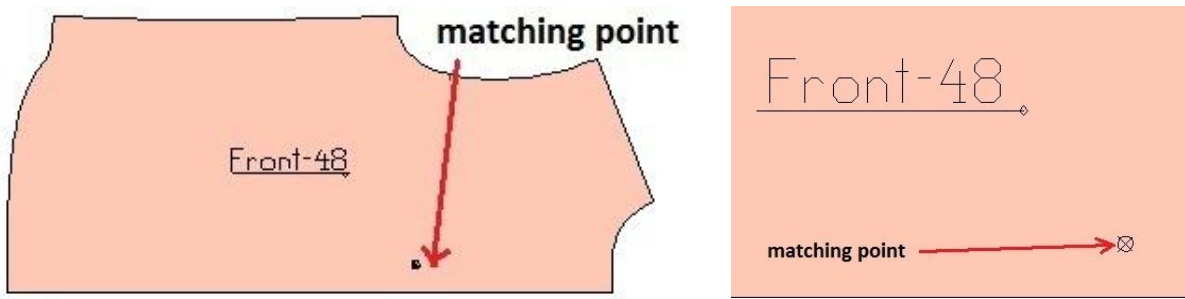


## Detecting matching points at DXF import in *Gemini Nest Expert*.

This document will explain how to set the dependency of patterns to stripes and plaids in a pattern designing application. If the model is saved as a *DXF* file, it can be imported in *Gemini Nest Expert* together with the dependency information.

### I. Things to know before setting the dependency.

1. In *Gemini Nest Expert* the name of the technical element which creates the dependency with the fabric with stripes and plaids is called **matching point**. If a pattern has a matching point, it is placed on the marker by respecting a specific position relative to the stripes and/or plaids.

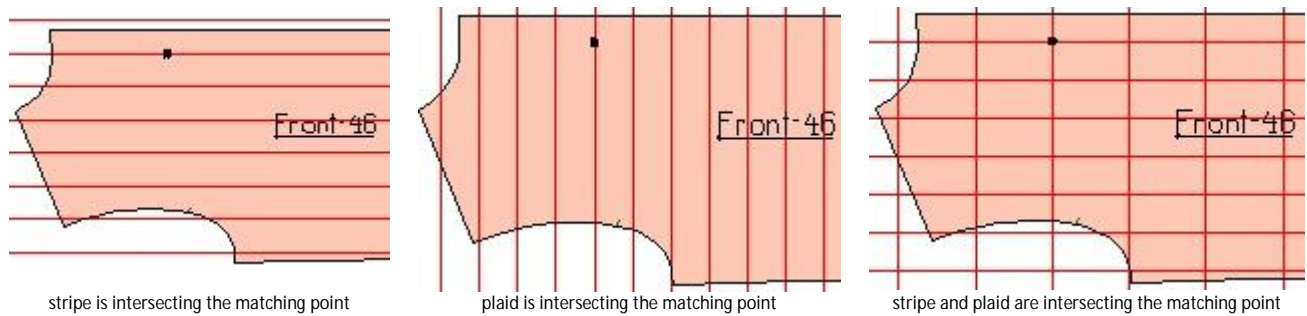


2. In *Gemini Nest Expert* each pattern contains only 1 matching point.

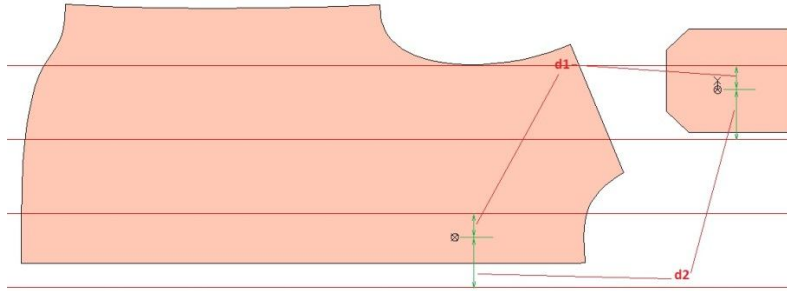
3. The patterns are nested according to the matching points only if the stripes and plaids are previously defined. See detailed description of defining the stripes and plaids in the *Gemini Nest Expert User Manual*.

4. There are 2 dependency types:

- **pattern to fabric:** the pattern is placed in a position where the stripe and/or plaid is intersecting the matching point.



- **pattern to pattern:** the pattern is placed in a position where distance between the matching point and the stripe and/or plaid is the same for the patterns depending on each other.



vertical distance between matching point and stripe is the same for 2 patterns

## II. What the DXF file should contain to detect matching points.

In order to detecting matching points while importing a DXF file, this file has to contain the following sequence:

```

0
TEXT
8
8
10
35.2533
20
66.5558
40
10.0000
50
0.0000
1
[m:0xy]
  
```

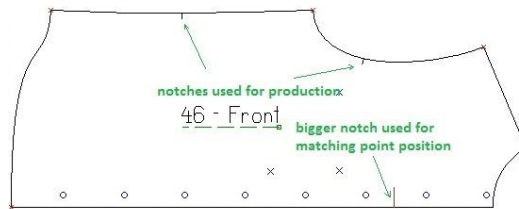
The meaning and content of this text information is detailed in point III.3 of this document.

## III. Steps to be followed in the pattern designing application to obtain the matching points after importing it as a DXF file in *Gemini Nest Expert*.

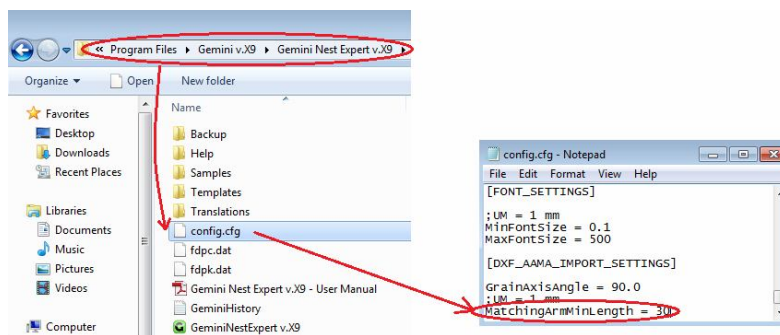
1. choose a **geometrical figure** which will be used **only for matching points** and not for something else.

The geometrical figure can be:

a. **a notch with a bigger length** than the notches needed for production. The matching point will be created at the intersection of the notch with the internal seam line or external cutline.



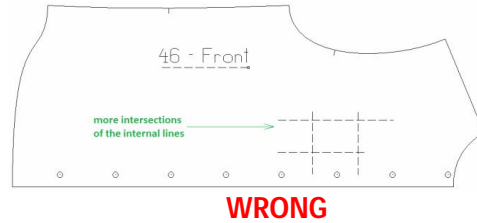
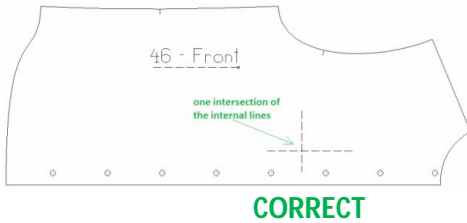
The length of the notch has to be bigger than "*MatchingArmMinLength*" setting from *config.cfg*, located in the installation folder of *Gemini Nest Expert*



## b. intersection of internal lines

Rules for internal lines to be detected as matching points:

- at least one of these lines **must have only 1 intersection** (must intersect only with one other line). The second line is allowed to intersect more lines.



- the length of the line which has only 1 intersection, has to be bigger than "*MatchingArmMinLength*" setting from *config.cfg*. If both lines have only one intersection, it is enough that the length of one line to be bigger than "*MatchingArmMinLength*"

2. Create the geometrical figure in the desired position.

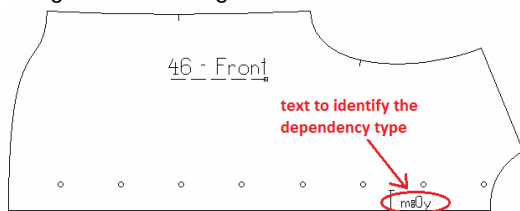
**Note:** a pattern can contain more than 1 geometrical figure in the pattern designing application (corresponding to more matching points), if it is depending on more patterns. While importing in *Gemini Nest Expert*, all the matching points of one pattern are converted to 1 matching point.

3. Enter a **text with** the following **format**: [m:ax], [m:ay] or [m:axy].

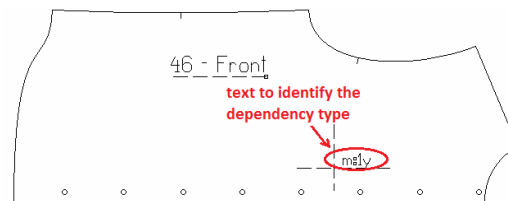
The content of this text will set the **dependency type** (dependency of patterns with the fabric or dependency between patterns).

The beginning of the text has to be as close as possible to:

- the base point of the notch (the intersection between notch and contour of the pattern) if the geometrical figure is a notch



- the intersection of the internal lines



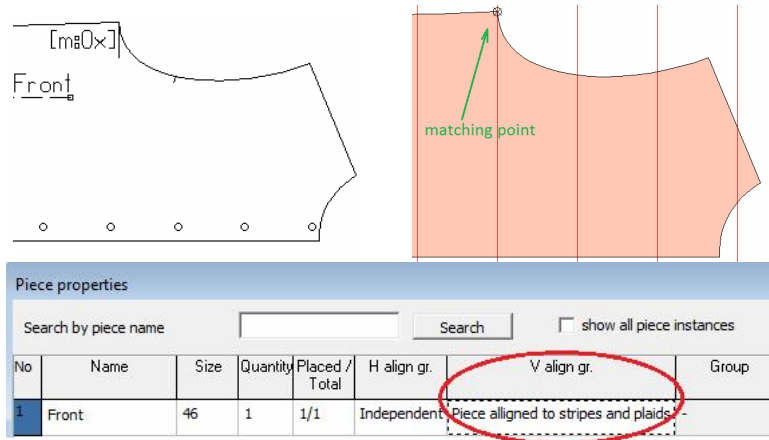
Explanation of the components of the text ([m:ax], [m:ay] or [m:axy]):

- "m" is a constant character and will appear every time in the text
- "a" is an identification (ID) number which decides the dependency type

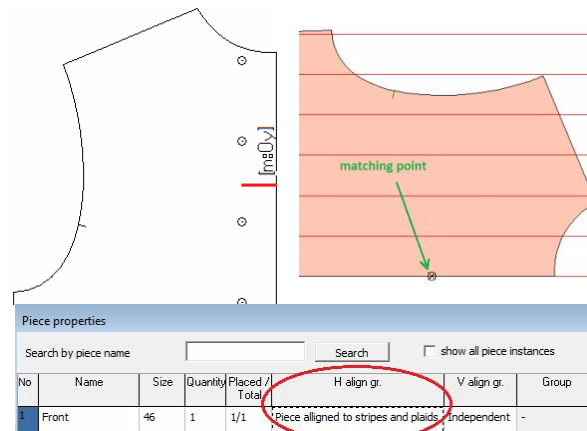
If  $a=0$ , the pattern is aligned to the fabric.

Examples:

$[m:0x]$  means that the pattern is aligned to the vertical stripe (plaid).



$[m:0y]$  means that the pattern is aligned to the horizontal stripe.



$[m:0xy]$  means that the pattern is aligned both to the horizontal and vertical stripe and plaid.

If "a" is different than 0, the patterns are aligned between them. If "a" is the same for 2 or more patterns, it means that those patterns are aligned between each other.

- x means that the matching point is depending to the plaid (vertical)

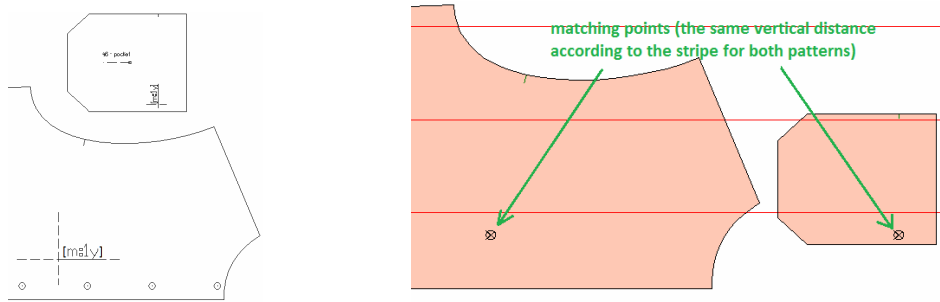
Example:

$[m:1x]$  means that the pattern is aligned on x to another pattern which has the same text. The horizontal distance between the matching point and the vertical stripe will be the same for the aligned patterns.

- y means that the matching point is depending to the stripe (horizontal)

Example:

[m:1y] means that the pattern is aligned on y to another pattern which has the same text. The vertical distance between the matching point and the vertical stripe will be the same for the aligned patterns.

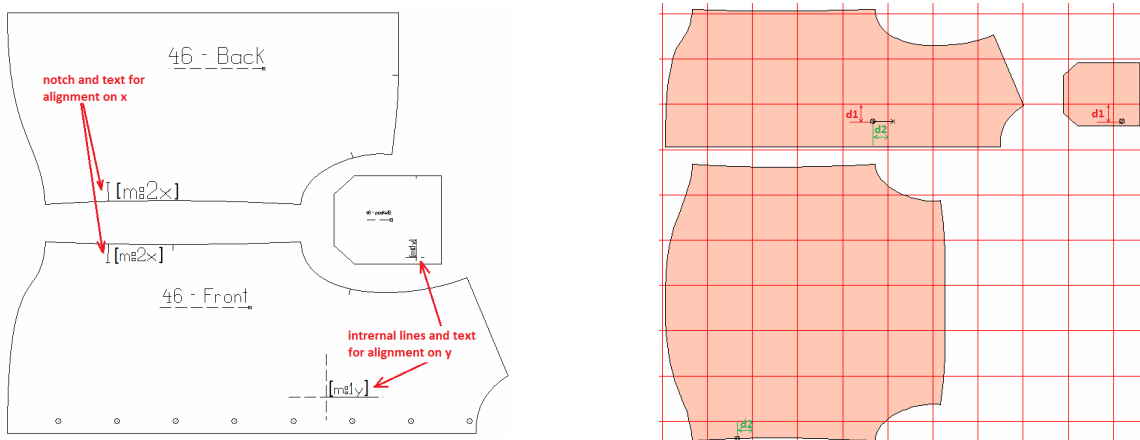


Piece properties							
Search by piece name <input type="text"/> Search <input type="checkbox"/> show all pie							
No	Name	Size	Quantity	Placed / Total	H align gr.	V align gr.	Group
1	Front	46	1	1/1	front_pocket	Independent	-
2	pocket	46	1	1/1	front_pocket	Independent	-

- xy means that the matching point is depending both to the stripe and the plaid.

It is also possible to align a pattern on x to a pattern and on y to another pattern. In this case the ID has to be different for each alignment.

Example: the pattern "Front" is aligned on x with "Back" (the **d2** distance between the matching point and plaid is the same on both patterns, the ID is 2) and on y with "Pocket" (the **d1** distance between the matching point and plaid is the same on both patterns, the ID is 1).



Piece properties							
Search by piece name <input type="text"/> Search <input type="checkbox"/> show all piece instar							
No	Name	Size	Quantity	Placed / Total	H align gr.	V align gr.	Group
1	Back	46	1	1/1	Independent	Front_Back	-
2	Front	46	1	1/1	Front_Pocket	Front_Back	-
3	Pocket	46	1	1/1	Front_Pocket	Independent	-

#### **IV. How the matching points are created while importing in Gemini Nest Expert.**

The geometric element used for creating the matching point is chosen according the following:

- the format of the text is correct, according point III.3
- the rules from point III.1 are fulfilled
- if more than one geometric element can be detected as matching point (they are close to the same text), the program will choose the closest element (notch or line intersection) to the starting point of the text.

#### **V. Special situation for notches created in the external cutline.**

The notches created on external cutline are intersecting the external cutline but also the internal seam line.

In this case:

- if the start point of the text is closer to the intersection of the notch with the internal seam line, the matching point will be created on the internal seam line
- if the starting point of the text is closer to the intersection of the notch with the external cutline, the matching point will be created on the external cutline.