

 digipara® liftdesigner

Product Loading: Car
Frame

PL2



Recommendation

ONLINE TRAINING



Are you an attendee in a DigiPara LiftDesigner online training module?

We recommend to print these out in advance so that you have a handout for your own editing and for your notes during your training.

Agenda

CAR FRAME AND ACCESSORIES

PL2.1 Session 1

- Typical Processes
 - Car Frame

PL2.2 Session 2

- Optional Steps
 - Car Frame
- Typical Processes (related components)
 - Pulley Beam
 - Pulley

PL2.3 Additional training material

- Cutouts for Profiles

PL2.4 Summary

- Custom Q&A's

Product Loading Workflow

CAR FRAME AND ACCESSORIES

Typical Processes

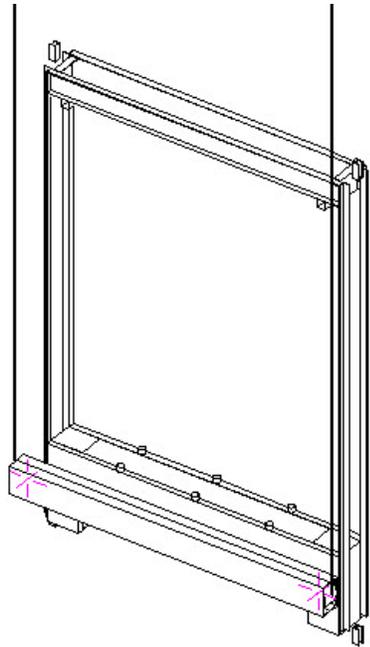
- Copy a similar BIM Component
- Edit the Meta Data
- Determine related BIM Components
- Load your edited BIM Component
- Load the Developer Work Area
- Use Explanation of Parameters and Values
- Modify the simplified 3D Geometry
- Set the Positioning Points
- Save the BIM Component back into the DigiPara BIM Library

Optional Steps

- Dynamic Properties
Direct input of any values in the DigiPara LiftDesigner BIM Component Properties Window.
- BIM Component Rules
Add logic that is related to your BIM Component.
- Dynamic Dimension Points
Define points for own dynamic dimensions

Car Frame and Accessories

Expected result



PL2.1

Typical Processes

Car Frame and
Accessories

TYPIICAL
PROCESSES

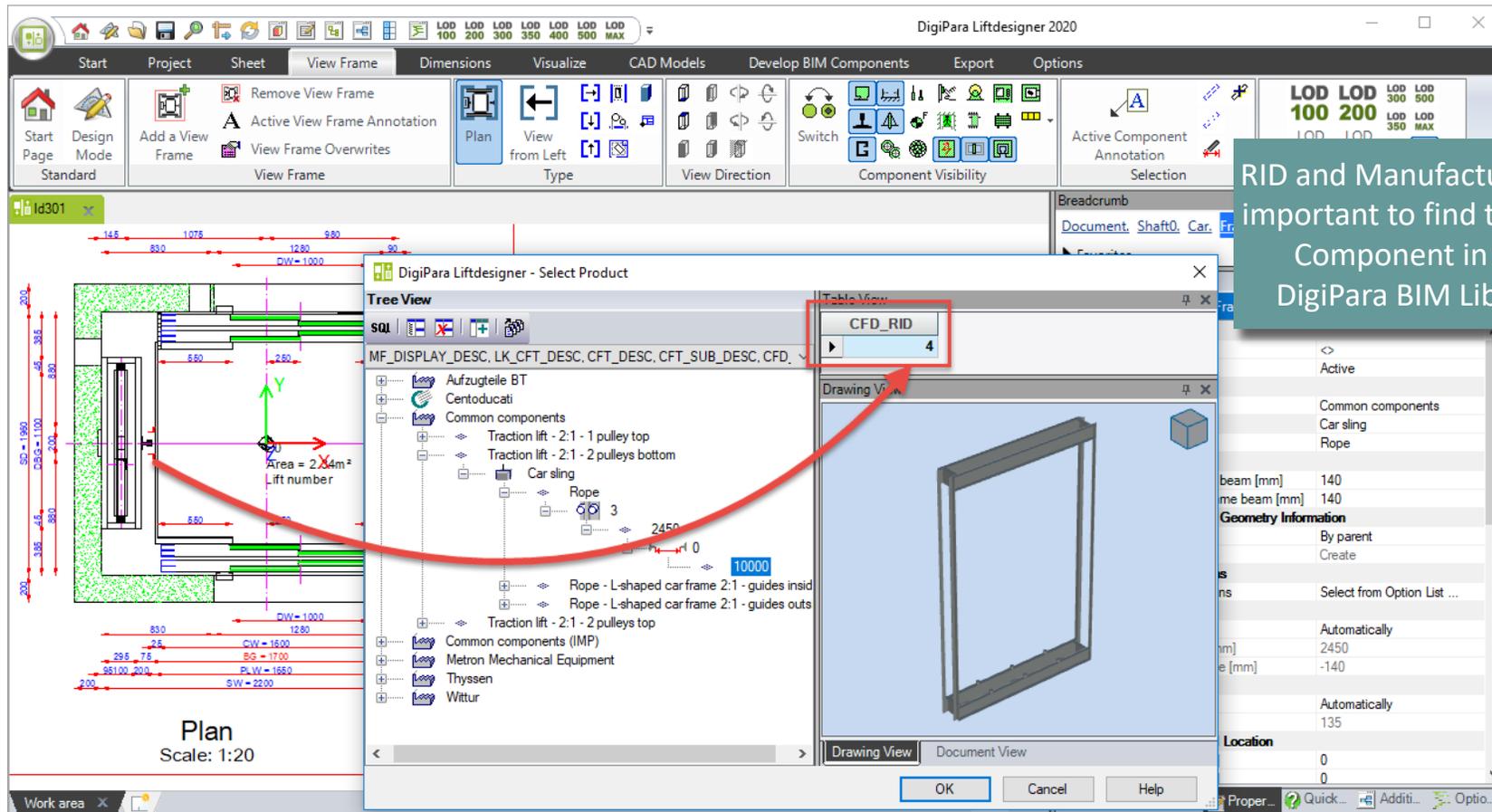


✓ Copy a similar BIM Component

Copy a similar BIM Component

PL2.1 TYPICAL PROCESSES

Copy a similar BIM Component



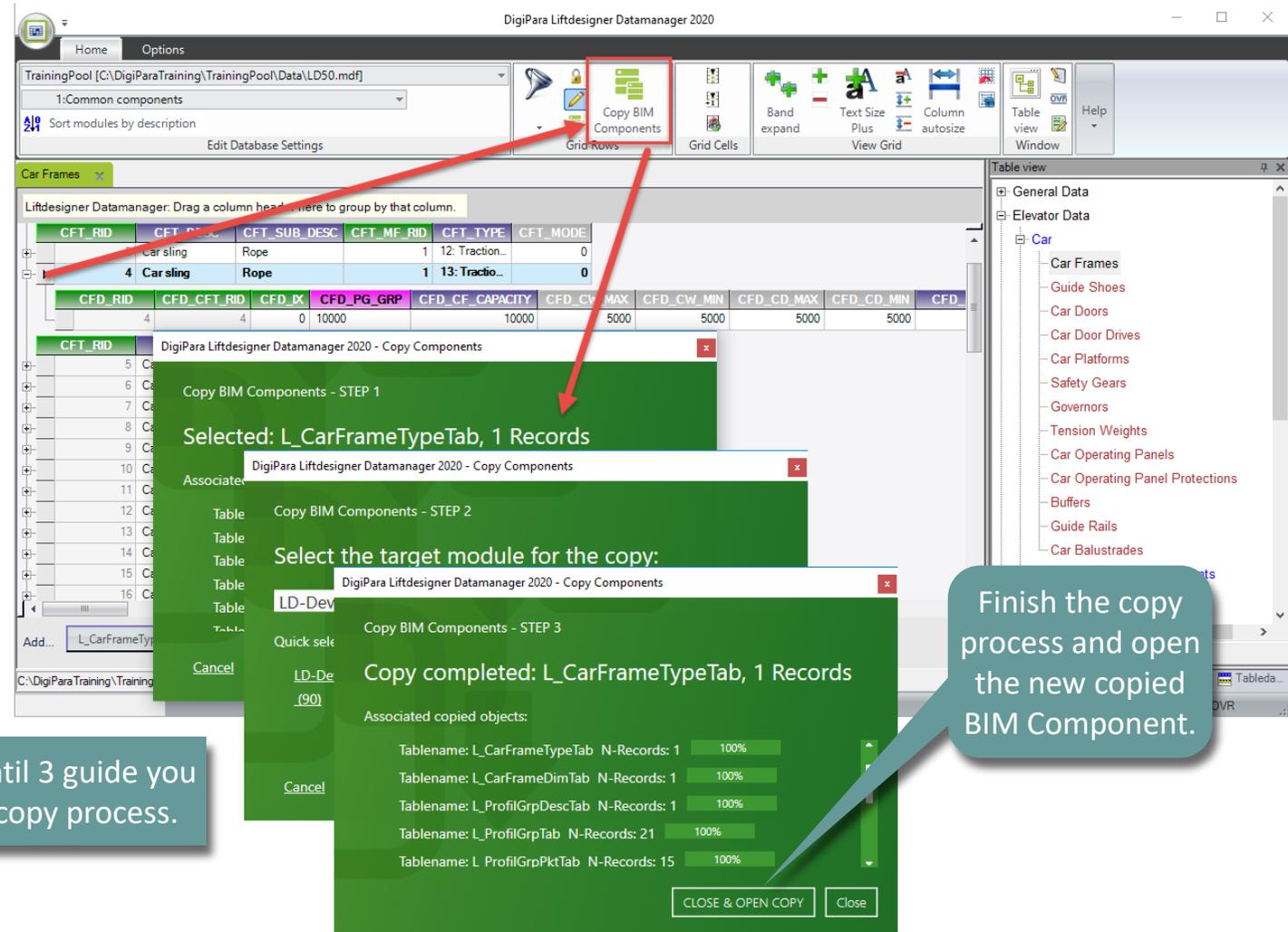
Copy a similar BIM Component

PL2.1 TYPICAL PROCESSES

Copy a similar BIM Component

- in DigiPara Datamanager

The BIM Component is copied with all parameter and values to a new manufacturer / DigiPara BIM Library.



The steps 1 until 3 guide you through the copy process.

Finish the copy process and open the new copied BIM Component.

✓ Edit the Meta Data

Edit the Meta Data

PL2.1 TYPICAL PROCESSES

Edit the Meta Data – Description

- in DigiPara Liftdesigner Datamanager

Add a new specific description for the new copied BIM Component.

The screenshot shows the 'Car Frames' window in the DigiPara Liftdesigner Datamanager. The main table has the following data:

CFT_RID	CFT_DESC	CFT_SUB_DESC	CFT_MF_RID	CFT_TYPE	CFT_MODE
7500000	Training Car Frame	My Training Example	7500000	13: Tractio...	0

A red box highlights the 'CFT_DESC' and 'CFT_SUB_DESC' columns. A red arrow points from this box to the BIM library tree on the right. The tree shows a hierarchy of components, with 'Training Car Frame' and 'My Training Example' highlighted in a red box. A callout bubble points to the 'My Training Example' entry in the tree.

Callout bubbles provide additional context:

- 'Edit Mode! Open a new table to save the new content in the database.' (points to the table)
- 'Result in the DigiPara Liftdesigner BIM Library' (points to the tree)

✓ Explanation of Parameters and Values

Explanation of Parameters and Values

PL2.1 TYPICAL PROCESSES

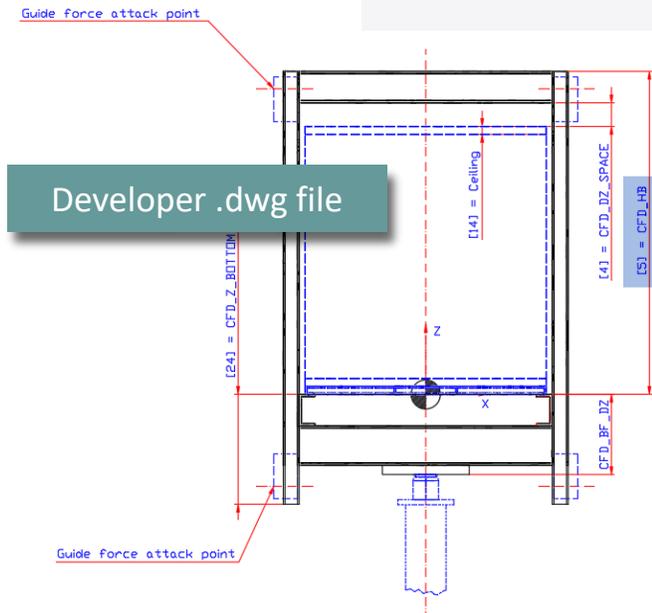
Use the Explanation of Parameters and Values

- Define typical 3D Parameter: Type
 - in DigiPara Liftdesigner Datamanager

CFD_CF_CAPACITY	The maximum capacity of the car frame in kg
CFD_HB	The distance in the z-axis between the top edge of the finished floor of the car frame and the highest point of the car frame construction. ⚠ Don't include the guide shoes or hand rails!
CFD_WEIGHT	Weight of the car frame

CFT_DESC	CFT_SUB_DESC	CFT_MF_RID	CFT_TYPE	CFT_MODE
Training Car Frame	My Training Example	7500000	13: Traction...	0

CFD_CFT_RID	CFD_IX	CFD_PG_GRP	CFD_CF_CAPACITY	CFD_CW_MAX	CFD_CW_MIN	CFD_CD_MAX	CFD_CD_MIN	CFD_HB	CFD_CPF_RID	CFD_WEIGHT	CFD_DBG
000	7500000	0	7500003	2000	5000	5000	5000	5000	2380	370.58	



▷ [0020] Type

CFD_CF_CAPACITY kg

CFD_HB mm

CFD_WEIGHT kg

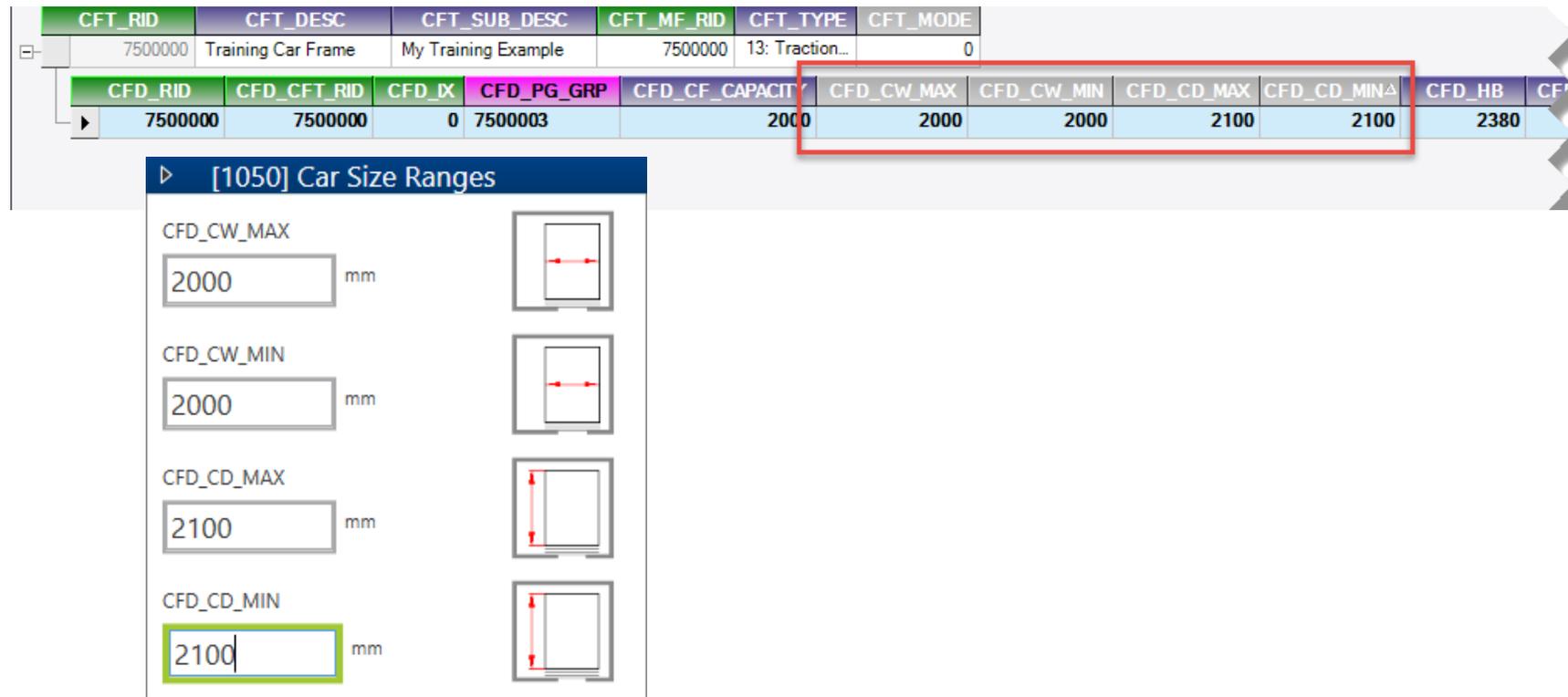
Explanation of Parameters and Values

PL2.1 TYPICAL PROCESSES

Use the Explanation of Parameters and Values

- Define typical 3D Parameter: Car Size Ranges
 - in DigiPara Liftdesigner Datamanager

CFD_CW_MAX	Maximum width of the cabin
CFD_CW_MIN	Minimum width of the cabin
CFD_CD_MAX	Maximum depth of the cabin
CFD_CD_MIN	Minimum depth of the cabin



The screenshot displays the DigiPara Liftdesigner Datamanager interface. At the top, a table lists car frame parameters. The second row is highlighted, and its columns are expanded to show detailed values. A red box highlights the width and depth parameters. Below this, a detailed view for the parameter '[1050] Car Size Ranges' is shown, with input fields for CFD_CW_MAX, CFD_CW_MIN, CFD_CD_MAX, and CFD_CD_MIN, each accompanied by a diagram illustrating the measurement.

CFT_RID	CFT_DESC	CFT_SUB_DESC	CFT_MF_RID	CFT_TYPE	CFT_MODE
7500000	Training Car Frame	My Training Example	7500000	13: Traction...	0

CFD_RID	CFD_CFT_RID	CFD_IX	CFD_PG_GRP	CFD_CF_CAPACITY	CFD_CW_MAX	CFD_CW_MIN	CFD_CD_MAX	CFD_CD_MIN	CFD_HB
7500000	7500000	0	7500003	2000	2000	2000	2100	2100	2380

[1050] Car Size Ranges

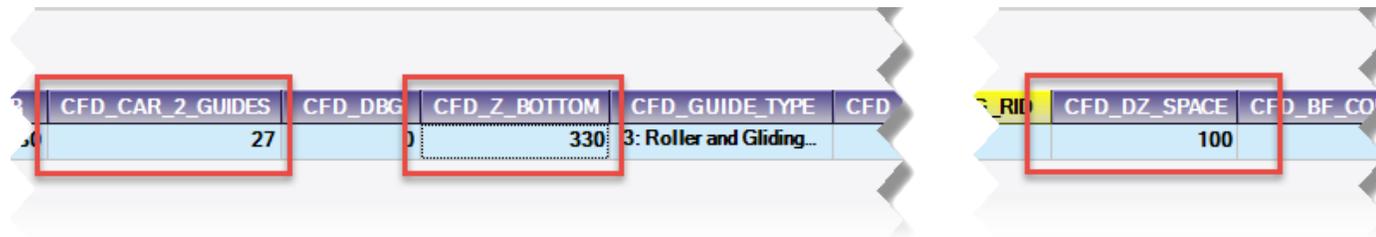
- CFD_CW_MAX: 2000 mm
- CFD_CW_MIN: 2000 mm
- CFD_CD_MAX: 2100 mm
- CFD_CD_MIN: 2100 mm

Explanation of Parameters and Values

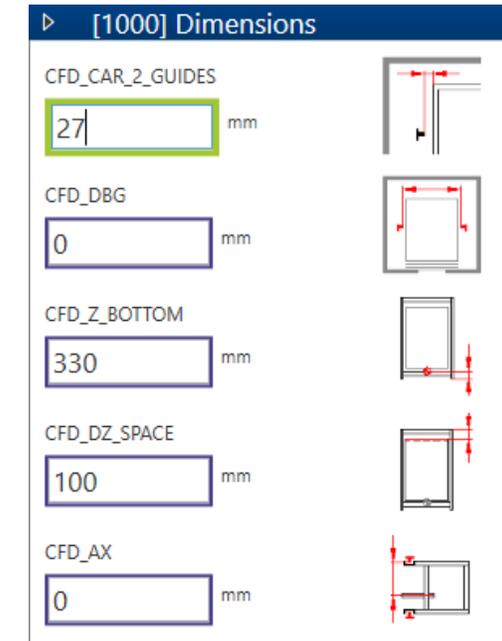
PL2.1 TYPICAL PROCESSES

Use the Explanation of Parameters and Values

- Define typical 3D Parameter: Dimensions
 - in DigiPara Liftdesigner Datamanager



CFD_CAR_2_GUIDES	The distance between the surface of the guide and the outside of the cabin. See picture for different use of the variable for the different types of car frames.
CFD_DBG	The distance between guides. Only used for car-frames with lateral direct drive (1:1 System, 1 hydraulic jack) and car-frames with tackle hydraulic jack drive (2:1 System, 1 hydraulic jack). In the other cases insert "0".
CFD_Z_BOTTOM	Distance between the IP (insert point) of the car frame and the lowest point of the car frame construction
CFD_DZ_SPACE	The distance between the top side of the ceiling and the bottom side of the top crossbar of the car frame construction.

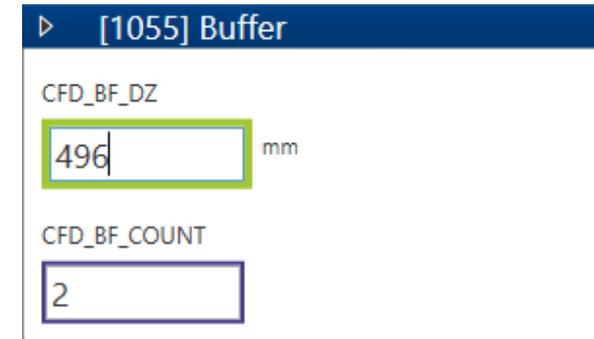
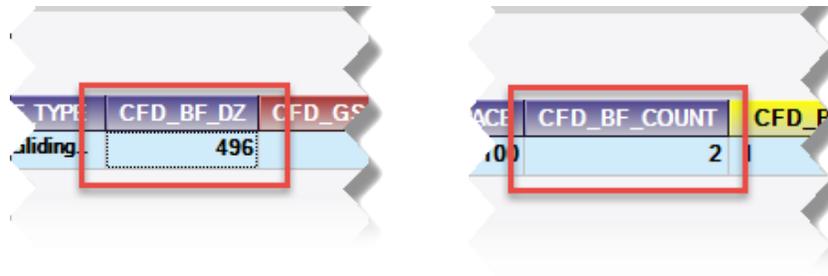


Explanation of Parameters and Values

PL2.1 TYPICAL PROCESSES

Use the Explanation of Parameters and Values

- Define typical 3D Parameter: Buffer
 - in DigiPara Liftdesigner Datamanager



CFD_BF_DZ	The distance from the IP (insert point) of the car frame and the impact point of the buffer(s).
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CFD_BF_COUNT	The quantity of buffers which are used for this car frame.
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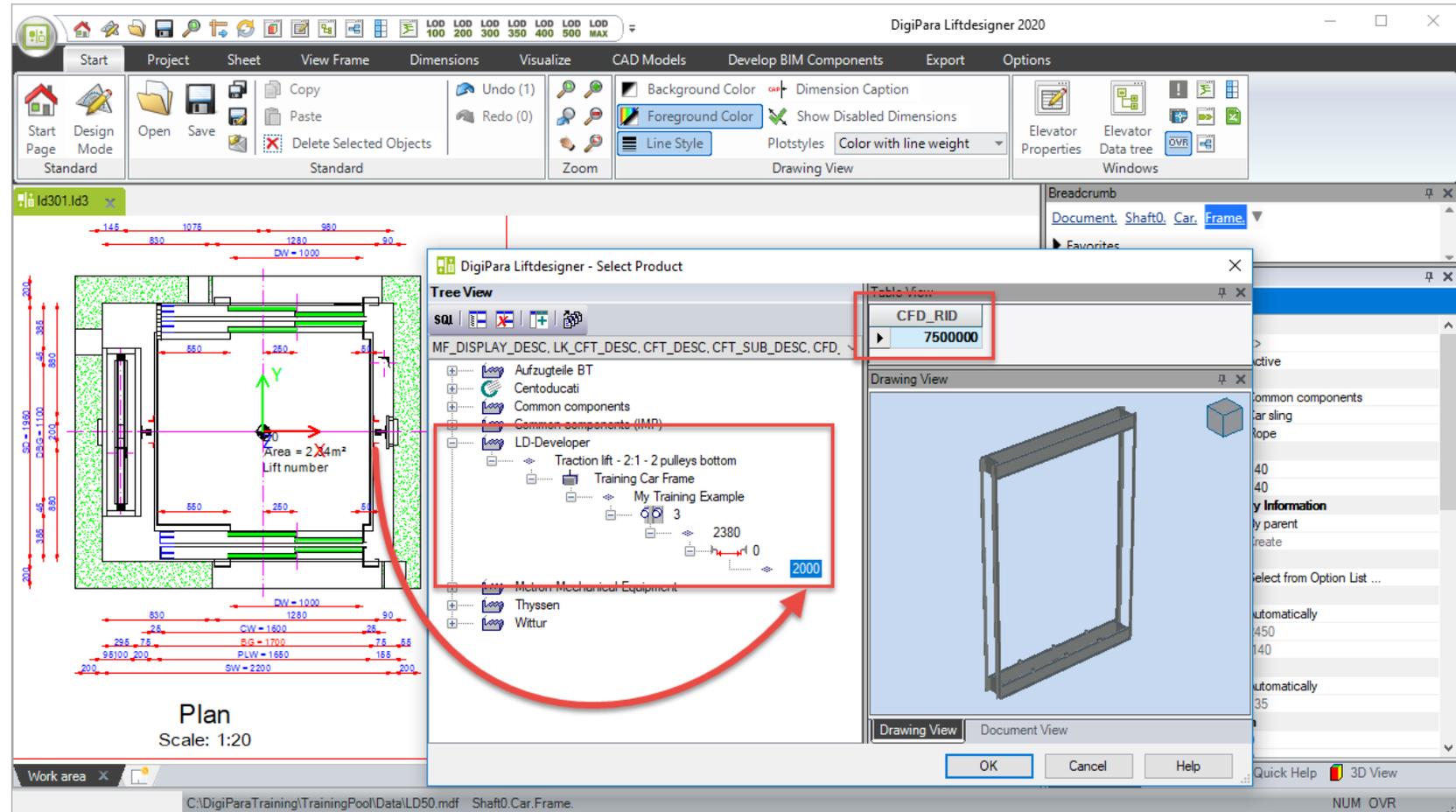
✓ Load your edited BIM Component

Load your edited BIM Component

PL2.1 TYPICAL PROCESSES

Load your edited BIM Component

- in DigiPara Liftdesigner



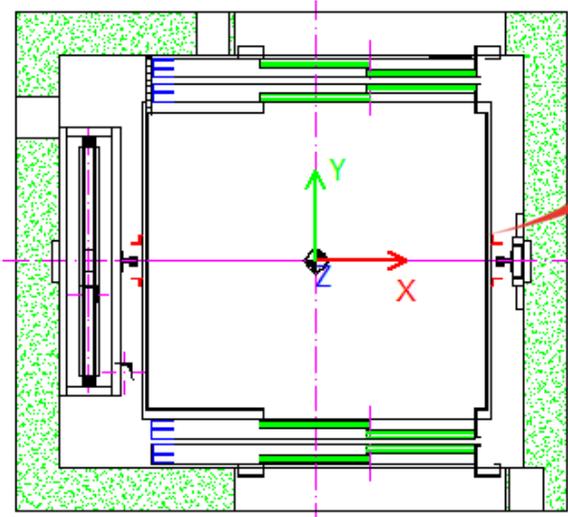
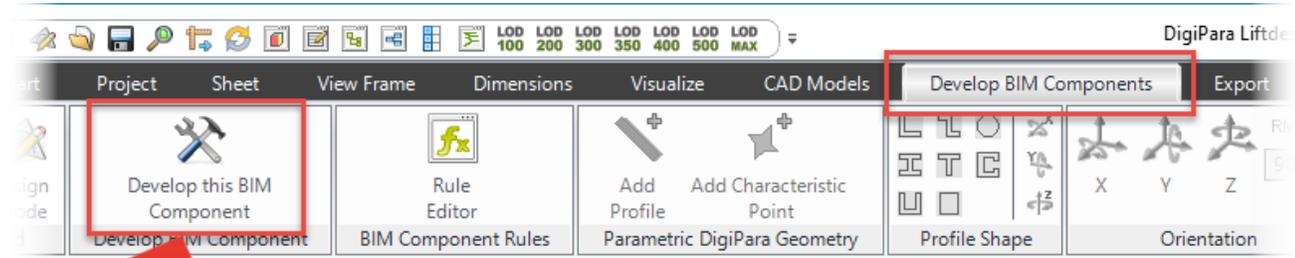
✓ Load the Developer Work Area

Load the Developer Work Area

PL2.1 TYPICAL PROCESSES

Load the Developer Work Area

- in DigiPara LiftDesigner via the BIM Component



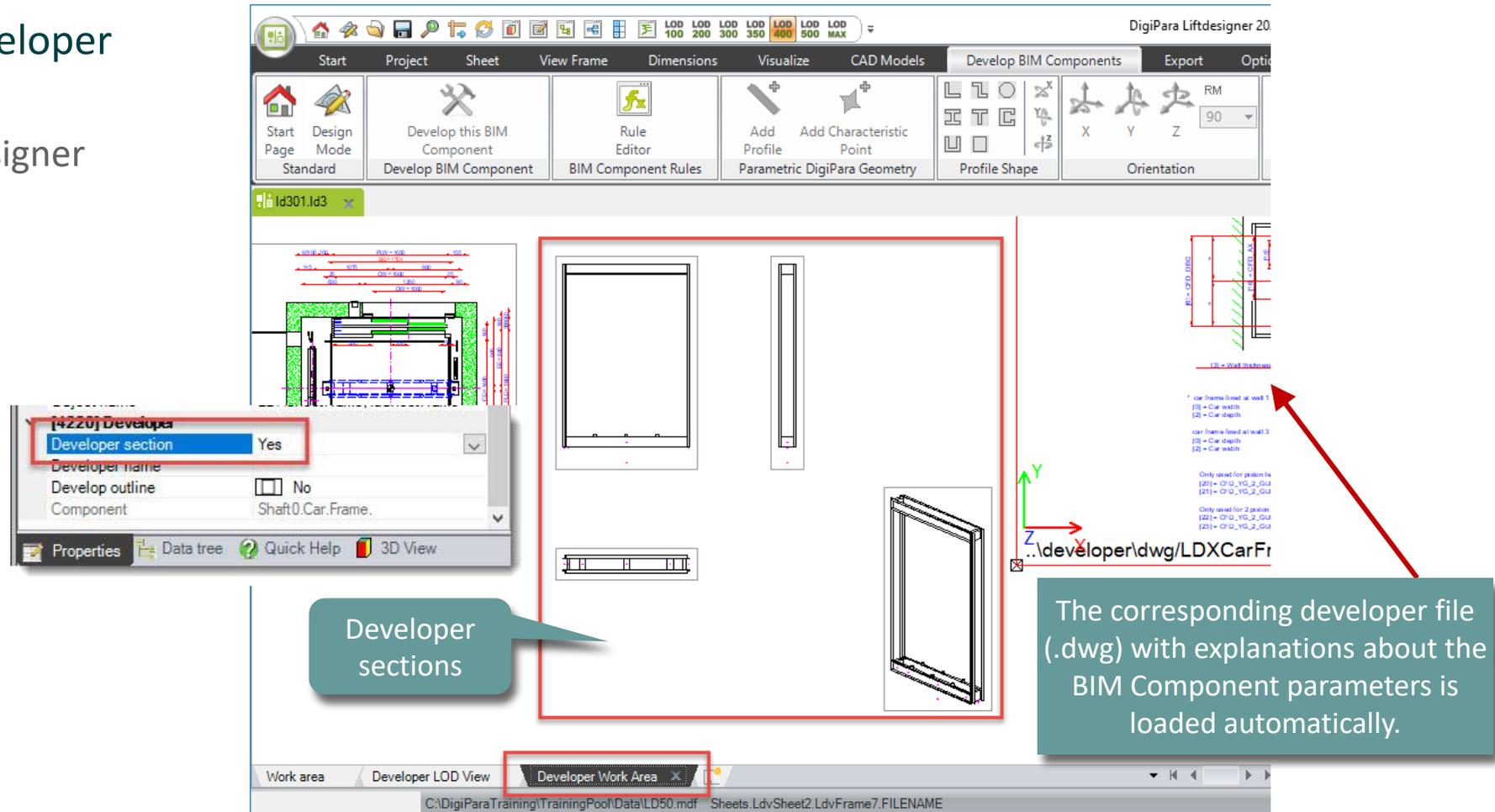
Select the corresponding BIM Component in an existing view frame and click on the button: Develop this BIM Component

Load the Developer Work Area

PL2.1 TYPICAL PROCESSES

Working in the Developer Work Area

- in DigiPara LiftDesigner



Developer sections

The corresponding developer file (.dwg) with explanations about the BIM Component parameters is loaded automatically.

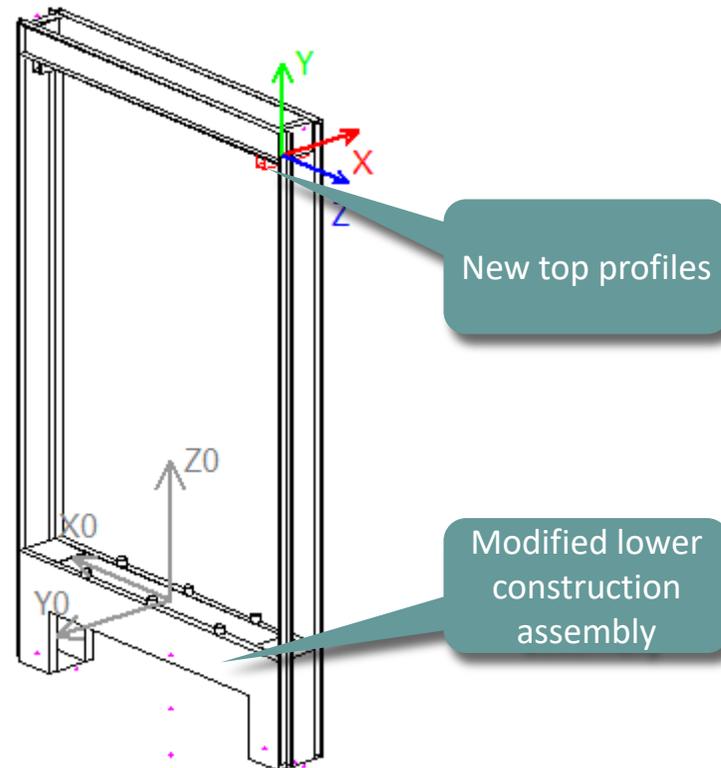
✓ **Modify the 3D Geometry**

Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Expected result:

- Modified existing profiles
- Defined new profiles



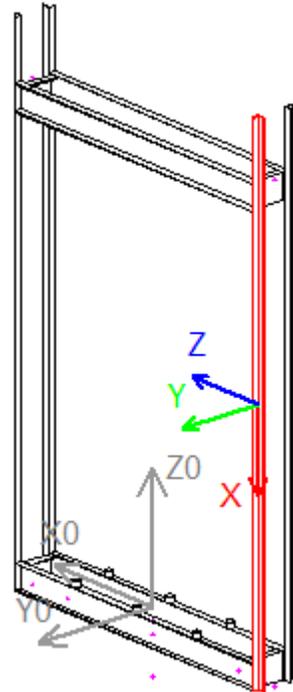
Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize existing Profiles - Size

- via the Properties Window in DigiPara Liftdesigner

Copy formulas and values from one profile to another using the Properties Window



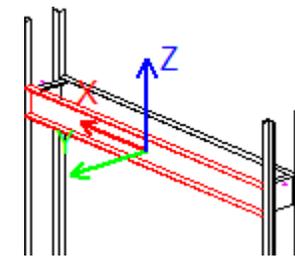
Properties

Lock Update Profile 2 [Profile2.]

- [0024] Product Options
 - This Object belongs to Product O -1
- [0515] Type
 - Shape L-Type
- [0516] Size
 - DX [mm]: PDX = 2850** $CFD_HB + CFD_Z_BOTTOM + P50$
 - DY [mm]: PDY = 40 40
 - DZ [mm]: PDZ = 40 40
 - S [mm] 5
 - T [mm] 5
- [0517] Position
 - X0 [mm] = -852 $-0.5*FW - WD - CF_CAR_2_GUIDES$
 - Y0 [mm] = 100 $0.5*PDY + 80$
 - Z0 [mm] = 1285 $-P51 + 0.5*PDX$
- [0519] Options
- [0520] 3D Parameter
 - [0]: FW 1600
 - [17]: GS_Z_TOP 2380
 - [18]: GS_Z_BOTTOM -140
 - [19]: FLOOR_PLATE_DZ 0
 - [20]: CFD_YG_2_GUIDES_DX_Lf 0
 - [21]: CFD_YG_2_GUIDES_DY_Lf 0
 - [22]: CFD_YG_2_GUIDES_DX_R 0
 - [23]: CFD_YG_2_GUIDES_DY_R 0
 - [24]: CFD_Z_BOTTOM 330
 - [25]: CW 1600
 - [26]: CD 1400
 - [40]: TC_1_DY 0
 - [41]: TC_1_DZ 0
 - [50]: P50 140
 - [51]: P51 140
 - [70]: TC_2_DX 0
 - [71]: TC_2_DY 0

P50 – User defined parameter for upper profile height PDZ

- [0515] Type
 - Shape U-Type
- [0516] Size
 - DX [mm]: PDX = 1664 $P + 2*WD + 2*CF_C$
 - DY [mm]: PDY = 40 40
 - DZ [mm]: PDZ = 140** P50
 - S [mm] 5
 - T [mm] 5

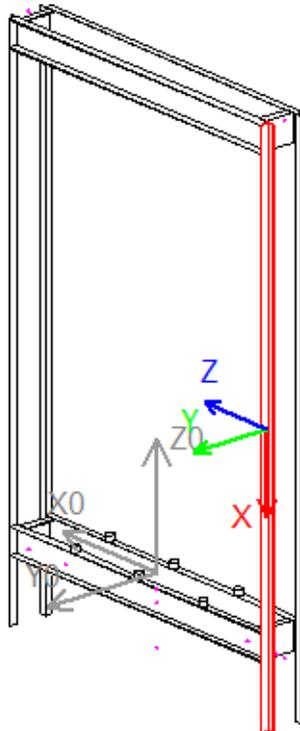


Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize existing Profiles – Position

- via the Properties Window in DigiPara Liftdesigner



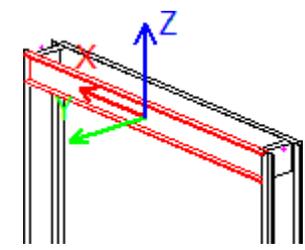
Properties

Lock Update Profile 2 [Profile2.]

- [0024] Product Options
 - This Object belongs to Product O -1
- [0515] Type
 - Shape L-Type
- [0516] Size
 - DX [mm]: PDX = 2850 CFD_HB + CFD_Z_BOTTOM + P50
 - DY [mm]: PDY = 40 40
 - DZ [mm]: PDZ = 40 40
 - S [mm] 5
 - T [mm] 5
- [0517] Position
 - X0 [mm] = -852 -0.5*FW - WD - CF_CAR_2_GUIDES
 - Y0 [mm] = 100 0.3*PD1 + 80
 - Z0 [mm] = 955 0.5*PDX - CFD_Z_BOTTOM - P50
- [0513] Options
- [0520] 3D Parameter
 - [18]: GS_Z_BOTTOM -140
 - [19]: FLOOR_PLATE_DZ 0
 - [20]: CFD_YG_2_GUIDES_DX_LEFT 0
 - [21]: CFD_YG_2_GUIDES_DY_LEFT 0
 - [22]: CFD_YG_2_GUIDES_DX_RIGHT 0
 - [23]: CFD_YG_2_GUIDES_DY_RIGHT 0
 - [24]: CFD_Z_BOTTOM 330
 - [25]: CW 1800
 - [26]: CD 2060
 - [27]: P37 11
 - [40]: TC_1_DY 0
 - [41]: TC_1_DZ 0
 - [50]: P50 140
 - [61]: P51 140
 - [70]: TC_2_DX 0

P50 – User defined parameter for upper profile height PDZ

- [0515] Type
 - Shape U-Type
- [0516] Size
 - DX [mm]: PDX = 1664 F + 2*WD + 2*CF_C
 - DY [mm]: PDY = 40 40
 - DZ [mm]: PDZ = 140 P50
 - S [mm] 5
 - T [mm] 5



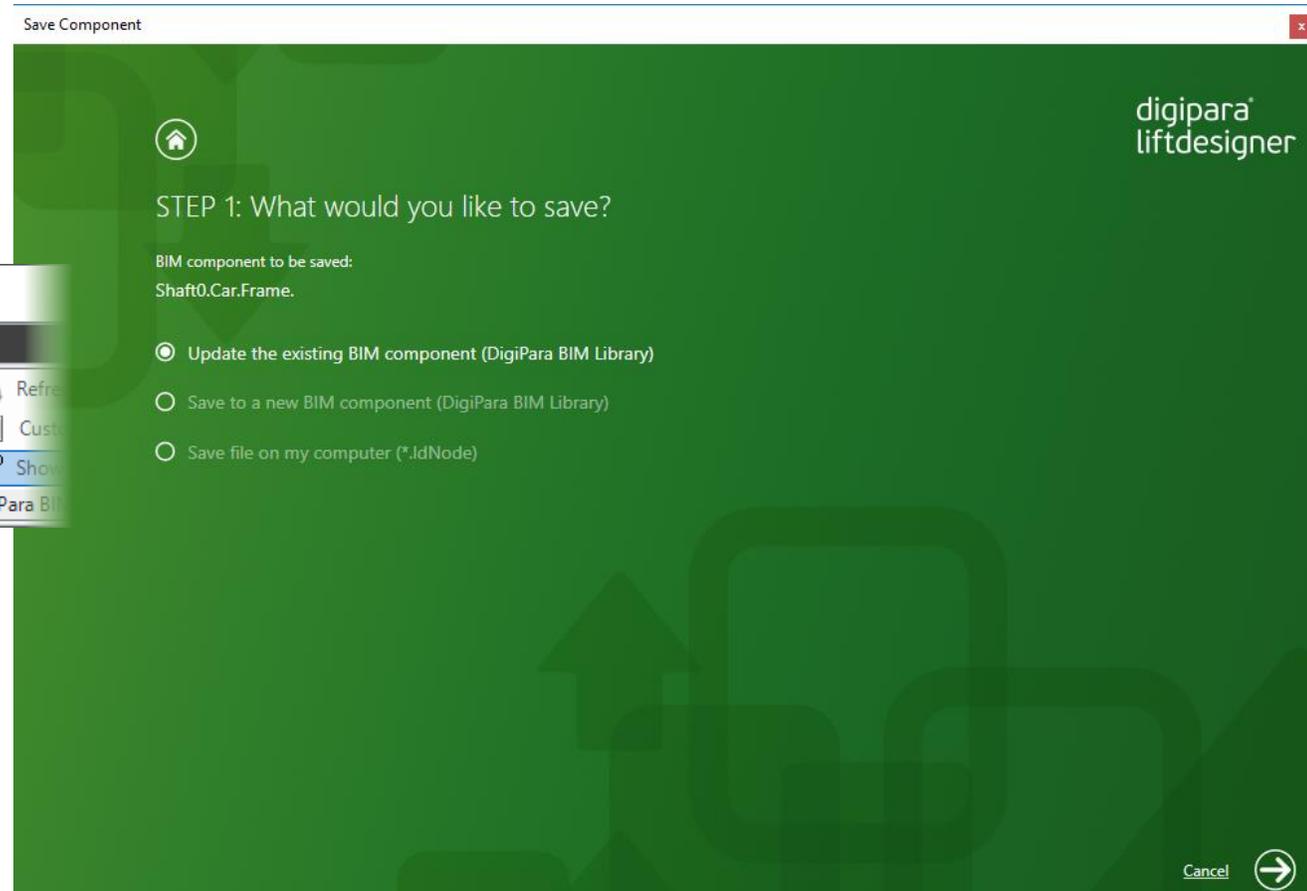
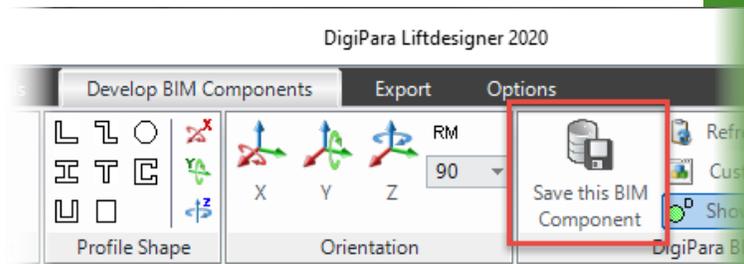
✓ Save into the DigiPara BIM Library

Save into the DigiPara BIM Library

PL2.1 TYPICAL PROCESSES

Save the finished defined BIM Component

- into the DigiPara BIM Library



✓ **Modify the 3D Geometry**

Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize user defined 3D Parameter

- in DigiPara Liftdesigner Datamanager

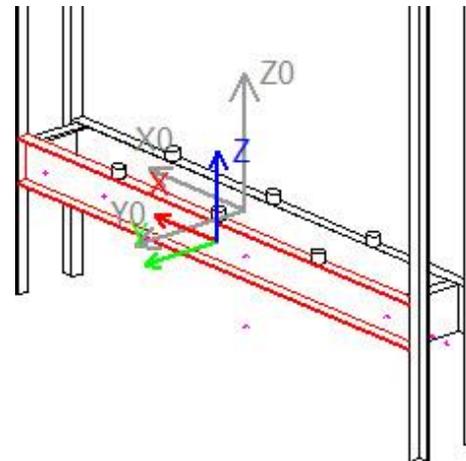
P51 – User defined parameter for lower profile height PDZ

[0516] Size	
DX [mm]: PDX = 1664	FW + 2*WD + 2*CF_CAR_2
DY [mm]: PDY = 40	40
DZ [mm]: PDZ = 140	P51
S [mm]	5
T [mm]	5

CFT_RID	CFT_DESC	CFT_SUB_DESC	CFT_
7500000	Training Car Frame	My Training Example	

CFD_RID	CFD_CFT_RID	CFD_IX	CFD_PG_GRP	CFD_USER_PG_50	CFD_USER_PG_51	CFD
7500000	7500000	0	7500003	140	496	

Make sure that you are no longer in Edit Mode!



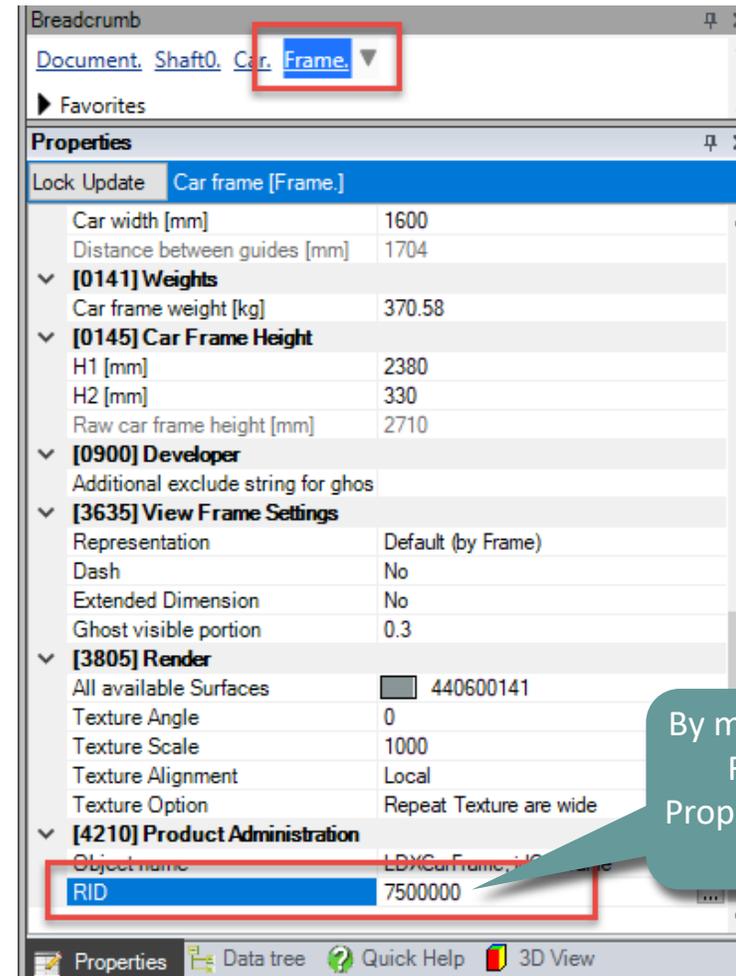
Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Reload the modified BIM Component

- in DigiPara Liftdesigner

Reload your BIM Component to accept edited values from the DigiPara Liftdesigner Datamanager.



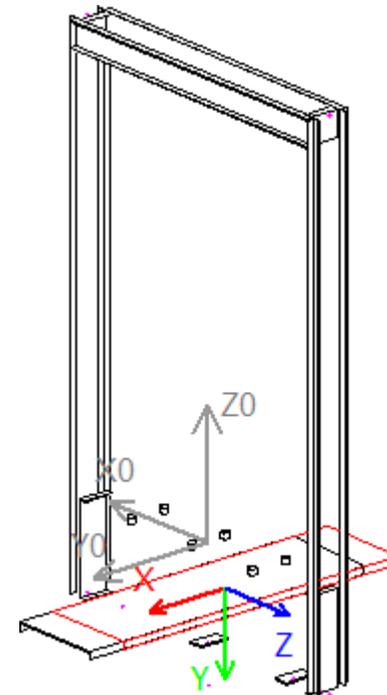
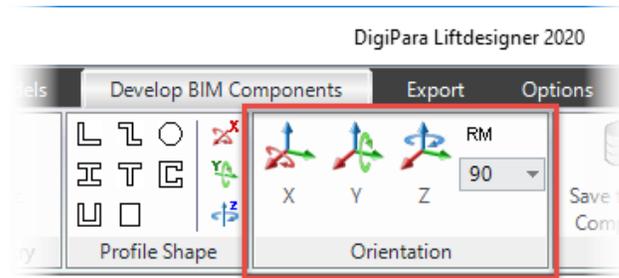
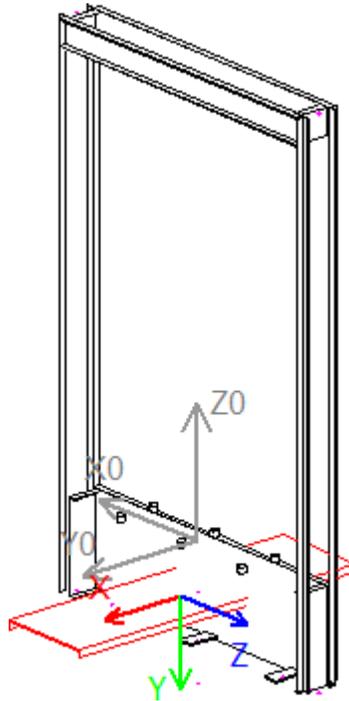
By manually swapping the RID number in the Properties Window for the BIM Component.

Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize existing Profiles - Position

- under the Develop BIM Components tab

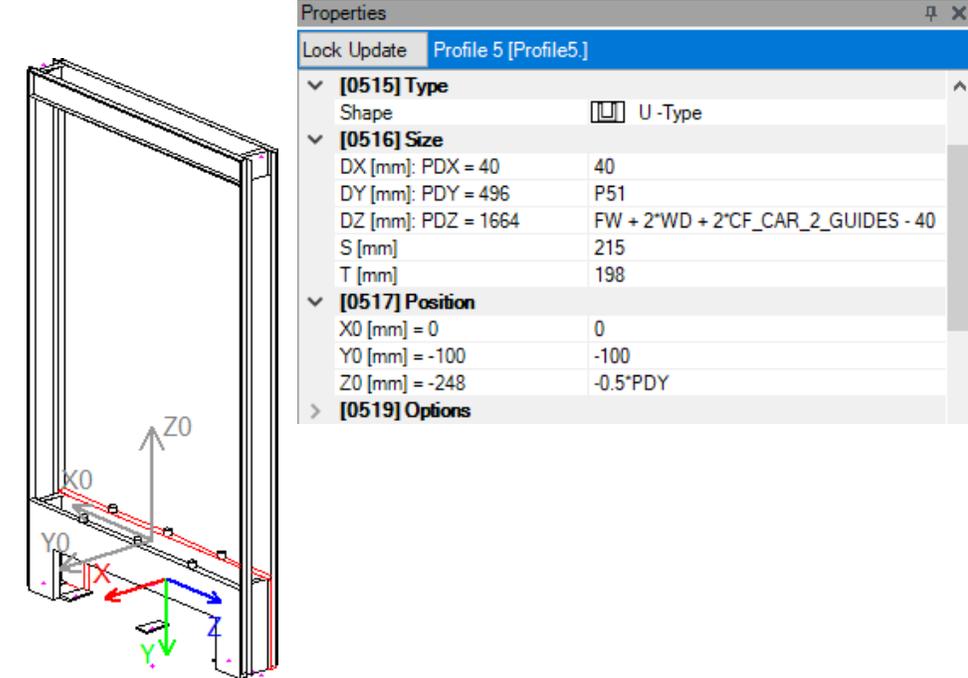
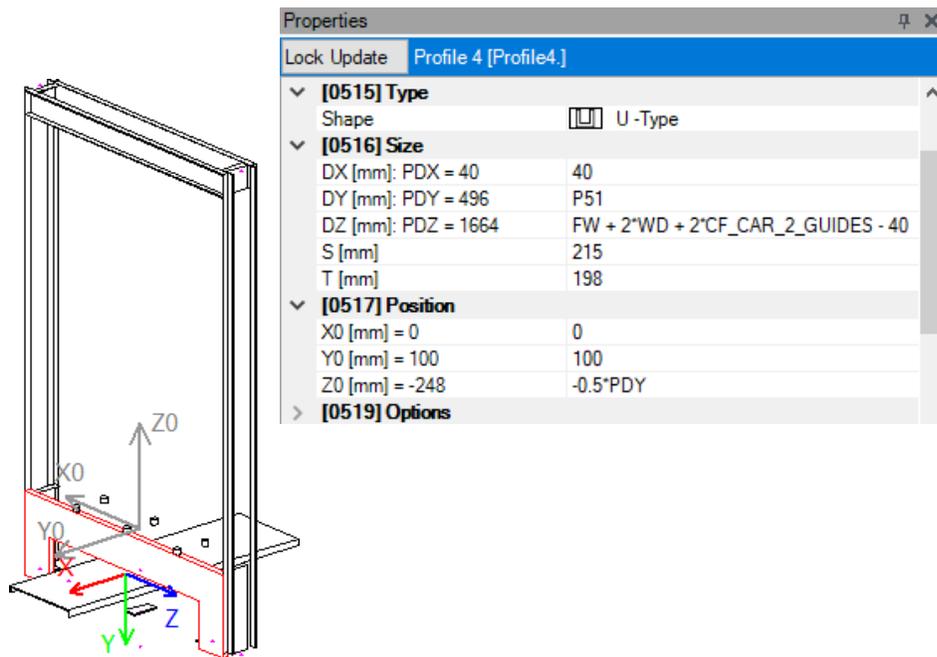


Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize existing Profiles – Size & Position

- via the Properties Window in DigiPara Liftdesigner

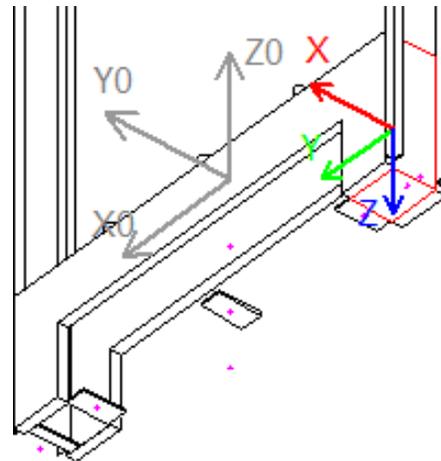
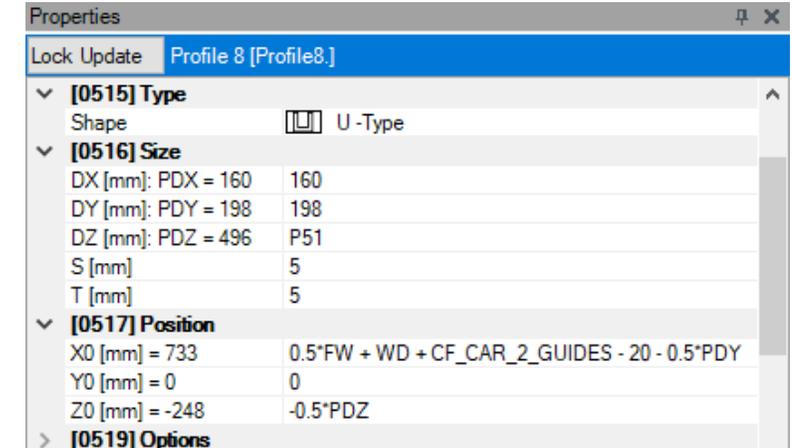
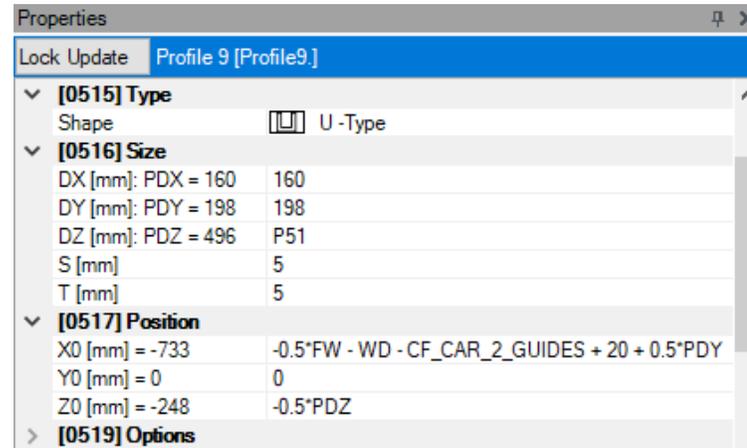


Modify the 3D Geometry

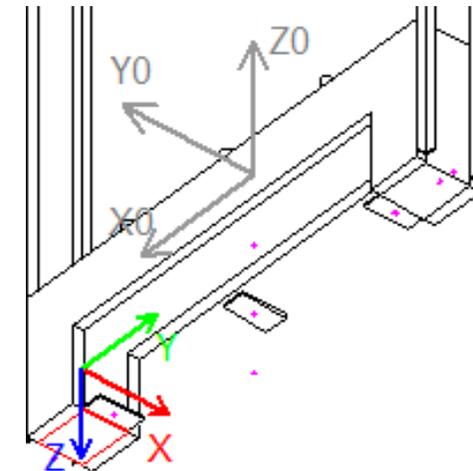
PL2.1 TYPICAL PROCESSES

Customize existing Profiles – Size & Position

- via the Properties Window in DigiPara Liftdesigner



Copy formulas and values from one profile to another.

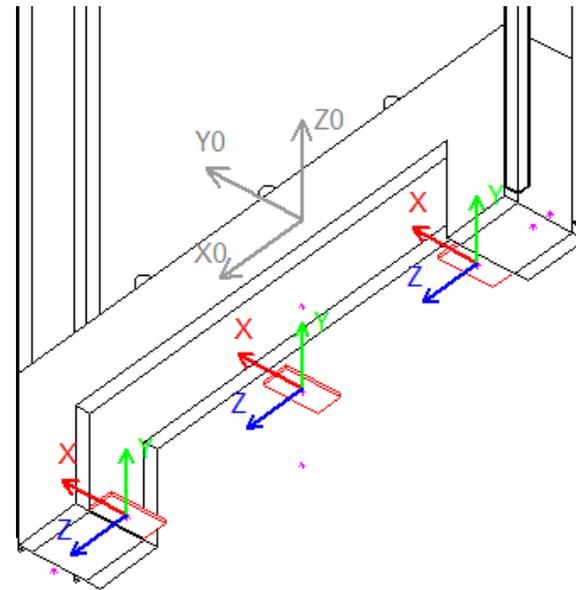
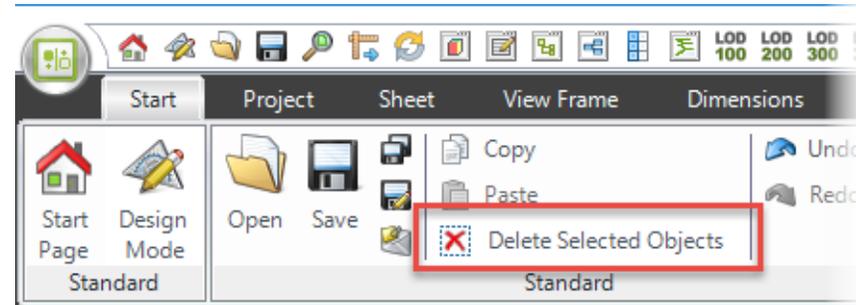


Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Delete unneeded Profiles

- in DigiPara Liftdesigner

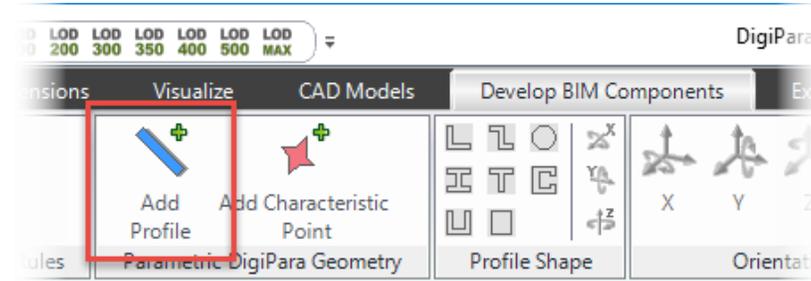
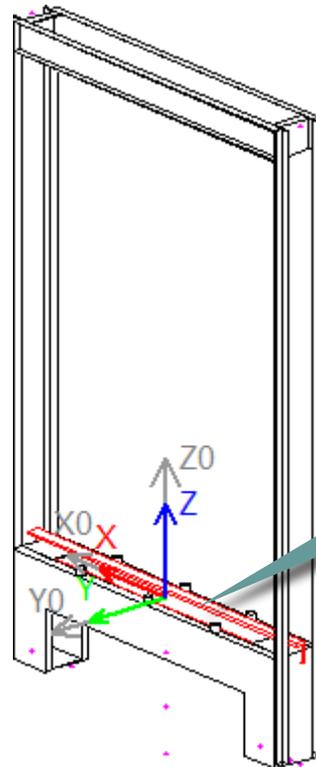


Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Add new Profiles to your BIM Component

- in DigiPara Lift designer (Developer Work Area)



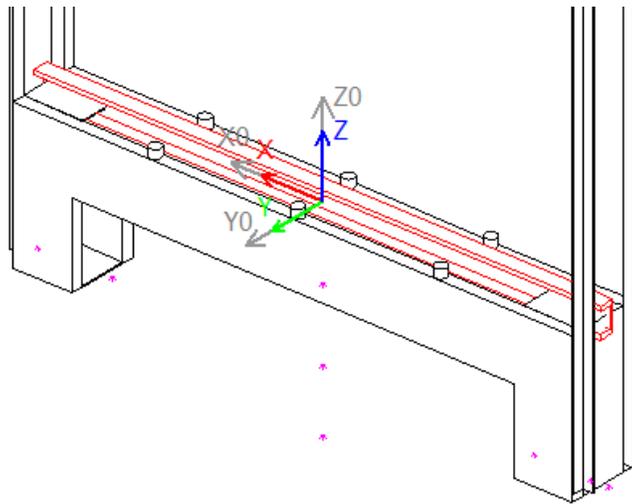
The new profile is located at the base point of the BIM Component.

Modify the 3D Geometry

PL2.1 TYPICAL PROCESSES

Customize new Profiles – Type

- via the Properties Window in DigiPara Liftdesigner



Properties Profile 12 [Profile12.]

Lock Update

Name

✓ **[0024] Product Options**
This Object belongs to Product Option -1

✓ **[0515] Type**
Shape  U-Type

✓ **[0516] Size**

DX [mm]: PDX = 1700	FW + 100
DY [mm]: PDY = 50	50
DZ [mm]: PDZ = 100	100
S [mm]	10
T [mm]	15

✓ **[0517] Position**

X0 [mm] = 0	0
Y0 [mm] = 0	0
Z0 [mm] = 0	0

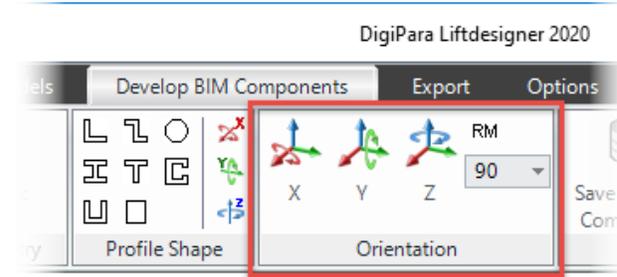
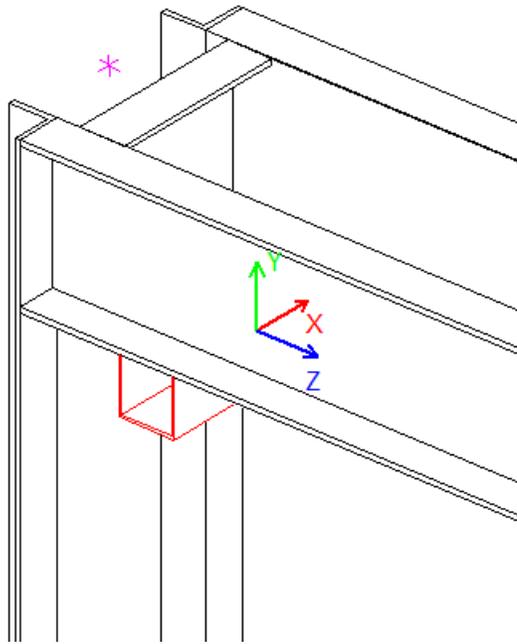
> **[0519] Options**

Modify the 3D Geometry

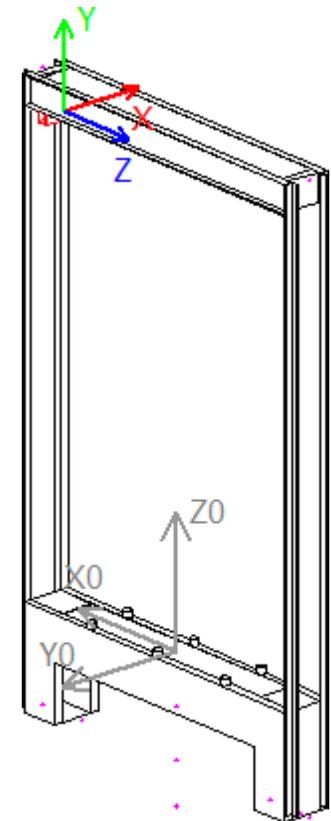
PL2.1 TYPICAL PROCESSES

Customize new Profiles – Orientation, Size & Position

- in DigiPara Liftdesigner



Properties	
Lock Update Profile 12 [Profile12.]	
▼ [0515] Type	
Shape	 U-Type
▼ [0516] Size	
DX [mm]: PDX = 240	240
DY [mm]: PDY = 50	50
DZ [mm]: PDZ = 50	50
S [mm]	2
T [mm]	2
▼ [0517] Position	
X0 [mm] = 718	0.5*FW - 134 + WD + CF_CAR_2_GUIDES
Y0 [mm] = 0	
Z0 [mm] = 2215	CFD_HB - P50 - 0.5*PDY
> [0519] Options	

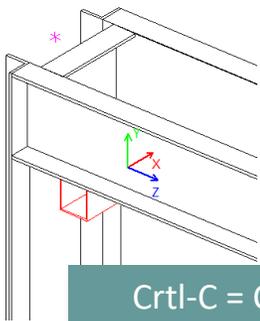


Modify the 3D Geometry

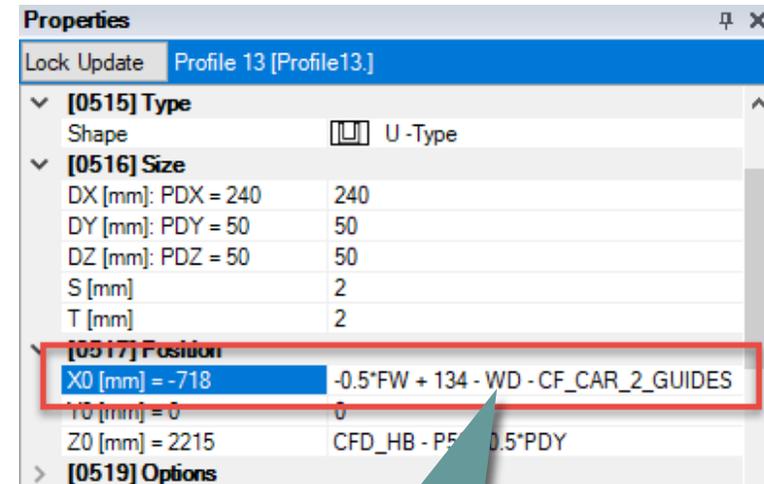
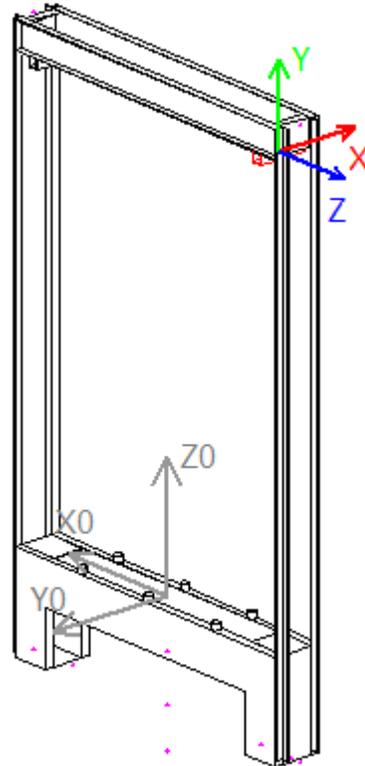
PL2.1 TYPICAL PROCESSES

Copy existing Profiles and reverse the signs

- via the Properties Window in DigiPara LiftDesigner



Crtl-C = Copy
Crtl-V = Paste



Repositioning by reversing the signs in an existing formula.

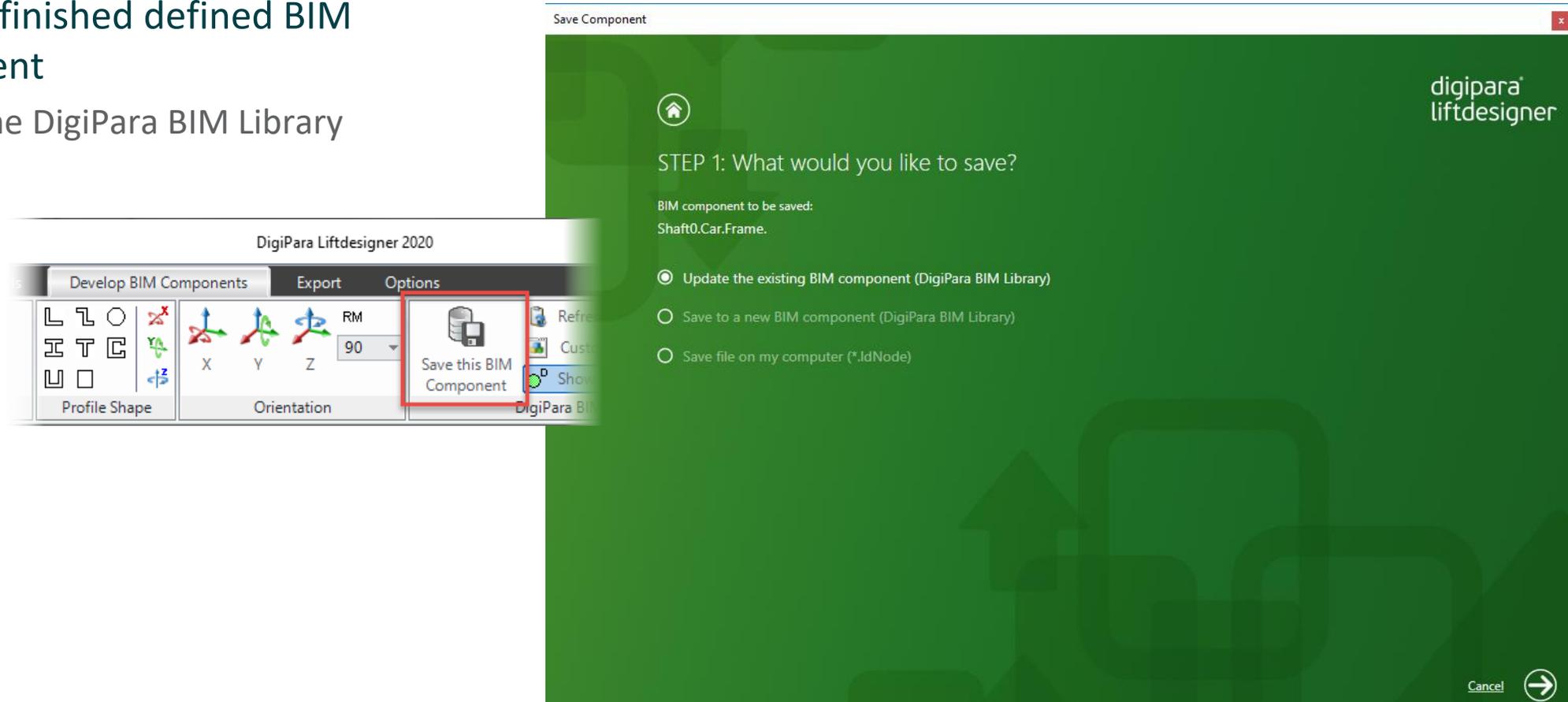
✓ Save into the DigiPara BIM Library

Save into the DigiPara BIM Library

PL2.1 TYPICAL PROCESSES

Save the finished defined BIM Component

- into the DigiPara BIM Library



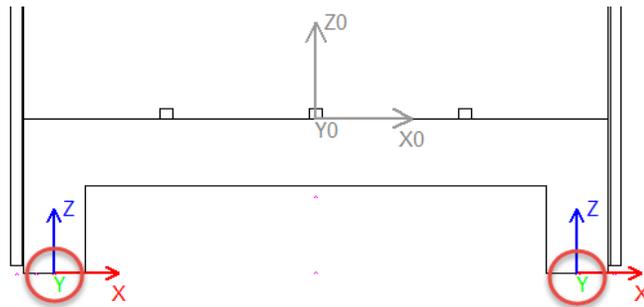
✓ Set the Positioning Points

Set the Positioning Points

PL2.1 TYPICAL PROCESSES

Set the Positioning Points: Buffer

- in DigiPara Liftdesigner



Overview of the available points for this BIM Component.

Properties	
Lock	Update
	Characteristic point 6 [PT6.]
Create geometry	By parent
Create geometry status	Create
[0515] Type	
Type	Buffer impact pt 2(if 2 buffers) [12]
[0517] Position	
X0 [mm] = -733	-0.5*FW - WD - CF_CAR_2_GUIDES + 119
Y0 [mm] = 0	0
Z0 [mm] = -496	-P51
[0519] Options	

Properties	
Lock	Update
	Characteristic point 5 [PT5.]
Create geometry	By parent
Create geometry status	Create
[0515] Type	
Type	Buffer impact pt 1(if 2 buffers) [11]
[0517] Position	
X0 [mm] = 733	0.5*FW + WD + CF_CAR_2_GUIDES - 119
Y0 [mm] = 0	0
Z0 [mm] = -496	-P51
[0519] Options	

Breadcrumb: Document > Shaft0 > Car > Frame > CPTS > PT10

Additional Objects

Develop this BIM Component View:
[Shaft0.Car.Frame.](#)

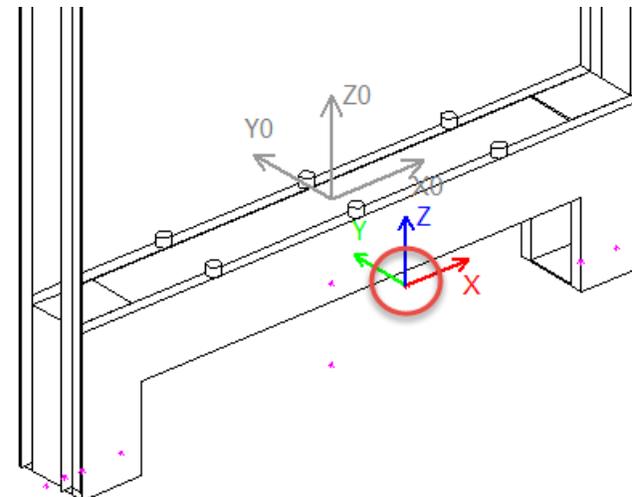
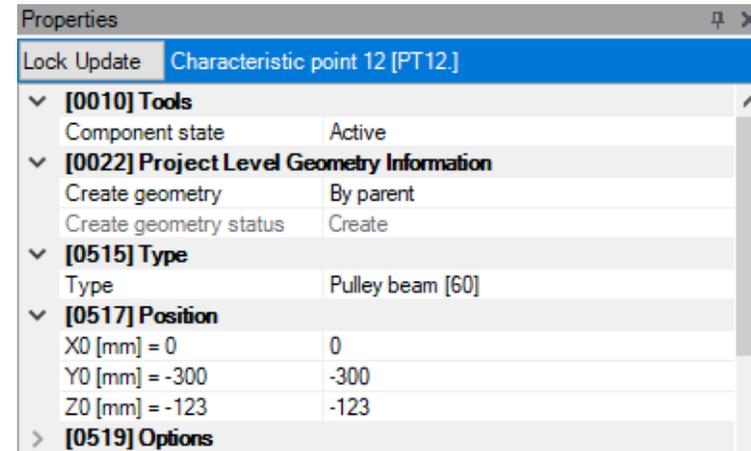
- Additional Child Objects(0)
- DigiPara Geometry(20)
- Characteristic points(15)
 - 0:Standard (13)
 - PT0 (Guide shoe top right [1]) (852,0,2380)
 - PT1 (Guide shoe top left [2]) (-852,0,2380)
 - PT2 (Guide shoe bottom right [3]) (852,0,-496)
 - PT3 (Guide shoe bottom left [4]) (-852,0,-496)
 - PT4 (Buffer impact pt (if 1 buffer) [10]) (0,0,-491)
 - PT5 (Buffer impact pt 1(if 2 buffers) [11]) (733,0,-496)
 - PT6 (Buffer impact pt 2(if 2 buffers) [12]) (-733,0,-496)
 - PT9 (Pulley beam [60]) (0,0,2310)
 - PT10 (Pulley beam [60]) (0,0,2310)
 - PT11 (Pulley beam [60]) (0,0,2310)
 - PT12 (Pulley beam [60]) (0,-300,-123)
 - PT13 (Safety gear [70]) (0,0,-248)
 - PT14 (Rope compensation chain 0 access pt [64]) (-602,0,-496)
 - 10002:Travelling cable fixed right (1)

Set the Positioning Points

PL2.1 TYPICAL PROCESSES

Set the Positioning Points: Pulley Beam

- in DigiPara Liftdesigner
- In general note the positioning points for:
 - Guide shoes
 - Buffer
 - Safety gear
 - Pulley beam
 - Traveling cable
 - Suspension-Rope access
 - Piston access
 - Rope compensation



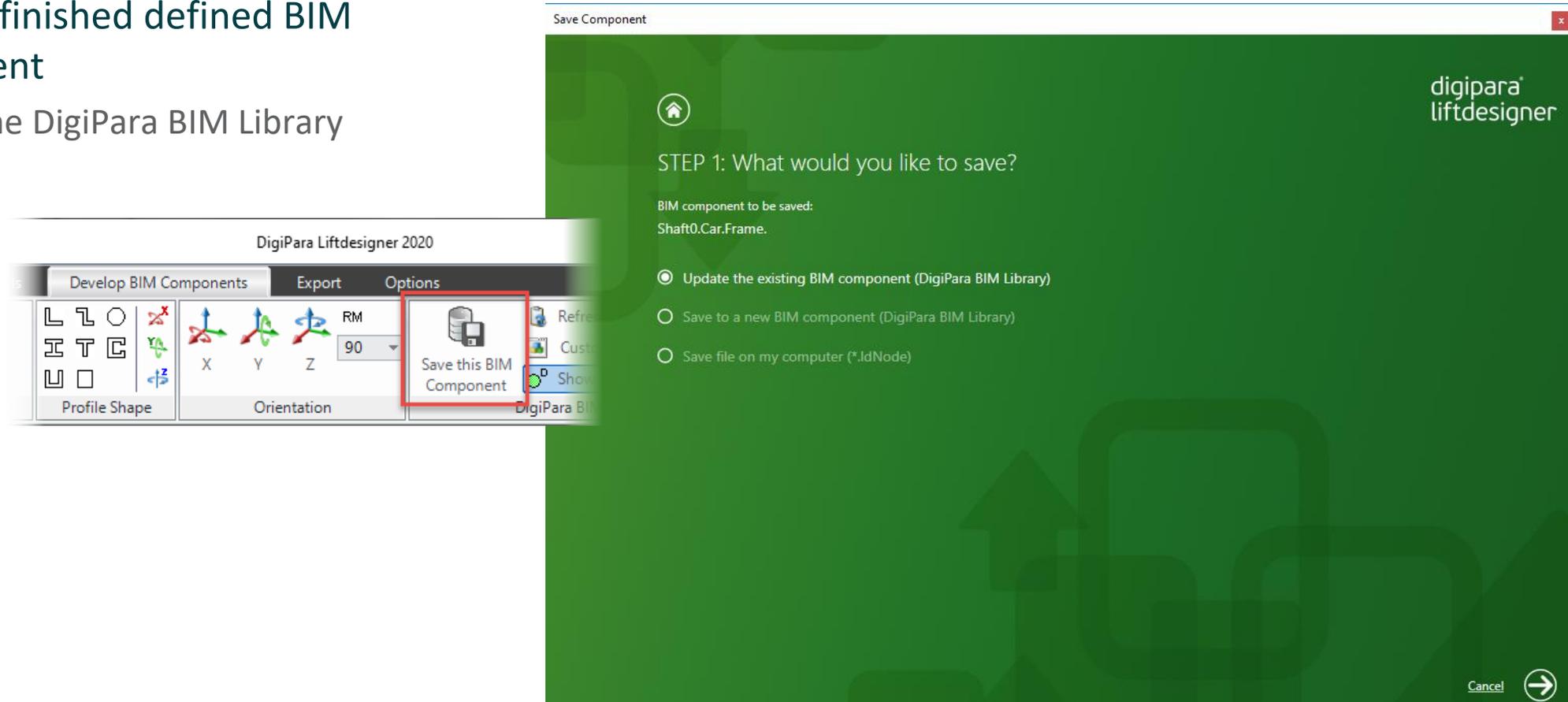
✓ Save into the DigiPara BIM Library

Save into the DigiPara BIM Library

PL2.1 TYPICAL PROCESSES

Save the finished defined BIM Component

- into the DigiPara BIM Library



 digipara® liftdesigner

Let's have a break!



PL2.2

Optional Steps

Car Frame and
Accessories

OPTIONAL
STEPS



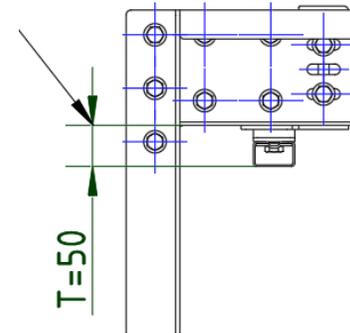
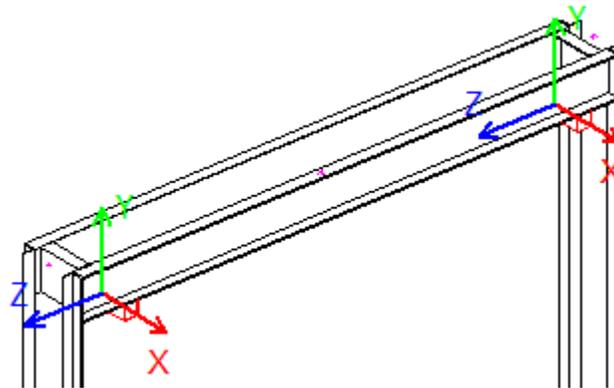
✓ Dynamic Properties

Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Expected result:

- Adjustable profile heights



Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Preparation Steps: Create a user defined 3D Parameter

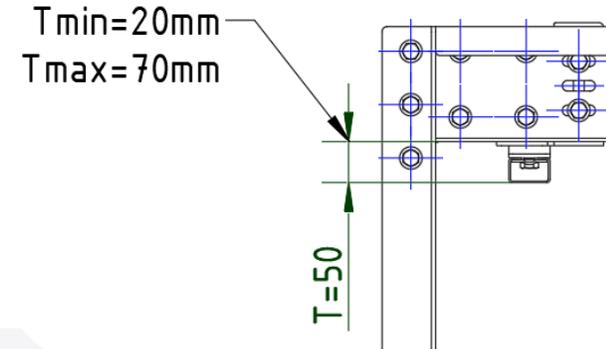
- in DigiPara LiftDesigner Datamanager

CFT_RID	CFT_DESC	CFT_SUB_DESC	CFT_
7500000	Training Car Frame	My Training Example	

CFD_RID	CFD_CFT_RID	CFD_IX	CFD_PG_GRP	CFD_	SER_PG_5	CFD_USER_PG_52	CFD_U
7500000	7500000	0	7500003		495	50	

Edit Mode!

Using a empty and undefined gray user column.



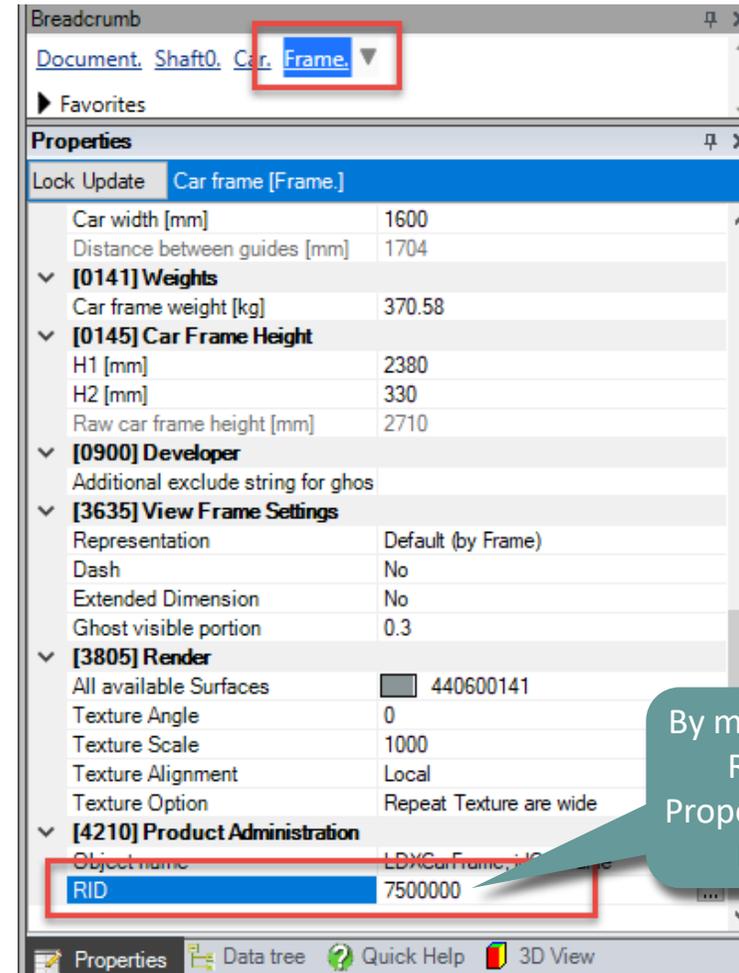
Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Reload the modified BIM Component

- in DigiPara Liftdesigner

Reload your BIM Component to accept edited values from the DigiPara Liftdesigner Datamanager.



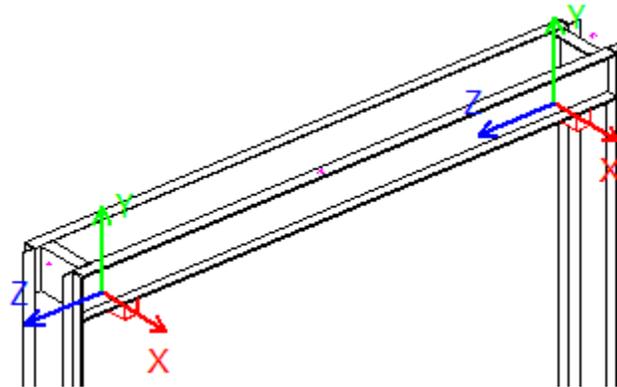
By manually swapping the RID number in the Properties Window for the BIM Component.

Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Assignment of the new user defined 3D Parameter to the Profile

- in DigiPara Liftdesigner



The newly created 3D Parameter is included in the Properties Window now.

Properties Lock Update Multi selection (2)

▼ Misc

Shape	
DX [mm]: PDX	240
DY [mm]: PDY	P52
DZ [mm]: PDZ	50
S [mm]	2
T [mm]	2
X0 [mm]	
Y0 [mm]	0
Z0 [mm]	CFD_HB - P50 - 0.5*PDY
Dash	No
Extended Dimension	No
This Object belongs to Product Opt	-1
LOD Assignment	126
Mode	0
Volume index	
[0]: FW	1600
[1]: CAR1 TOTAL_DZ	2000

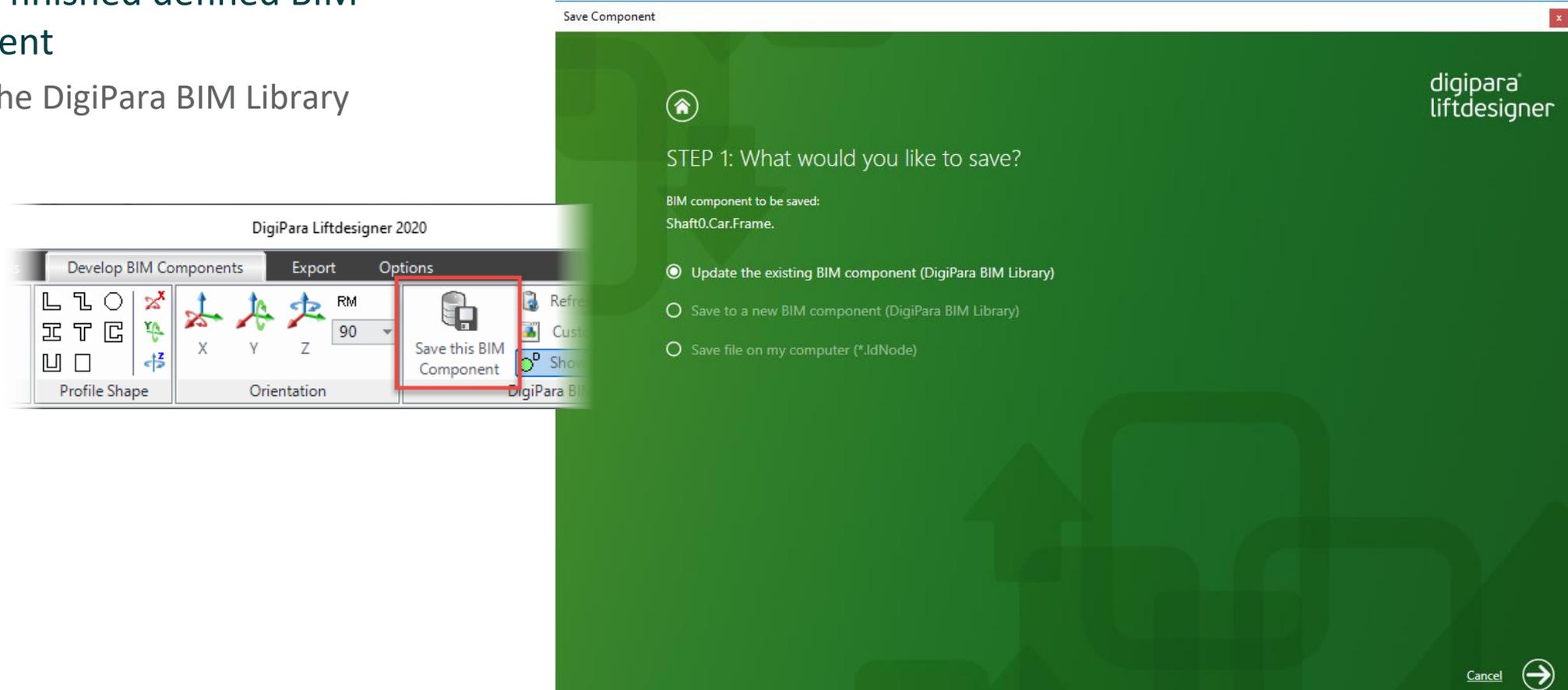
[39]: TC_1_DX	0
[40]: TC_1_DY	0
[41]: TC_1_DZ	0
[50]: P50	140
[51]: P51	430
[52]: P52	50
[70]: TC_2_DX	0
[71]: TC_2_DY	0
[72]: TC_2_DZ	0

Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Save the finished defined BIM Component

- into the DigiPara BIM Library

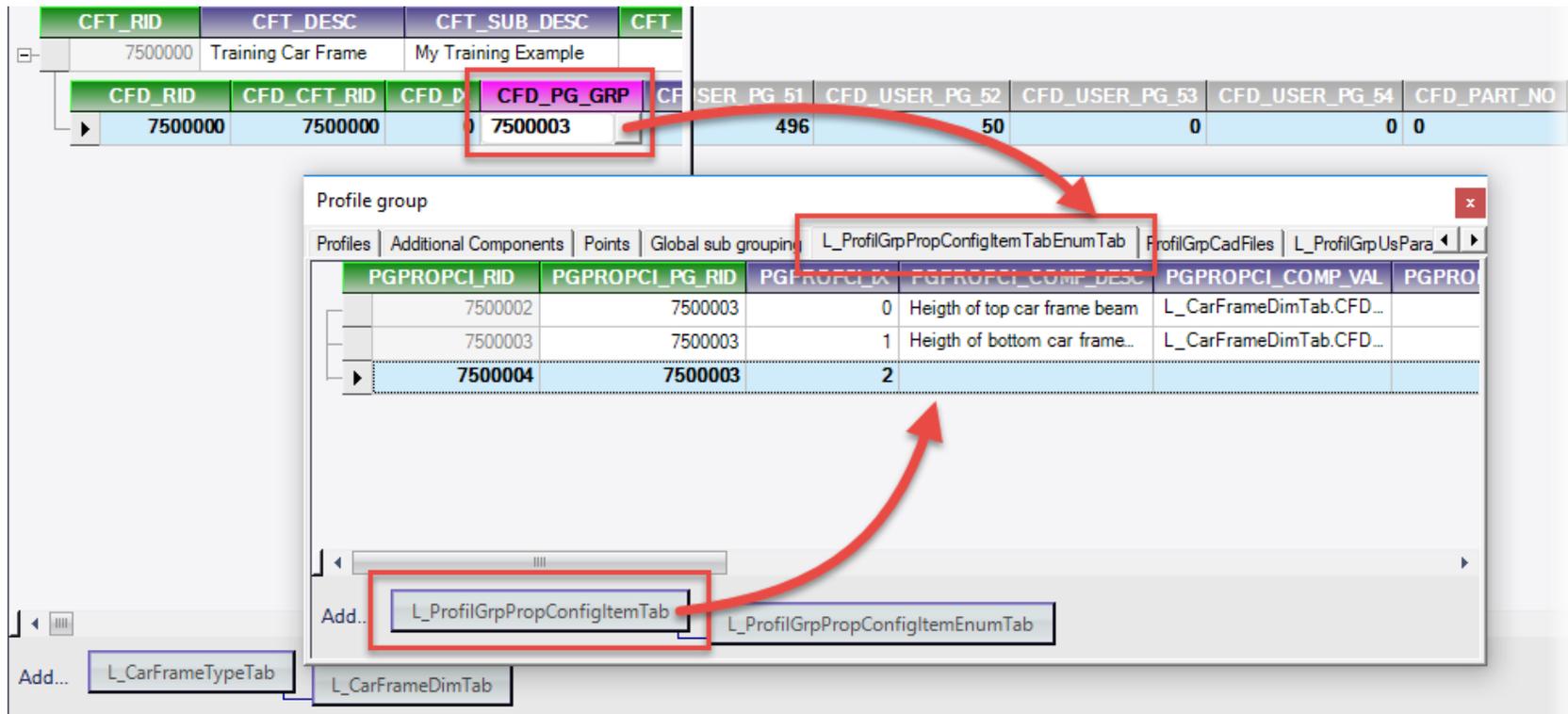


Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Create a dynamic Property

- using the associated Profile Group in DigiPara Liftdesigner Datamanager



The screenshot displays the DigiPara Liftdesigner Datamanager interface. At the top, a table lists dynamic properties with columns: CFT_RID, CFT_DESC, CFT_SUB_DESC, CFT_PG_GRP, SER_PG_51, CFD_USER_PG_52, CFD_USER_PG_53, CFD_USER_PG_54, and CFD_PART_NO. The row for CFT_RID 7500000 (Training Car Frame) has CFT_PG_GRP 7500003. A red box highlights this value, with an arrow pointing to the 'Profile group' dialog box.

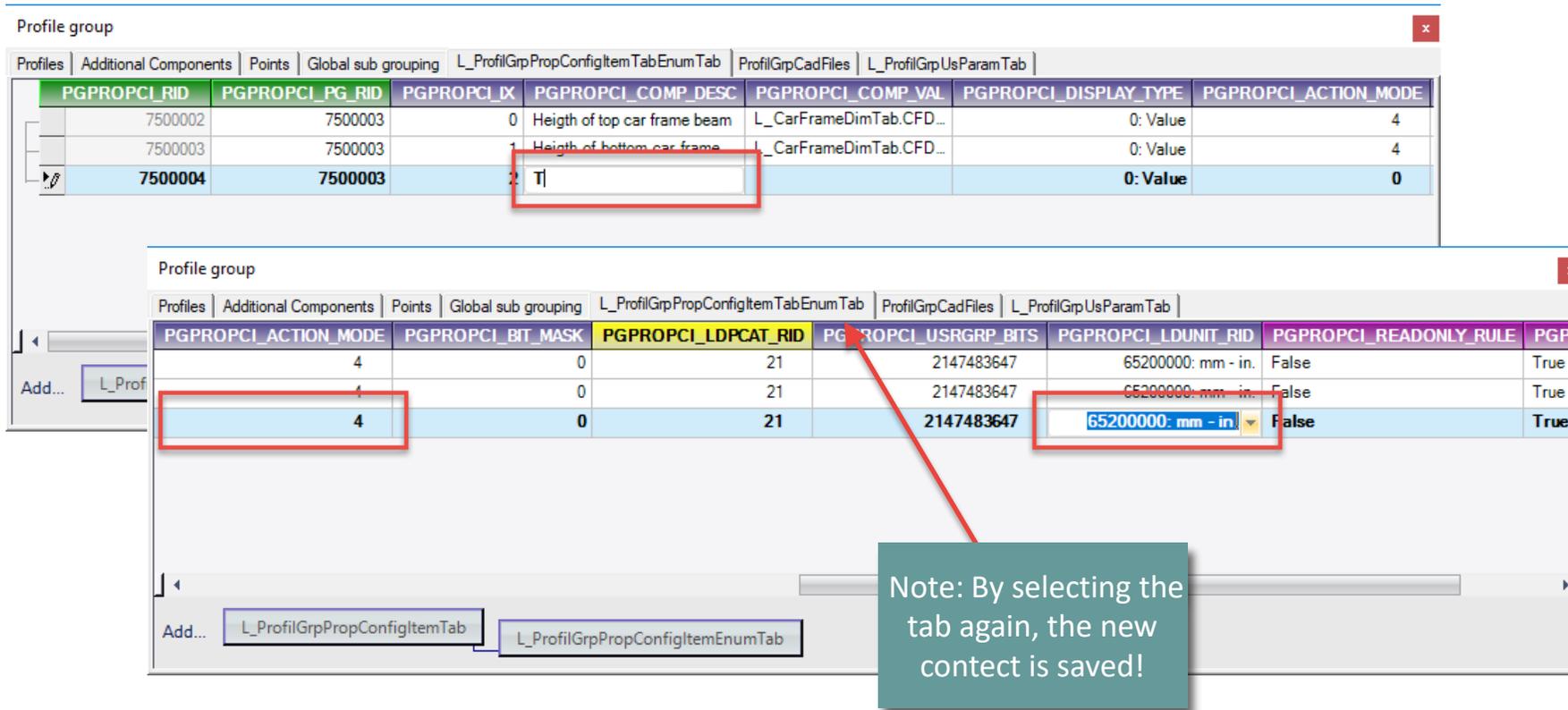
The 'Profile group' dialog box has a tab labeled 'L_ProfilGrpPropConfigItemTabEnumTab'. Below the tab is a table with columns: PGPROPCI_RID, PGPROPCI_PG_RID, PGPROPCI_COMP_DESC, and PGPROPCI_COMP_VAL. The row for PGPROPCI_RID 7500004 has PGPROPCI_PG_RID 7500003 and PGPROPCI_COMP_VAL 2. A red box highlights this row, with an arrow pointing to the 'Add...' button at the bottom of the dialog, which has a dropdown menu showing 'L_ProfilGrpPropConfigItemTab'.

Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Define a dynamic Property

- using the associated Profile Group in DigiPara LiftDesigner Datamanager



The image shows two screenshots of the DigiPara LiftDesigner Datamanager interface. The top screenshot shows a table with columns: PGPROPCI_RID, PGPROPCI_PG_RID, PGPROPCI_IX, PGPROPCI_COMP_DESC, PGPROPCI_COMP_VAL, PGPROPCI_DISPLAY_TYPE, and PGPROPCI_ACTION_MODE. The bottom row is highlighted, showing PGPROPCI_RID 7500004, PGPROPCI_PG_RID 7500003, PGPROPCI_IX 2, PGPROPCI_COMP_DESC 'T', PGPROPCI_COMP_VAL 'L_CarFrameDimTab.CFD...', PGPROPCI_DISPLAY_TYPE '0: Value', and PGPROPCI_ACTION_MODE '0'. A red box highlights the 'T' in the PGPROPCI_COMP_DESC column.

The bottom screenshot shows a table with columns: PGPROPCI_ACTION_MODE, PGPROPCI_BIT_MASK, PGPROPCI_LDPCAT_RID, PGPROPCI_USRGRP_BITS, PGPROPCI_LDUNIT_RID, PGPROPCI_READONLY_RULE, and PGPROPCI_READONLY_RULE. The bottom row is highlighted, showing PGPROPCI_ACTION_MODE 4, PGPROPCI_BIT_MASK 0, PGPROPCI_LDPCAT_RID 21, PGPROPCI_USRGRP_BITS 2147483647, PGPROPCI_LDUNIT_RID 65200000: mm - in., PGPROPCI_READONLY_RULE False, and PGPROPCI_READONLY_RULE True. A red box highlights the '4' in the PGPROPCI_ACTION_MODE column. Another red box highlights the '65200000: mm - in.' in the PGPROPCI_LDUNIT_RID column. A red arrow points from this box to a text box below.

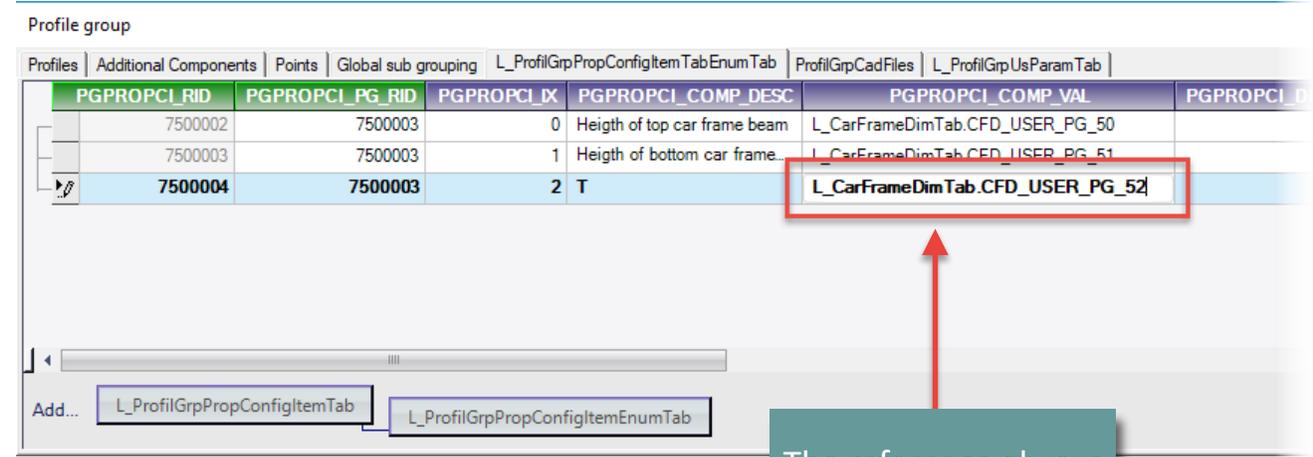
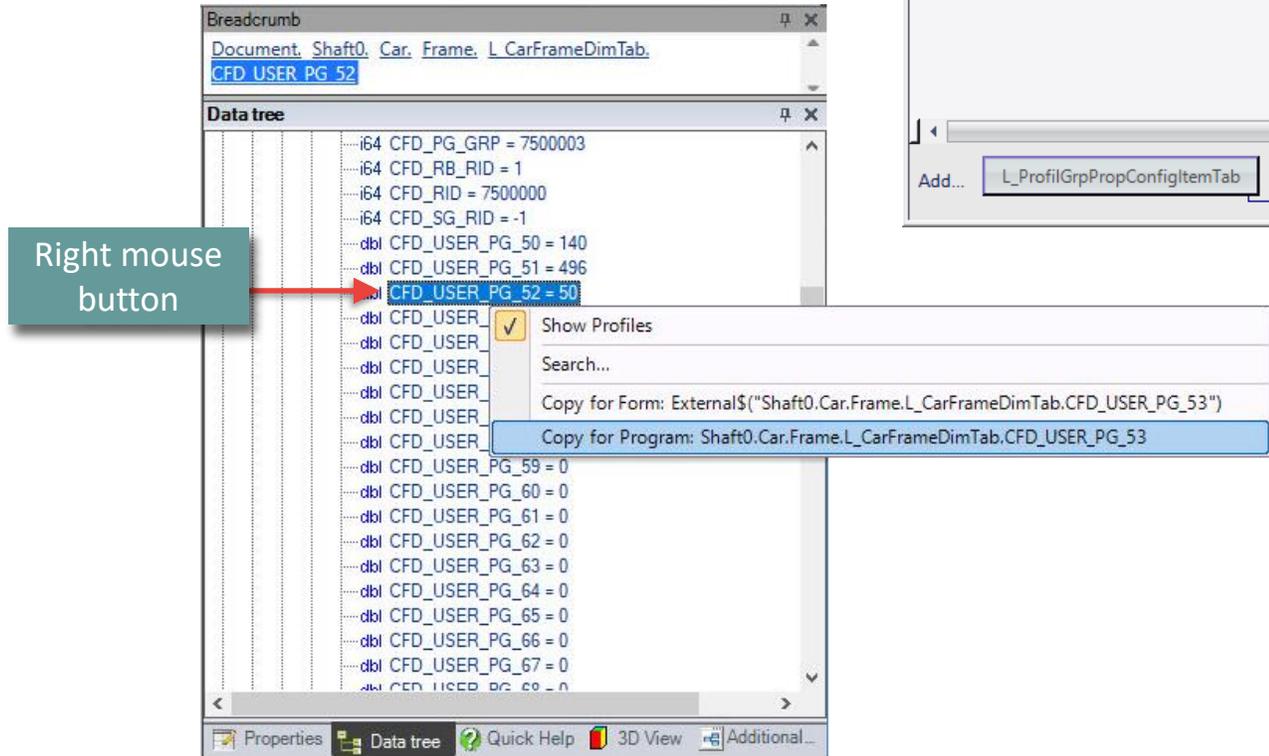
Note: By selecting the tab again, the new contact is saved!

Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Define a dynamic Property

- By copying the reference / 3D Parameter from the DigiPara Liftdesigner Date tree

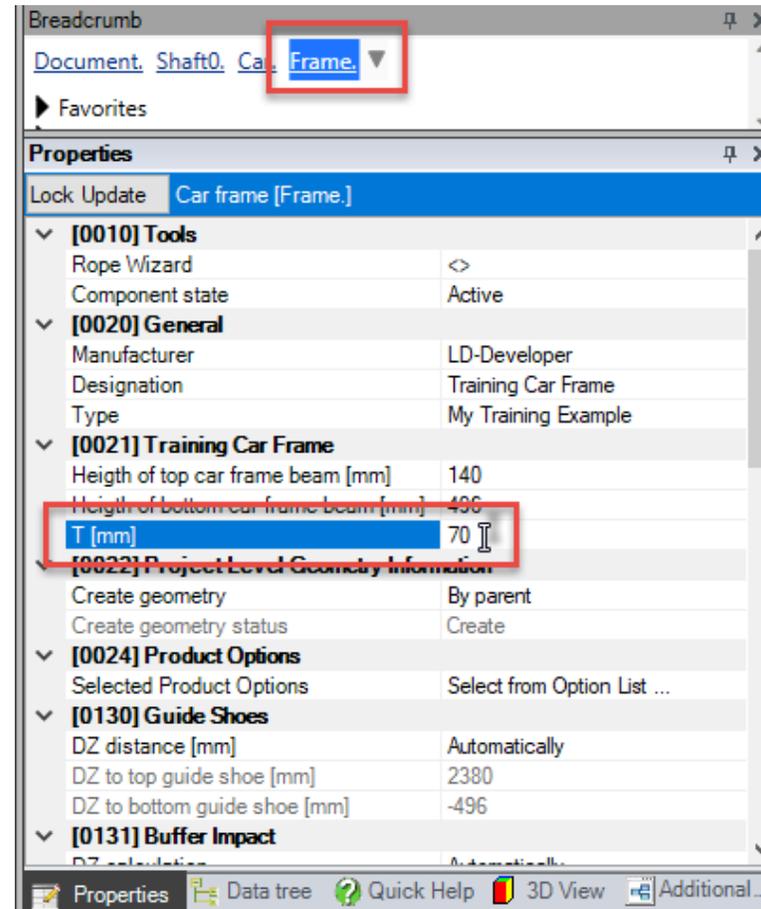


Dynamic Properties

PL2.2 OPTIONAL STEPS - DYNAMIC PROPERTIES

Check the new defined dynamic Property

- in DigiPara Liftdesigner



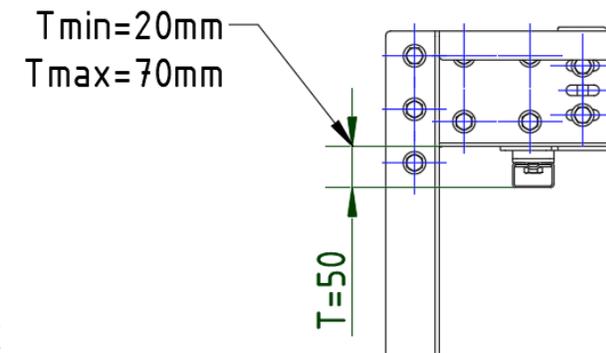
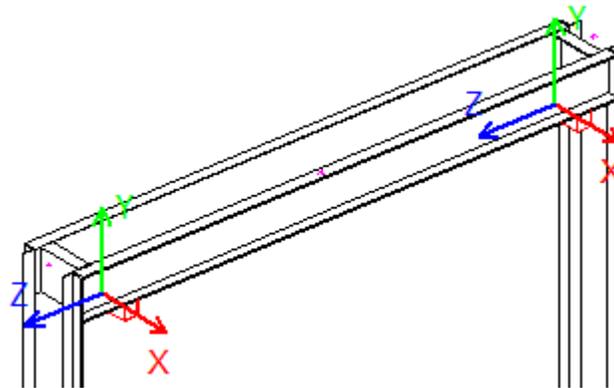
✓ Dynamic BIM Component Rules

Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Expected result:

- Fix range of possible values

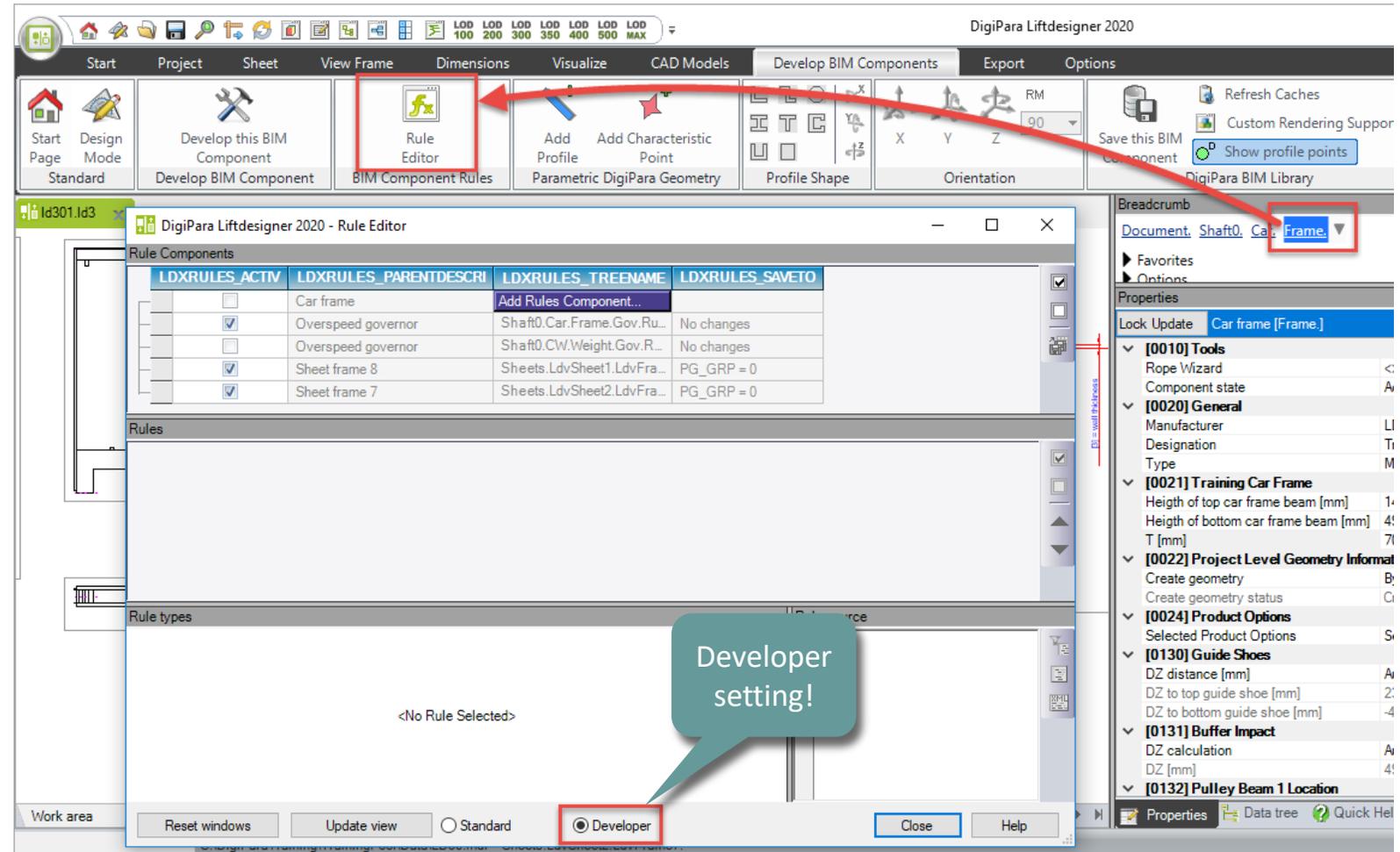


Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Add dynamic BIM Component Rules

- in DigiPara LiftDesigner Rule Editor

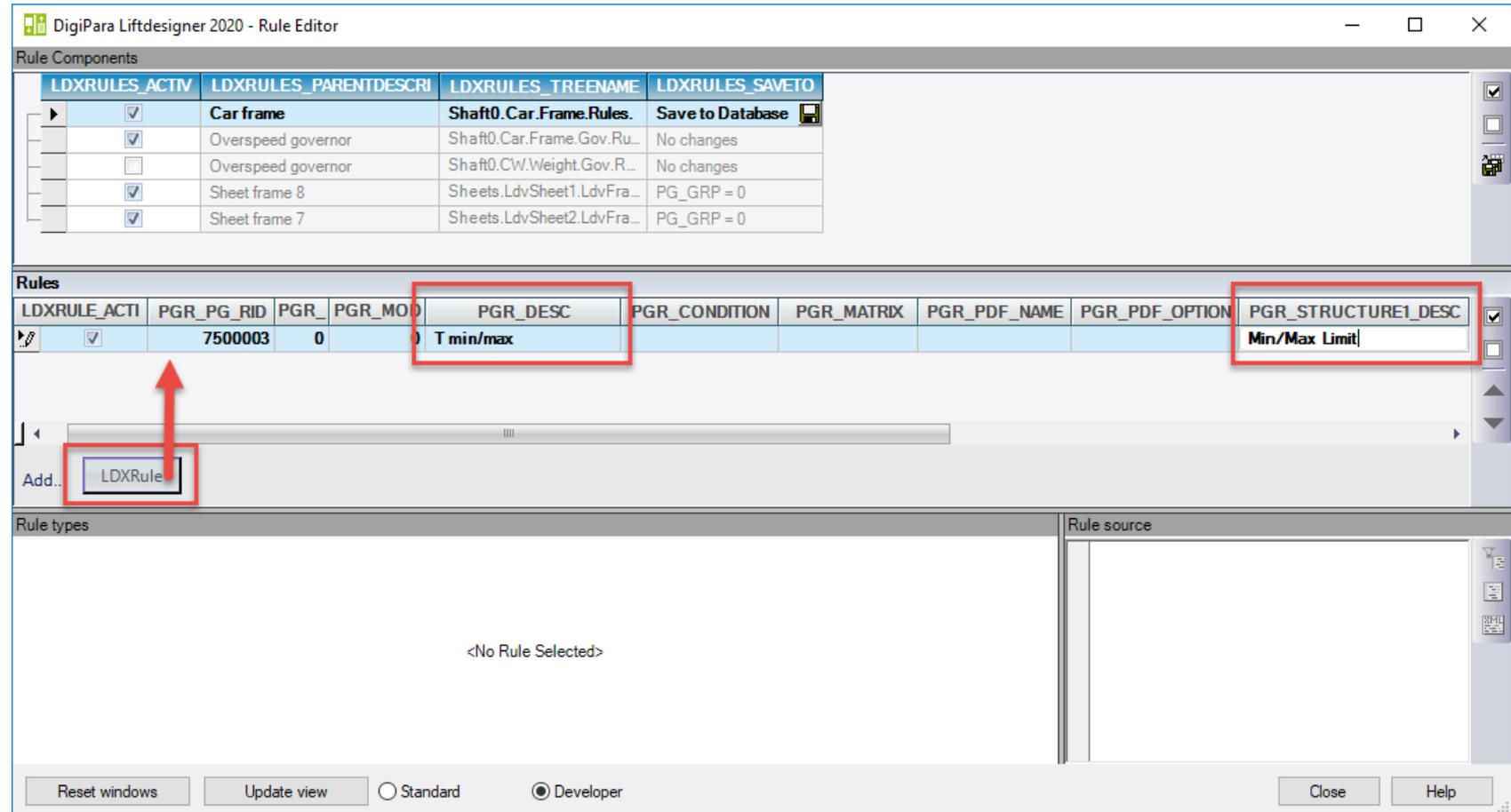


Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Define dynamic Rules: Description and Tree Structure

- in DigiPara
Liftdesigner Rule
Editor

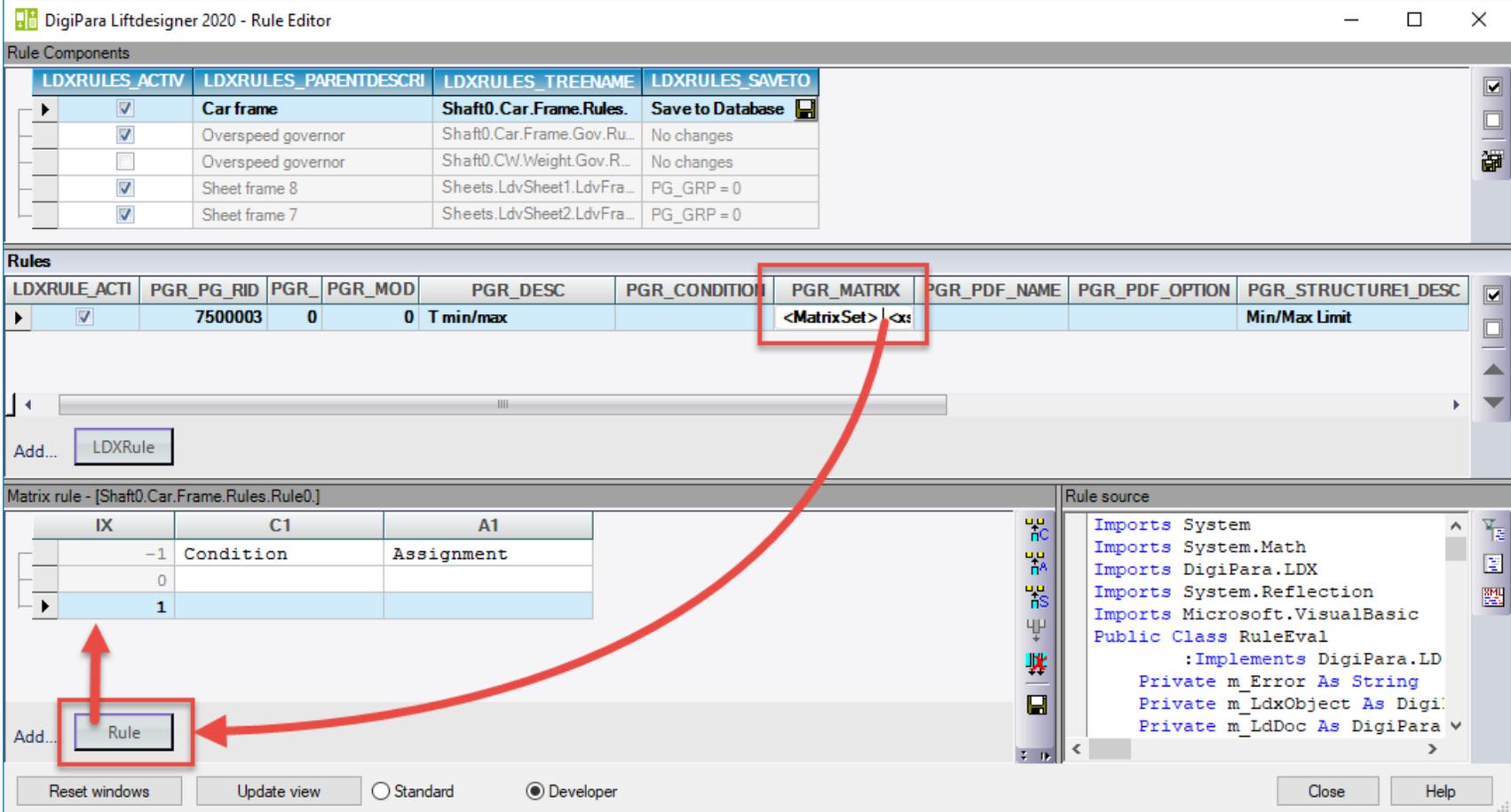


Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Define dynamic Rules: Condition and Assignment

- in DigiPara
Liftdesigner Rule
Editor



Rule Components

LDXRULES_ACTIV	LDXRULES_PARENTDESCR	LDXRULES_TREENAME	LDXRULES_SAVETO
<input checked="" type="checkbox"/>	Car frame	Shaft0.Car.Frame.Rules.	Save to Database
<input checked="" type="checkbox"/>	Overspeed governor	Shaft0.Car.Frame.Gov.Ru...	No changes
<input type="checkbox"/>	Overspeed governor	Shaft0.CW.Weight.Gov.R...	No changes
<input checked="" type="checkbox"/>	Sheet frame 8	Sheets.LdvSheet1.LdvFra...	PG_GRP = 0
<input checked="" type="checkbox"/>	Sheet frame 7	Sheets.LdvSheet2.LdvFra...	PG_GRP = 0

Rules

LDXRULE_ACTI	PGR_PG_RID	PGR_	PGR_MOD	PGR_DESC	PGR_CONDITION	PGR_MATRIX	PGR_PDF_NAME	PGR_PDF_OPTION	PGR_STRUCTURE1_DESC
<input checked="" type="checkbox"/>	7500003	0	0	T min/max		<MatrixSet> <xs			Min/Max Limit

Matrix rule - [Shaft0.Car.Frame.Rules.Rule0.]

IX	C1	A1
-1	Condition	Assignment
0		
1		

Rule source

```
Imports System
Imports System.Math
Imports DigiPara.LDX
Imports System.Reflection
Imports Microsoft.VisualBasic
Public Class RuleEval
    Implements DigiPara.LD
    Private m_Error As String
    Private m_LdxObject As Digi:
    Private m_LdDoc As DigiPara
```

Add...

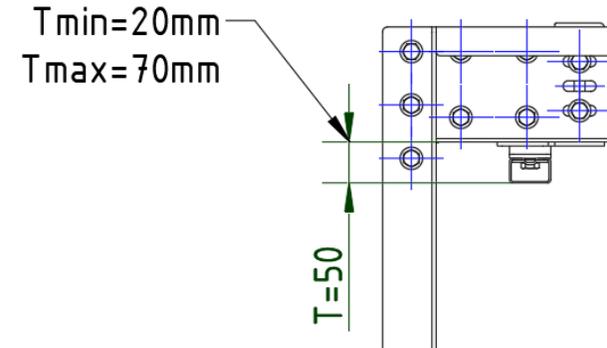
Reset windows Update view Standard Developer Close Help

Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Define dynamic Rules: Condition and Assignment

- in DigiPara LiftDesigner Rule Editor



Matrix rule - [Shaft0.Car.Frame.Rules.Rule0.]

IX	C1	A1
-1	LD("Me.L CarFrameDimTab.CFD USER PG 52")	Me.L CarFrameDimTab.CFD USER PG 52
0	<20	20
1	>70	70

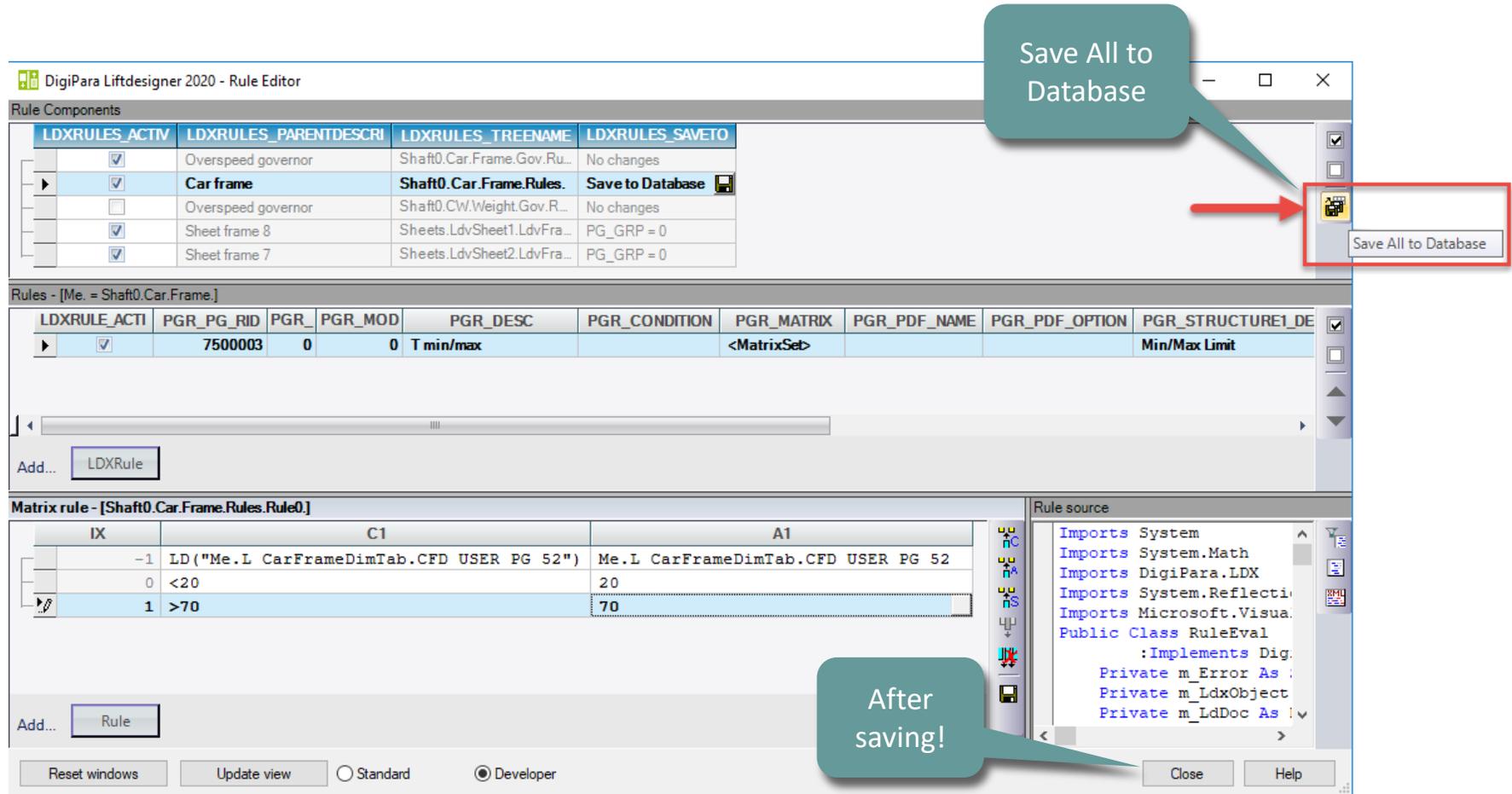
Add...

Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Save your new dynamic Rule

- in DigiPara LiftDesigner Rule Editor



LDXRULES_ACTIV	LDXRULES_PARENTDESCRI	LDXRULES_TREENAME	LDXRULES_SAVETO
<input checked="" type="checkbox"/>	Overspeed governor	Shaft0.Car.Frame.Gov.Ru...	No changes
<input checked="" type="checkbox"/>	Car frame	Shaft0.Car.Frame.Rules.	Save to Database 
<input type="checkbox"/>	Overspeed governor	Shaft0.CW.Weight.Gov.R...	No changes
<input checked="" type="checkbox"/>	Sheet frame 8	Sheets.LdvSheet1.LdvFra...	PG_GRP = 0
<input checked="" type="checkbox"/>	Sheet frame 7	Sheets.LdvSheet2.LdvFra...	PG_GRP = 0

LDXRULE_ACTI	PGR_PG_RID	PGR	PGR_MOD	PGR_DESC	PGR_CONDITION	PGR_MATRIX	PGR_PDF_NAME	PGR_PDF_OPTION	PGR_STRUCTURE1_DE
<input checked="" type="checkbox"/>	7500003	0	0	T min/max		<MatrixSet>			Min/Max Limit

IX	C1	A1
-1	LD("Me.L CarFrameDimTab.CFD USER PG 52")	Me.L CarFrameDimTab.CFD USER PG 52
0	<20	20
1	>70	70

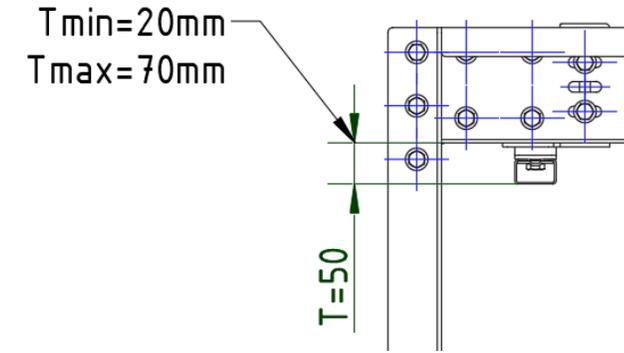
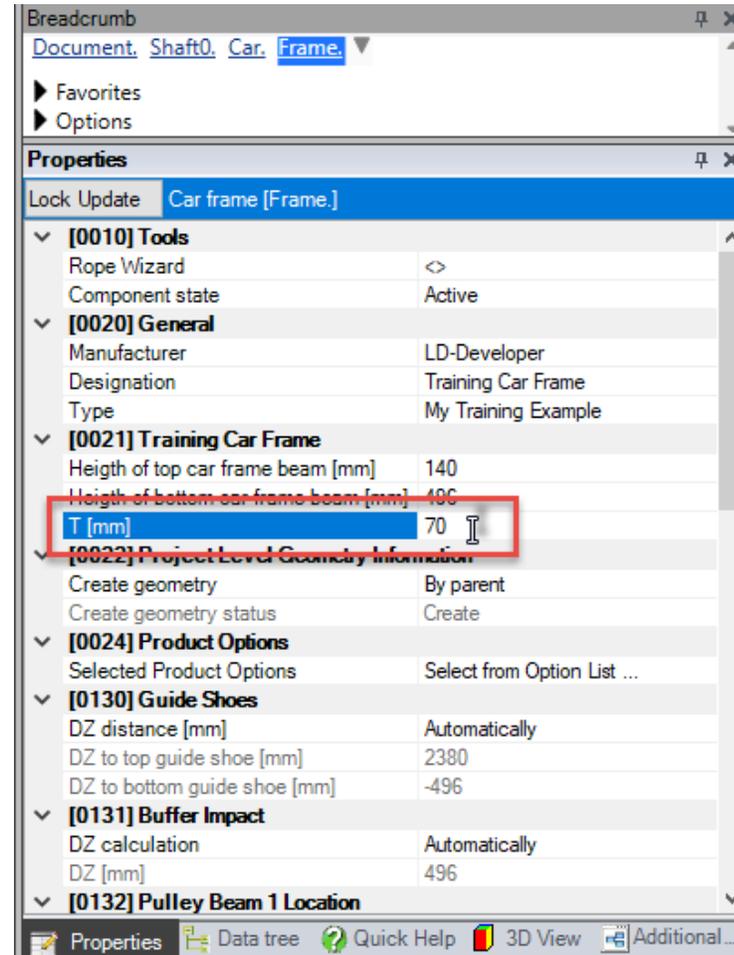
```
Imports System
Imports System.Math
Imports DigiPara.LDX
Imports System.Reflection
Imports Microsoft.VisualStudio.TestTools.UnitTesting
Public Class RuleEval
    Implements Dig...
    Private m_Error As ...
    Private m_LdxObject ...
    Private m_LdDoc As ...
```

Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Testing the new dynamic Rule

- in DigiPara Liftdesigner

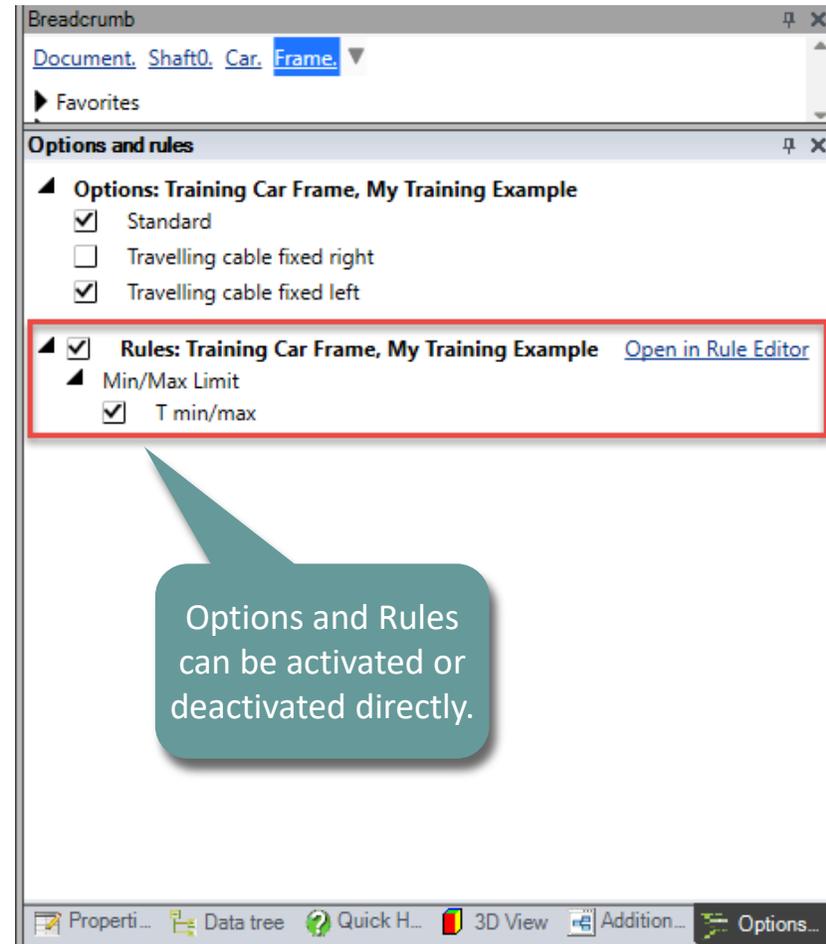


Dynamic BIM Component Rules

PL2.2 OPTIONAL STEPS - DYNAMIC BIM COMPONENT RULES

Options and Rules

- in DigiPara Liftdesigner



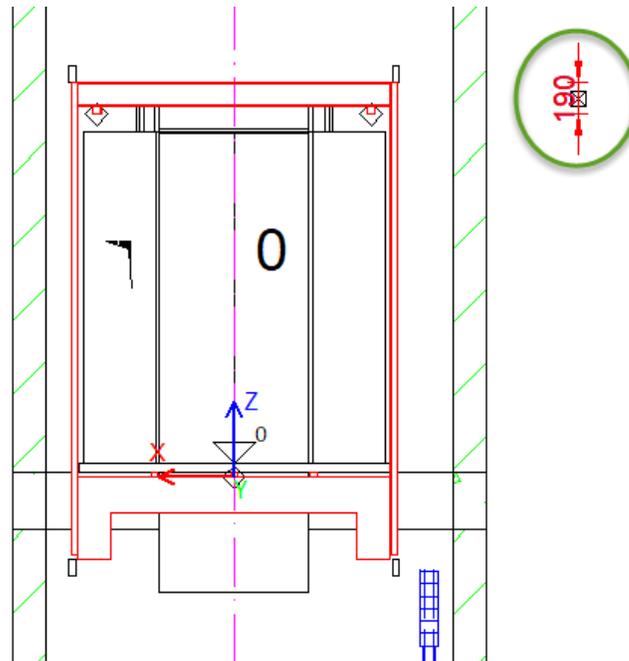
✓ Dynamic Dimension Points

Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Expected result:

- Characteristic Points for Dynamic Dimensions

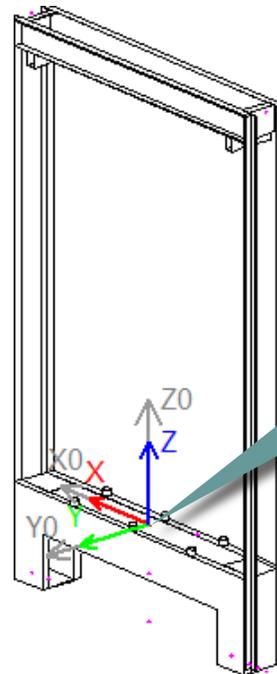
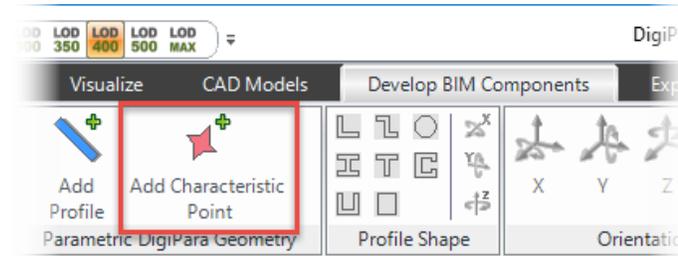


Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Add additional Characteristic Points for own dynamic Dimensions

- in DigiPara Liftdesigner



The new point is located at the base point of the BIM Component.

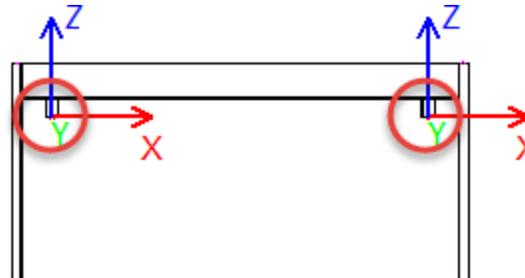
Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Define dynamic Dimension Points: Position & Options

- in DigiPara Liftdesigner

Formulas can be copied from existing profiles and used to position the points.



Crtl-C = Copy
Crtl-V = Paste

Lock	Update	Characteristic point 16 [PT16.]	
▼		[0010] Tools	
		Component state	Active
▼		[0022] Project Level Geometry Information	
		Create geometry	By parent
		Create geometry status	Create
▼		[0515] Type	
		Type	Not Set [0]
▼		[0517] Position	
		X0 [mm] = -718	-0.5*FW - WD - CF_CAR_2_GUIDES + 134
		Y0 [mm] = 0	0
		Z0 [mm] = 2170	CFD_HB - P50 - P52
▼		[0519] Options	
		This Object belongs to Product Option 1	
		Dynamic Dimension	Yes
		Copy to ghost	No
		Pick with Priority	No

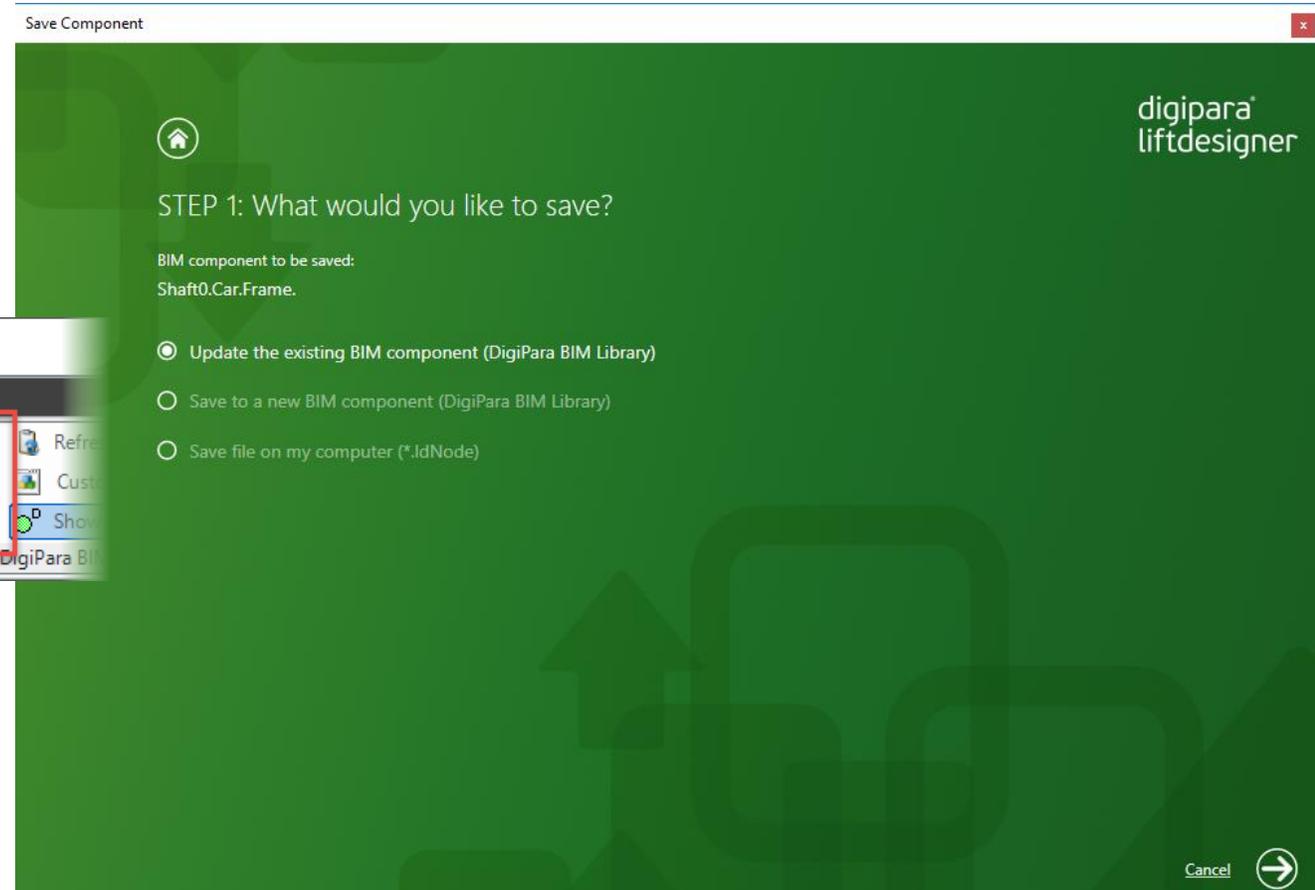
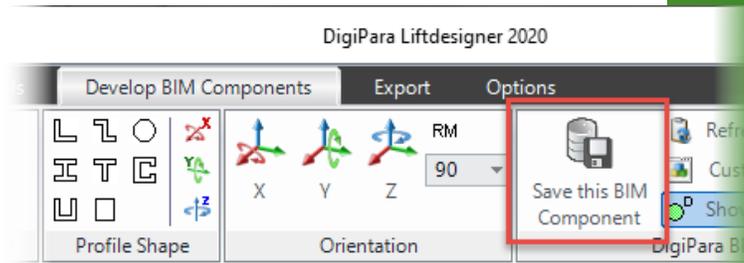
Lock	Update	Characteristic point 15 [PT15.]	
▼		[0010] Tools	
		Component state	Active
▼		[0022] Project Level Geometry Information	
		Create geometry	By parent
		Create geometry status	Create
▼		[0515] Type	
		Type	Not Set [0]
▼		[0517] Position	
		X0 [mm] = 718	0.5*FW + WD + CF_CAR_2_GUIDES - 134
		Y0 [mm] = 0	0
		Z0 [mm] = 2170	CFD_HB - P50 - P52
▼		[0519] Options	
		This Object belongs to Product Option 1	
		Dynamic Dimension	Yes
		Copy to ghost	No
		Pick with Priority	No

Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Save the finished defined BIM Component

- into the DigiPara BIM Library



Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Determine the necessary Point Codes

- in DigiPara Liftdesigner Datamanager

The screenshot shows the DigiPara Liftdesigner Datamanager 2020 interface. The main window displays a table of point codes under the 'Profile Group Point Codes' tab. A red arrow points from a table entry to a text box at the bottom.

PGC_RID	PGC_MF_RID	PGC_DESC	PGC_CODE_NO	PGC_LDX_RID
7500000	7500000	P1	11111	88: LDXPitBaseUnit
7500001	7500000	P2	22222	88: LDXPitBaseUnit
7500002	7500000	Car Frame T - P1	7500002	16: LDXCarFrame
7500003	7500000	Car Frame T - P2	7500003	16: LDXCarFrame

At the bottom left, there is an 'Add...' button with a text box containing 'L_ProfilGrpPktCodesTab'. A red arrow points from this text box to the 'Car Frame T - P2' row in the table above.

The right sidebar shows a tree view under 'Table view' with the following items:

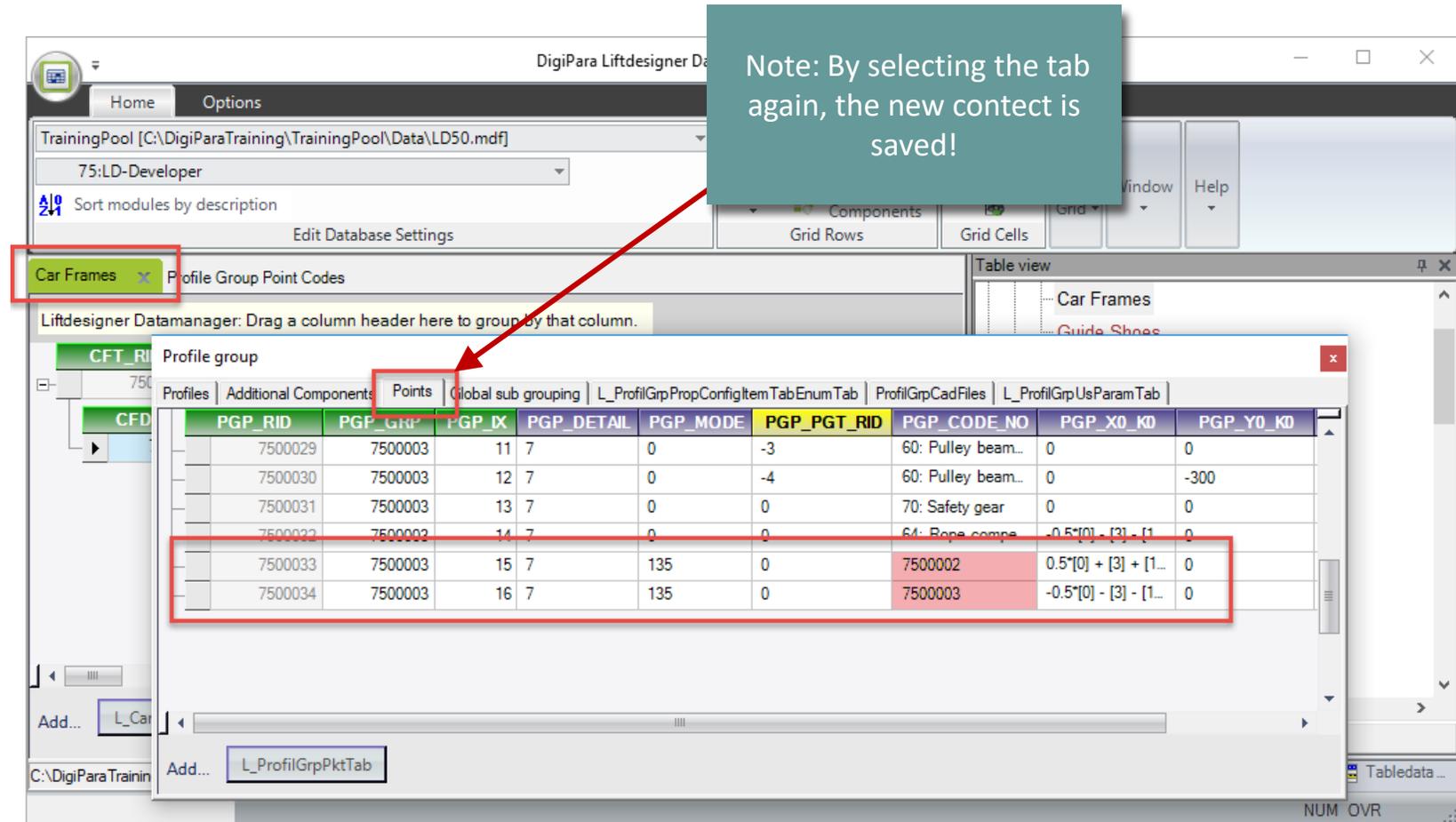
- Standard Elevators
- Geometry Groups
 - Profile Groups - Profiles (grouped)
 - Profile Groups - Points (grouped)
 - Profile Groups - Additional Nodes (CAD Model)
 - Profile Groups - Rules (grouped)
 - Profile Groups - Dimensions (grouped)
 - Profile Groups - Properties (grouped)
 - Profile Groups - Render Properties (grouped)
 - Profile Group Point Codes**
 - Profile Groups - Option Group Codes (1 Level)
- Render Surfaces
- Render Colors

Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Assign the Point Codes to the new Characteristic Point

- using the associated Profile Group in DigiPara Lift designer Datamanager



Note: By selecting the tab again, the new contact is saved!

PGP_RID	PGP_GRP	PGP_IX	PGP_DETAIL	PGP_MODE	PGP_PGT_RID	PGP_CODE_NO	PGP_X0_K0	PGP_Y0_K0
7500029	7500003	11	7	0	-3	60: Pulley beam...	0	0
7500030	7500003	12	7	0	-4	60: Pulley beam...	0	-300
7500031	7500003	13	7	0	0	70: Safety gear	0	0
7500032	7500003	14	7	0	0	64: Rope compe	-0.5*[0] - [3] - [1	0
7500033	7500003	15	7	135	0	7500002	0.5*[0] + [3] + [1...	0
7500034	7500003	16	7	135	0	7500003	-0.5*[0] - [3] - [1...	0

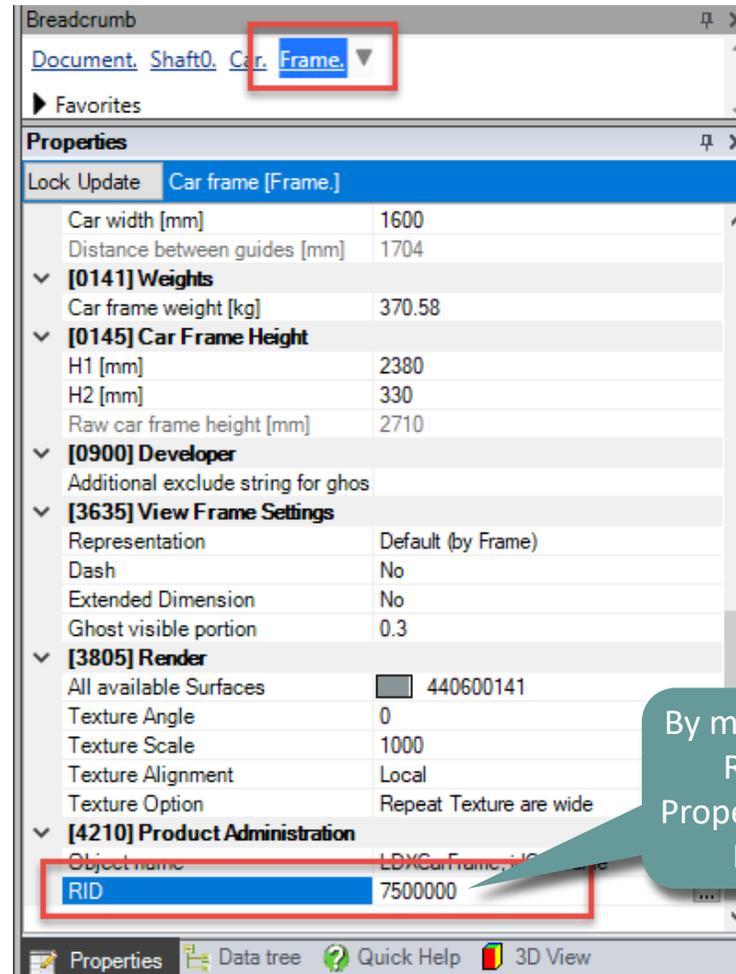
Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Reload the modified BIM Component

- in DigiPara Liftdesigner

Reload your BIM Component to accept edited values from the DigiPara Liftdesigner Datamanager.



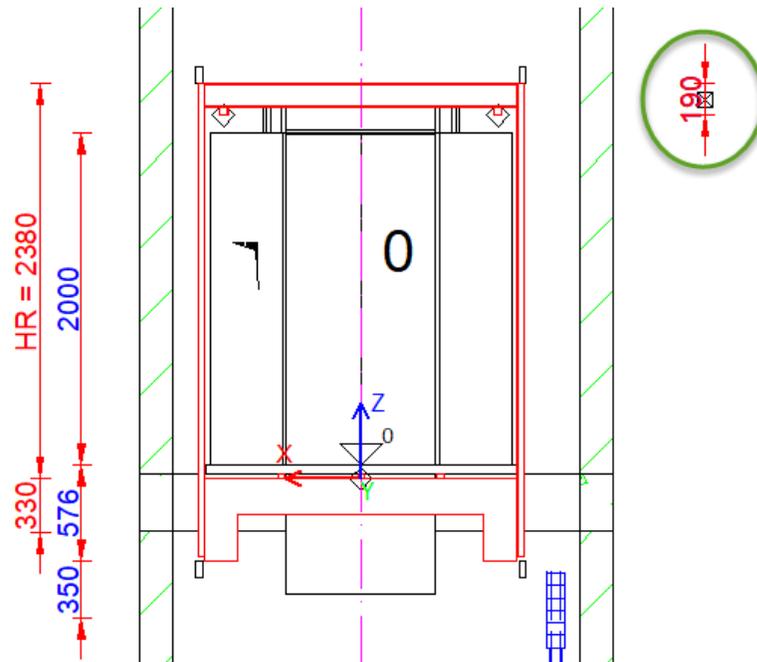
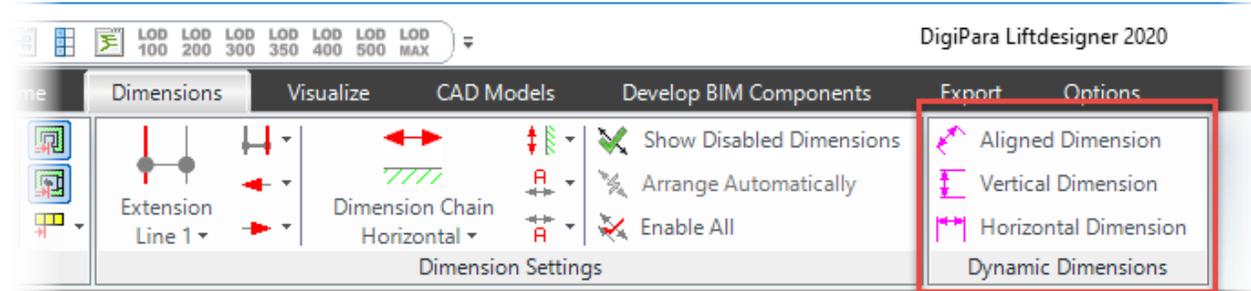
By manually swapping the RID number in the Properties Window for the BIM Component.

Dynamic Dimension Points

PL2.2 OPTIONAL STEPS - DYNAMIC DIMENSION POINTS

Check the new dynamic Dimension Points

- in DigiPara Liftdesigner via the Dynamic Dimension function



PL2.2

Typical Processes

Pulley Beam

TYPIICAL
PROCESSES



✓ Copy a similar BIM Component

Copy a similar BIM Component

PL2.2 TYPICAL PROCESSES

Copy a similar BIM Component

- in DigiPara Liftdesigner Datamanager

The BIM Component is copied with all parameter and values to a new manufacturer / DigiPara BIM Library.

The steps 1 until 3 guide you through the copy process.

The screenshot shows the DigiPara Liftdesigner Datamanager 2020 interface. The main window displays a table with columns: PB_DESC, PB_SUB_DESC, PB_MF_RID, PB_PG_GRP, PB_PUD_RID, PB_MODE, PB_PUD_DIST, PB_RWF_RID. The table contains data for 'Pulley beam' components. A 'Copy BIM Components' dialog box is open, showing 'Selected: L_PulleyBeamTab, 1 Records' and 'Copy completed: L_PulleyBeamTab, 1 Records'. A 'CLOSE & OPEN COPY' button is visible at the bottom of the dialog.

PB_DESC	PB_SUB_DESC	PB_MF_RID	PB_PG_GRP	PB_PUD_RID	PB_MODE	PB_PUD_DIST	PB_RWF_RID
1 Pulley beam	car sling	1	19592	19	0	560	0
2						340	0
3						560	0
4						860	0
5						1160	0
6						0	3
7						0	4
8						0	0
9						0	0
10						0	0
11						0	0
12						0	0
13						0	0
14						0	0
15						0	0
16						0	0

Finish the copy process and open the new copied BIM Component.

✓ Meta Data & Mode Settings

Meta Data & Mode Settings

PL2.2 TYPICAL PROCESSES

Edit the Meta Data and Mode Settings

- in DigiPara Liftdesigner Datamanager

The screenshot shows the DigiPara Liftdesigner Datamanager 2020 interface. The main window displays a table of pulley beam data. A red box highlights the 'PB_MODE' column, and a red arrow points from it to the 'Option' dialog box. The dialog box shows a value of '1' and a table with a checked option: 'Calculate the pulley distance (R1/R2) bei point code 121 und 122'.

PB_RID	PB_DESC	PB_SUB_DESC	PB_MF_RID	PB_PG_GRP	PB_PUD_RID	PB_MODE	PB_PUD_DIST	PB_RWF_RID
7500000	Training Pulley Beam	Car Frame	7500000	7500004	19	1	560	0

Option dialog box:

Value: 1

Select All Unselect All

Status	Designation	Value	Lis
<input checked="" type="checkbox"/>	Calculate the pulley distance (R1/R2) bei point code 121 und 122	1	0

The corresponding positioning points are added and defined in the Developer Work Area.

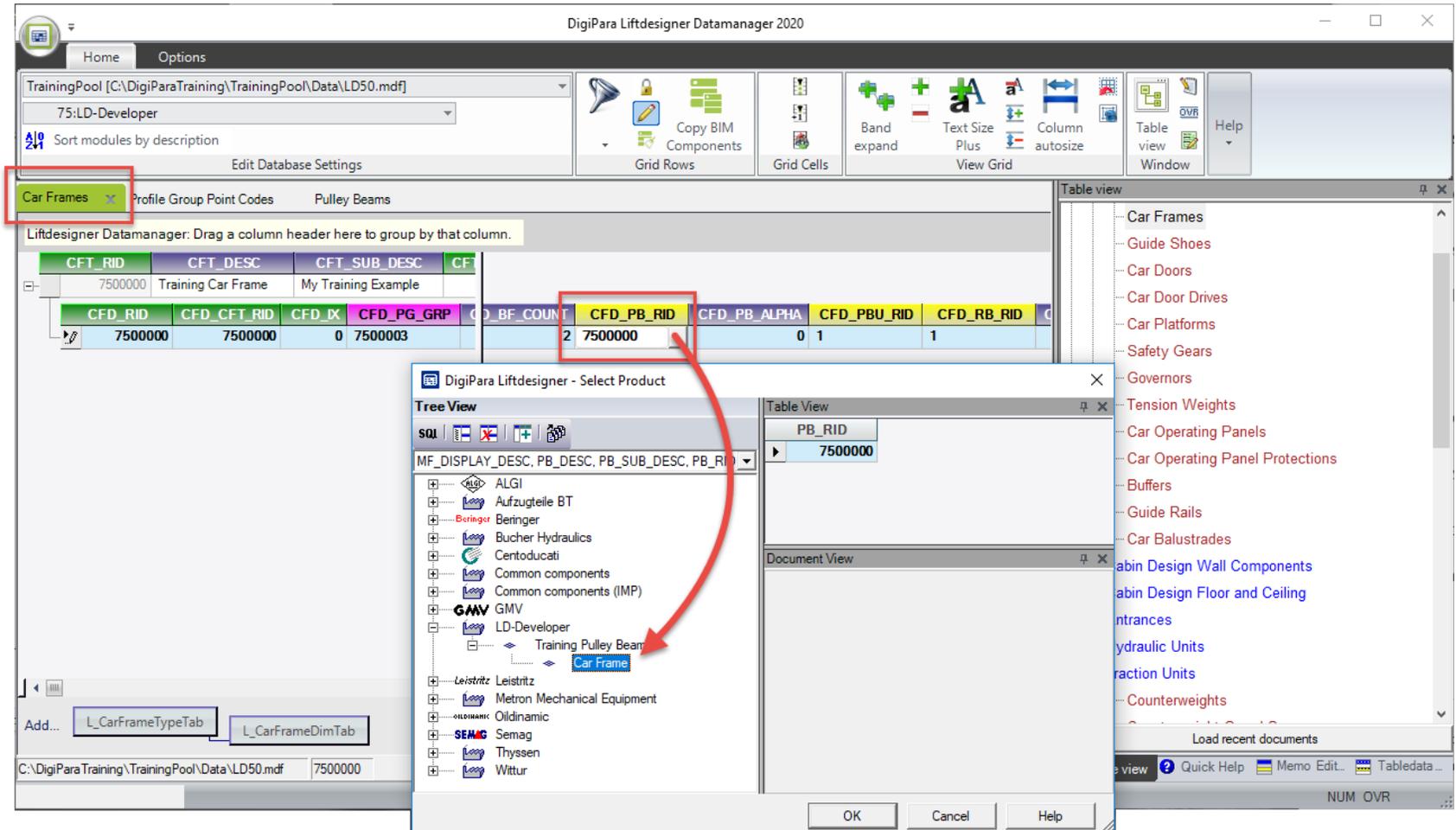
✓ Determine related BIM Components

Determine related BIM Components

PL2.2 TYPICAL PROCESSES

Assign the created Pulley Beam to the finished Car Frame

- in DigiPara Lift designer Datamanager



Determine related BIM Components

PL2.2 TYPICAL PROCESSES

Determine the Pulley Beam Angle by using the corresponding Mode

- in DigiPara Liftdesigner Datamanager

The screenshot displays the DigiPara Liftdesigner Datamanager interface. It features two data tables and an 'Option' dialog box.

Table 1: Component Data

CFT_DESC	CFT_SUB_DESC	CFD
000 Training Car Frame	My Training Example	

Table 2: Configuration Data

RID	CFD_CFT_RID	CFD_IX	CFD_PG_GRP	CFD_BF_COUNT	CFD_PB_RID	CFD_PB_ALPHA	CFD_PBU_RID	CFD_DES_DY_RIGHT	CFD_MODE	CFD_CPF_RID	CFD_CPD
500000	7500000	0	7500003	2	7500000			0	65	-1	

Option Dialog Box:

Value: 65

Select All Unselect All

Status	Designation	Value
<input checked="" type="checkbox"/>	HB_FROM_EP	1
<input type="checkbox"/>	DZ_SPACE_FROM_EP	2
<input type="checkbox"/>	SHOW_DZ_SPACE_DIM	4
<input type="checkbox"/>	L_TYPE	8
<input type="checkbox"/>	GD_DIR_OUTSIDE	16
<input type="checkbox"/>	P63_DRIVEN_BY_50_AND_51	32
<input checked="" type="checkbox"/>	APPLY_CFD_PB_ALPHA	64
<input type="checkbox"/>	BF_AT_FRAME	128
<input type="checkbox"/>	DOUBLE_DECK	256
<input type="checkbox"/>	UPPER_DECK_SERVES_BOTTOM_FLOOR	512
<input type="checkbox"/>	LOWER_DECK_SERVES_TOP_FLOOR	1024

OK Cancel Help

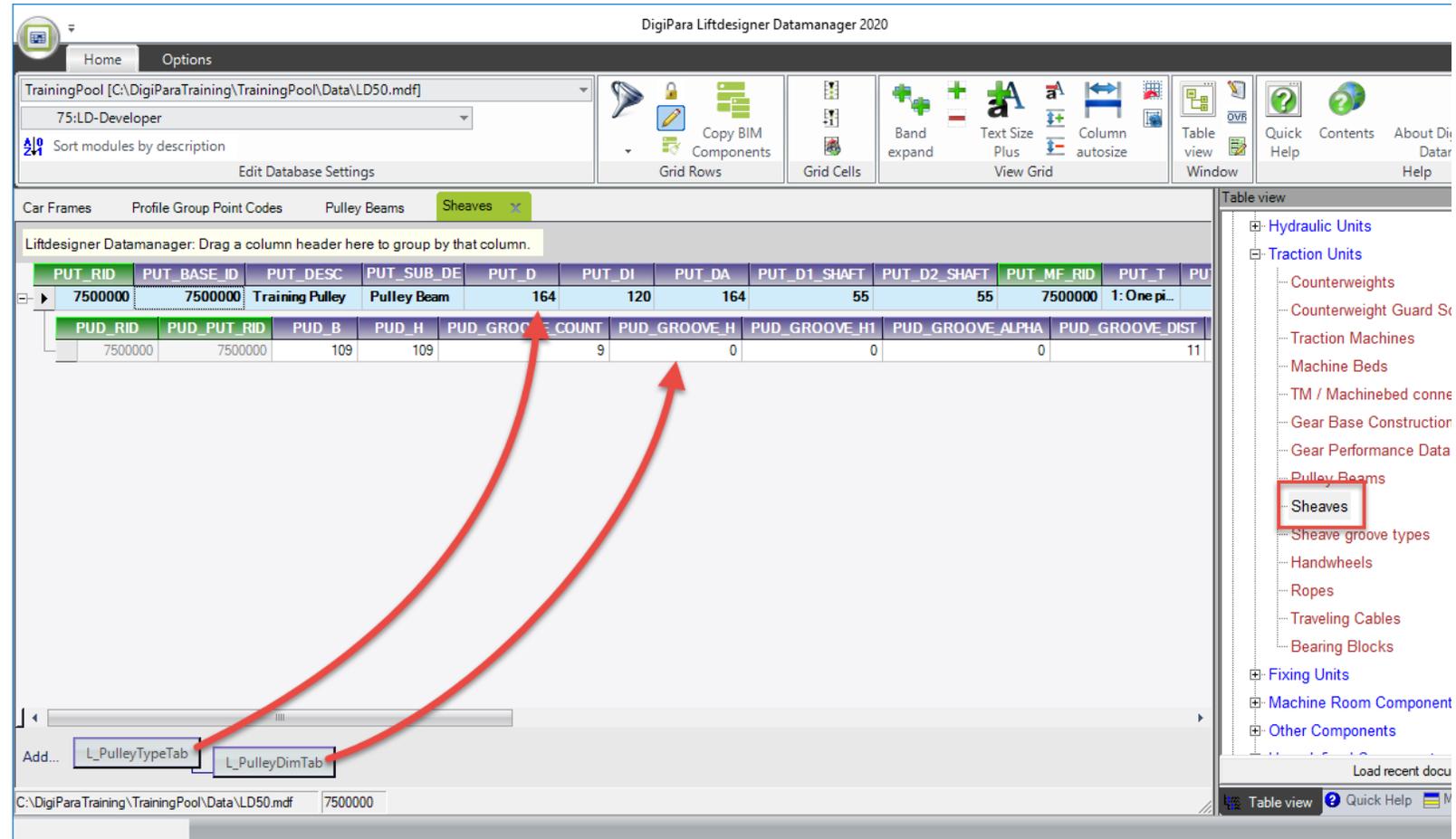
✓ Add & define new BIM Components
Pulley

Add & define new BIM Components

PL2.2 TYPICAL PROCESSES

Add and define new BIM Components

- in DigiPara LiftDesigner Datamanager



The screenshot shows the DigiPara LiftDesigner Datamanager 2020 interface. The main window displays a data table with columns for component identification and dimensions. The 'Sheaves' component is selected in the left-hand navigation tree. Two red arrows point from the 'L_PulleyTypeTab' and 'L_PulleyDimTab' tabs at the bottom to the 'PUT_D' and 'PUD_GROOVE_COUNT' columns in the table, respectively.

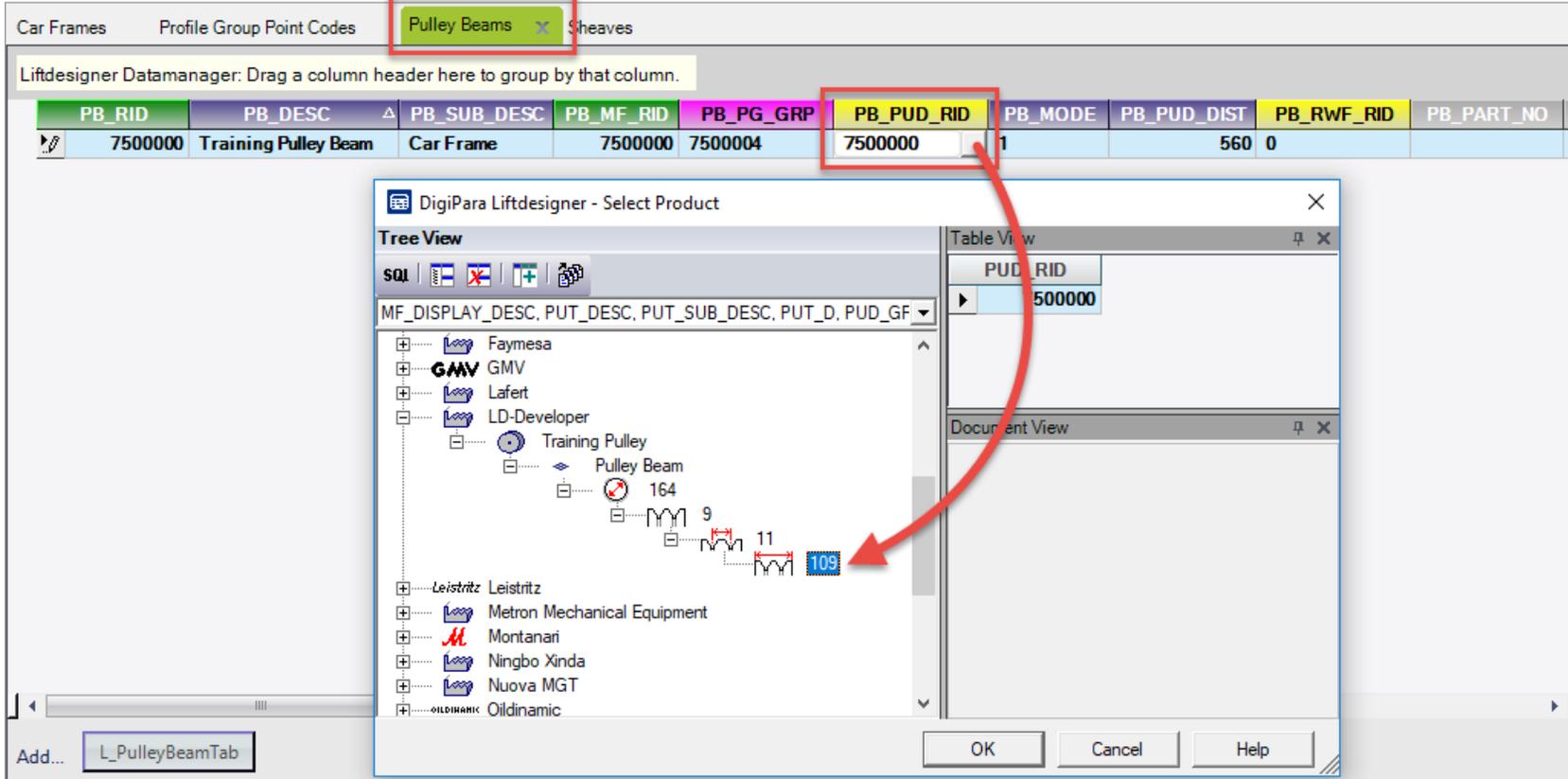
PUT_RID	PUT_BASE_ID	PUT_DESC	PUT_SUB_DE	PUT_D	PUT_DI	PUT_DA	PUT_D1_SHAFT	PUT_D2_SHAFT	PUT_MF_RID	PUT_T	PU
7500000	7500000	Training Pulley	Pulley Beam	164	120	164	55	55	7500000	1: One pi...	
PUD_RID	PUD_PUT_RID	PUD_B	PUD_H	PUD_GROOVE_COUNT	PUD_GROOVE_H	PUD_GROOVE_H1	PUD_GROOVE_ALPHA	PUD_GROOVE_DIST			
7500000	7500000	109	109	9	0	0	0	11			

Add & define new BIM Components

PL2.2 TYPICAL PROCESSES

Assign the created Pulleys to the finished Pulley Beam

- in DigiPara LiftDesigner Datamanager



The screenshot shows the DigiPara LiftDesigner interface. At the top, a menu bar includes 'Car Frames', 'Profile Group Point Codes', 'Pulley Beams', and 'Sheaves'. Below this is the 'Liftdesigner Datamanager' table. The table has columns: PB_RID, PB_DESC, PB_SUB_DESC, PB_MF_RID, PB_PG_GRP, PB_PUD_RID, PB_MODE, PB_PUD_DIST, PB_RWF_RID, and PB_PART_NO. A row is highlighted with the following values: 7500000, Training Pulley Beam, Car Frame, 7500000, 7500004, 7500000, 1, 560, 0. A red box highlights the 'PB_PUD_RID' column header and the value '7500000' in the row. A red arrow points from this value to a 'DigiPara LiftDesigner - Select Product' dialog box. In this dialog, the 'Tree View' shows a hierarchy: LD-Developer > Training Pulley > Pulley Beam > 164 > 9 > 11 > 109. The '109' node is highlighted with a blue box. The 'Table View' shows 'PUD_RID' with the value '500000'. The 'Document View' is empty. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons. In the background, the 'Add...' button is labeled 'L_PulleyBeamTab'.

✓ Reload the modified BIM Component

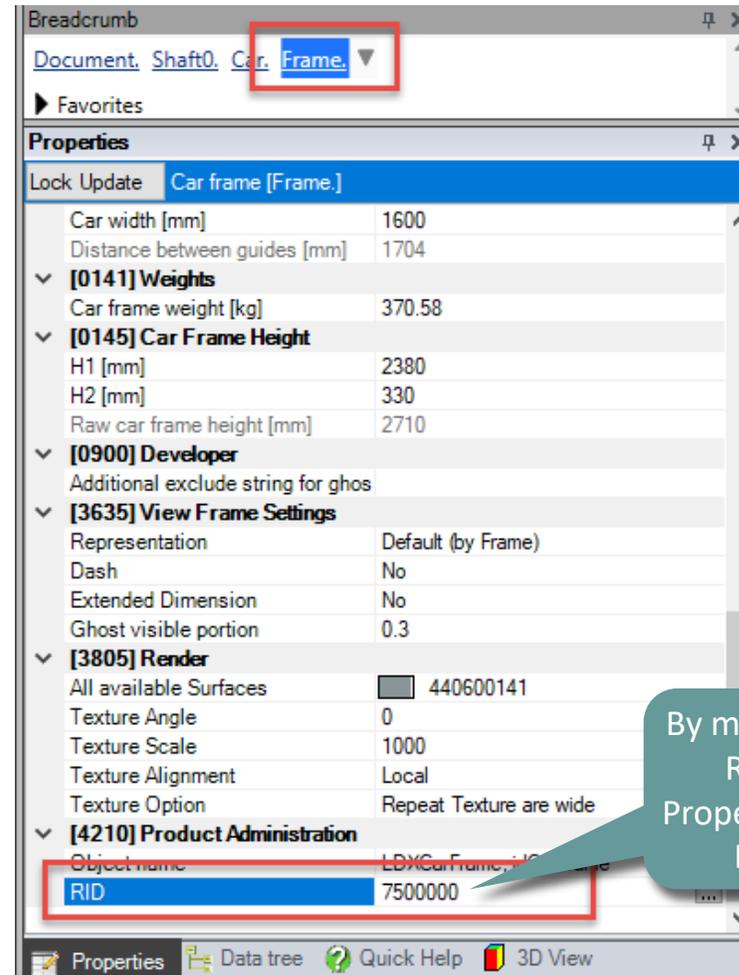
Reload the modified BIM Component

PL2.2 TYPICAL PROCESSES

Reload the modified BIM Component

- in DigiPara Liftdesigner

Reload your BIM Component to accept edited values from the DigiPara Liftdesigner Datamanager.



By manually swapping the RID number in the Properties Window for the BIM Component.

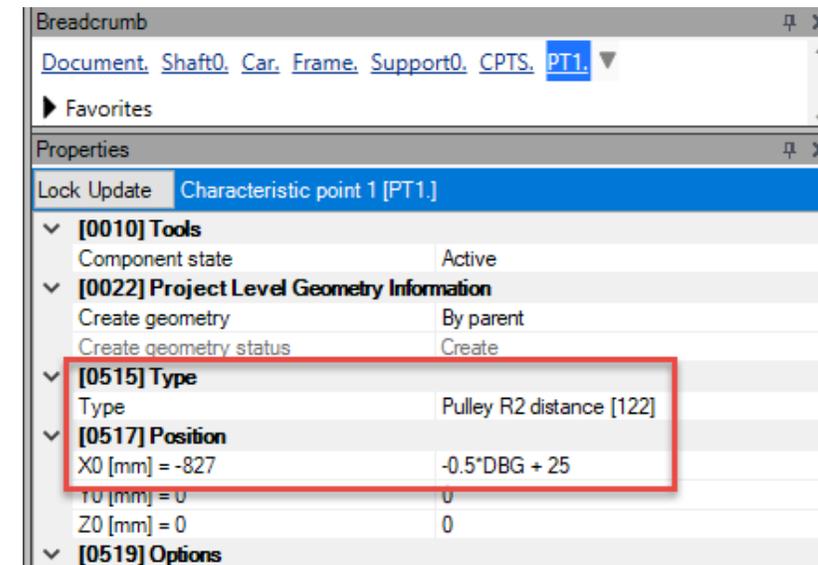
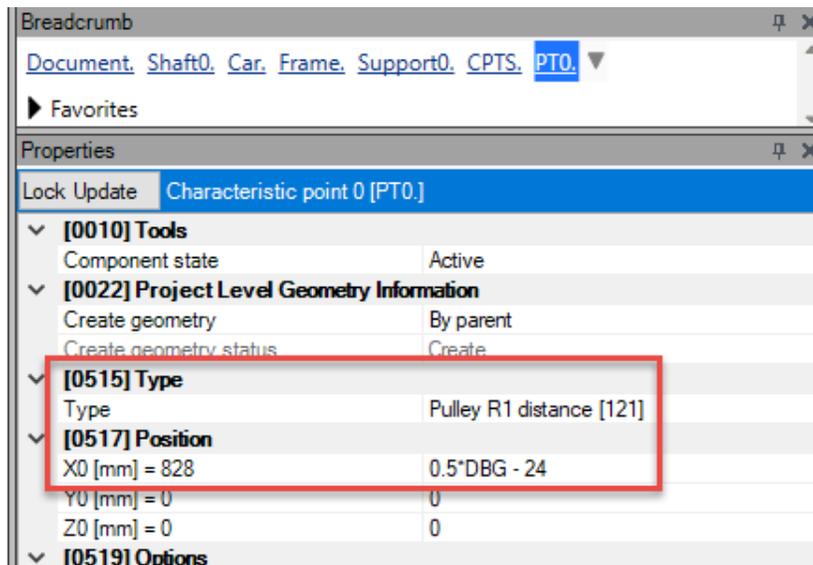
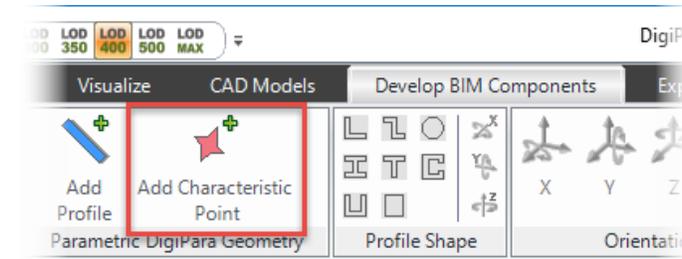
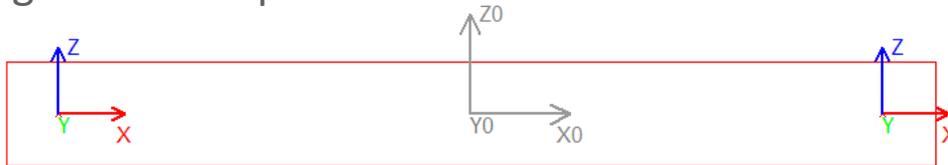
✓ Set the Positioning Points
Pulley Beam

Set the Positioning Points

PL2.2 TYPICAL PROCESSES

Add and define the Positioning Points of both Pulleys

- using the Developer Works Area





Modify the 3D Geometry

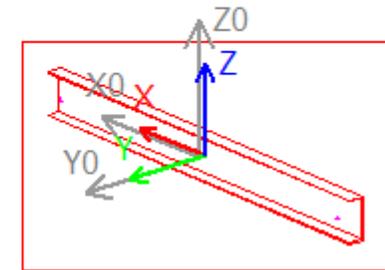
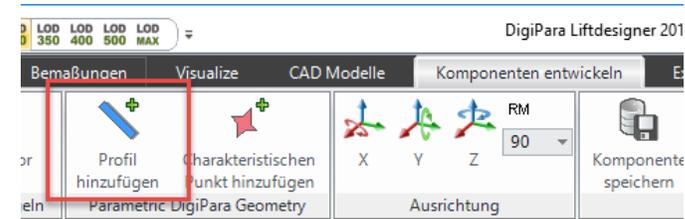
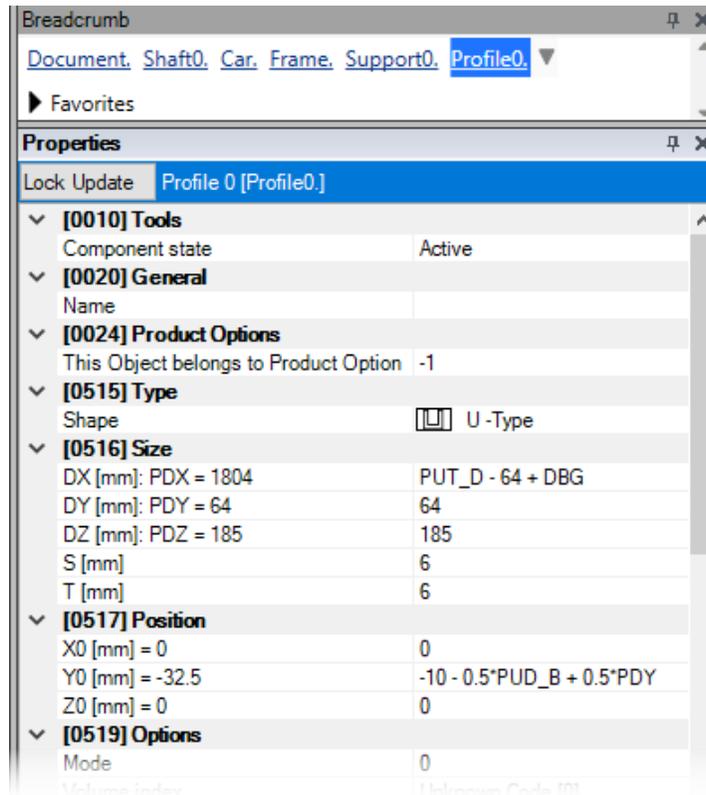
Pulley Beam

Modify the 3D Geometry

PL2.2 TYPICAL PROCESSES

Add and define new Pulley Beam Profiles

- using the Developer Work Area



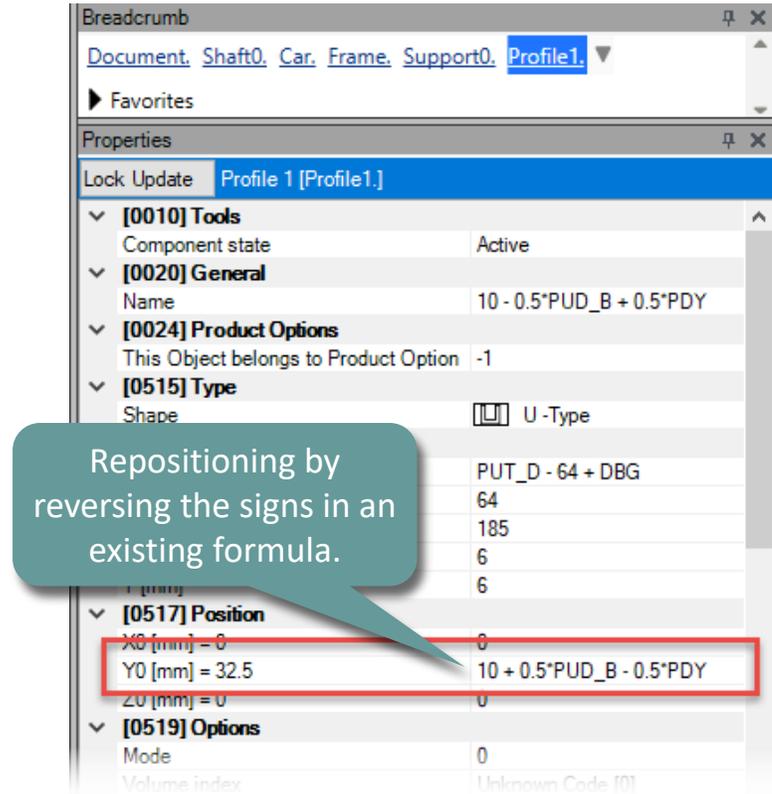
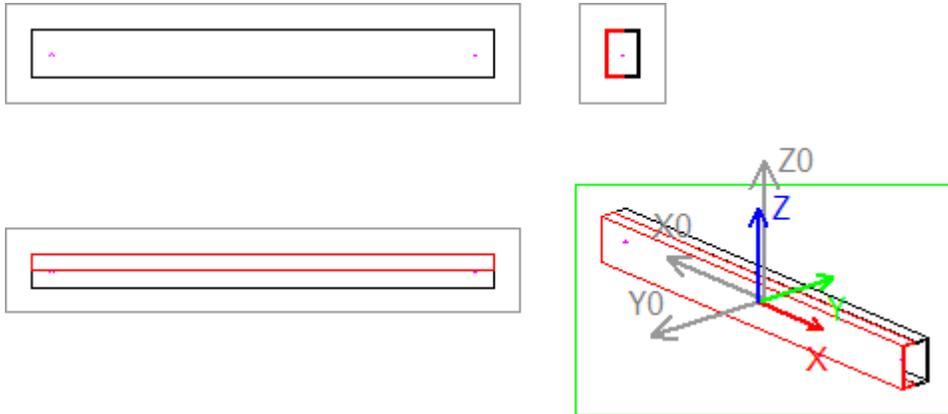
Modify the 3D Geometry

PL2.2 TYPICAL PROCESSES

Copy and customize Profiles

- using the Developer Work Area

Ctrl-C = Copy
Ctrl-V = Paste

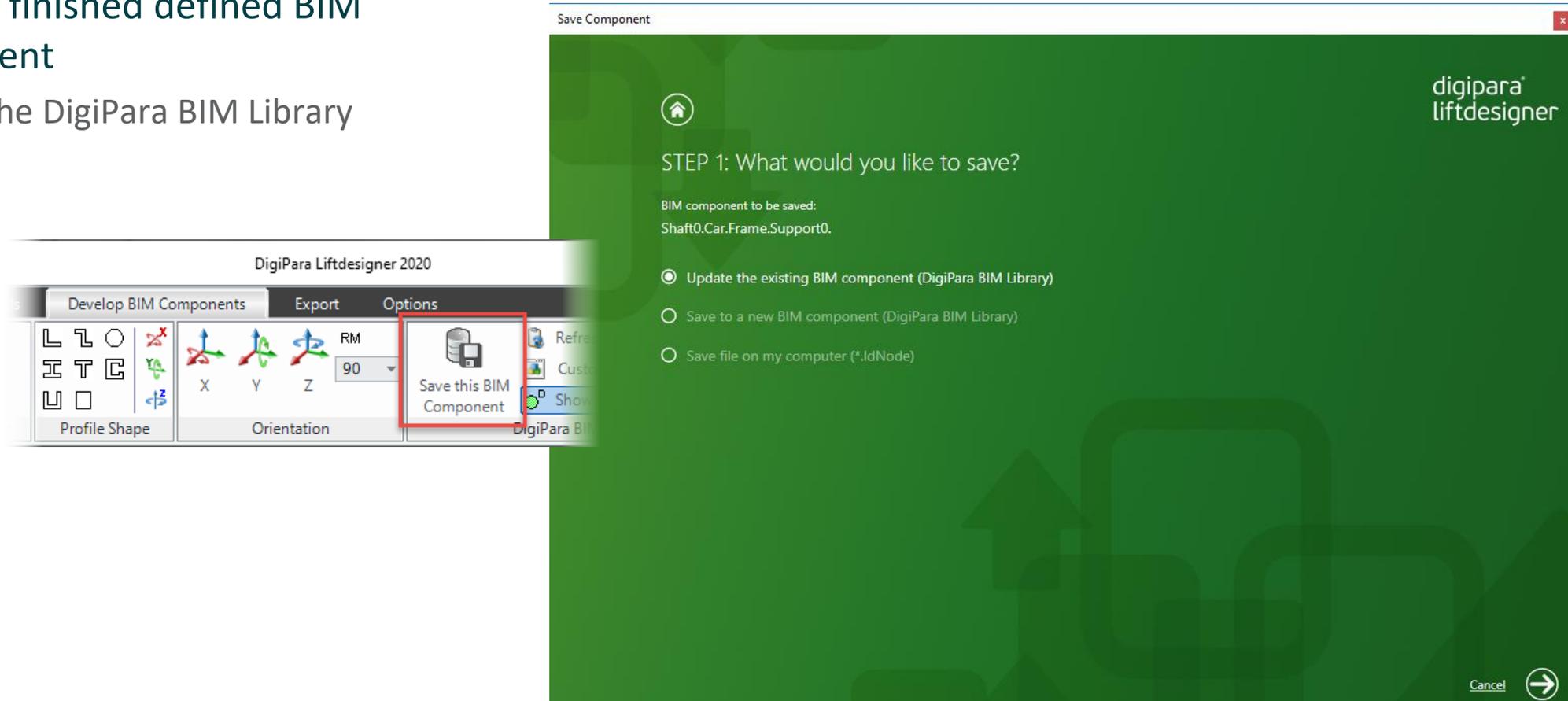


Modify the 3D Geometry

PL2.2 TYPICAL PROCESSES

Save the finished defined BIM Component

- into the DigiPara BIM Library



Car Frame and Accessories

Result



PL2.3

Additional training
materials

Cutouts for Profiles



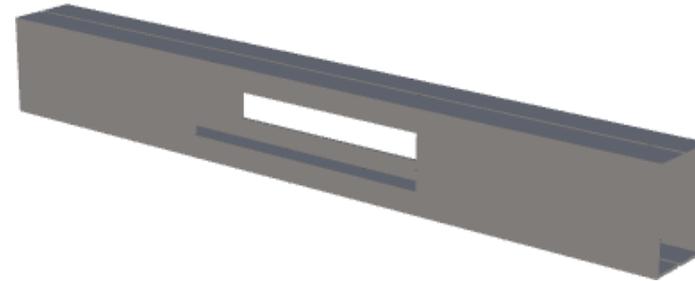
ADDITIONAL
TRAINING
MATERIALS

Cutouts for Profiles

PL2.3 ADDITIONAL TRAINING MATERIALS

via the volume index option

- Add a new Profile Volume Description data record
- Define a new (cutout) profile
- Link all necessary profiles to the given volume index

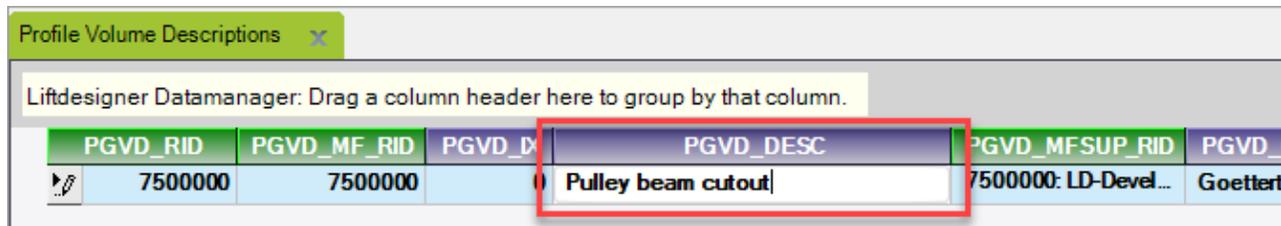


Cutouts for Profiles

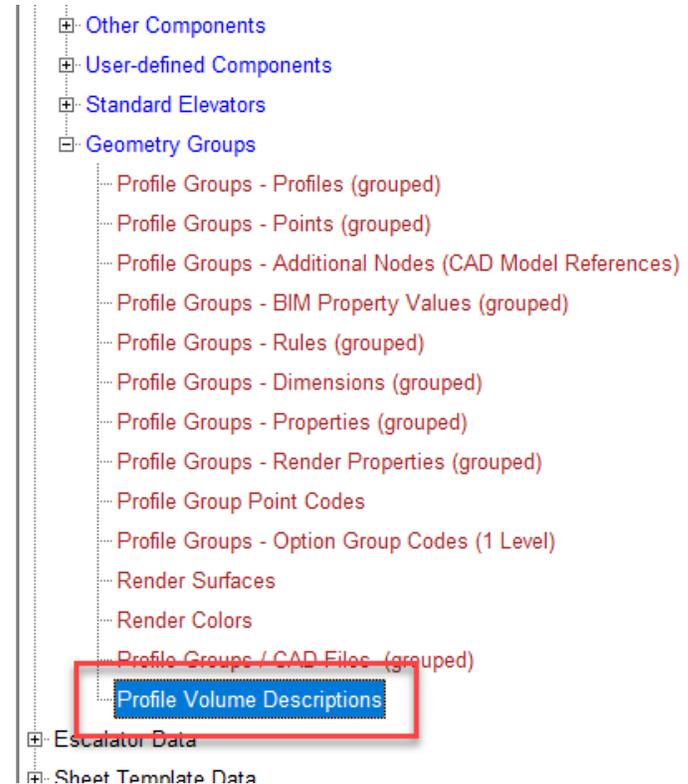
PL2.3 ADDITIONAL TRAINING MATERIALS

Add and describe a new Profile Volume Description data record

- in DigiPara Liftdesigner Datamanager



PGVD_RID	PGVD_MF_RID	PGVD_D	PGVD_DESC	PGVD_MFSUP_RID	PGVD_...
7500000	7500000		Pulley beam cutout	7500000: LD-Devel...	Goettert

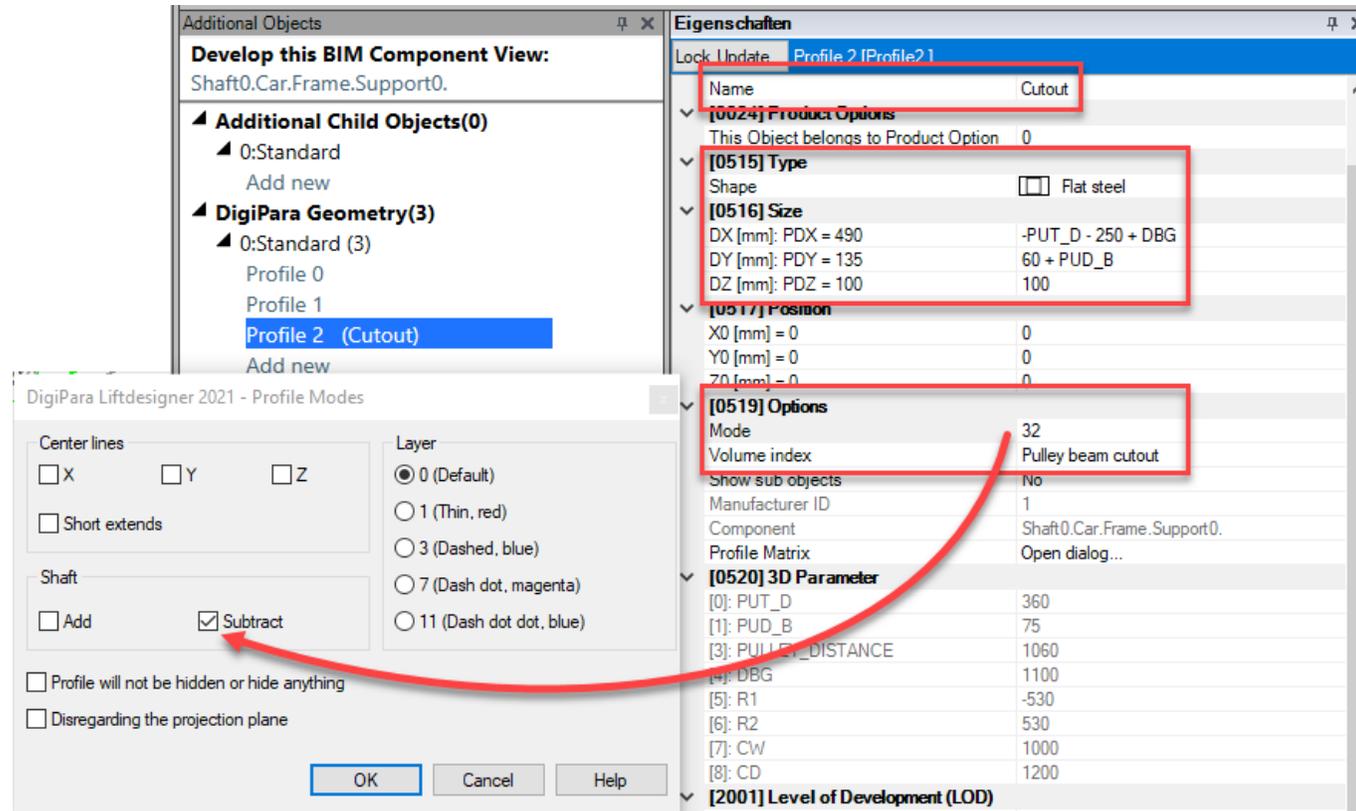
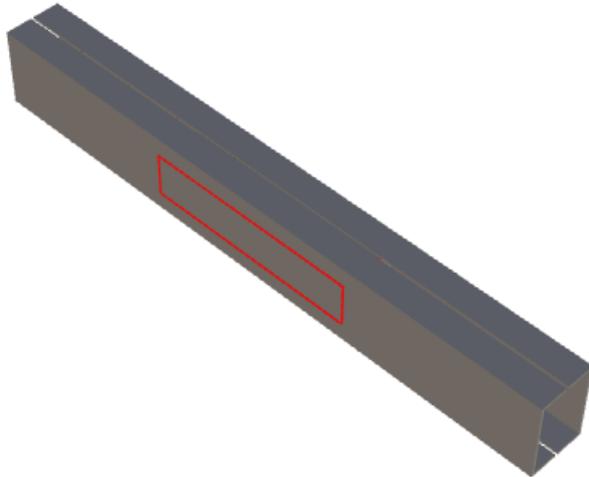


Cutouts for Profiles

PL2.3 ADDITIONAL TRAINING MATERIALS

Define a new (cutout) profile

- in DigiPara Liftdesigner



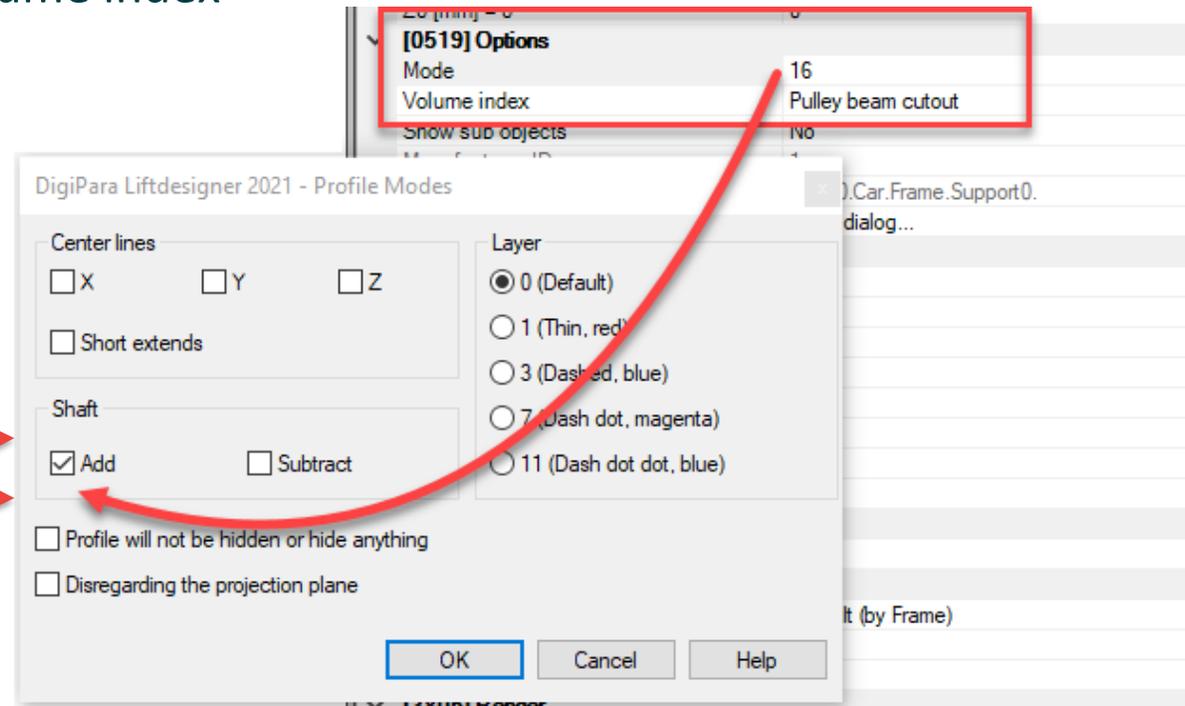
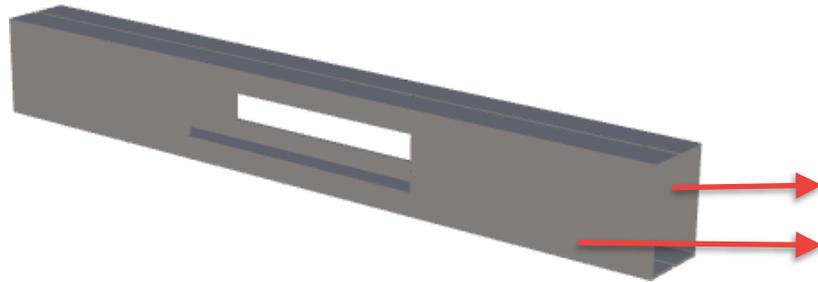
The screenshot displays the software interface for defining a new cutout profile. The 'Additional Objects' tree on the left shows the hierarchy: 'Develop this BIM Component View: Shaft0.Car.Frame.Support0.' > 'Additional Child Objects(0)' > 'DigiPara Geometry(3)' > 'Profile 2 (Cutout)'. The 'Eigenschaften' panel on the right shows the properties for 'Profile 2 | Profile2.1', with several fields highlighted in red boxes: 'Name' (Cutout), '[0515] Type' (Flat steel), '[0516] Size' (DX: -PUT_D - 250 + DBG, DY: 60 + PUD_B, DZ: 100), and '[0519] Options' (Mode: 32, Volume index: Pulley beam cutout). The 'Profile Modes' dialog box is open in the foreground, showing options for 'Center lines' (X, Y, Z), 'Short extends', 'Shaft' (Add, Subtract), and 'Layer' (0-11). A red arrow points from the 'Volume index' field in the properties panel to the 'Subtract' checkbox in the dialog box.

Cutouts for Profiles

PL2.3 ADDITIONAL TRAINING MATERIALS

Link all necessary profiles to the given volume index

- in DigiPara Liftdesigner



PL2.4

Summary & custom
Q&A's

SUMMARY
& CUSTOM
Q&A'S



Congratulations

You reached the next level



 digipara[®] liftdesigner



Your instructor will be available for individual questions after the module training.

training@digipara.com





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