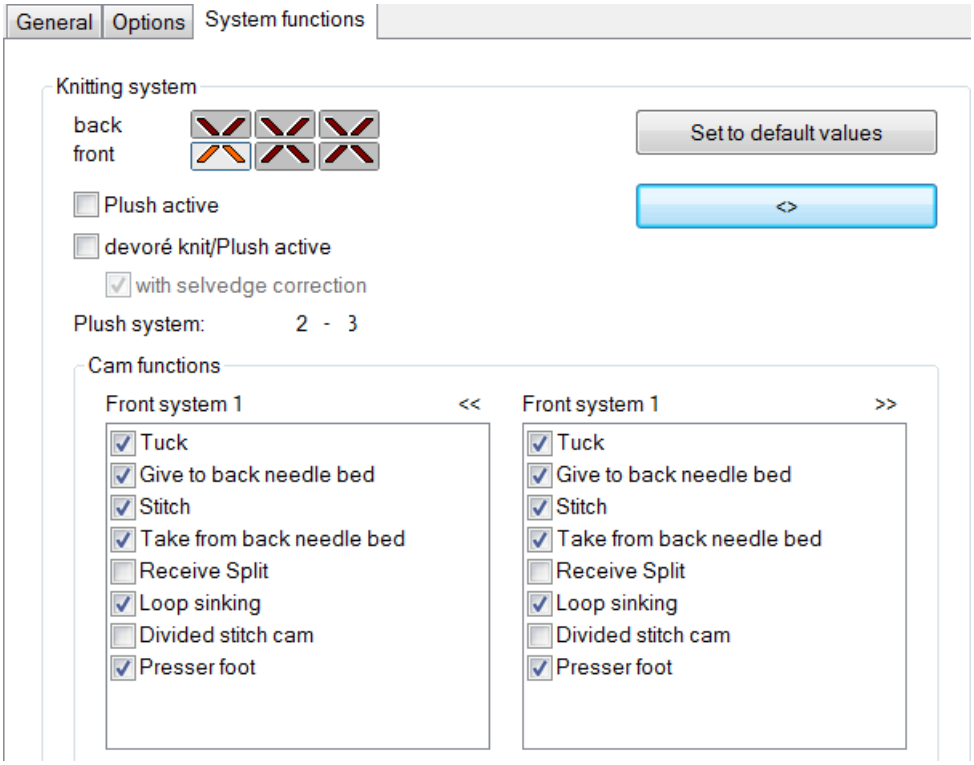
When selecting the machine **ADF 530 32 W**, the presser foot is automatically activated as available cam box function in the MC attributes.
The type of usage of the presser foot is controlled via the program.

- Weft yarn presser foot W
- Knitting-in presser footE

- Setting independent to the carriage direction



■ Setting dependent to the carriage direction



14.4 Create the shape in the M1plus Shape Editor

I. Generate a shape:

i	This shape contains **no border processing** (fading-out) for the autarkic shifting of the yarn carriers!!!

1. Via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu open the "M1plus Shape Editor" dialog box.

▶ 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 -
   Generate a new shape of the shp format in the Shape Editor via
   - or -
   "File" / "New" or with the key.
3. Create a "Basic shape" element for a **front**:

■ The "Mirrored" checkbox is activated.

Basic element front left lines:

No.	Lines Editor	Height Stitches	Width Stitches	Height Steps	Width Steps	Factor	Height Remainder	Width Remainder	Width ---	Width \\\	Function	Group	Commen
1		0	-148	0	-148	1	0	0			Basis	0	
2		2	0	2	0	1	0	0				0	
3		280	0	280	0	1	0	0		1		0	CMS >6<
4		40	20	2	1	20	0	0	1	1	Narrowing	0	CMS >6<
5		178	0	178	0	1	0	0		1		0	CMS >6<
6		0	128	0	128	1	0	0				0	

4. Allocate the fade-out width 1 and the fade-out module "Front Stitch with Transfer" to the edge lines.
5. Allocate the other desired shape attributes to the edge lines.
6. Save the shape via the "File" / "Save" or "Save As…" menu.

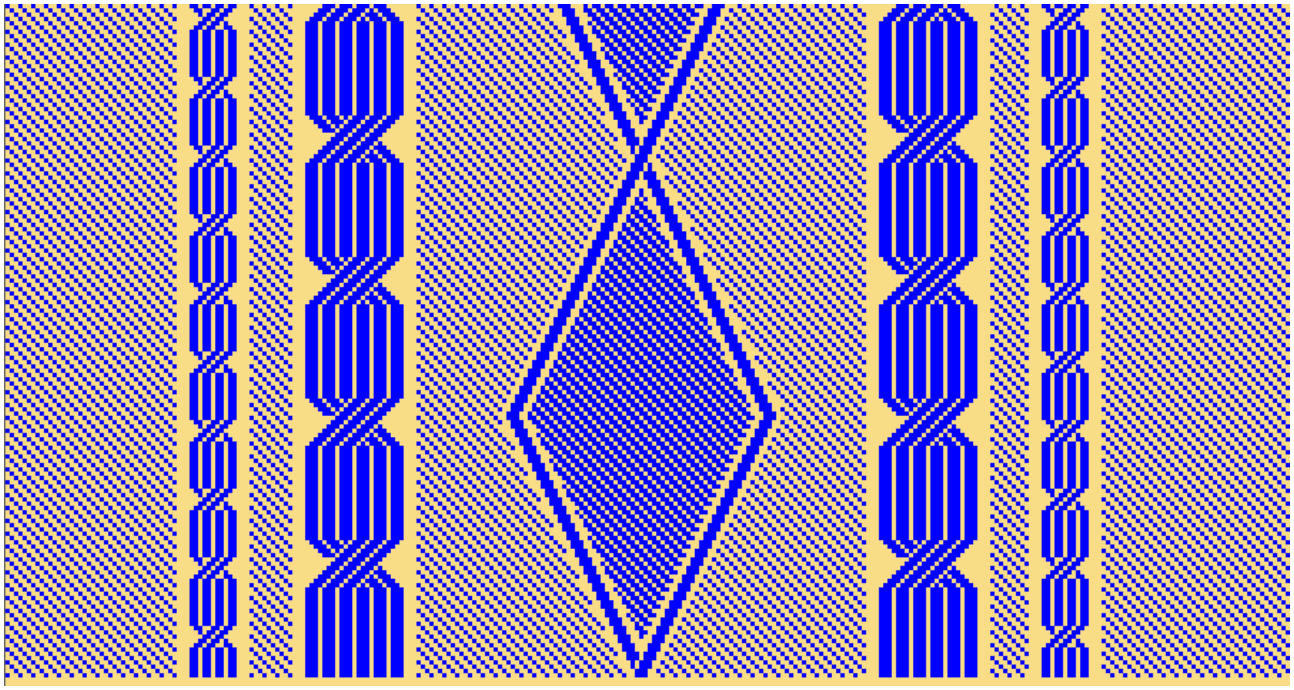
▶ The shape will be saved in the shp format.

7. Close the "M1plus Shape Editor" with .

14.5 Draw basic pattern

I. Draw the motif:

1. In the basic pattern draw-in the desired motif with another yarn color.



2. Save the basic pattern.

14.6 Function / programming of the weave-in presser foot

Weft yarn presser foot

The weft yarn presser foot is activated / deactivated in the M1plus via the control column. This control column can be called up in the design pattern as well as in the Color Arrangement.

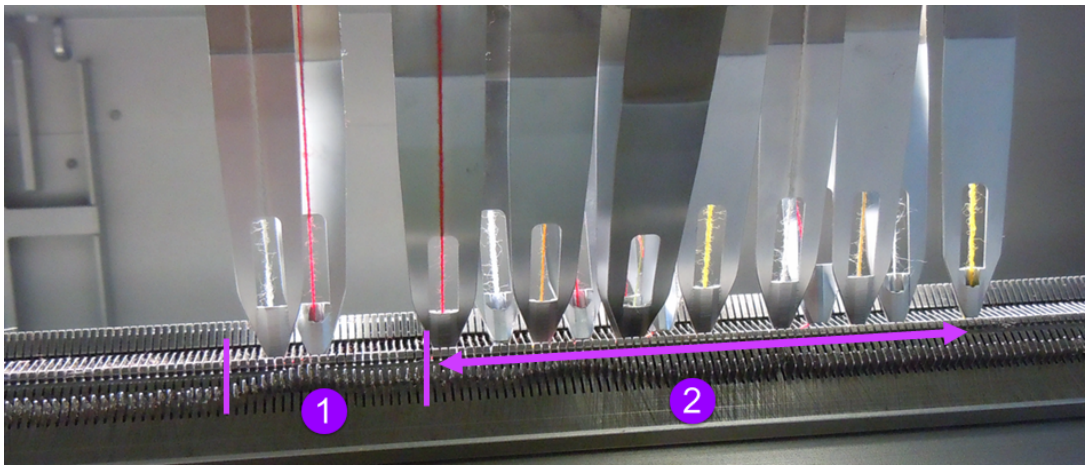
I. Use of the weft yarn presser foot:

- The weft yarn presser foot is always active leading the knitting system
  - Weft yarn carrier - activated weft yarn presser foot - knitting yarn carrier in the following knitting system
- The weft yarn presser foot is only active in the area, where the following knitting system is in action.
  - The weft yarn presser foot is activated before the first knitting needle and deactivated after the last knitting needle.
  - In the areas, where the weft yarn presser foot is activated and deactivated, no yarn carriers may be positioned.

Activating and deactivating the weft yarn presser foot:

The weft yarn presser foot is activated / deactivated independently of the carriage speed.

II. >How YDopt works:



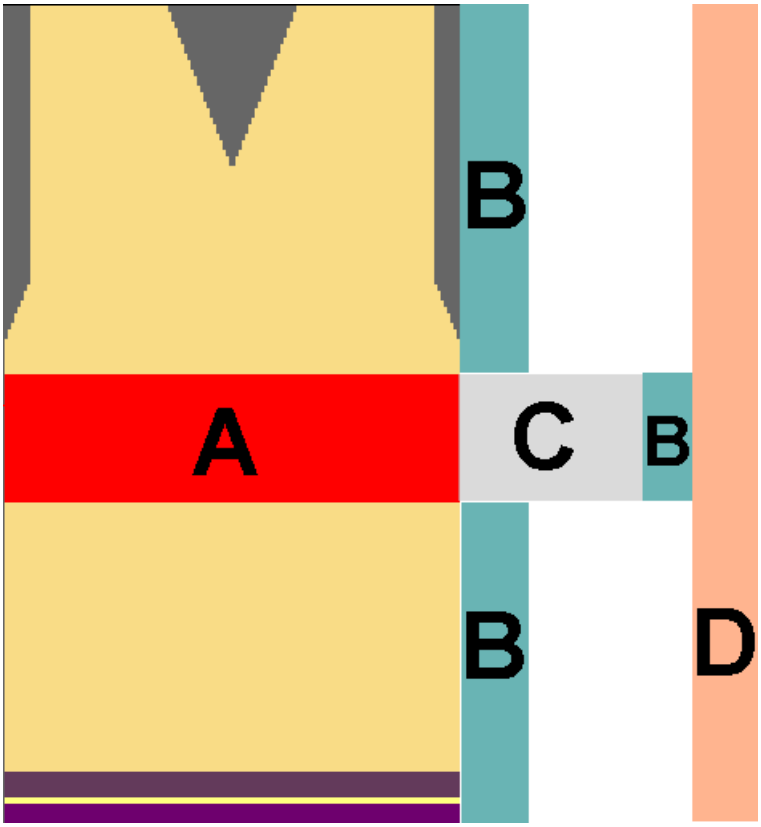
1	Parking area for the yarn carriers that are knitting in the pattern row : The yarn carriers are positioned staggered
2	Parking position (waiting area) for the momentarily non knitting yarn carriers : The yarn carriers are positioned staggered

- The yarn carriers are positioned staggered with a **wide** distance (parking position) in relation to the fabric selvedge.
- The required yarn carriers are taken out of the parking position and start knitting.
- While knitting, the active yarn carrier receives a new parking position and will be positioned **much closer** to the fabric selvedge.
  The parking position is optimized (YDopt).
- After the last knitting row, the active yarn carrier is returned to the parking position.
- The following, knitting yarn carrier is taken out of the parking position and also positioned at the fabric selvedge with YDopt.

III. Yarn carrier parking positions at the fabric selvedge - YDopt and YD

i Programming only with YDopt

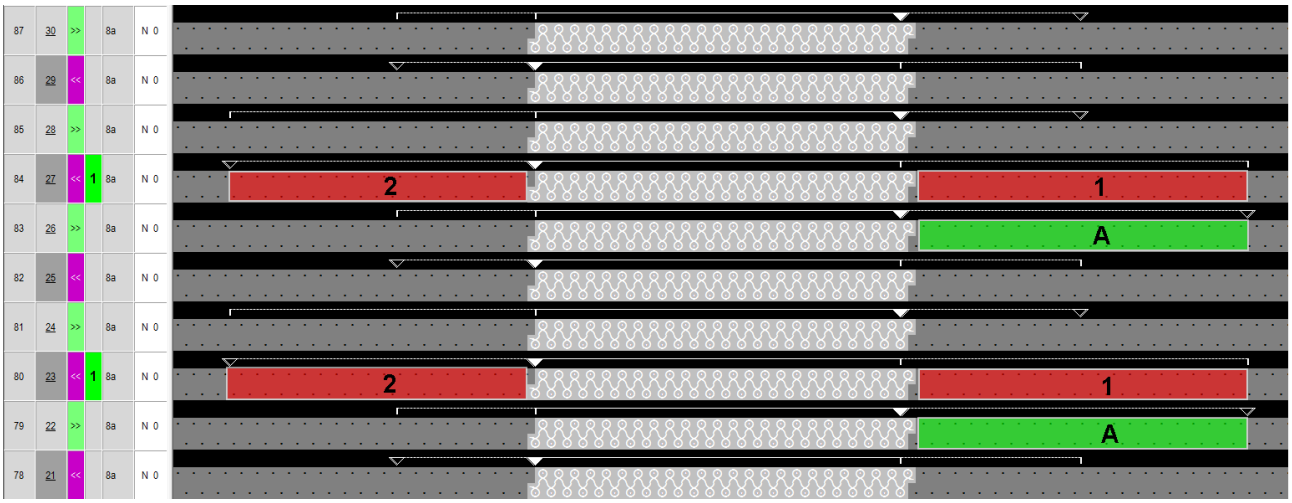
The use of **YDopt is mandatory** (automatic staggering of the yarn carriers at the fabric selvedge) when programming with weft yarn presser feet. Here, the necessary parking positions of the yarn carriers in the corresponding technical rows are taken into account by the M1plus and entered in the Sintral.



A	Area with working weft yarn presser foot (weft yarn presser foot active)
B	Area for staggering the used yarn carriers with YDopt

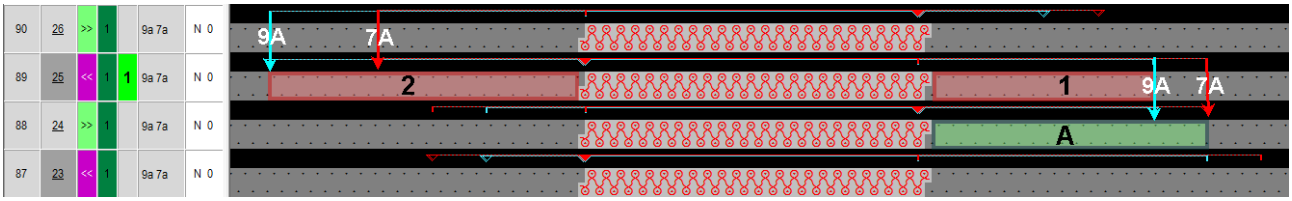
	i: In the "Configuration" / "YD yarn carrier distance from the fabric selvedge" dialog box under "Optimized parking position", the number of used positions for YDopt can be influenced.
C	Area for activating / deactivating the weft yarn presser foot i: This area always is the same, no matter if activating the weft yarn presser foot within or outside of the fabric.
D	YD default values for all the non knitting yarn carriers that are parked at the fabric selvedge. i: YD values are specified in the "Yarn Field Allocation" dialog box.

- **Yarn carrier distances a the fabric selvedge (outside shape):**
  - **With weft yarn presser foot**
  - **Without weft yarn carrier**



A	Positioning the yarn carrier for using the weft yarn presser foot in the following knitting row
1	Distance of the yarn carrier from fabric selvedge when activating the weft yarn presser foot - approx. 23 nic
2	Distance of the yarn carrier from fabric selvedge when deactivating the weft yarn presser foot - approx. 23 nic

- **Yarn carrier distances a the fabric selvedge (outside shape):**
  - **With weft yarn presser foot**
  - **With weft yarn carrier**



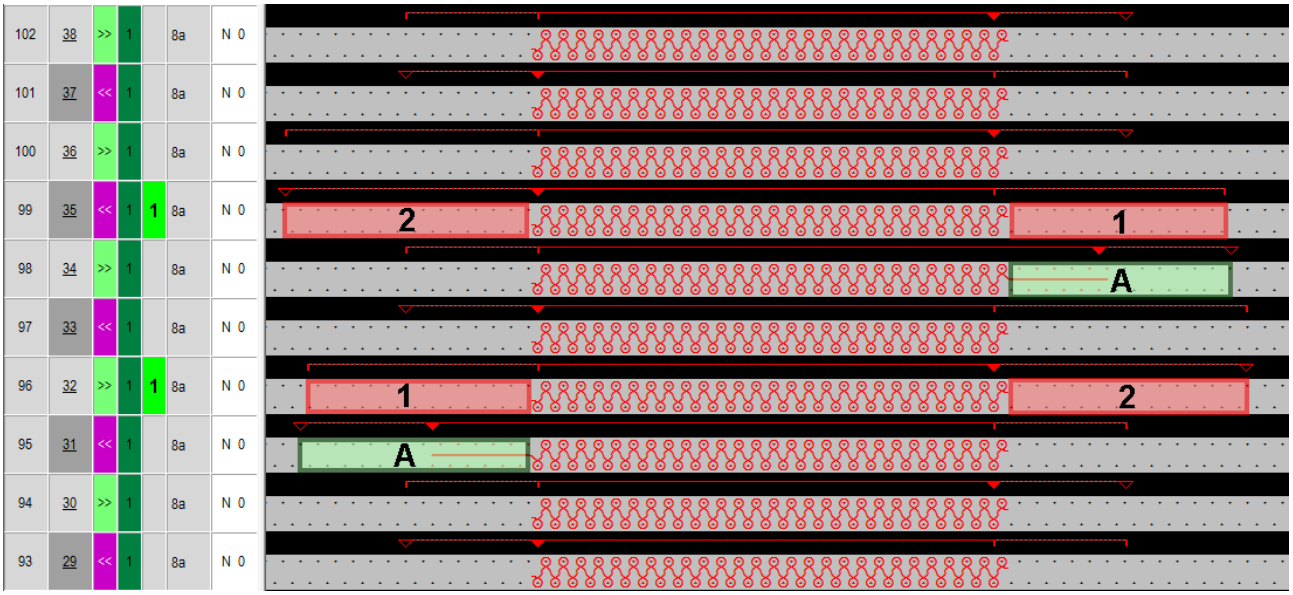
A	Positioning the yarn carriers for using the weft yarn presser foot in the following knitting row ◆ Weft yarn carrier 9A (light blue) ◆ Knitting yarn carrier 7A (red)
1	Distance of the yarn carrier from fabric selvedge when activating the weft yarn presser foot - approx. 23 nic
2	Distance of the yarn carrier from fabric selvedge when deactivating the weft yarn presser foot - approx. 35 nic

■ **Yarn carrier distances in the fabric (within shape).**

– **With weft yarn presser foot**

– **Without weft yarn carrier**

– **Yarn carrier not swiveled**



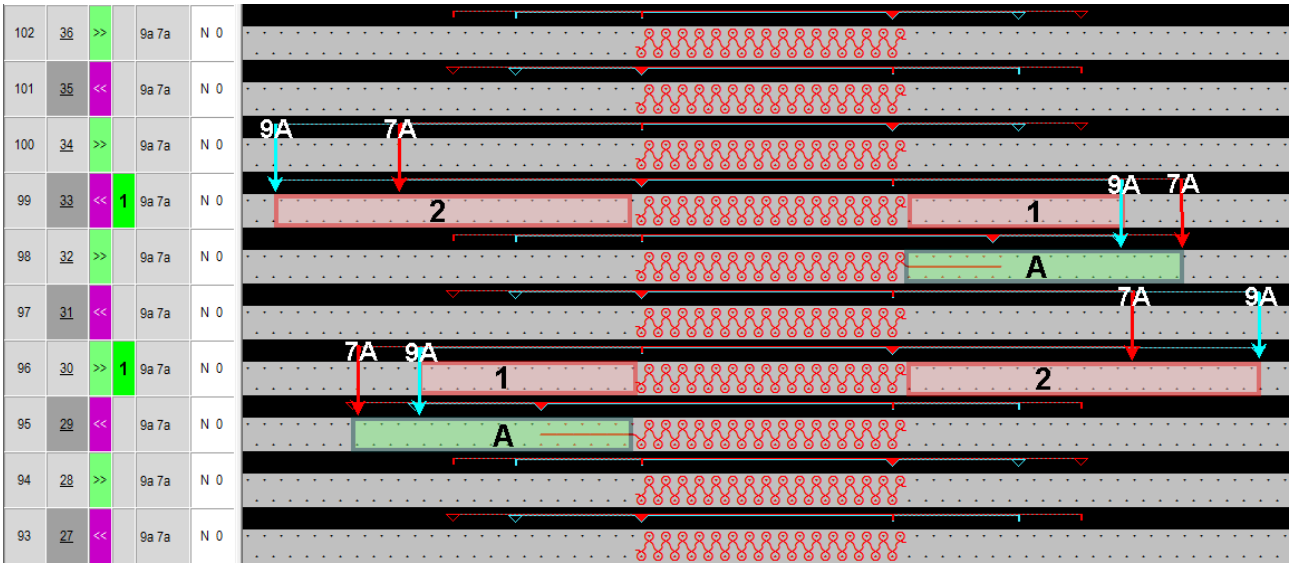
A	Positioning the yarn carrier for using the weft yarn presser foot in the following knitting row ◆ Extension of the yarn carrier path with float plus overrun path of 12 nic
1	Distance of the yarn carrier in the fabric starting at the first knitting needle when activating the weft yarn presser foot - approx. 23 nic
2	Distance of the yarn carrier in the fabric starting at the last knitting needle when deactivating the weft yarn presser foot - approx. 23 nic

■ **Yarn carrier distances in the fabric (within shape).**

– **With weft yarn presser foot**

– **With weft yarn carrier**

– **Yarn carrier not swiveled**

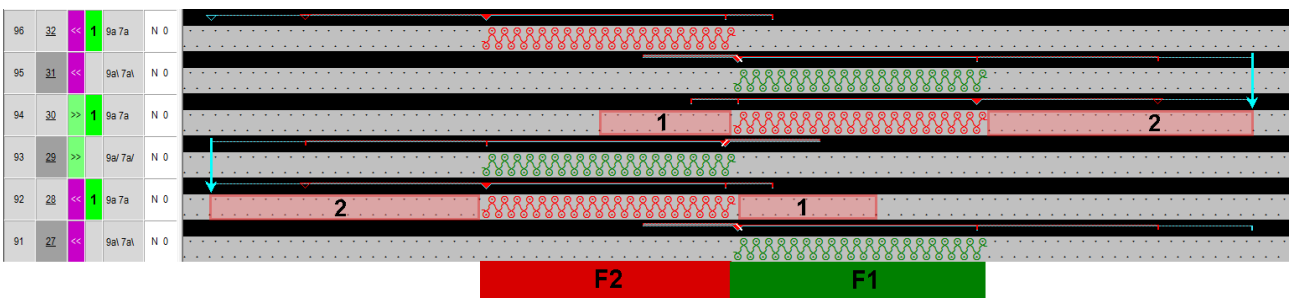


A	Positioning the yarn carriers for using the weft yarn presser foot in the following knitting row ◆ Weft yarn carrier 9A (light blue) ◆ Knitting yarn carrier 7A (red)
1	Distance of the yarn carrier from the first knitting needle when activating the weft yarn presser foot - approx. 23 nic
2	Distance of the yarn carrier from the last knitting needle when deactivating the weft yarn presser foot - approx. 35 nic

■ **Yarn carrier distances in the fabric (within shape).**
- **With weft yarn presser foot**
- **With weft yarn carrier**
- **Yarn carrier swiveled**
- **Plating a partial area of a knitting row (F1)**

i Swiveled yarn carriers

The swiveled parked yarn carriers are positioned beside the first / last needle action outside the activation area of the weft yarn presser foot. The weft yarn presser foot does not collide with these yarn carriers.



F1	The area is plated with the yarn carrier 9A (light blue) and 7A (red)
F2	In this area the yarn carrier 9A (light blue) is redefined to a weft yarn carrier and the yarn carrier 7A (red) knits following. The weave-in device is activated. ◆ Weft yarn carrier 9A (light blue) - (weft yarn carrier cannot be swiveled) ◆ Knitting yarn carrier 7A (red)
1	Distance of the yarn carrier starting at the first knitting needle when activating the weave-in device - approx. 23 nic
2	Distance of the yarn carrier in the fabric starting at the last knitting needle when deactivating the weave-in device - approx. 35 nic

i	The same yarn carrier distances are used also with the same knitting situation at the fabric selvedge.

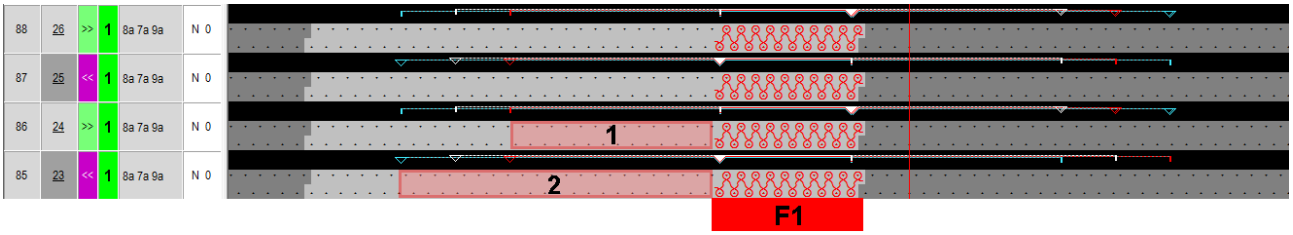
■ **Yarn carrier distances in the fabric (within shape).**

– **With** weft yarn presser foot

– **With weft yarn carrier**

– **Yarn carrier not swiveled**

– **Plating with 2 yarn carriers**



F1	The area is ◆ plated with the yarn carriers 7A (red) and 9A (white) ◆ Weft yarn carrier 8A (light blue)
1	Distance of the yarn carrier from the first knitting needle when activating the weft yarn presser foot - approx. 23 nic
2	Distance of the yarn carrier from the last knitting needle when deactivating the weft yarn presser foot - approx. 35 nic i: The yarn carriers are located staggered outside the activating area of the weave-in device for the following knitting row.

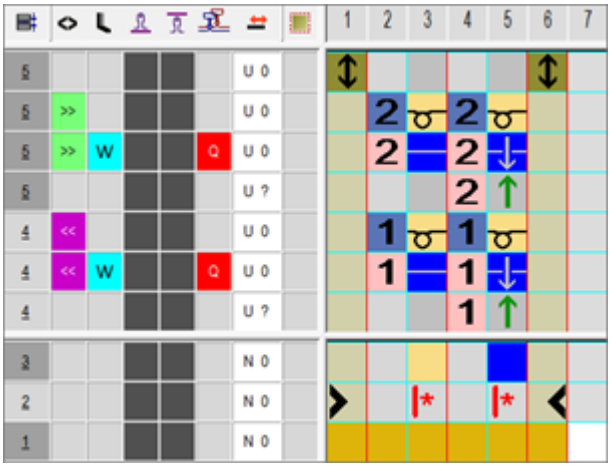
14.7 Generate Color Arrangement

I. Generating Color Arrangement #1 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:

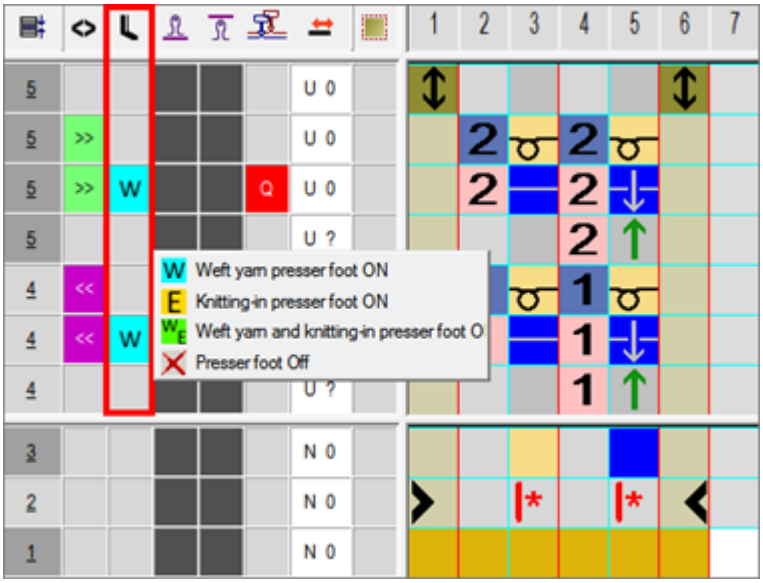


- Change the following in the executing area:
  - Change the knitting sequence (the #31 yarn color knits continuously).
  - Draw-in additional rows for the weft yarn with yarn color #3 and the needle action "Weft yarn/ Transferring to the front with float" and "Float without transfer".
  - Insert additional rows for transferring and draw-in transfer symbol.

II. Control column Presser foot:

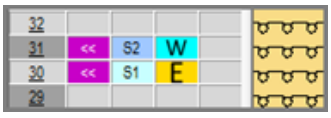
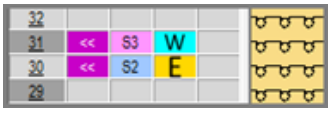
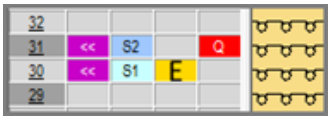
i Control column 

This control column can be used in the design pattern and in the Color Arrangement editor as well.



Control Column: "Presser foot"	
W	Activate weft yarn presser foot i: The weft yarn presser foot is ahead of the knitting system active.
E	Switch-on knitting presser foot i: The weft yarn presser foot is active following the knitting system
W/E	Swith-on weft yarn presser foot and knitting-in presser foot

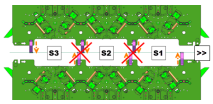
III. Inadmissible combinations:

	**System 1**	Weft yarn presser foot activated	**Result**: The presser feet collide.
	System 2	Weft yarn presser foot activated	
	**System 2**	Weft yarn presser foot activated	
	System 3	Weft yarn presser foot activated	
	**System 1**	Weft yarn presser foot activated	**Result**: Presser foot collides with weft yarn carrier
	System 2	Weft yarn carrier active	
	**System 2**	Weft yarn presser foot activated	
	System 3	Weft yarn carrier active	

Attention!

Presser feet at front and rear must not be activated at the same time, otherwise they will collide.

These unallowed combinations will be detected by the technical processing and the processing will be canceled.



IV. Needle actions for the weft yarn:

Needle action	Meaning
+ **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, transfer to the back is performed.
+ **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, transfer to the front is performed.
+ **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, cast-off at the front needle bed is performed.
+ **Yarn color / yarn carrier color**	The yarn carrier (weft yarn) runs before the knitting system with the float needle action and in the following knitting system, cast-off in the rear needle bed is performed.
	: These needle actions cannot be combined with the knitting needle action in the same knitting row.

V. Apply the symbols for the weft yarn in the CA:

- In the column for the weft yarn carrier insert .

Symbol	Meaning
	Possible definition for a **yarn carrier as weft yarn carrier** ◆ In the control column, the symbol view or in the Color Arrangement ◆ In the "Plating" dialog box

Symbol	Meaning
	: This yarn carrier runs with a defined distance before the knitting system. For the **Q yarn carrier** the same command as for the **split-stitch technique** is used in Sintral ◆ **$XS n – m** : This command allows the driving of a yarn carrier in the knitting system when transferring.

1. Close the Color Arrangement Editor with .

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

14.8 Further possibility of pattern creation

Problem of yarn tensioning at the pattern edge

When using the presser foot, the yarn carriers are not positioned directly at the fabric selvedge. As a consequence, the too long float cannot be returned when knitting-in the weft yarn carrier.

The yarn used in the weft yarn carrier has a great influence on this problem!!

Solutions:
1. The weft yarn carrier is positioned at the fabric selvedge in an autarkic way, in order to give the yarn tensioner more time to keep the yarn tension.
2. The weft yarn carrier always runs leading to the first system by an offset of YCI1= -100.

I. Generate a shape:

This shape contains the **necessary border processing** (fading-out) for the autarkic shifting of the yarn carriers!!!

1. Via the "Shape" / "Shape Editor (Generate or Edit Shapes)..." menu open the "M1plus Shape Editor" dialog box.

▶ The dialog box will be opened.

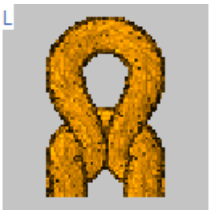
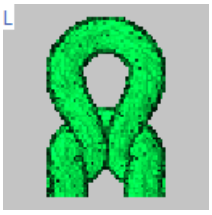
2. Open an existing shape via the "File" / "Open .shv shape [mm] …" menu or with the button and convert it to shp format.
   - or -
   Generate a new shape of the shp format in the Shape Editor via
   - or -
   "File" / "New" or with the key.
3. Create a "Basic shape" element for a **front**:

■ The "Mirrored" checkbox is deactivated.

Basic element front left lines and front right lines:

No.	Lines Editor	Height Stitches	Width Stitches	Height Steps	Width Steps	Factor	Height Remainder	Width Remainder	Width ---	Width \\\	Function	Group	Commen
1		0	-148	0	-148	1	0	0			Basis	0	
2		2	0	2	0	1	0	0				0	
3		280	0	280	0	1	0	0		1		0	CMS >6<
4		40	20	2	1	20	0	0	1	1	Narrowing	0	CMS >6<
5		178	0	178	0	1	0	0		1		0	CMS >6<
6		0	128	0	128	1	0	0				0	

4. Create fade-out modules "Front Stitch with Transfer" with different yarn colors for the left and right edges.

Fade-out module for left edges	Fade-out module for right edges
	

> **i** Modules for fade-out
>
> In the Fade-out tab, allocate the modules to the lines and activate the setting "Use module color".

5. Allocate the fade-out width 1 and the corresponding fade-out modules to the edge lines.

▶ The outer edges are faded-out one stitch wide and with a different yarn color. These additional colors are required for the necessary Color Arrangements.

6. Allocate the other desired shape attributes to the edge lines.
7. Save the shape via the "File" / "Save" or "Save As…" menu.

▶ The shape will be saved in the shp format.

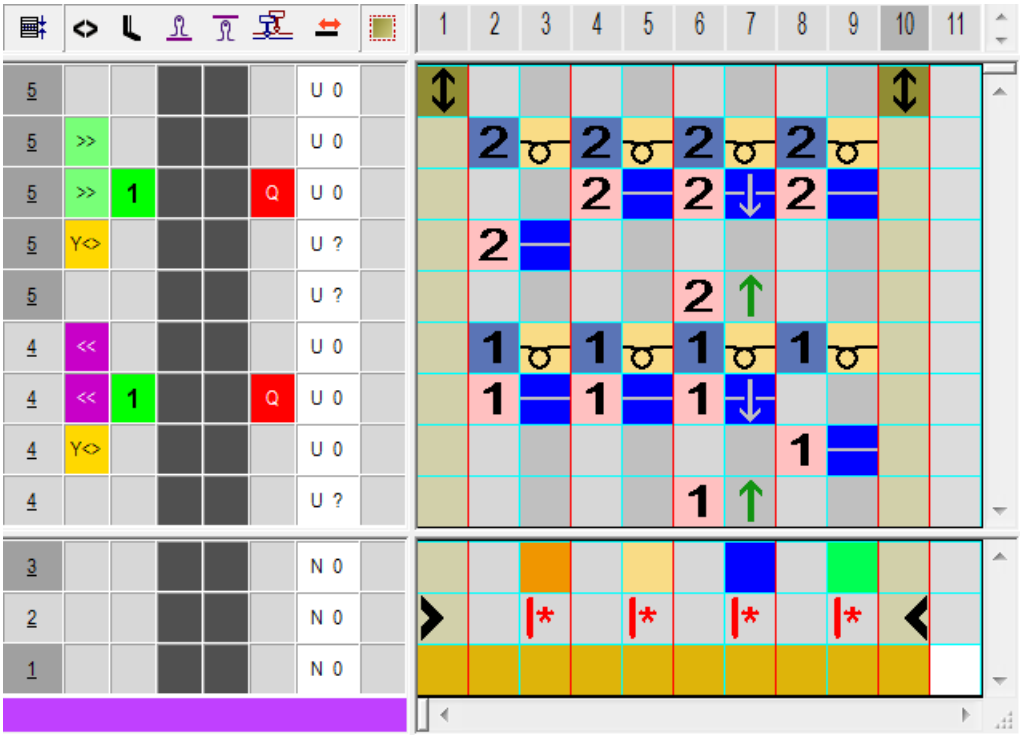
8. Close the "M1plus Shape Editor" with .

II. Color Arrangement for the autarkic shifting of the weft yarn carrier:

1. Select an area with the desired height.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:



- Change the following in the executing area:
  - Change the knitting sequence (the #31 yarn color knits continuously).
  - Draw-in additional rows for the weft yarn with yarn color #3 and the needle action "Weft yarn/ Transferring to the front with float" and "Float without transfer".
  - Additional row for the system independent knitting-in of the weft yarn carrier at the left and right fabric selvedge
  - Insert additional rows for transferring and draw-in transfer symbol.

4. Enter the Color Arrangement in the control column over the entire pattern height.

14.9 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.

15 Weft Yarn + Weft Yarn Presser Foot - Half Milano Plated

Pattern name	13_ Schusseinlage_Halbschlauch-plattiert.mdv	
Pattern number database		
Pattern size	Width:	250
	Height:	300
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch - Rear Stitch	
Knitting Technique	◆ **Color Arrangement with plating color for DJ and additional yarn carrier for half Milano** ◆ **Color Arrangement: Switch-on weave-in device** ◆ **Insert of weft yarn defined by plating color**(not visible in the basic pattern)	

15.1 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: E 7.2
- 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 a **Tubular start**.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

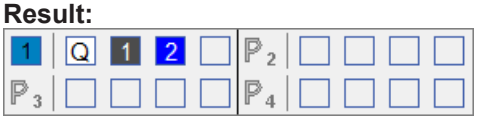
15.2 Define Plating Colors and Draw Basic Pattern

I. Define a plating color and draw it into the basic pattern:

1. Open the "Plating" dialog box with .
2. Create plating color with a Q weft yarn.
3. Make the following settings for the first plating color (P1) in the dialog box:

- at the first position
  Yarn color e.g. #1 and the Q for insert of the weft yarn
- at the second position
  a yarn color e.g. #2
- at the third position
  a yarn color e.g. #3

Result:



4. Position the cursor in the line of (P1) of the dialog box and call up the menu with the right mouse button.

▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.

5. Select the desired YPI index from the table.
   Yarn color + Q: No YPI necessary as the default for Q (35 nic) is used.
   YPI index (1): Leading yarn carrier
   YPI index (2): Following yarn carrier
6. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

▶ The index will be allocated to the first motif color #2 (leading yarn carrier).

7. Allocate a YPI index to the second motif color at (P1) as well.
8. Enter the settings for the selected YDI index in the table.
9. Fill the basic pattern with yarn color #31 by the plating color (P1).

i Plated start

If you want to plate the start as well, you have to define a further plating color in the "Plating" dialog box and to draw it in the start.

15.3 Generate Color Arrangement

i Weft yarn insert and DJ plating is done by the Color Arrangement and the half Milano is knit by an additional yarn carrier (yarn color). The weave-in device is activated by the control column.

I. Generating Color Arrangement and entering it:

1. Select the pattern in the entire height.
2. Click the button.

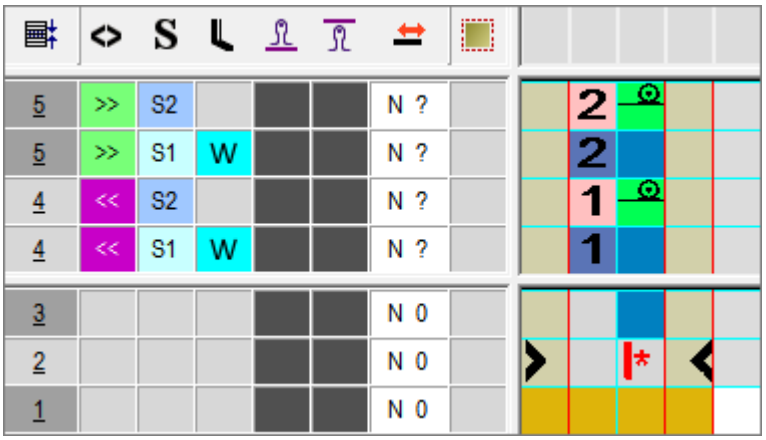
▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

■ Insert additional rows for half Milano
  – Select any desired additional yarn color and insert it.
  – Insert the "Stitch without transfer" binding element.

– Allocate another stitch length if desired

- Enter the (1) symbol for "weave-in device" in the control column.
- Enter the system setting into the control column.
  – Weft yarn carrier runs before system S1



4. Close the Color Arrangement Editor with .

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

15.4 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.

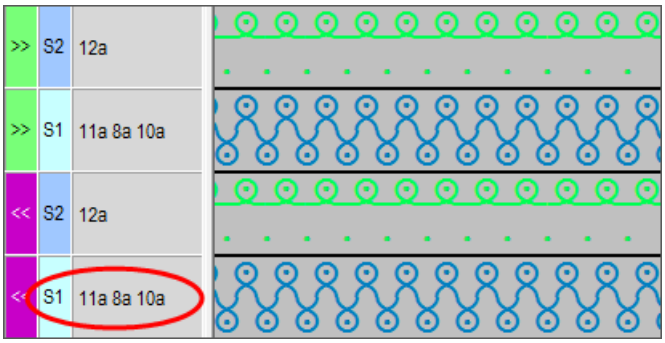
▶ The query "Generate MC Program" appears.

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.

Result:



Yarn carrier 11a	Weft yarn carrier before system S1
Yarn carrier 8a	The yarn carrier for plating color 1 knits by system S1
Yarn carrier 10a	The yarn carrier for plating color 2 knits by system S1
Yarn carrier 12a	The yarn carrier for half Milano knits by system S2

i	The inserted weft yarn is not visible in the technical view as the the weft yarn carrier Q is defined in the "Plating" dialog box

16 Weft Yarn + Weft Yarn Presser Foot - Half Milano Plated + Structure

Pattern name	14_ Schusseinlage_Halbschlauch-plattiert+Struktur.mdv	
Pattern number database		
Pattern size	Width:	250
	Height:	300
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	Tubular start	
Basic Pattern	Front Stitch - Rear Stitch	
Knitting Technique	◆ **Color Arrangement with plating color for DJ and additional yarn carrier for half Milano** ◆ **Color Arrangement:**Activate weave-in device ◆ **Color Arrangement:**Additional search color for structure to make the weft yarn visible on the fabric front. ◆ **Weft yarn insert by plating color** (not visible in the basic pattern)	

16.1 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: E 7.2
- 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 a **Tubular start**.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

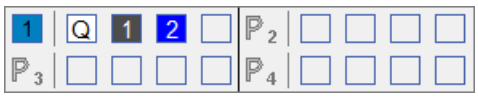
16.2 Define Plating Colors and Draw Basic Pattern

I. Define a plating color and draw it into the basic pattern:

1. Open the "Plating" dialog box with  .
2. Create plating color with a Q weft yarn.
3. Make the following settings for the first plating color (P1) in the dialog box:

- at the first position
  Yarn color e.g. #1 and the Q for insert of the weft yarn
- at the second position
  a yarn color e.g. #2
- at the third position
  a yarn color e.g. #3

Result:



4. Position the cursor in the line of (P1) of the dialog box and call up the menu with the right mouse button.

▶ The "Plating" table with the **Plating Offset values (YPI)** and the default values will be displayed.

5. Select the desired YPI index from the table.
   Yarn color + Q: No YPI necessary as the default for Q (35 nic) is used.
   YPI index (1): Leading yarn carrier
   YPI index (2): Following yarn carrier
6. Position the cursor on the corresponding motif color and click on it with the "left mouse button".

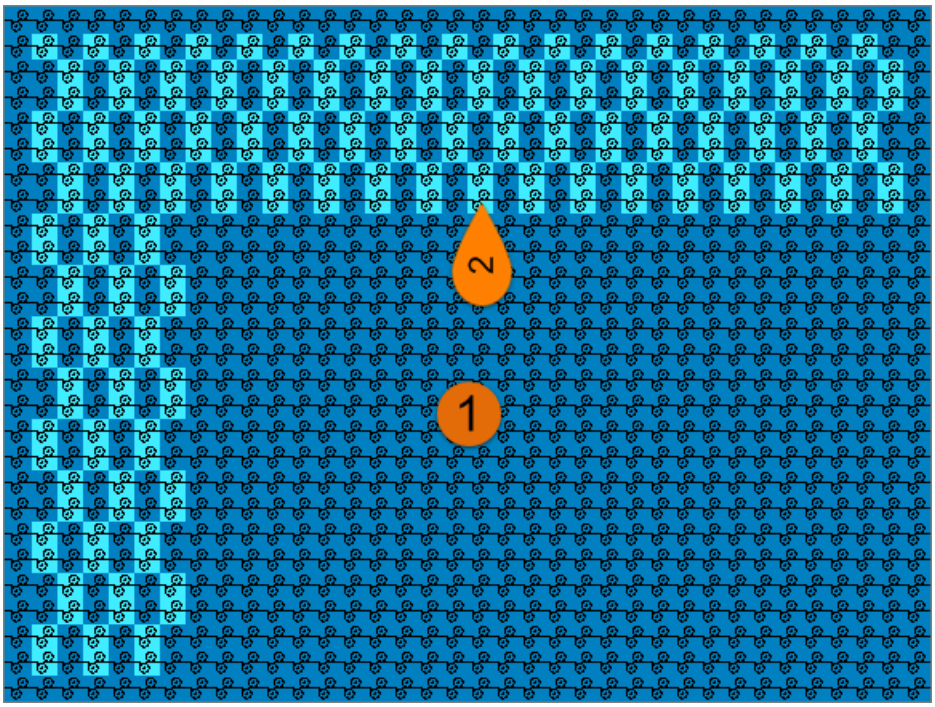
▶ The index will be allocated to the first motif color #2 (leading yarn carrier).

7. Allocate a YPI index to the second motif color at (P1) as well.
8. Enter the settings for the selected YDI index in the table.
9. Fill the basic pattern with yarn color #31 by the plating color (P1).

16.3 Draw Structure

I. Draw the structure into the basic pattern

1. Select any desired yarn color from the yarn color table.
2. Draw areas with the selected yarn color into the basic pattern in which the weft yarn lies visible on the fabric front.



1	Plating color with a weft yarn Q
2	Additional yarn color for the structure

16.4 Generate Color Arrangement

i	Weft yarn insert and DJ plating is done by the Color Arrangement and the half Milano is knit by an additional yarn carrier (yarn color). The weave-in device is activated by the control column.

I. Generating Color Arrangement and entering it:

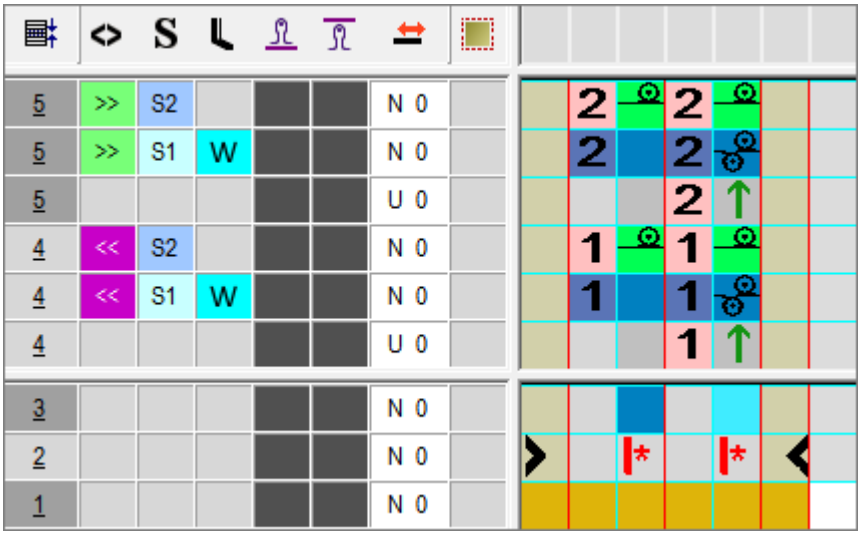
1. Select the pattern in the entire height.
2. Click the button.

▶ The Color Arrangement Editor will be opened.

3. Modify the Color Arrangement:

- Insert additional rows for half Milano
  - Select any desired additional yarn color and insert it.
  - Insert the "Stitch without transfer" binding element.
- For the additional yarn color (search color):
  - Insert transferring rows.
  - For plating color and half Milano color: Insert the "Stitch without transfer" binding element.
- Enter the (1) symbol for "weave-in device" in the control column.

- Enter the system setting into the S control column.
  - Weft yarn carrier runs before system S1



4. Close the Color Arrangement Editor with .

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

16.5 Complete the Pattern

Complete the pattern:

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

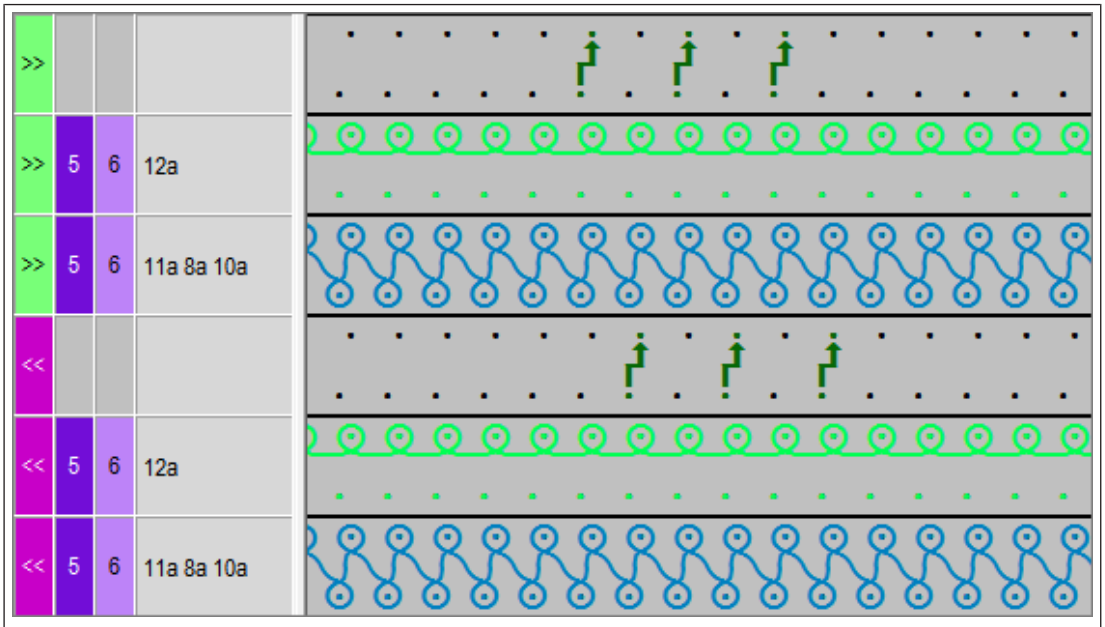
1. Start the technical processing via the "Steps of Processing" toolbar with the button.

▶ The query "Generate MC Program" appears.

2. Confirm the query with "OK".

▶ The "Save pattern as" dialog box appears.

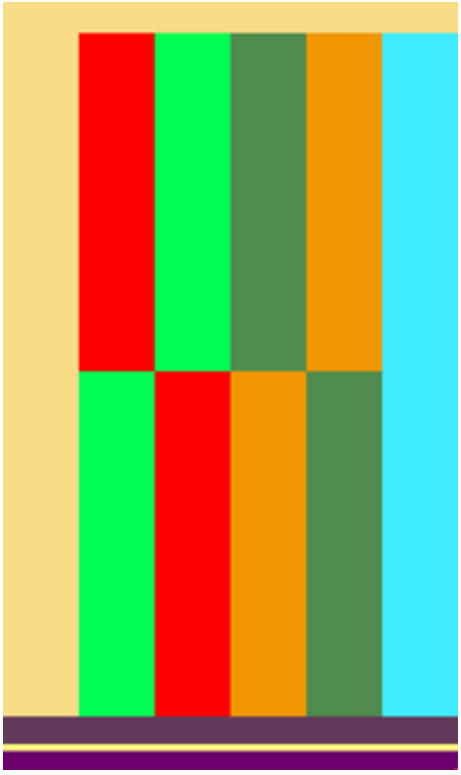
3. Enter the "File name" and specify the path.
4. Close the dialog box with "Save".
5. Call up the "Sintral Check" with and execute it.



Yarn carrier 11a	Weft yarn carrier before system S1
Yarn carrier 8a	The yarn carrier for plating color 1 knits by system S1
Yarn carrier 10a	The yarn carrier for plating color 2 knits by system S1
Yarn carrier 12a	The yarn carrier for half Milano knits by system S2

i	The inserted weft yarn is not visible in the technical view as the the weft yarn carrier Q is defined in the "Plating" dialog box

17 DJ Intarsia with Knitting-in Presser Foot



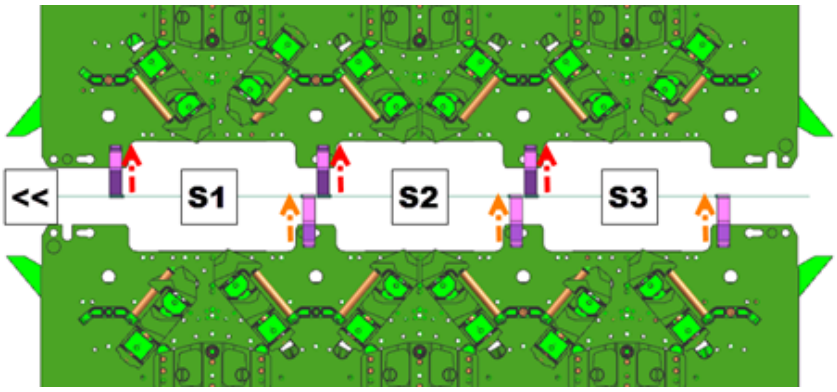
Pattern name	15_RR-Intarsia mit Einstrick-Einstreifer.mdv	
Pattern size	Width:	150
	Height:	250
Machine type	ADF 530-32 W	
Gauge	E 7.2	
Start	STOLL Tubular start	
Basic Pattern	Front stitch – Rear stitch.	
Knitting Technique	Intarsia in DJ basic structure ◆ Knitting-in the yarn carriers using the presser foot as knitting-in presser foot	

17.1 Working procedure of the knitting-in presser foot

The use of the knitting-in presser foot depends on the carriage direction.

The knitting-in presser foot is always active **following** the knitting system.

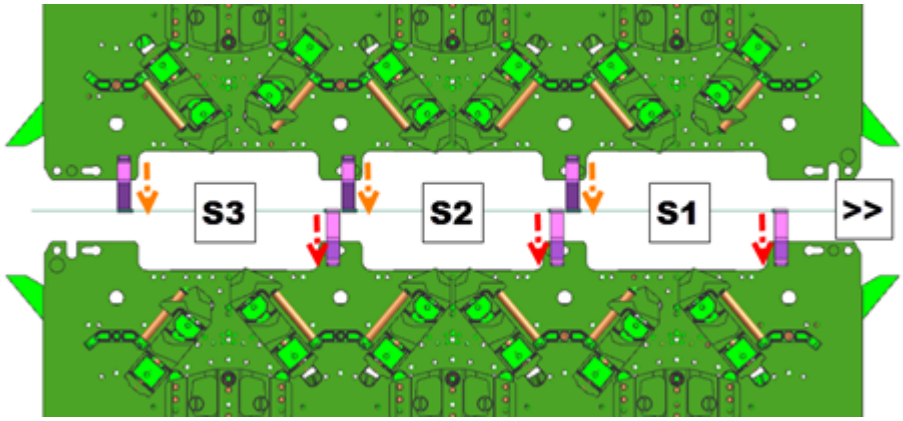
Knitting direction to the left:



- Red arrow = presser foot unit inactive
- Orange arrow = presser foot unit active

- Within the carriage stroke to the left, the presser feet work as knitting-in presser feet on the front.
- The knitting-in presser feet are active **following** the knitting system.
- Rear presser feet are inactive.

Knitting direction to right



- Within the carriage stroke to the right, the presser feet work as knitting-in presser feet on the rear.
- The knitting-in presser feet are active **following** the knitting system.
- Front presser foot units are inactive.

17.2 Create Pattern

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: E 7.2

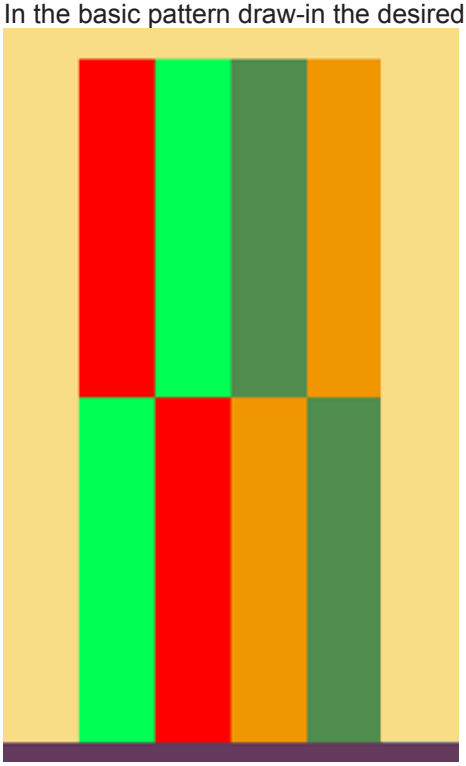
5. Select **Basic pattern (pattern without shape)** and "Design Pattern".
6. Define the pattern size and the basic knitting mode.
7. Select a **Tubular start**.
8. Confirm the dialog box with the "Generate Design Pattern" button.

▶ The new pattern appears in the symbol view.

17.3 Draw basic pattern

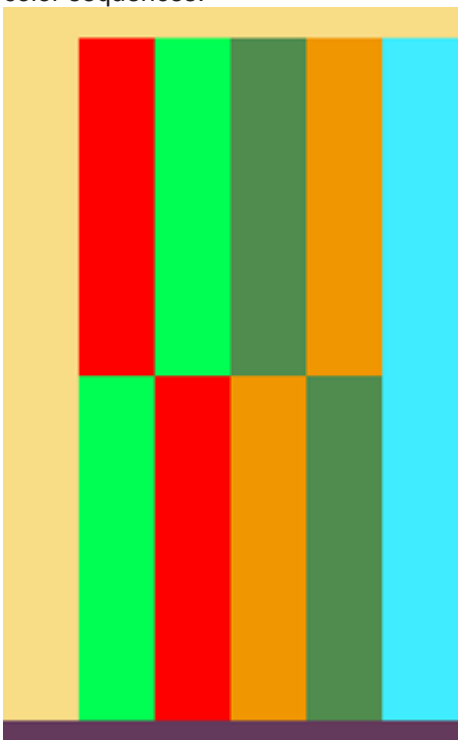
I. Draw the motif:

1. In the basic pattern draw-in the desired motif with further yarn colors.



2. On the right side exchange the yarn color #31 to yarn color #10.

▷ This new yarn color is needed in the Color Arrangement to be able to influence the color sequences.



17.4 Generate Color Arrangement

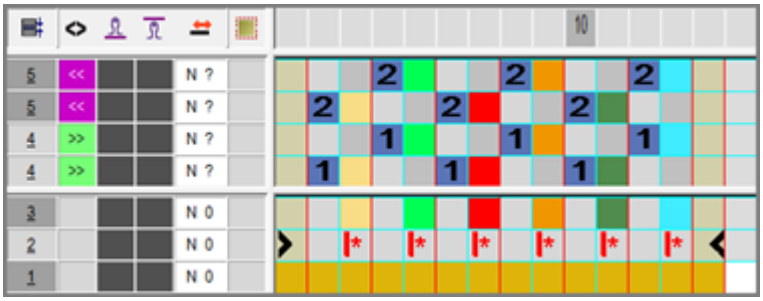
i	Wit the help of the Color Arrangements, the yarn carriers are grouped into systems and the color sequence is determined.

I. Generating Color Arrangement and entering it:

1. In the pattern, select the lower intarsia area 1 in the entire height.
2. Click the  button.
   ▷ The Color Arrangement Editor will be opened.
3. Modify the Color Arrangement:

■ Adapt the knitting sequence

– Combining the yarn carriers in the intarsia area 1



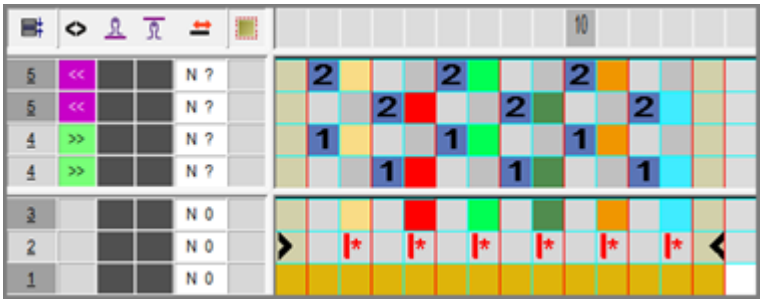
4. Close the Color Arrangement Editor with .

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

5. Now select the intarsia area 2 in the pattern.

6. Click the button.

7. Modify the Color Arrangement.



8. Close the Color Arrangement Editor with .

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

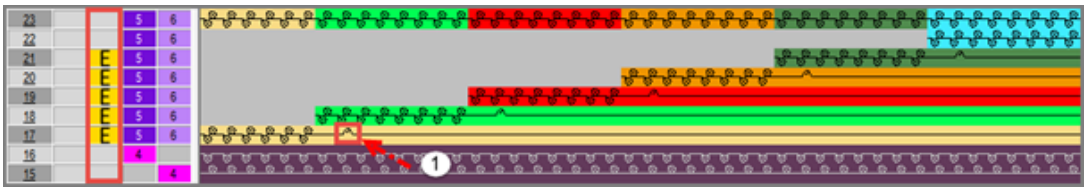
17.5 Manual changes in the basic pattern for the knitting-in presser foot

Switching on the knitting-in presser foot:
For switching on the knitting-in presser foot, a needle action is necessary!

Knit-in/knit-out with float is **not** recognized as needle action.
Result: The knitting-in presser foot will only be activated with the first needle with .

I. Knitting-in the yarn carriers:

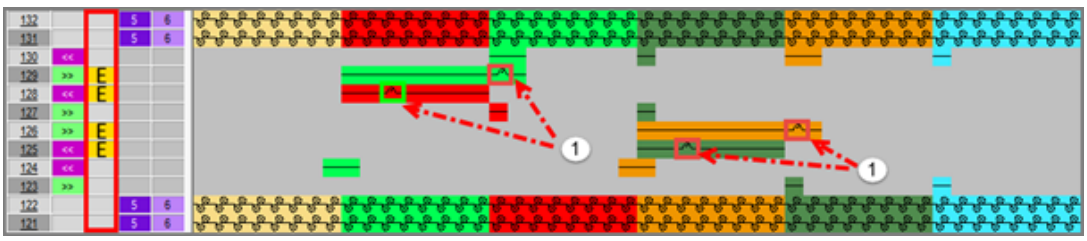
1. Select the last row of the start.
2. Insert the desired number of empty rows:
3. With the needle action "Float" draw-in the knitting-in of the yarn carriers with the desired order.
4. Manually draw-in the needle action "Tuck at the rear without transfer" in each knitting-in row before the beginning of the color field, to activate the knitting-in presser foot.
5. For these rows enter the symbol in the "Presser foot" control column.



1	Needle action for activating the knitting-in presser foot earlier.

II. Moving and feeding of the yarn carriers

1. Select the last row of the first color field.
2. Insert the desired number of empty rows:
3. With the needle action "Float" draw-in the moving and feeding of the yarn carriers with the desired order.
4. Manually draw-in the needle action "Tuck at the rear without transfer" in the row with feeding, to activate the knitting-in presser foot.
5. For the rows with Feeding enter the E symbol in the "Presser foot" control column.
6. In the "Carriage direction " control column enter the required carriage directions.

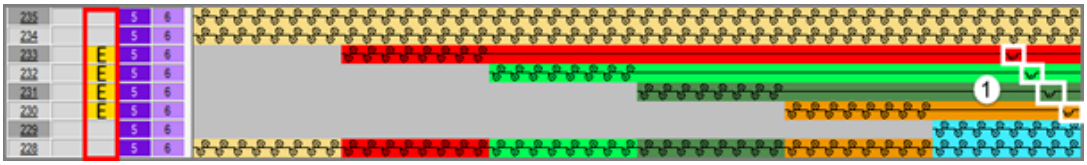


1	Rows for feeding of the yarn carriers with needle action for activating the knitting-in presser foot earlier.
i	In the rows with the needle action for moving the yarn carriers, the autarkic movement with overrun path is entered in the control columns during the technical processing.

III. Knitting-out the yarn carriers:

1. Select the last row at the end of the color field.
2. Insert the desired number of empty rows:
3. With the needle action "Float" draw-in the knitting-out of the yarn carriers with the desired order.

4. Manually draw-in the needle action  "Tuck at the rear without transfer" in the knitting-out rows at the fabric selvedge, to activate the knitting-in presser foot and to lock the thread.
5. For the rows with Feeding enter the  symbol in the  "Presser foot" control column.
6. In the  "Carriage direction " control column enter the required carriage directions.



1	Needle action for activating the knitting-in presser foot when locking.

17.6 Complete the Pattern

Complete the pattern:

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.