Chapter 14 “Special functions of the part organisation”

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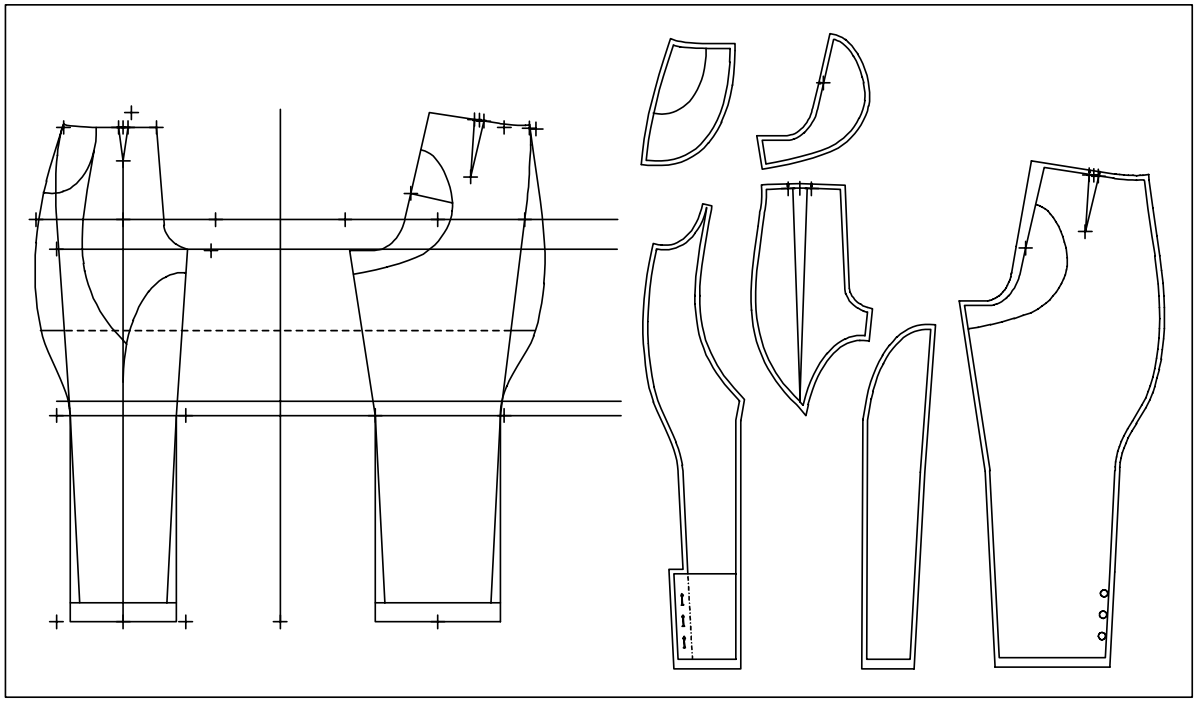
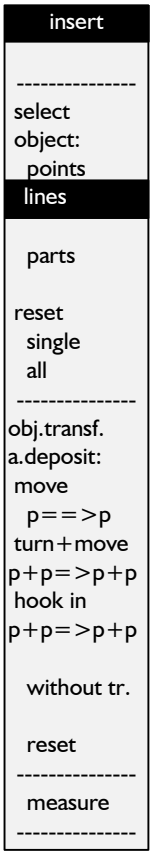
In continuation of Chapter 13 this chapter discusses special functions of the part organisation requiring particular explanations, especially inserting with transformation.
The section “modifying mother parts” is especially important as only certain modifications are permitted for mother parts to protect the hereditary automatic.
The complex exercises at the end of the chapter shall consolidate the teachings of chapters 13 and 14.



14.1 Insert with transformation



Insert with transformation differs from insert without transformation (section 13.2) only as in **HOW** the objects or parts are deposited in the new part. GRAFIS allows for a position, scale or alignment adjustment when depositing into the new part. This adjustment is logged as a heredity step and is repeated automatically during grading.

The **step-by-step guide** is identical to "insert without transformation", see section 13.2.

The variations of insert transformation

NB: The similarity of these transformation types with the ones in the *transform* menu can easily be detected.

1. ***move p==>p***
   Moving a point of the object to be inserted to a point of the active part:
   The constructed point of the insert object then lies on the constructed point of the active part.
   All objects are moved accordingly. Size and alignment remain the same, only the position changes.
2. ***turn+move p+p=>p+p***
   Move and rotation of the insert object according to the identical instruction of the transformation type with the same name in the *transform* menu.
   The size of the insert object remains the same, position and alignment change. This function is especially useful for inserting yokes, sleeves or facings which already have the correct dimensions.
3. ***hook in p+p=>p+p***
   Adjustment of the insert object so that the two constructed points of the insert object lie directly on the two constructed points of the active part.
   This function changes the position, alignment and size of the insert object. It is useful for example for fitting pockets and cuffs. However, it is unsuitable for inserting yokes, sleeves and facings which are not allowed to be enlarged/reduced.
4. ***without tr.***
   The selected objects are inserted without transformation. The objects have the same size, alignment and position as the original objects. This transformation type was used for insertion in section 13.2.

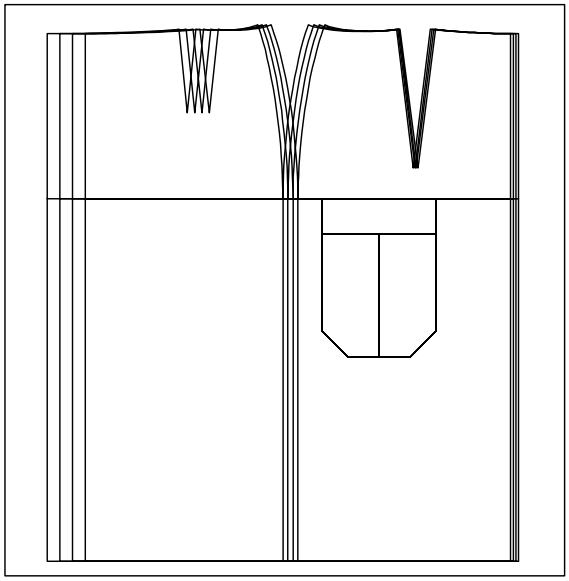
NB: Read also the instructions in the help masks in the status line!

In the following, each transformation type is content of an exercise.

Exercises on insert with *move p=>p*

1st Exercise

Into basic block 018 "skirt" a patch pocket constructed as an independent part (patched on the hip) is to be inserted (Picture 14-1).



Picture 14-1

Suggestion for the list of parts:

	001	NN	0	0	0
	002	NN	0	0	0
	003	NN	0	0	0
	004	NN	0	0	0
*	005	x pocket	11	8	0
	006	NN	0	0	0
	007	NN	0	0	0
	008	NN	0	0	0
	009	NN	0	0	0
	010	x skirt	8	120	1

Suggestion for construction steps:

1. In part 005 construct a pocket with the dimensions 130mm for the pocket width and 180mm for the side seam. Design the pocket at your own discretion.
2. Call basic block 018 into part 010 and insert the pocket. The upper right pocket corner is to be positioned at 35% of the hip line measured from the centre back.

partorganis
activate part 010
call basic block 018
insert
part click pocket
deposit with move p=>p
click pl upper right pocket corner
(red group of objects)
rlg on l with *rlg=35.*
click hip line with direction

CB->CF
(yellow group of objects)

grading

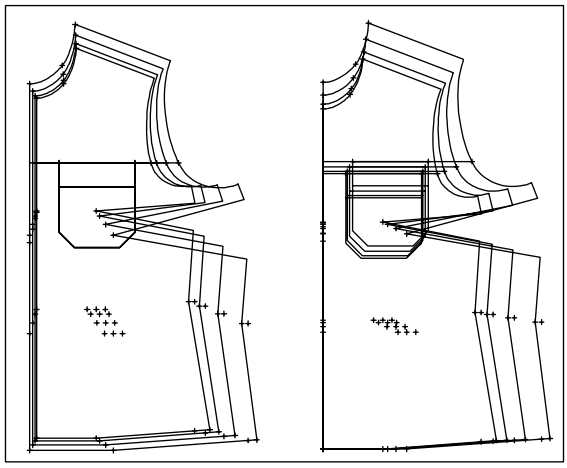
3. Grade and stack according to Picture 14-1.

Parts or objects inserted with move p=>p retain their size.

As the pocket in part 005 has the same dimensions throughout the sizes, it also stays the same size in part 010.

2nd Exercise

Construct a blouse with proportion class k with patch pocket from basic block 001(ft). The pocket is to be 125mm wide and 140mm high throughout all sizes. It is to be positioned on the perpendicular (sleeve notch --> CF) at 20% of the line measured from the centre front, see Picture 14-2.



Picture 14-2

Proceed as in Exercise 1, construct the pocket in part 004, the front in part 006 and insert the pocket out of part 004 into part 006.

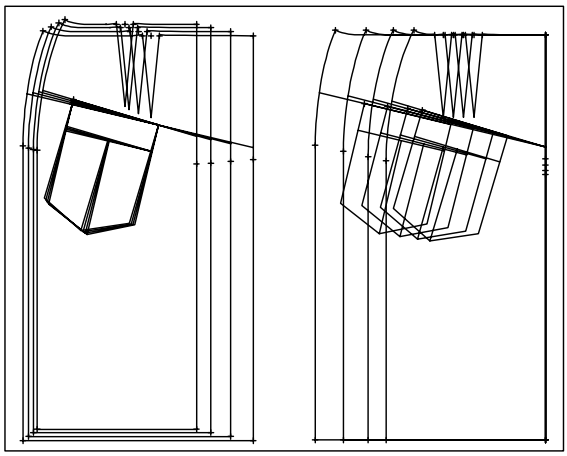
Exercises on insert with *turn+move p+p=>p+p*

1st Exercise

Construct a straight yoke in basic block 017 "skirt" (bk with proportion class d) and insert the previously constructed pocket displayed in Picture 14-3. The upper left corner of the pocket is to lie on the yoke line at 20% measured from the side seam.

Suggestion for the list of parts:

	001		NN	0	0	0
*	002	x	pocket	18	7	0
	003		NN	0	0	0
	004		NN	0	0	0
	005	x	skirt	28	25	1



Picture 14-3

Suggestion for construction steps:

1. Construct a pocket in part 002.
2. Call basic block 017 into part 005, delete the skirt front, construct the yoke by eye, shorten the dart and construct the patch point for the pocket on the yoke line. Then, the pocket can be inserted.

partorganis
activate part 005
call basic block 017
delete
p+l+c+r
modify
p+l+c+r
insert
part click pocket
deposit with turn+move p+p=>p+p
click pl upper left pocket corner (red group of objects)
click pl upper right pocket corner (red group of objects)
rlg on l with *rlg=20.* yoke line (yellow)
click pl final point of yoke line CB

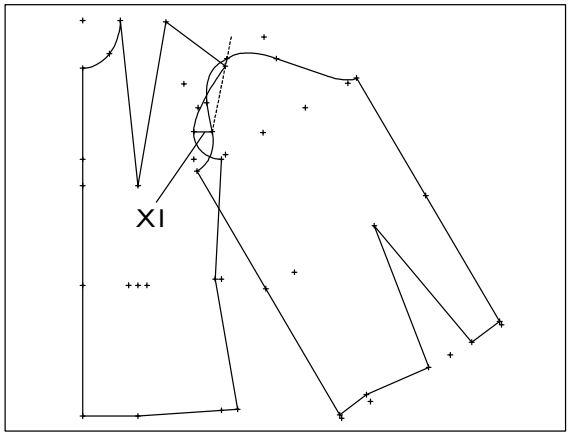
grading

Grade and stack according to Picture 14-3.

Parts or objects inserted with turn+move p+p=>p+p have the same size as in the original part but a different alignment.

2nd Exercise

Construct the one-piece sleeve (basic block 004) onto basic block 001 (ft). Prepare the front for insertion of the sleeve. Construct a line from the sleeve notch with a length variable via x values, see also Picture 14-4.



Picture 14-4

Suggestion for the list of parts:

	001		NN	0	0	0
*	002	x	sleeve	1	32	0
	003		NN	0	0	0
	004		NN	0	0	0
	005	x	bodice with sleeve	23	192	1

Suggestion for construction steps:

1. Call the one-piece sleeve into part 002.
2. Call basic block 001 into part 005, delete the back, alter the front and construct the auxiliary line at the sleeve notch.

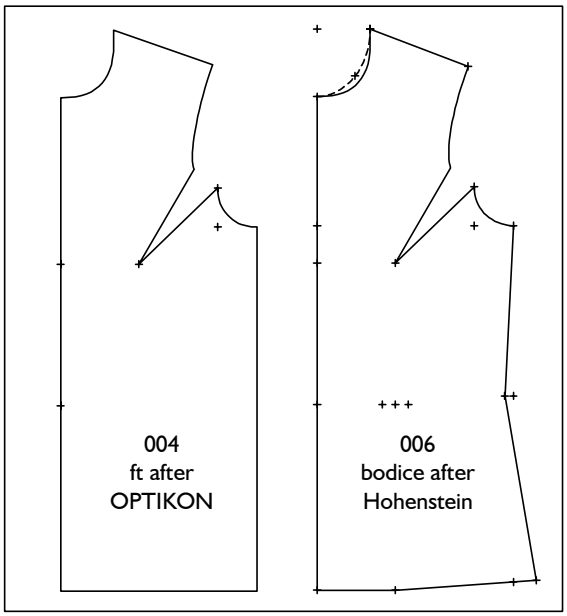
partorganis
activate part 005
call basic block 001
delete
Extras | X Values length of aux. line (30mm)
p+l+c+r
insert
part click sleeve
deposit with turn+move p+p=>p+p
click p sleeve notch at the sleeve (red group of objects)
click p shoulder point of sleeve (red group of objects)
click pl final point aux. line ft (yellow group of objects)
click p shoulder point ft (yellow group of objects)
grading

The basic block 002 "one-piece sleeve" already contains grading information which is accepted into part 005 with the turn+move insertion. The turn+move transformation results in a change of position and alignment but no change of scale to the sleeve basic block in part 002.

Exercises on insert with *hook in p+p=>p+p*

1st Exercise

Hook the neck of basic block "bodice (ft) after OPTIKON" into the front of basic block "bodice after Hohenstein" (Picture 14-5).



Picture 14-5

Suggestion for construction steps:

1. Call the basic block "bodice (ft) after OPTIKON" into part 004
2. Call basic block 001 "bodice after Hohenstein" into part 006, delete the back and insert the neck of the front after OPTIKON with the following construction steps:

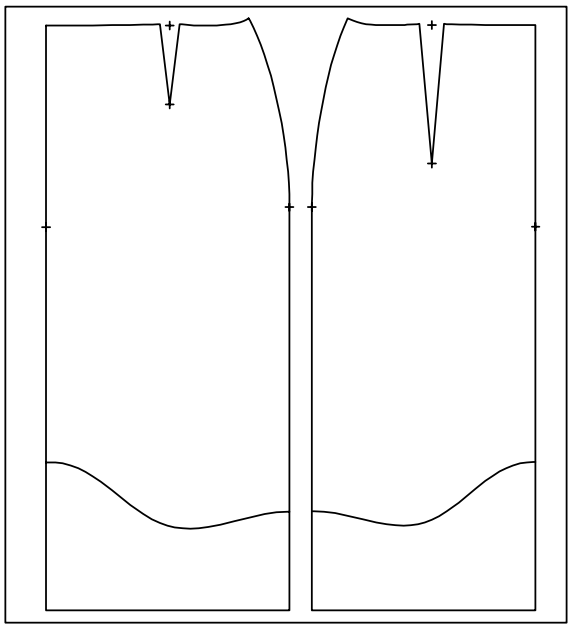
insert
line click the neck in the front after OPTIKON
<F5>
deposit with hook in p+p=>p+p
click pl upper end of neck (red group of objects)
click pl lower end of neck (red group of objects)
click pl upper end of neck (yellow group of objects)
click pl lower end of neck (yellow group of objects)
grading

All parts or objects inserted with hook in p+p=>p+p are adjusted in their position, alignment and enlargement/reduction to the hook in points of the target part throughout all graded sizes.

2nd Exercise

Call basic block "skirt after Hohenstein" into part 004 and delete the skirt back. Call basic block "skirt after Hohenstein" into part 005 and delete the skirt front. Construct a separation for pleats in the skirt front (part 004) and transfer the curve to the skirt back with *insert (hook in)*. Make sure that the curve starts at the same position at the side seam in front and back skirt.

The shape of the plissé piece is similar to the curve in the front but is adjusted to fit the width of the skirt back, exactly (Picture 14-6).



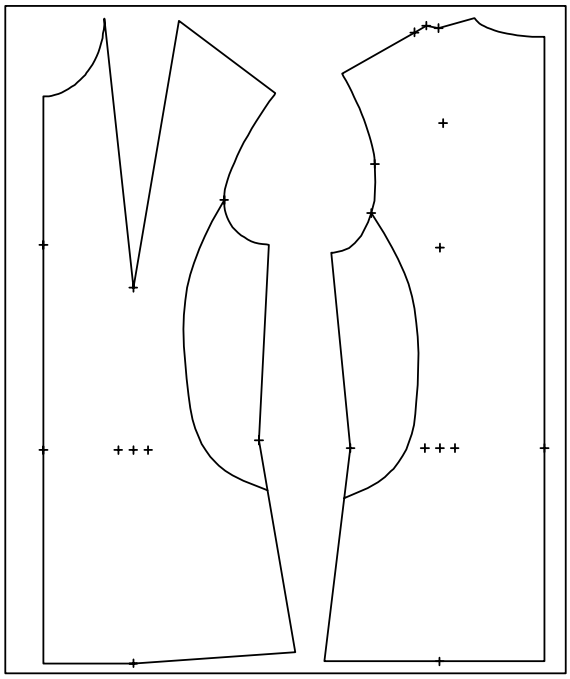
Picture 14-6

partorganis activate part 004
p+l+c+r
*p*_____
intersectn. plissé piece curve/ss
partorganis activate part 005
insert
point new point
line side seam
deposit with move p=>p
click pl lower end side seam
(red group of objects)
click pl lower end side seam
(yellow group of objects)
delete side seam
insert
line click plissé piece curve
deposit with hook in p+p=>p+p
click pl plissé piece curve/ss
(red group of objects)
click pl end of plissé piece curve
(red group of objects)
click p starting point ss
(yellow group of objects)
click l final point CB
(yellow group of objects)
grading

3rd Exercise

Construct a side panel in the front of basic block "bodice after Hohenstein" with the *curve* function. The curve is to start in the sleeve notch and to end at the side seam (relative length 40% from the hem). Shape the curve at your discretion.

In the back a side panel is to be separated with the same curve shape (Picture 14-7).



Picture 14-7

Proceed as in the 2nd Exercise. Mirror either front, back or the curve.

14.2 Modifying mother parts

Mother parts are parts from which objects were inserted/left to other parts (see section 13.2). They are marked with a * in the list of parts. Modifications in the mother part may not interfere with the recorded heredity steps.
An explanation on the GRAFIS internal organisation of the heredity follows: Each object (point, line, text) of a part has a GRAFIS internal name. When inserting objects into other parts GRAFIS relates to these internal names. When inserting a line out of part 003 into part 010 the internal GRAFIS record of part 010 reads for example: "The 4th line out of part 003 is inserted." A modification to the mother part 003 resulting in a changed or deleted 4th line can possibly lead to insertion of a completely different line when running through the record of part 010. All record steps relating to this inserted object could now be faulty. Part 010 appears damaged on screen. In this case the only cure is resetting the construction record of part 003 to the state before the modification.

As a rule, each construction step which does not delete objects can also be applied to mother parts. After the modification the recorded construction must still be executable in a meaningful manner.

The following functions can be used for modifications:

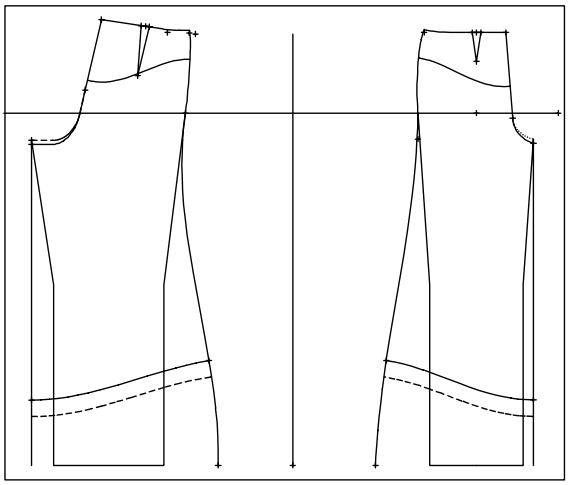
- ***x values***
- ***curve correction***
- ***call***
- ***attributes***
- ***curves* with *+replace curve***

Modifications with any other functions of the basic menu are to be applied with care as they can lead to errors.

After each modification in a mother part, daughter parts have to be tested thoroughly with test run and grading! If errors occur, the record must be reset by the modification steps!

Exercise on modifying mother parts

Modify the "trousers with wide legs and pleats" Chapter 13, Exercise 6, page 24) as follows:
Shorten the trouser front and back in part 006 "trouser draft" by 40mm by altering the hem curves with *Grading | Test Run with Curve Correction.* Relocate the crotch seam (ft + bk) by 10mm towards the hem with *Grading | Test Run with Curve Correction* (Picture 14-8). Check that all modifications are carried through to the daughter parts 009 and 010.



Picture 14-8

Suggestion for construction steps:
Call the saved Exercise 6 from Chapter 13 or construct the wide trousers anew.

partorganis
activate part 006
click YES answering the warning for work with mother parts
p+l+c+r
p+d on line with *d=40.* construct new starting and final points for the hem curve
p+d on line with *d=10.* point for the crotch seam on the inside leg seam
curve construct new hem curve
+replace
deposit curve click old hem curve at request, answer question with <J>
curve
+ replace
deposit curve click old crotch seam on request, answer question with <J>
corners
test run
Grading | Test Run All Parts
Grading | Grade All Parts

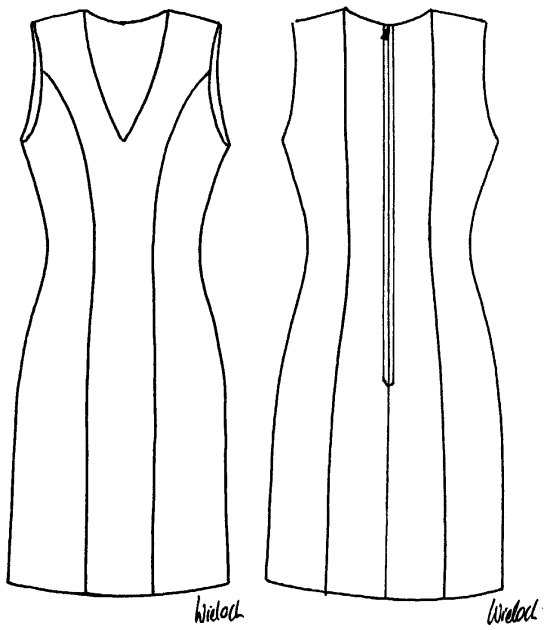
With curve correction the shape of the curve can be altered. If starting and final point of the curve are to be moved the curve must be constructed again and replaced against the old curve.

14.3 Complex Exercises

1st Exercise

"Dress with body seams"

Working drawing:



Design specification:

From the basic block "bodice after Hohenstein" a dress in proportion class "d" with concealed zip in the centre back is to be constructed.

Use the following global x values:

XG1 seam allowance in mm (10.)
XG2 hem allowance in mm (30.)

The following is to be variable via x values:

- lengthening hem
- reduction side seam
- shortening shoulder
- dropping neck line
- start body seam

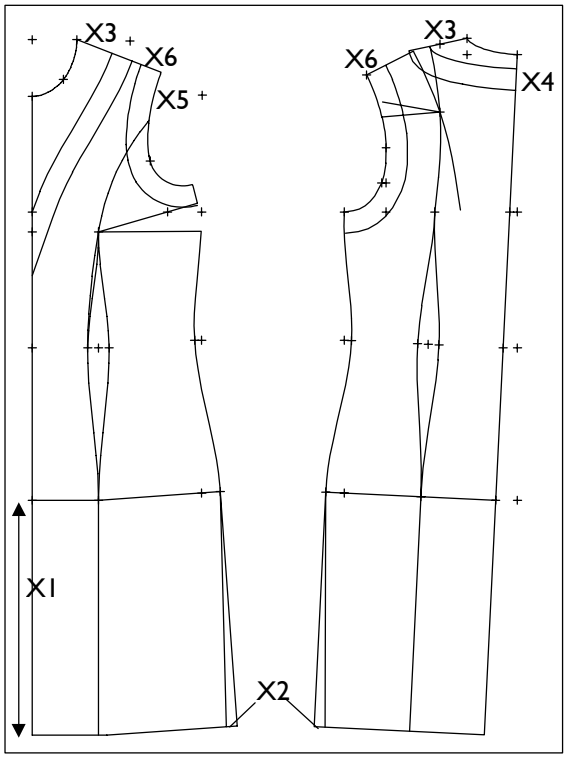
Suggestion for the list of parts:

	001		NN	0	0	0
	002		NN	0	0	0
	003		NN	0	0	0
	004		NN	0	0	0
	005		NN	0	0	0
*	006	x	draft	174	92	0
	007		NN	0	0	0
	008		NN	0	0	0
	009	x	centre panel front	79	45	1
	010	x	side panel front	85	27	1
	011	x	side panel back	64	25	1
	012	x	centre panel back	93	25	1
	013	x	neck facing	41	18	1
	014	x	armhole facing	32	27	1

Suggestion for construction steps:

Open 14 parts in *partorganis,* enter the corresponding text and call the basic block "bodice after Hohenstein" into part 006.

Draft (part 006)



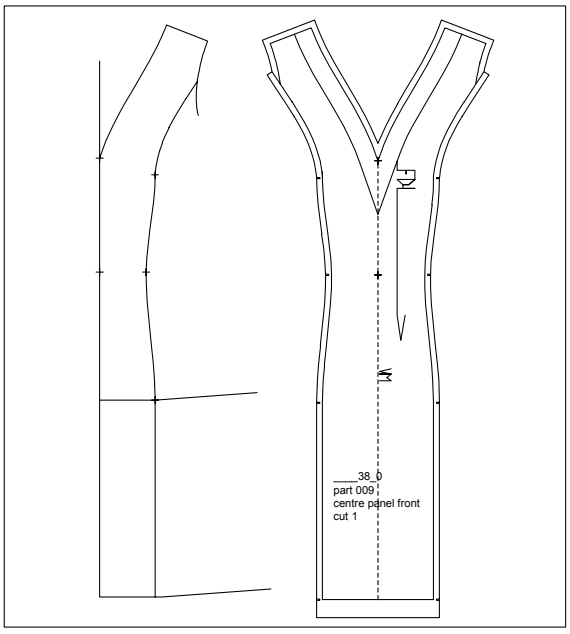
x values:

x1 addition to hem in mm (330.)
x2 reduction side seam in mm (15.)
x3 shortening shoulder from neck in mm (50.)
x4 drop neck line bk in mm (30.)
x5 body seam start from shoulder point in mm (80.)
x6 facing width in mm (30.)

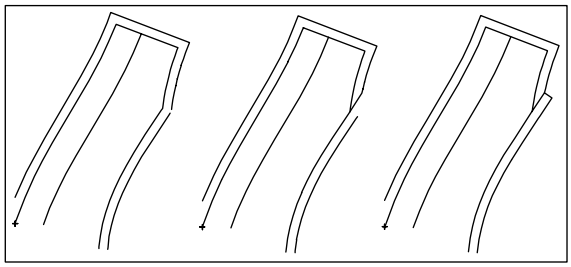
curves construct side seam and waist dart ft + bk
delete old side seam
p+l+c+r
p==>p construct shoulder dart bk
separate shoulder, remove hood
modify
relocate dart relocate shoulder darts ft + bk
link shoulder bk
curves
rlg on l with *rlg=x3* front neck
click p
curves
plg on l with *plg=x5* construct body seam ft to waist and bind onto left dart point

curves construct body seam and neck bk
separate shoulder ft + bk at the new neckline
transform
tp+p=>p relocate bk dart into intersection shoulder/body seam
lengthen by
lg=x1 lengthen ft + bk
p+l+c+r
p+dir+lg hem right angle to CB
perp p=>l perpendicular hip point =>hem
corners hem/side seam bk
parallel with x1 to hip line ft
p+l+c+r
perp p =>l perpendicular hip point => hem
p==>p reduce side seam by x2
corners hem/side seam ft
parallel facing with x6
lengthen by shoulder bk with x6
corners close facing bk
separate facing ft

Centre panel front (part 009)

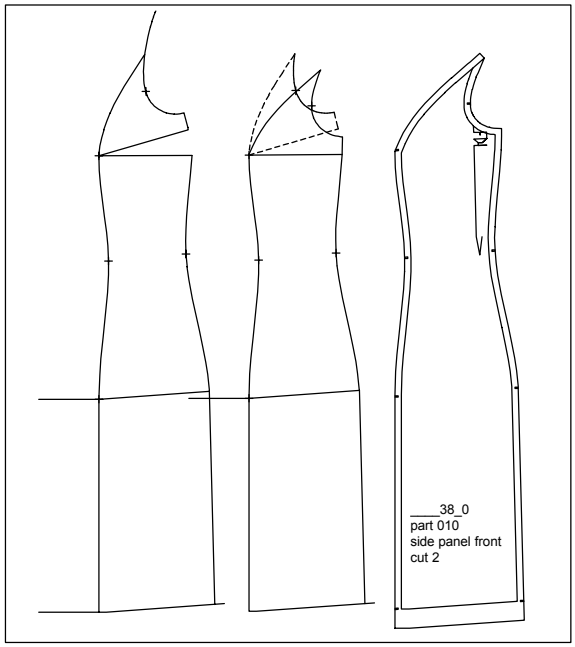


partorganis
insert insert lines and points for the centre panel front
remove part 006
corners
separate
cut hip line
transform
mirror mirror part at CF
delete superfluous points and lines
parallel construct hem and seam allowance with xg1 and xg2

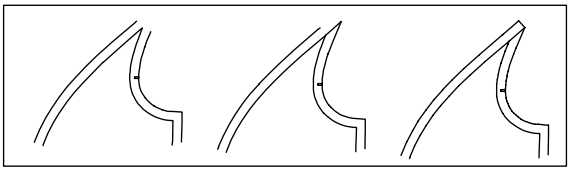


corners body seam / seam allow. armhole
p+l+c+r
p+dir+lg with *lg=xg1*
p==>p close seam allowance
symbols set grain, CF and notches
texts

Side panel front (part 010)

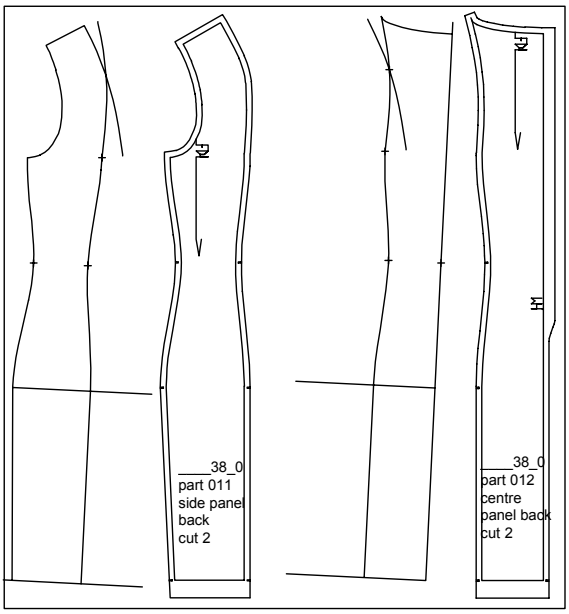


partorganis
insert insert lines and points for the front side panel
remove part 006
corners
separate
cut superfluous lines
transform
tp+p=>p close dart
delete superfluous points and lines
parallel construct seam allowance and hem with xg1 and xg2
corners body seam/ allowance armhole
p+l+c+r
p+dir+lg with *lg=xg1* see Picture
p==>p close allowance



symbols set grain and notches
texts

Side panel back and centre panel back (parts 011 and 012)

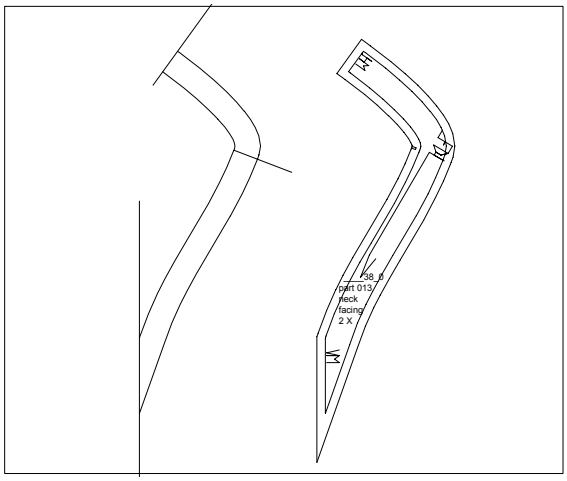


partorganis
insert insert points and lines for the back side panel
remove part 006
corners
separate
cut superfluous lines
modify
p adjust vertical
delete superfluous points and lines
parallel construct seam allowance and hem with xg1 and xg2
symbols set grain and notches
text

Additionally for the back side panel:
link
link with curve refine area dart/body seam

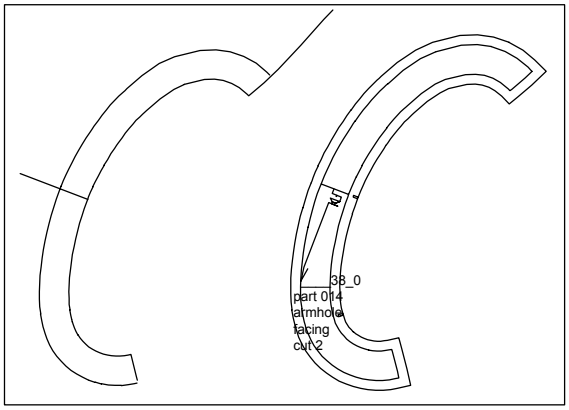
Additionally for the back centre panel:
parallel construct addition for concealed zip (length 500mm) with xg2
link
link with curve addition for concealed zip
lengthen by lg=xg01 addition peaked corner
p+l+c+r close allowance

Neck facing (part 013)



partorganis
insert lines for neck facing ft
without tr.
insert lines for neck facing ft
with trans. p+p=>p+p
remove part 006
corners
delete
symbols set grain, CF, CB, notches
texts

Armhole facing (part 014)

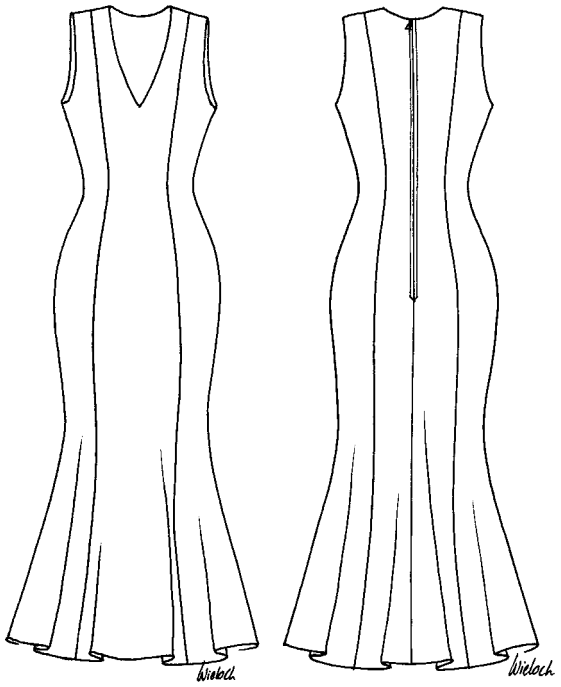


Construction steps as for neck facing.

2nd Exercise

"Princess dress with grown-on godets"

Working drawing:



Design specification:
From the basic block "bodice after Hohenstein" a princess dress in proportion class "d" with 6 panels and grown-on godets is to be constructed.
Use the following global x values:

- xg1 seam allowance mm (10.)
- xg2 addition hem in mm (20.)
- xg3 godet angle in degrees (30.)
- xg4 facing width in mm (30.)

The following is to be variable via x values:

- relocation waist dart towards side seam
- panel seam position at shoulder
- neck drop and widening
- lengthen block
- godet base

Suggestion for list of parts:

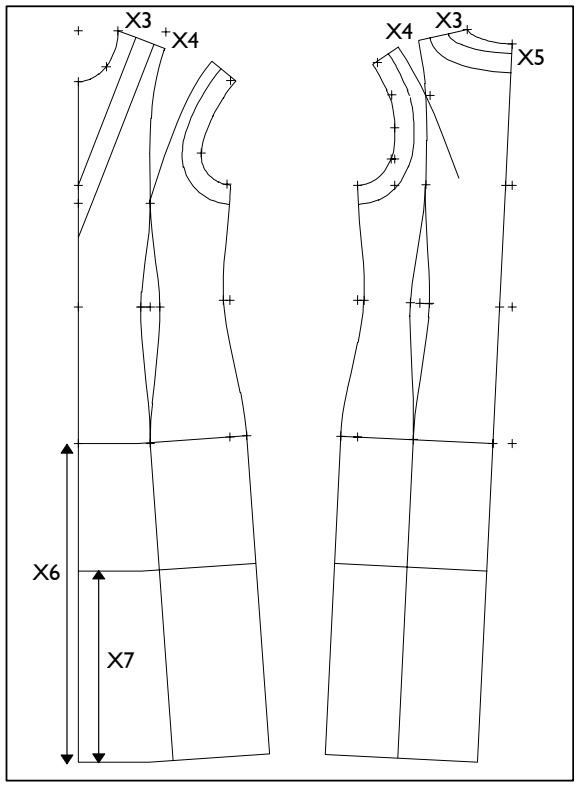
	001		NN	0	0	0
	002		NN	0	0	0
	003		NN	0	0	0
	004		NN	0	0	0
*	005	x	draft dress	186	86	0
	006		NN	0	0	0
	007		NN	0	0	0
*	008	x	centre panel front	71	50	1
*	009	x	side panel front	84	42	1
*	010	x	centre panel back	71	32	1
*	011	x	side panel back	76	41	1
	012		NN	0	0	0
	013		NN	0	0	0
	014	x	neck facing	23	9	2
	015	x	armhole facing	15	11	2

Suggestion for construction steps:
Open 15 parts in *partorganis*, enter the corresponding text and call basic block "bodice after Hohenstein" into part 005.

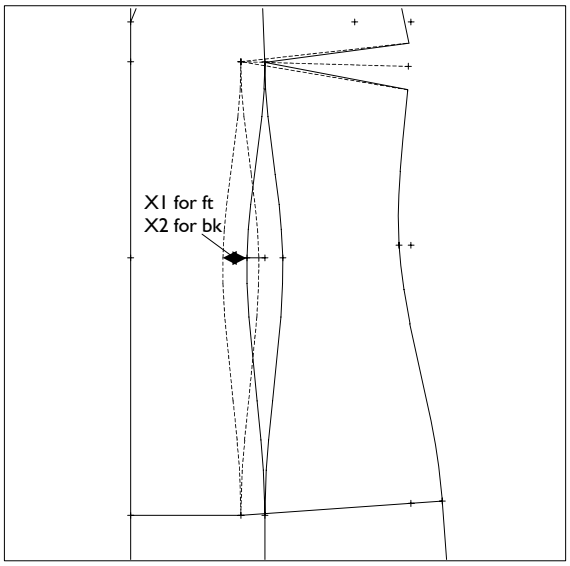
Draft dress (part 005)

x values:

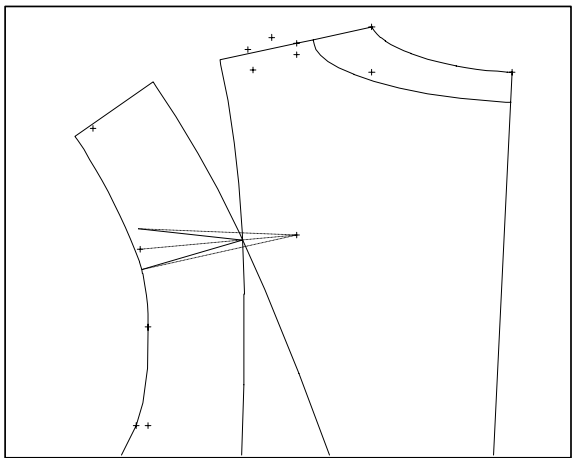
- x1 relocation waist dart ft towards side seam in mm (30.)
- x2 relocation waist dart bk towards side seam in mm (30.)
- x3 widening neck ft + bk in mm (30.)
- x4 panel seam postion at shoulder from neck in % (50.)
- x5 drop neck bk in mm (15.)
- x6 lengthen block in mm (500.)
- x7 godet base from hem in mm (350.)



p+l+c+r
p==>p construct shoulder dart bk
separate remove hood
curves construct waist dart and new side seam
delete old side seam
p+l+c+r
p+dir+lg with *lg=x1* and *x2* aux. lines for relocation of waist darts
transform
move p==>p waist dart (see picture, next page)
modify
relocate dart shoulder and bust dart
link shoulder bk

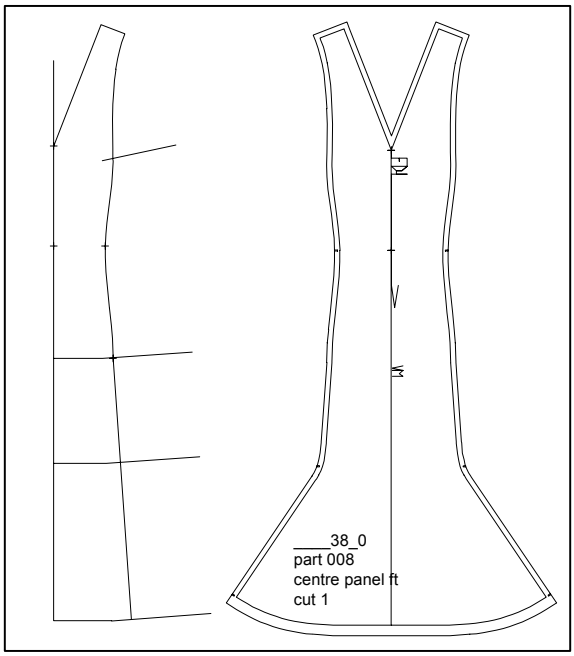


p+l+c+r
p==>p neck ft with x4
curves neck bk with x3 and x5
separate shoulder ft + bk at new neck
curves panel seams ft + bk
p+l+c+r
p==>p shorten bust dart to panel seam
p+l+c+r shorten shoulder dart bk to panel seam



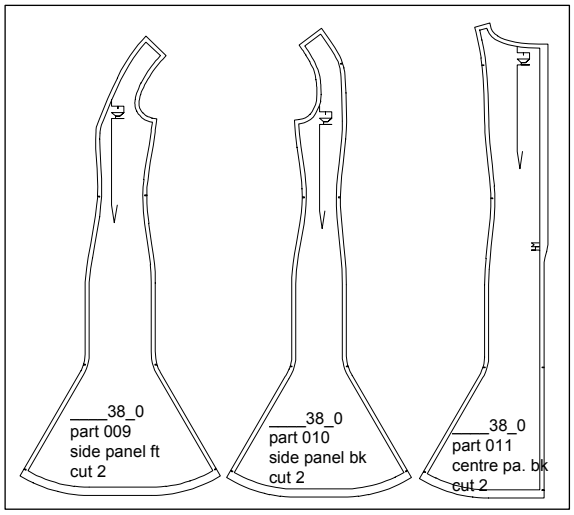
transform
tp+p=>p rotate darts ft + bk into the panel seam
lengthen by ft + bk with x6
parallel hem with x6
p+l+c+r
perp p =>l new side seam
measure check identical length at ss
parallel godet base with x7, facing with xg4

Centre panel front (part 008)



partorganis
insert insert lines and points for front centre panel
remove part 005
corners
separate godet base line and hip line
transform godet angle
turn tp +ang with *ang=xg3*
p+l+c+r
circle arc cp+p circle arc about godet base for new hem
corners or *separate*
link
link with curve transition godet/panel seam
transform
mirror the complete part
delete delete CF (double)
parallel seam allowance and hem with xg1 and xg2
symbols set grain, CF, notches
delete auxiliary lines
text

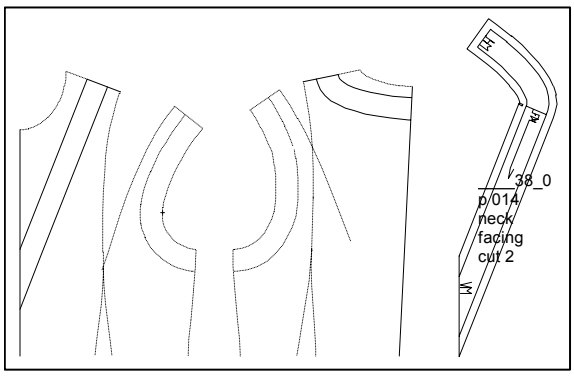
Side panel ft (part 009), **centre panel bk** (part 010) and **side panel bk** (part 011)



partorganis
insert lines for side panel ft
remove part 005
corners
separate godet base line
<F11>
z1 = - xg4
transform construct godet
turn tp+ang with *ang=xg4* and *z1*
p+l+c+r
circle arc cp+p construct godet base
corners or *separate*
link
link with curve transition godet/panel seam
parallel seam allowance and hem with xg1 and xg2, facing with xg4
symbols set grain and notches
delete auxiliary lines
text

In the centre bk panel the seam allowance xg1 is to be used for the area of the concealed zip 500mm long).

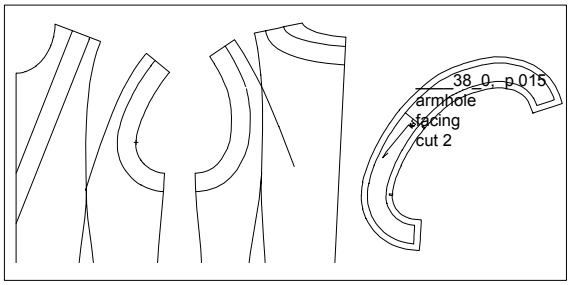
Neck facing (part 014)



partorganis
insert
lines insert lines for the ft neck facing out of part 005
without tr.
corners
insert
lines insert lines for bk neck facing out of part 005 **with transformation**
turn+move p+p=>p+p
1. point: corner shoulder/ outside line (red part)
2. point: end shoulder (red part)
3. point: corner shoulder/ outside line (yellow part)
4. point: end shoulder (yellow part)

remove part 005
delete shoulder (double)
corners
parallel seam allowance with xg1
symbols set grain, CF, CB
text

Armhole facing (part 015)

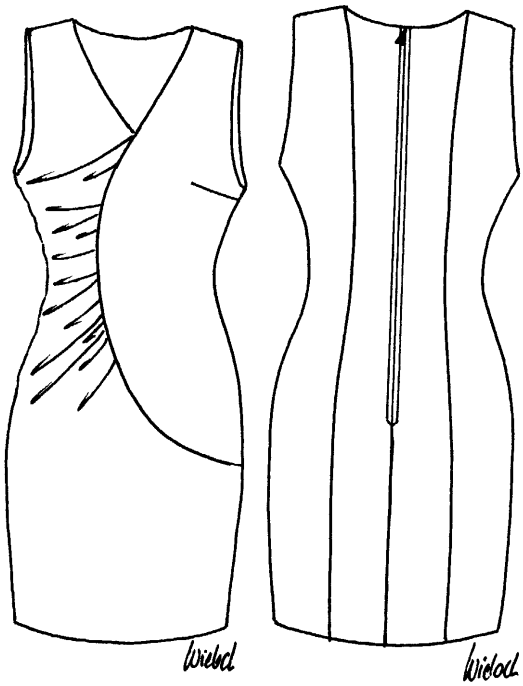


partorganis
insert
lines insert lines and sleeve notch point for armhole facing ft out of part 005
without tr.
corners
insert
lines insert lines for armhole facing bk out of part 005 **with transformation**
turn+move p+p=>p+p
see part 014
remove part 005
delete shoulder (double)
corners
parallel seam allowance with xg1
symbols set grain and sleeve notch
text

3rd Exercise

"Dress with drape"

Working drawing:



Design specification:

From the basic block "bodice after Hohenstein" a dress with one-sided drape in proportion class "d" with concealed zip in the centre back is to be constructed. Construct a vent into the side seam or the centre back at your discretion.

Use the following global x values:

xg1 seam allowance in mm (10.)
xg2 hem in mm (40.)

The following is to be variable via x values:

- lengthen block
- reduction side seam
- shorten shoulder
- drop neck ft+ bk
- drape curve and pleat depth

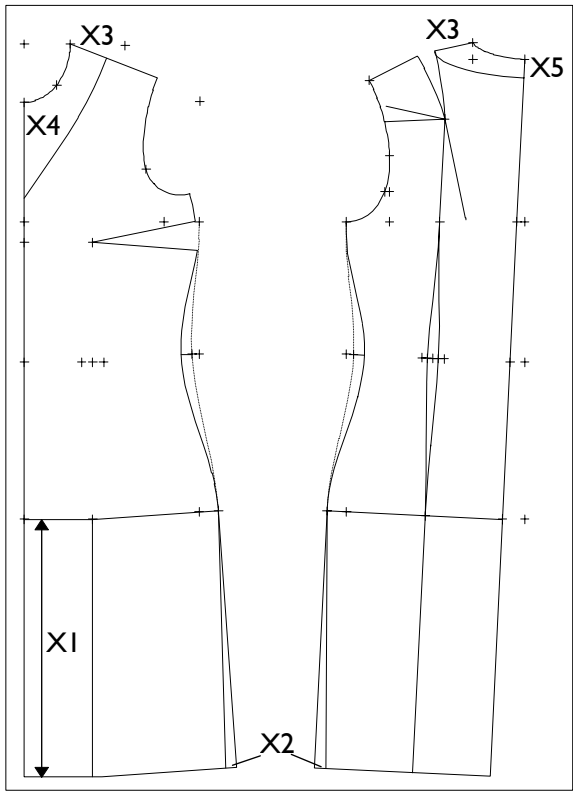
Suggestion for the list of parts:

	001		NN	0	0	0
	002		NN	0	0	0
	003		NN	0	0	0
	004		NN	0	0	0
*	005	x	draft dress	121	75	0
	006		NN	0	0	0
	007		NN	0	0	0
*	008	x	front	56	49	1
	009		NN	0	0	0
	010		NN	0	0	0
	011	x	front with drape	93	62	2
	012	x	front with curve	40	29	2
	013		NN	0	0	0
	014	x	side panel back	54	32	1
	015	x	centre panel back	52	21	1

Suggestion for construction steps:

Create the list of parts in *partorganis* and call the basic block "bodice after Hohenstein" into part 005.

Draft dress (part 005)



x values:

x1 lengthen block in mm (350.)
x2 reduction side seam in mm (15.)
x3 shorten shoulder from neck in % (42.)
x4 drop neck line ft in mm (130.)
x5 drop neck line bk in mm (25.)

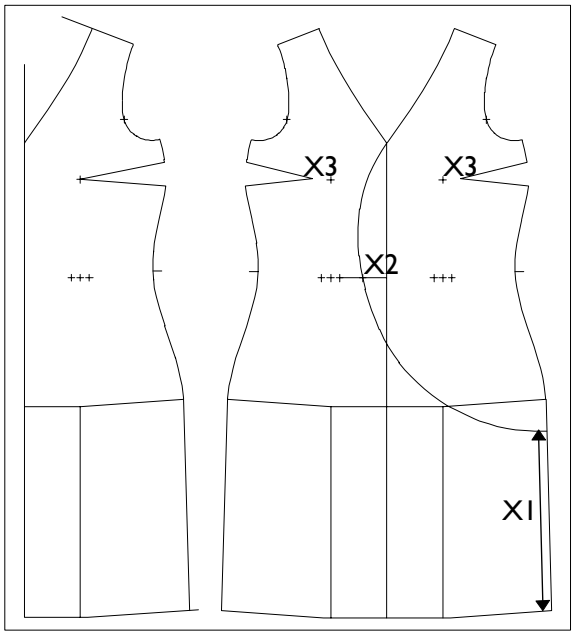
p+l+c+r
p==>p construct shoulder dart bk
separate remove hood
<F11>
z1=Ab half of waist dart ft
z2=Ab half of waist dart bk
p+l+c+r
p+dir+lg with *lg=z1* and *z2* aux. lines for relocation side seam
p+rel+p with *rel=50.* dart points bk
curves construct inside dart bk and side seam with x2
delete old side seam
modify
relocate dart ft + bk
link shoulder bk
curves back neck with x3, x5
front neck with x3, x4
separate shoulder ft + bk, neck ft
lengthen
lengthen by lg=x1 CF and CB

parallel	to hip line with x1
p+l+c+r	
perp p=>l	hip point onto hem ft + bk
measure	check that ft + bk side seam are identical in length
p+l+c+r	
p==>p	reduce side seam with x2
curves	panel seam bk
transform	
tp+p=>p	shoulder dart bk in shoulder

Front (part 008)

x values:

x1 curve start from hem in % (85.)
x2 curve bow from CF in mm (40.)
x3 shorten bust dart in mm (30.)

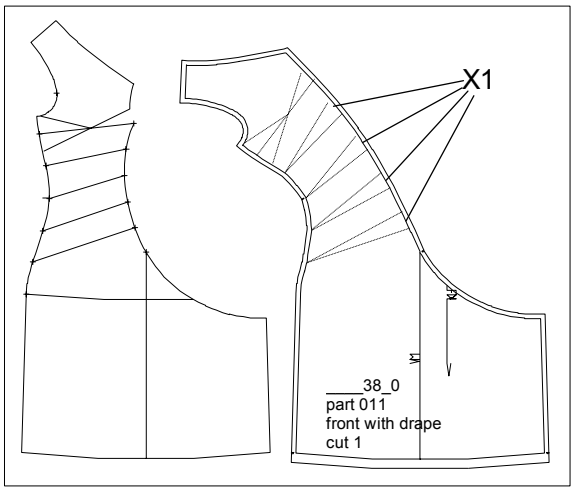


partorganis	
insert	insert lines and points for ft
remove part 005	
corners	
modify	shorten dart with x3
transform	
mirror	complete part
delete	CF (double)
p+l+c+r	
perp p => l	aux. line onto CF (waist)
p+d on l with *d=x2*	curve bow
curves	construct drape curve with x1% (side seam from hem) and bind onto waist with x2

Front with drape (part 011)

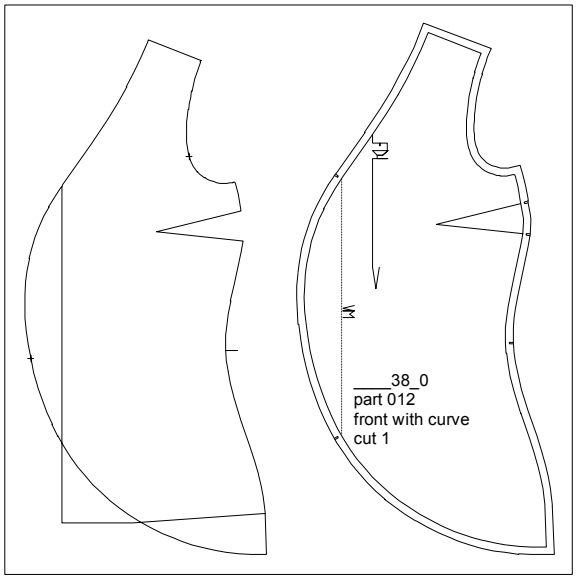
x values:

x1 pleat depth in mm (40.)



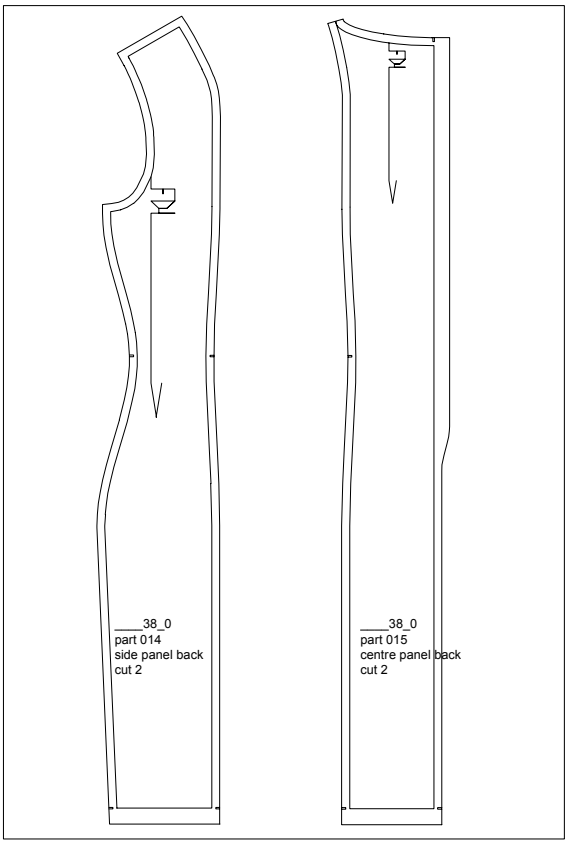
partorganis	
insert	lines and points
remove part 008	
corners	
separate	curve at CF, lengthen dart lines to curve
transform	close bust dart
separate	side seam and drape curve at waist
raster	
raster l with *N=6*	set 4 points for the pleats onto side seam and drape curve
p+l+c+r	
p==>p	spread lines for drape
transform	
tp+p=>p	close dart
pleats	
spread	with x1 as spacing
curves	draw new curve from neck line to intersection CF/curve, insert a point and bind
parallel	construct seam allowance and hem with xg1 and xg2
corners	
symbols	set grain, CF and notches
delete	
text	

Front with curve (part 012)



partorganis
insert lines and points
remove part 008
corners
pleats
dart hood single dart
parallel seam allowance with xg1
symbols set grain, CF and notches
delete
text

Side panel back (part 014) and **centre panel back** (part 015)



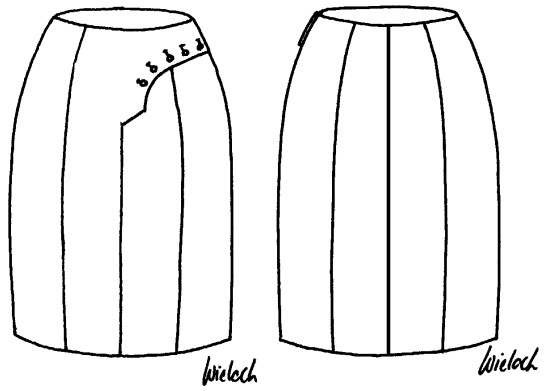
partorganis
insert lines and points
remove part 005
corners
separate superfluous lines
modify
p adjust vertical
parallel construct seam allowance and hem with xg1 and xg2 and addition for zip (500 mm long)
corners
link seam allowance and zip
symbols set grain and notches
delete
text

The construction of the centre back panel is analogous to the side panel.

4th Exercise

"Short skirt"

Working drawing:



Design specification:

From basic block "skirt after Hohenstein" a short skirt in proportion class "d" with overlapping button catch in the front (see picture), vents without facings is to be constructed.

Use the following global x values:

xg1	seam allowance in mm (10.)
xg2	hem in mm (20.)
xg3	vent height from hem in mm (50.)

The following is to be variable via x values:

- skirt length from hip
- start for curve at side seam
- curve base at overlap
- overlap width

Suggestion for the list of parts:

	001		NN	0	0	0
	002		NN	0	0	0
	003		NN	0	0	0
	004		NN	0	0	0
*	005	x	draft skirt	40	42	0
	006		NN	0	0	0
	007		NN	0	0	0
	008		NN	0	0	0
	009	x	side panel front	42	20	1
	010	x	right centre panel ft	82	36	1
	011	x	left centre panel ft	49	24	1
	012		NN	0	0	0
	013		NN	0	0	0
	014	x	side panel back	41	17	1
	015	x	centre panel back	46	18	1

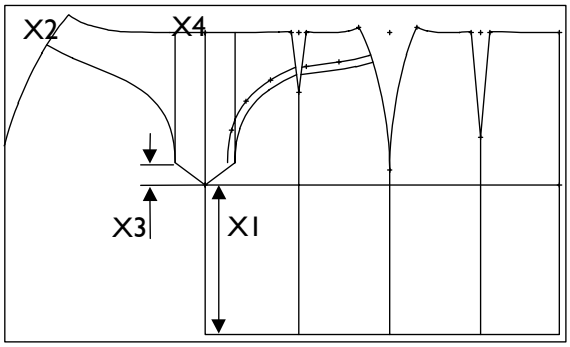
Suggestion for construction steps:

Open a number of parts in *partorganis*, enter the corresponding text and activate part 005. Call basic block "skirt after Hohenstein" into part 005.

Draft skirt (part 005)

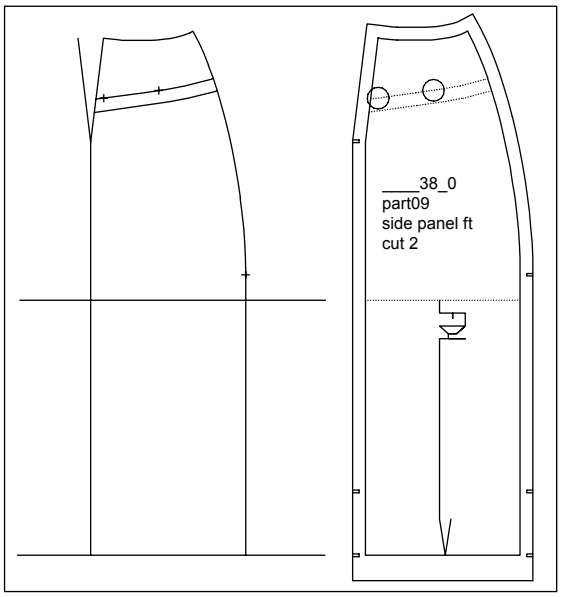
x values:

x1	skirt length from hip in mm (200.)
x2	start of curve at side seam from waist in mm (50.)
x3	curve base at overlap in mm (30.)
x4	overlap width in mm (40.)



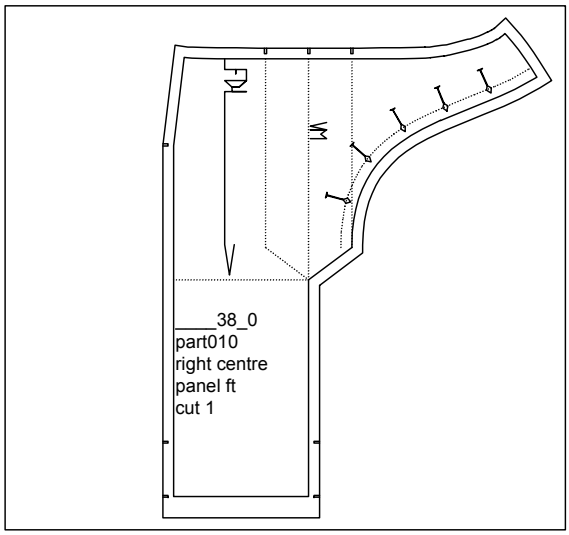
transform
  turn tp+p=>p waist line and side seam about waist dart vertix
  mirror waist line and ss (ft) at CF
parallel overlap with x4
p+l+c+r
  p==>p close overlap
    plg on l with *plg=x3*
    click p
corners or *separate*
curves construct overlap panel
  plg on l with *plg=x2*
  click pl
corners
p+l+c+r
  p==>p construct hip line
parallel hem with x1
p+l+c+r
  perp p=>l construct panel seams
transform
  mirror overlap curve at CF
parallel to overlap curve with 10mm
raster
  raster l with *N=7* points for buttons
separate buttonhole curve at left dart line
transform
  tp+p=>p buttonhole curve and point sequence about dart angle
p+l+c+r
  p_____ points for buttons with *click p*
delete point sequence
transform
  mirror overlap and sloped line at CF

Side panel front (part 009)



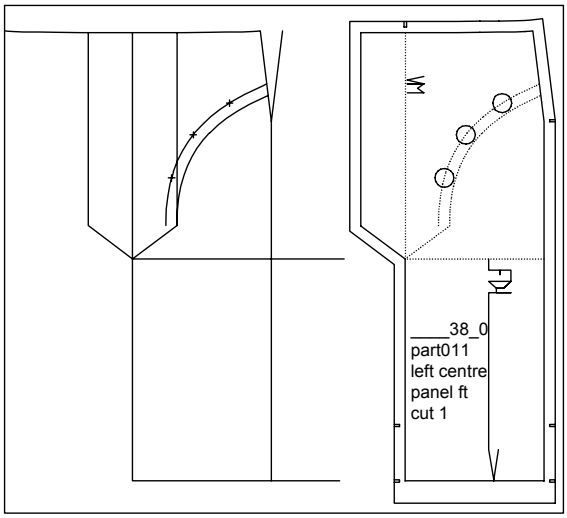
partorganis
insert
remove part 005
corners
separate hip line
attributes alter hip line
parallel seam allowance and hem with xg1 and xg2
corners close allowance
symbols set grain, notches (notch for vent: *plg on 1* with *plg*=xg3) and circle for buttons
text

Right centre panel ft (part 010)



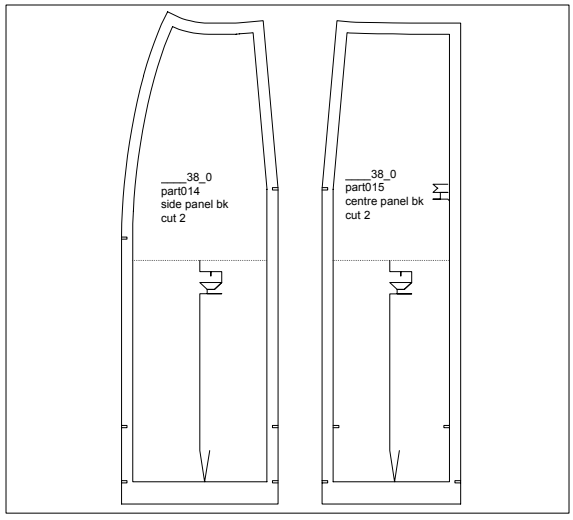
partorganis
insert lines for right ft panel
corners
separate hip line and auxiliary line
parallel overlap curve with d= 10mm
raster
raster 1 with *N*=7 points for 5 buttons
transform
mirror complete part, -copy
attributes alter hip line
parallel construct seam allowance and hem with xg1 and xg2
corners close allowance
symbols grain, buttonholes, notches (notch for vent with xg3)
text

Left centre panel ft (part 011)



partorganis
insert
corners
separate hip line
attributes alter hip line
parallel seam allowance and hem with xg1 and xg2
corners close allowance
symbols set grain and notches (notch for vent with xg3)
text

Side and centre panel bk (part 014, 015)

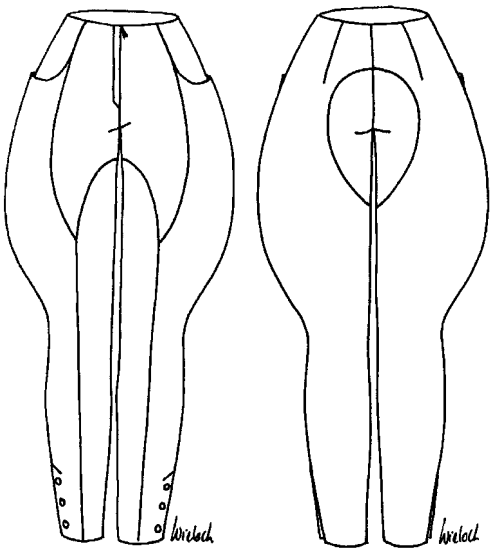


Construction steps as for part 011.

5th Exercise

"Riding breeches with double-seat"

Working drawing:



Design specification:

From the basic block "trousers after Hohenstein" breeches without ease with double-seat at the back are to be constructed. For ease of operation the fastening is ignored.

Use the following global x values:

xg1	seam allowance in mm (10.)
xg2	hem in mm (20.)
xg3	cuff base from hem in mm (200.)
xg4	distance buttons to side seam in mm (15)

The following is to be variable via x values:

- reduction hem and side seam
- curve bow
- panel seam base ft
- pocket mouth
- start double-seat

Suggestion for list of parts:

	001		NN	0	0	0
	002		NN	0	0	0
	003		NN	0	0	0
	004		NN	0	0	0
*	005	x	draft trousers	154	73	0
	006		NN	0	0	0
	007	x	side panel trouser ft	43	24	1
	008	x	centre panel trouser ft	35	18	1
	009	x	inside panel trouser ft	17	11	1
	010	x	pocket bag	32	10	1
*	011	x	trouser back	45	27	1
	012	x	double-seat trouser bk	13	10	2
	013		NN	0	0	0

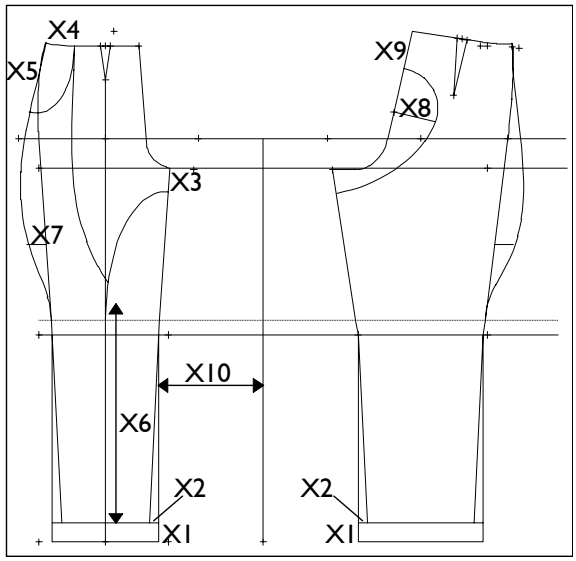
Suggestion for construction steps:

Open a number of parts in *partorganis*, enter the corresponding text and activate part 005.

Draft trousers (part 005)

x values:

x1	shorten hem in mm (40.)
x2	reduction side seam in mm (20.)
x3	panel seam/inside leg ft in mm (50.)
x4	pocket mouth/waist in mm (60.)
x5	pocket mouth/ss in mm (150.)
x6	base inside panel seam from hem in mm (460.)
x7	curve bow ft/bk in mm (40.)
x8	curve bow double-seat bk in mm (90)
x9	double-seat from waist in mm (80.)
x10	distance mirror line to part (200mm)



p+l+c+r

p+d on l with *d=x10* create starting point for mirror line

p==>py construct mirror line

transform

mirror trouser back

parallel shorten hem by x1

p+l+c+r

perp p=>l vertical aux. line from dart vertix ft to hem

p+digi horizontal aux. lines (knee, hip, seat)

parallel to knee line with x6

p+l+c+r

p==>p reduce side seam (cuff area)

intersectn knee line/side seam

plg on l with *plg=x2*

separate old side seam (ft+bk) at curve base and seat line

p+l+c+r

p+dir+lg with *lg=x7*construct curve bow line at side seam

rlg on l with *rlg=50*

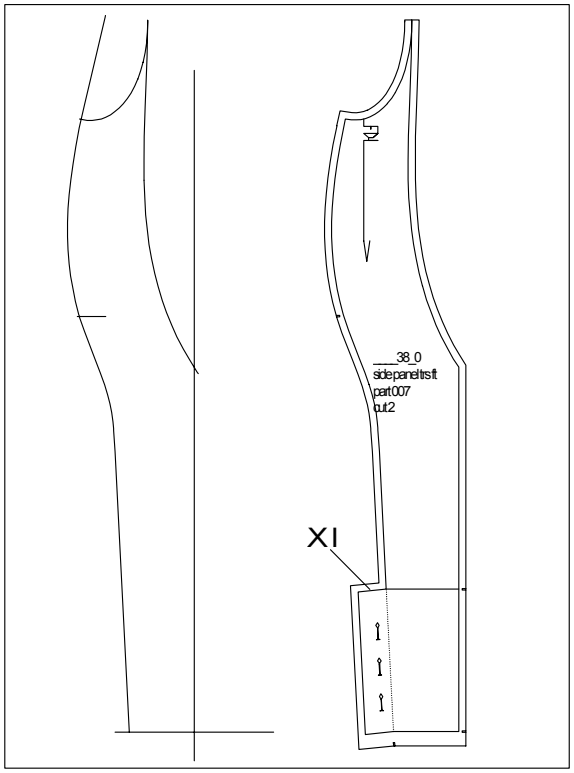
p+dir+lg with *lg=x8*construct curve bow line double-seat

click p

curves construct following curves:
side seam curve ft + bk
double-seat with x8, x9,
pocket mouth with x4, x5,
inside panel seam with x3, x6

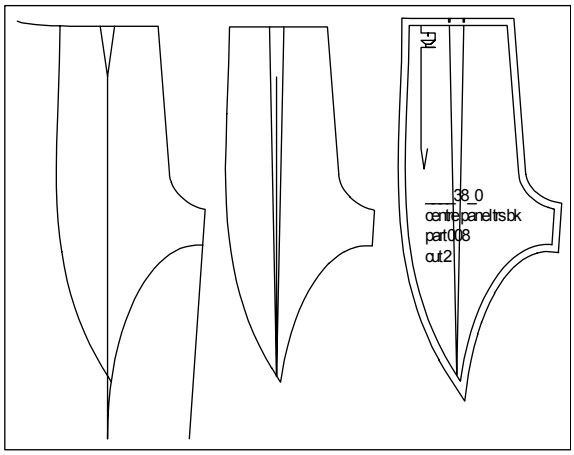
Side panel trouser front (part 007)

x values
x1 overlap width for cuffs in mm (30.)



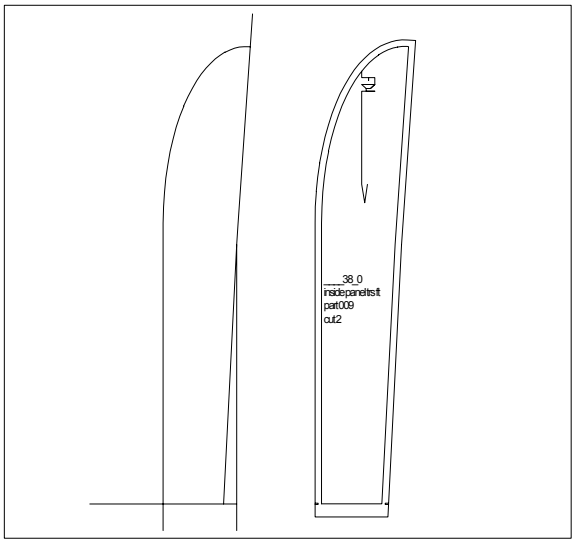
partorganis
insert
remove part 005
corners
parallel
d=xg3 construct cuff base line
separate side seam at cuff base
parallel
d=x1 construct overlap
d=xg4 aux. line for buttonholes
transform
mirror side seam at overlap
raster
raster 1 with *N=5* raster aux. line
parallel seam allowance and hem with xg1 and xg2
symbols grain, buttonholes, notches
attributes alter cuff side seam
text

Centre panel trouser front (part 008)



partorganis
insert
remove part 005
corners
separate vertical auxiliary line
<F11>
z01=-gL measure vertical aux. line (with negative value)
modify lengthen dart
shortn dart
lg=z1
parallel seam allowance with xg1
symbols set grain and notches
text

Inside panel trouser front (part 009)

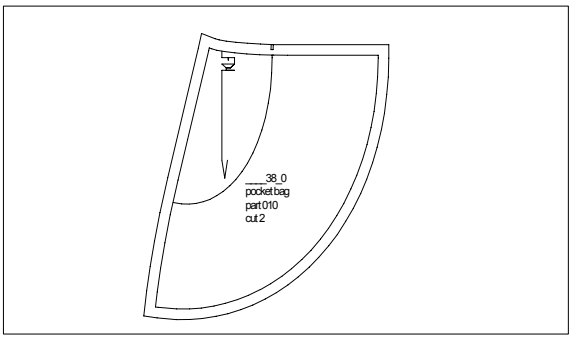


partorganis
insert
remove part 005
corners
parallel seam allowance and hem
symbols grain and notches
text

Pocket bag (part 010)

x values:

x1 pocket bag width in mm (100.)
x2 pocket bag length in mm (250.)

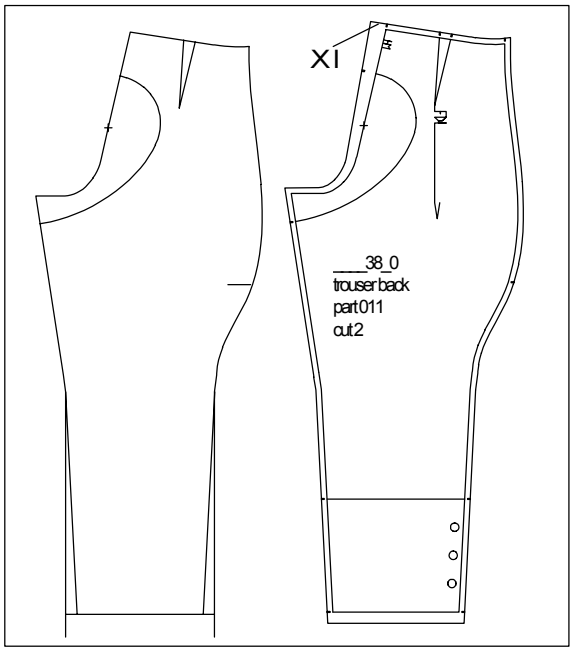


partorganis
insert
remove part 005
curves construct new curve
plg on 1 with *plg=x1* and *x2*
corners
parallel seam allowance with xg1
symbols grain and notch
text

Trouser back (part 011)

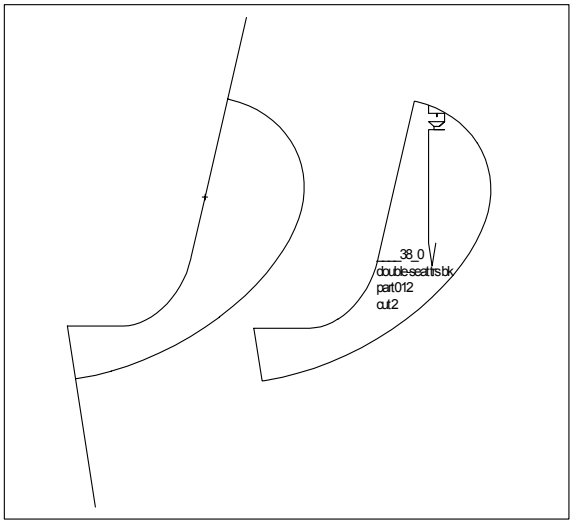
x values:

x1 addition CB



partorganis
insert
remove part 005
corners
separate
parallel
d=xg3 aux. line cuff base
d=xg4 aux. line for buttons
parallel seam allowance and hem with xg1 and xg2
raster aux. line for buttons
lengthen
lengthen by lg=x1 addition CB
poma move seam allowance CB
symbols set grain, buttons, notches
text

Double-seat trouser back (part 012)

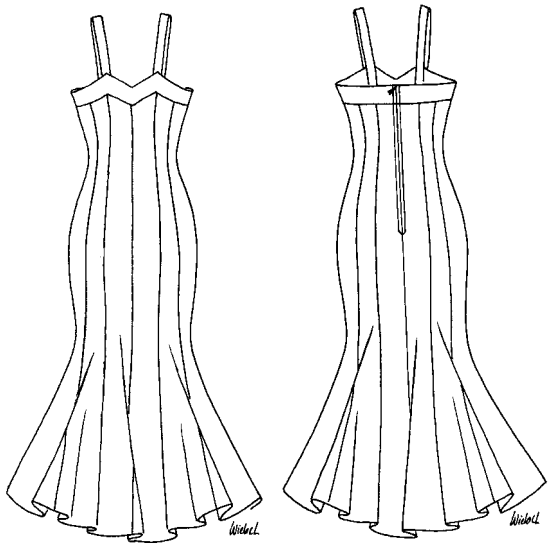


partorganis
insert
remove part 011
corners
parallel seam allowance with xg1
symbols set grain and notch
text

6th Exercise

"Summer dress with straps and banded neck"

Working drawing:



Design specification:

From the basic block "bodice after Hohenstein" a summer dress in proportion class "c" with straps, banded neck and godets is to be constructed.

Use the following global x values:

- xg1 seam allowance in mm (10.)
- xg2 hem in mm (30.)
- xg3 godet angle (30°)

The following is to be variable via x values:

- dress length,
- band width,
- drop armhole and
- shortening of the waist darts.

Suggestion for the list of parts:

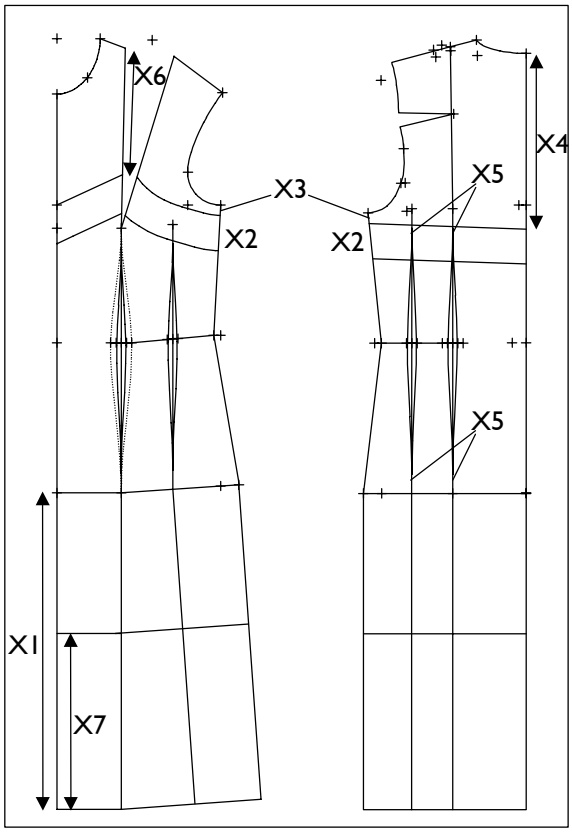
001		NN	0	0	0
002		NN	0	0	0
003		NN	0	0	0
004		NN	0	0	0
* 005	x	draft dress	201	105	0
006		NN	0	0	0
007	x	centre panel front	90	40	1
008	x	middle panel front	87	41	1
009	x	side panel front	89	37	1
010		NN	0	0	0
011	x	side panel back	86	35	1
012	x	middle panel back	89	35	1
013	x	centre panel back	85	31	1
014		NN	0	0	0
015	x	band front	43	17	1
016	x	band back	58	24	1
017	x	strap	43	17	1

Suggestion for construction steps:
Open 17 parts in *partorganis,* enter the corresponding text and call basic block "bodice after Hohenstein" into part 005.

Draft dress (part 005)

x values:

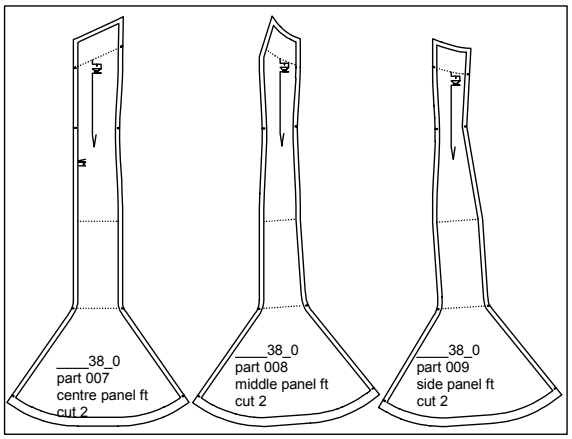
- x1 dress length from hip in mm (450.)
- x2 band width in mm (50.)
- x3 drop armhole in mm (15.)
- x4 distance between neck and band (CB) in mm (250.)
- x5 shorten waist dart ft + bk in mm (25.)
- x6 start band peak ft from shoulder in mm (180.)
- x7 godet base from hem in mm (250.)



transform
turn with *tp+p=>p* bk (CB) vertical
p+l+c+r
p==>p create shoulder dart and panel seam back
separate shoulder, remove hood
modify
relocate dart relocate dart bk into armhole
link shoulder bk
separate shoulder at panel seam
modify
relocate dart bust dart into shoulder
curves construct waist dart
p+l+c+r
p_____ construct point in centre between CB and waist dart
transform
move p==>p waist dart

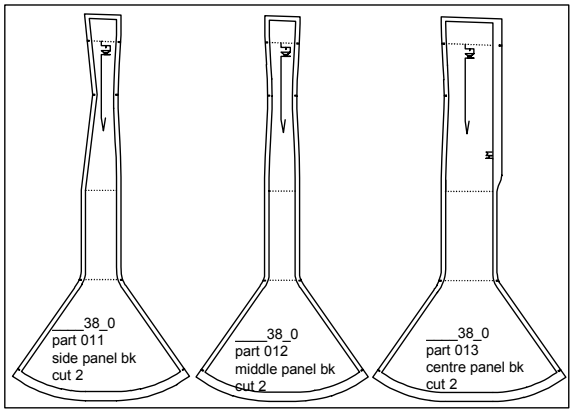
p+l+c+r
p+rel+p with *rel=50.* construct waist points of the waist darts
curves construct waist darts
p+l+c+r
p==p band bk
plg on l with *plg=x3*
plg on l with *plg=x4*
p==p band line ft
click p at CF
plg on l with *plg=x6*
curves band curve ft
plg on l with *plg=x3*
plg on l witg *plg=x6*
modify
shortn dart lg=x5 waist dart ft + bk
parallel
d=x2 band ft with CF and bk
separate lower band line ft and dart and CF
<F11>
z1=Ab measure band width along the left dart line with *click pl*
p+l+c+r point for band line at ss
curves construct lower band line of right ft with z1
lengthen
lengthen by lg=x1 lengthen CF and CB
parallel to hem ft + bk with x1
parallel for godet base with x7
p+l+c+r
perp p=>p perp. on hem (dart + ss)
separate superfluous lines
corners

Centre panel ft (part 007), **middle panel ft** (part 008) and **side panel ft** (part 009)



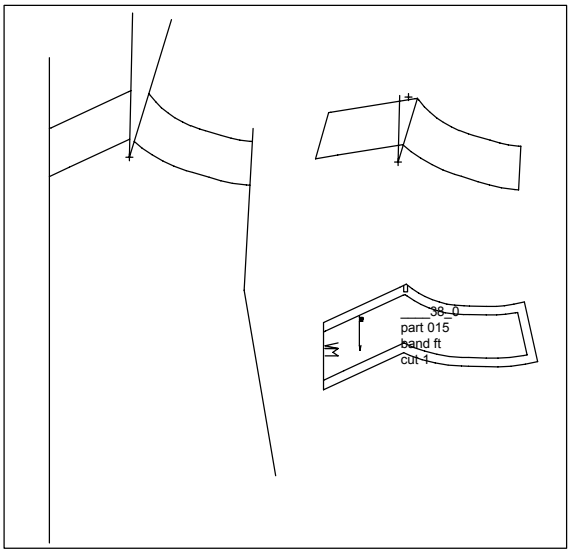
partorganis
insert
remove part 005
corners
separate aux. line at godet base
transform
turn with *tp+ang*
intersectn. aux. line/panel seam
ang=xg3
-back trans.
intersectn. aux. line / ss
ang=xg3
+back trans.
p+l+c+r
circle arc for godet base
corners or *separate* superfluous lines
link godet base/ss
parallel seam allowance and hem with xg1 and xg2
symbols set grain and notches
attributes alter aux. lines
delete
text

Side panel bk (part 011), **middle panel bk** (part 012) and **centre panel bk** (part 013)



The procedure is analogous to the front parts, but with an additional parallel for the concealed zip in the centre back panel.

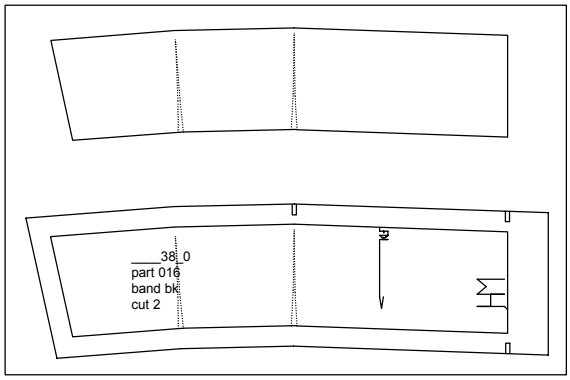
Band front (part 015)



partorganis
insert
remove part 005
corners
separate band line and dart line

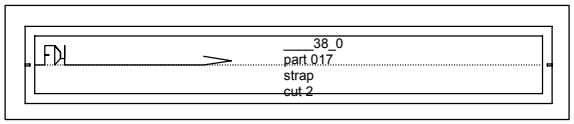
transform
turn tp+p=p close dart
link
link with curve link band line
parallel construct seam allowance
symbols grain, CF and notch for strap
attributes alter dart lines
text

Band back (part 016)



Construction steps as for band ft.

Strap (part 017)



partorganis
insert
remove part 005
<F11>
z1=Ab+Ab-30 bust dart line ft + bk to top edge of band
p+l+c+r
p+w+h with *h=30* and *w=z1*
transform
mirror
parallel seam allowance with xg1
symbols grain and notches
text