

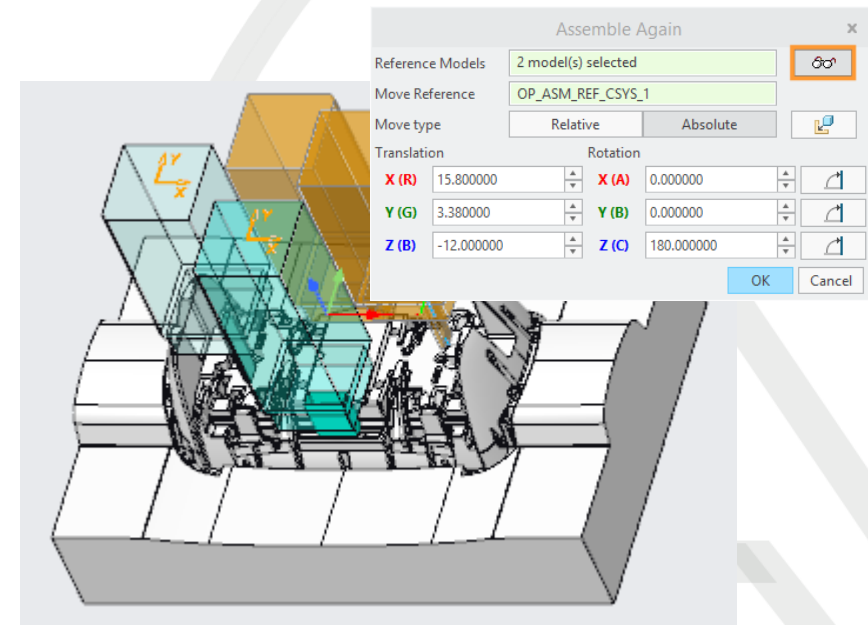
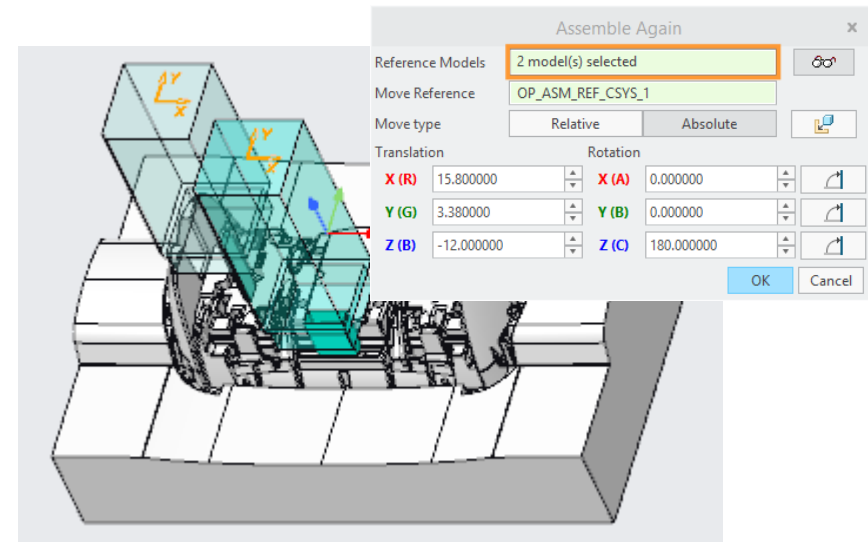
SMARTElectrode 10.0

What's new in SMARTElectrode?

- **Process Ribbon**
 - Assemble Again
 - Burnsheat
 - View Control
- **Detail/Modeling Ribbon**
 - Get Data
 - Mirror
 - Merge
 - Split
 - Cutout and Cserdefined Cutout
 - Base UI
- **Compatibility with SME 7.0**
 - Functions for legacy assemblies
 - Import electrodes
- **Configuration**
 - Options
 - Parameters

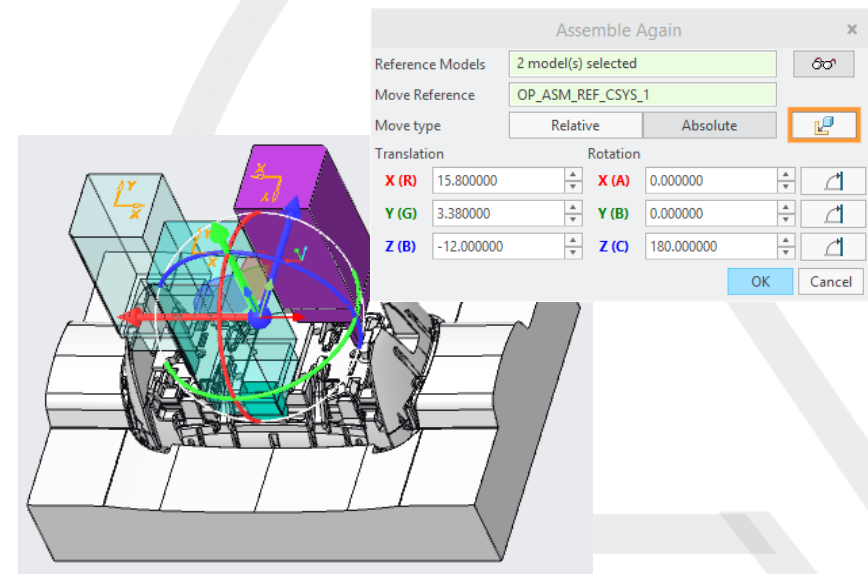
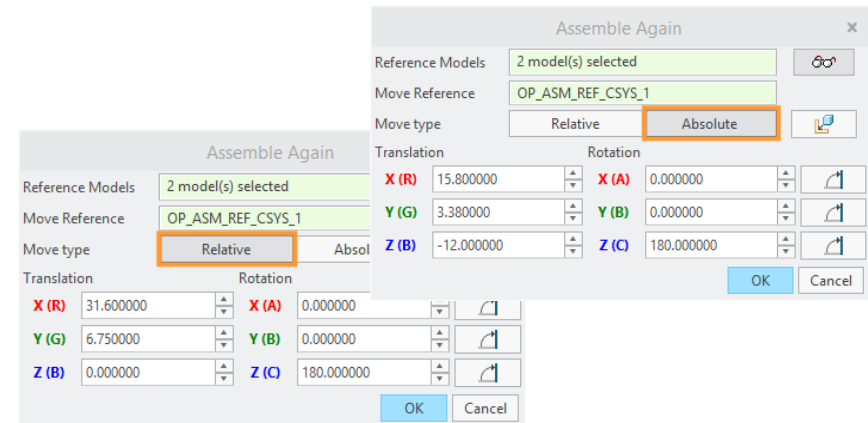
Repeat / Assemble again

- Allow selection of several electrodes to repeat
- Transformation will be defined for 1st selected electrode
- Disable and enable preview of new electrode positions



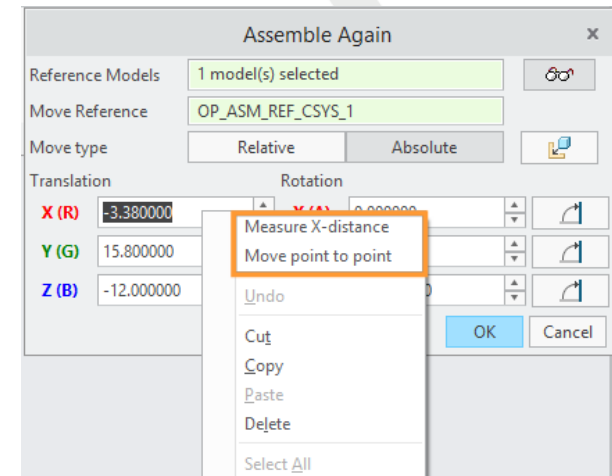
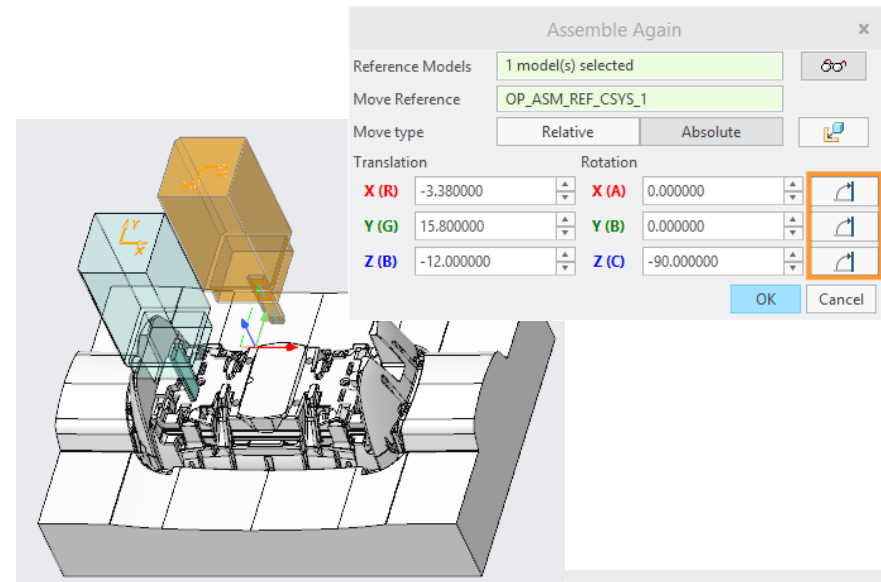
Repeat / Assemble again

- **Move**
 - relative with respect to current electrode position
 - absolute with respect to selected reference
- **Assemble using native Creo UI**



Repeat / Assemble again

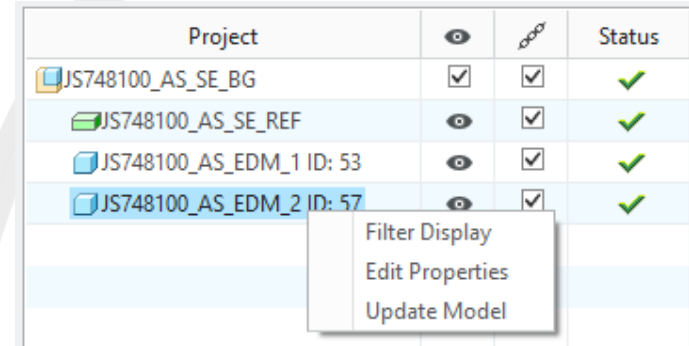
- Rotate in 90° steps
- Measure distance, angle or move from point-to-point in RMB-menu



- **Review all electrode parameter in one UI**
- **Use RMB to**
 - Filter display
 - Open parameter UI
 - Update electrode model

Burnsheet

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The screenshot shows a zoomed-in view of the table from the previous screenshot. A right-click context menu is open over the row 'JS748100_AS_EDM_2 ID: 57'. The menu options are 'Filter Display', 'Edit Properties', and 'Update Model'.














Project	Status
JS748100_AS_SE_BG	✓
JS748100_AS_SE_REF	✓
JS748100_AS_EDM_1 ID: 53	✓
JS748100_AS_EDM_2 ID: 57	✓














Filter Display

Edit Properties

Update Model

- **Update icon appears in column ,Status‘ if...**
 - outline of copy-geom changed
 - base not centered anymore on electrode solid
- **Use RMB ,Update Model‘ to...**
 - update position and size of cutouts (created by SME)
 - recenter base on electrode solid
 - set minimum base size

Project			Status
 JS748100_AS_SE_BG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
 JS748100_AS_SE_REF		<input checked="" type="checkbox"/>	
 JS748100_AS_EDM_1 ID: 53		<input checked="" type="checkbox"/>	
 JS748100_AS_EDM_2 ID: 57		<input checked="" type="checkbox"/>	

Project			Status
 JS748100_AS_SE_BG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
 JS748100_AS_SE_REF		<input checked="" type="checkbox"/>	
 JS748100_AS_EDM_1 ID: 53		<input checked="" type="checkbox"/>	
 JS748100_AS_EDM_2 ID: 57		<input checked="" type="checkbox"/>	

Filter Display
Edit Properties
Update Model

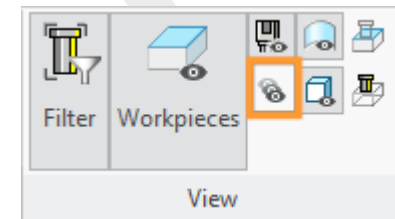
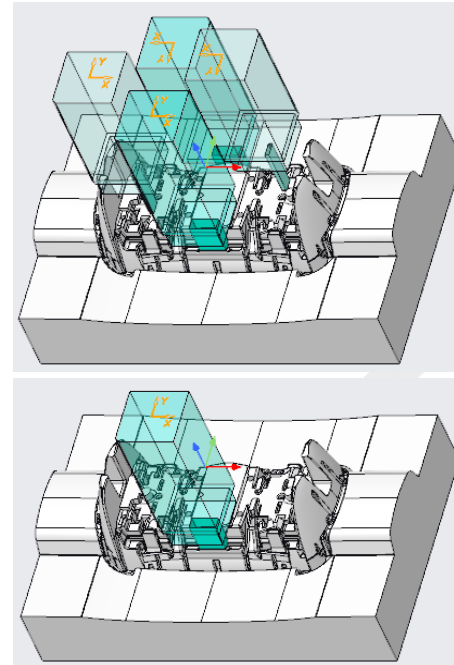
Update Electrode x

☒ Update Cutouts
☒ Update Base Position
☐ Update Base Size

OK Cancel

View Control

- **Display of components will be filtered automatically on activation**
- **In modeltree hidden electrodes stay hidden till command ,View All‘**

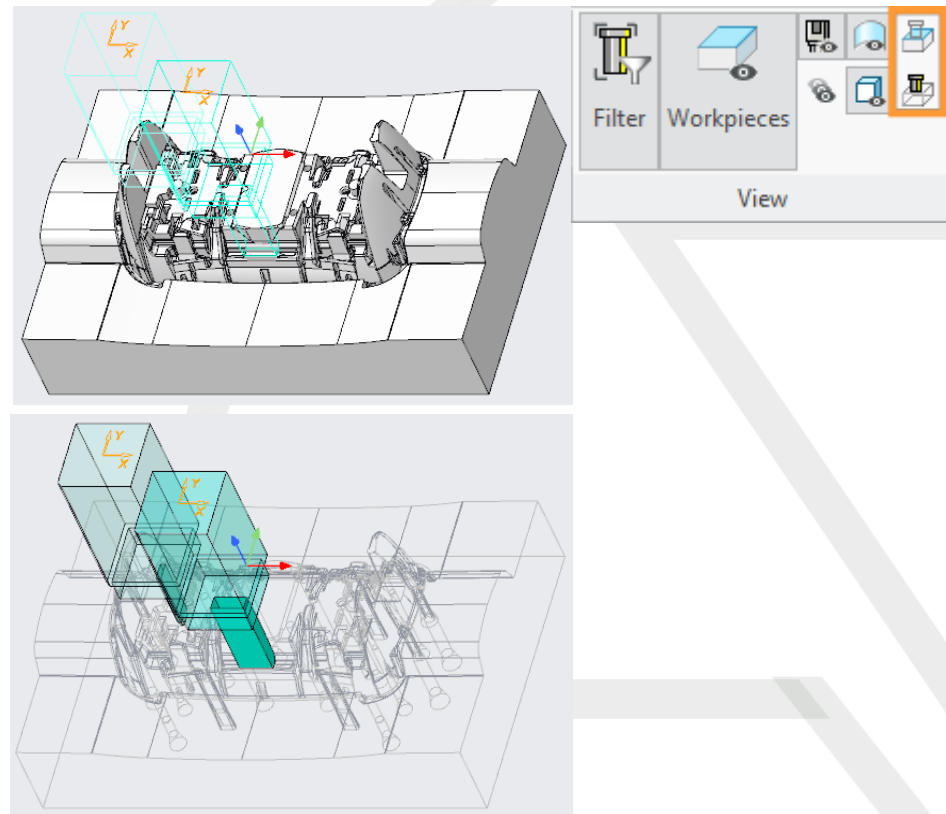


- **New commands to...**

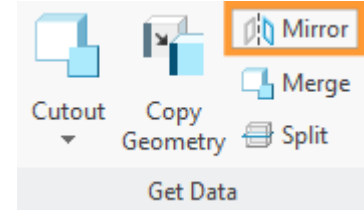
- hide/show datum surfaces/quilts
- hide/show solid geometry

- **New commands to...**

- activate wireframe style for electrodes
- activate wireframe style for workpieces

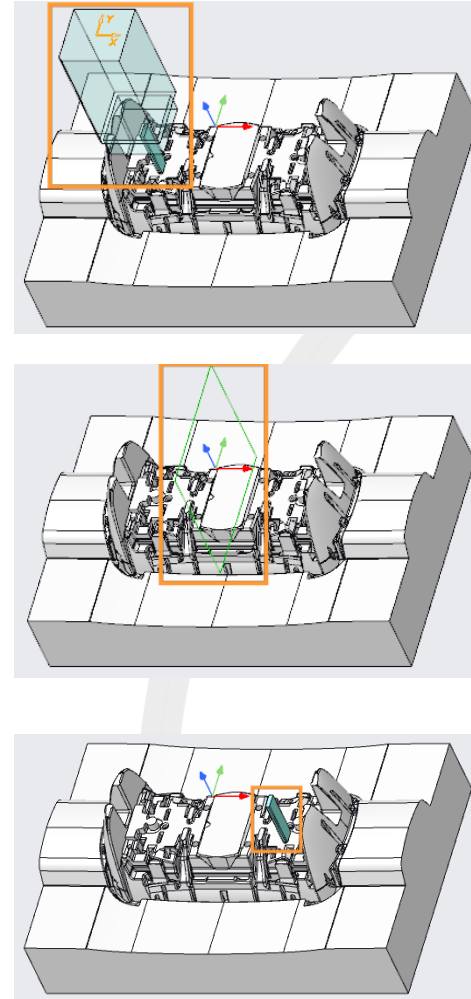


Get Data - Mirror

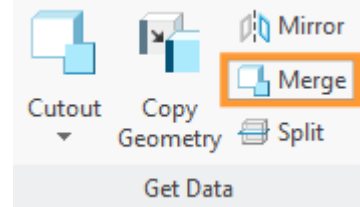


- Use ,Mirror' to mirror geometry into active electrode.
- Usage
 - Activate electrode
 - Activate ,Mirror'
 - Select electrode to mirror
 - Select datum plane to mirror at
- **Electrode with mirror model can't be moved from initial position!**

Use ,Repeat' and disable in ,Classify'

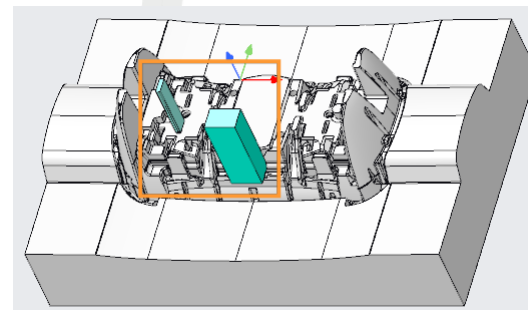
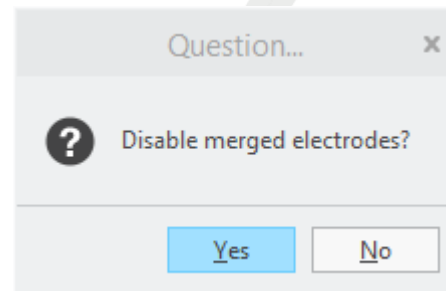
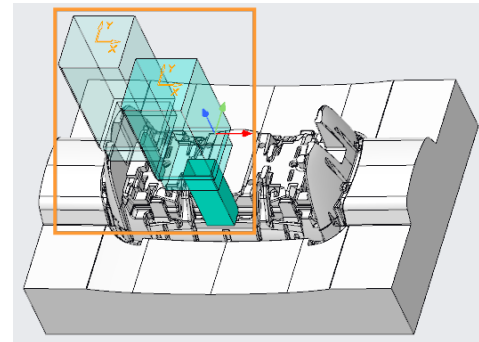


Get Data - Merge

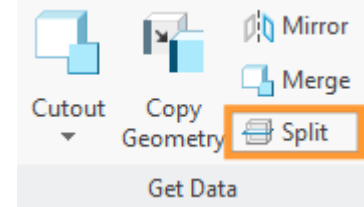


- Use 'Merge' to merge electrode geometry into active electrode.
- Usage
 - Activate electrode
 - Activate 'Merge'
 - Select electrodes to merge
 - Disable or keep parent electrodes
- **Electrode with merged models can't be moved from initial position!**

Use 'Repeat' and disable in 'Classify'

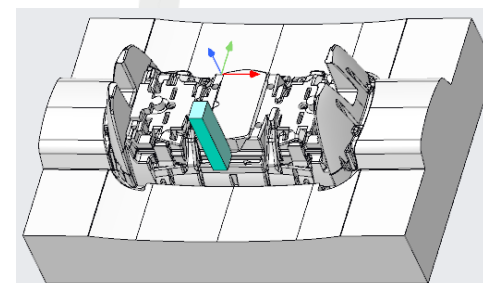
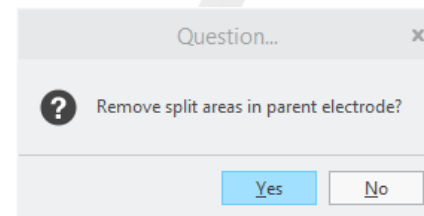
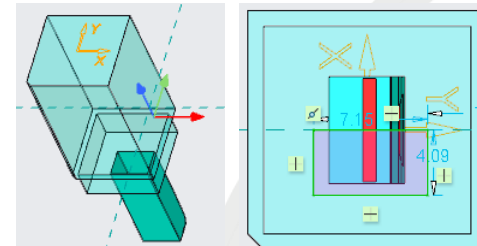
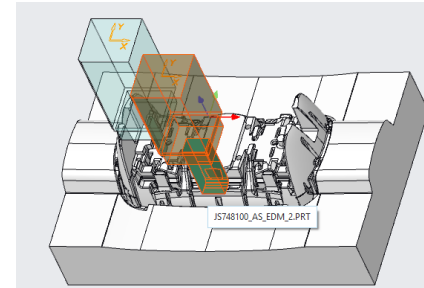


Get Data - Split



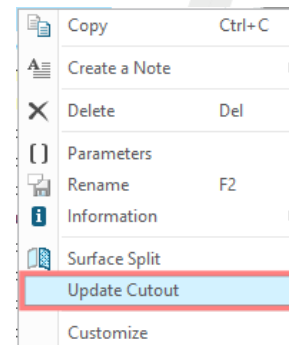
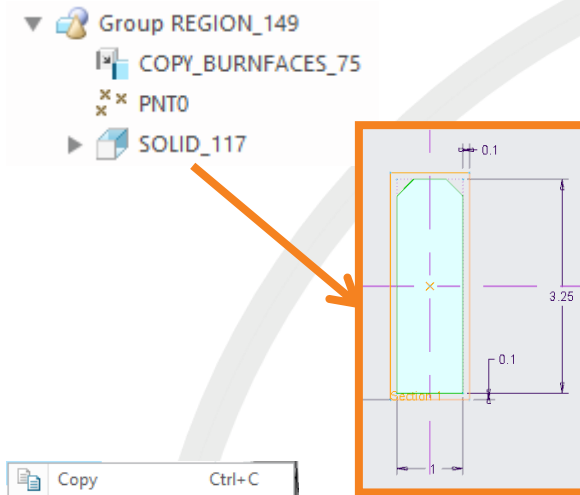
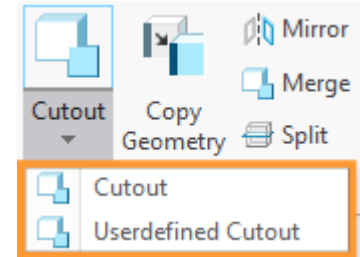
- Use ,Split' to split electrode geometry into active electrode.
- Usage
 - Activate electrode
 - Activate ,Split'
 - Select electrode to split
 - Sketch area to copy to active electrode
 - Decide if sketched area should be removed in parent
- **Electrode with split can't be moved from initial position!**

Use ,Repeat' and disable in ,Classify'

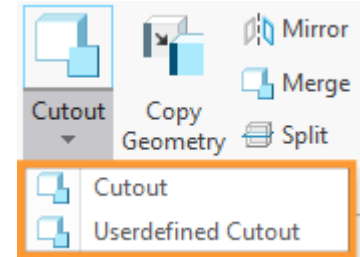


Get Data – Cutout

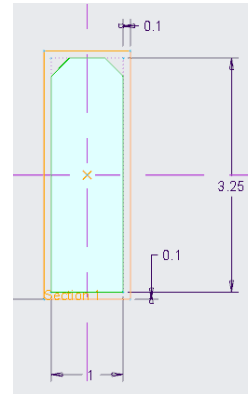
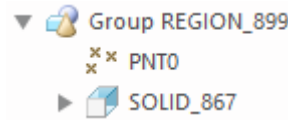
- **Cutout is no indepent geometry anymore**
- **Cutout creates...**
 - copy-geom of selected burnfaces
 - a datum point that defines the center and depth
 - extrusion with outline and offset
 - dimensions can be adjusted later if necessary
- **Extrusion can be updated after copy-geom is updated**
 - On RMB
 - In Burnsheet UI



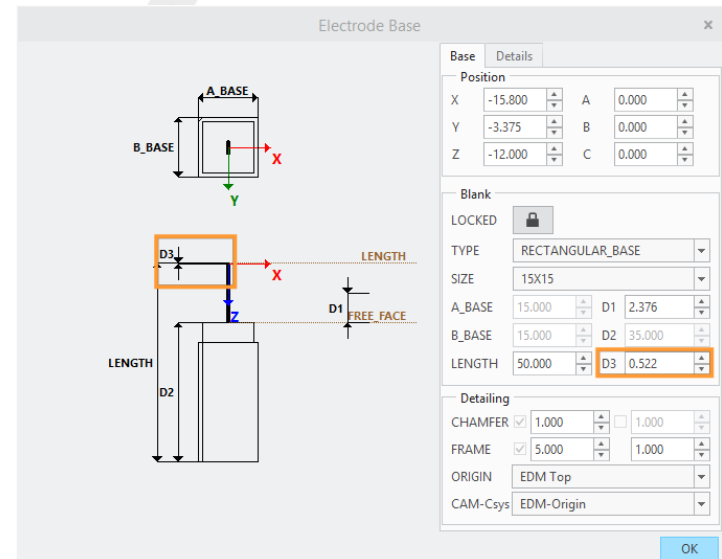
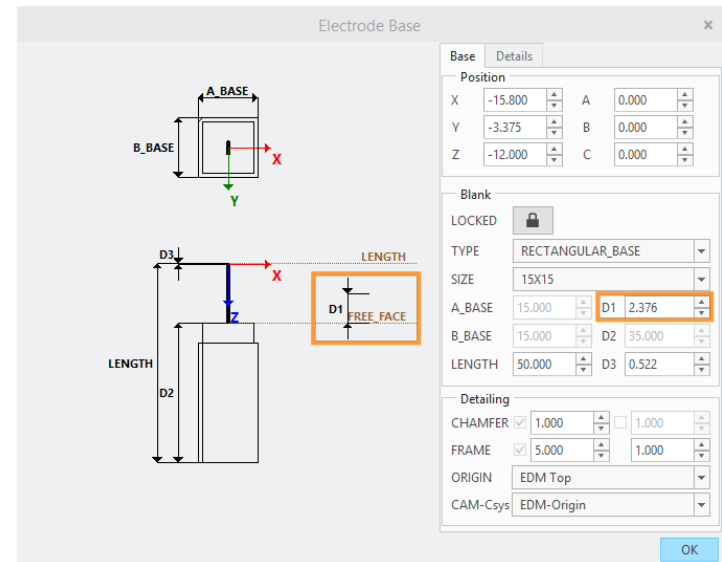
Get Data – Userdefined Cutout



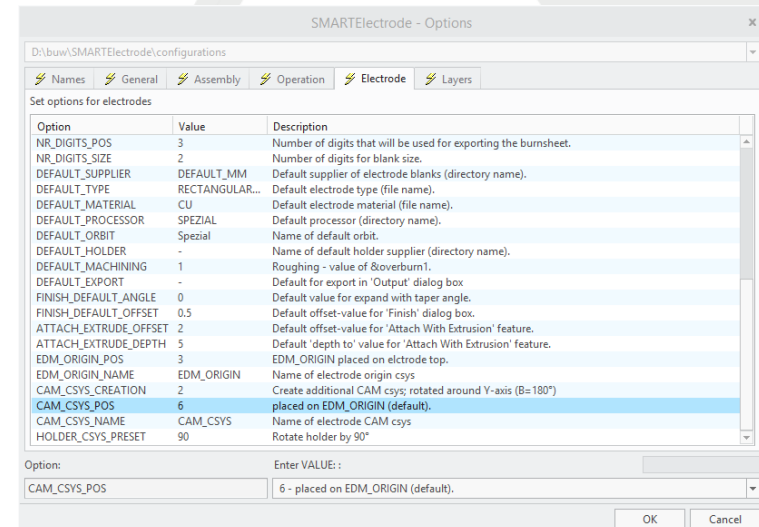
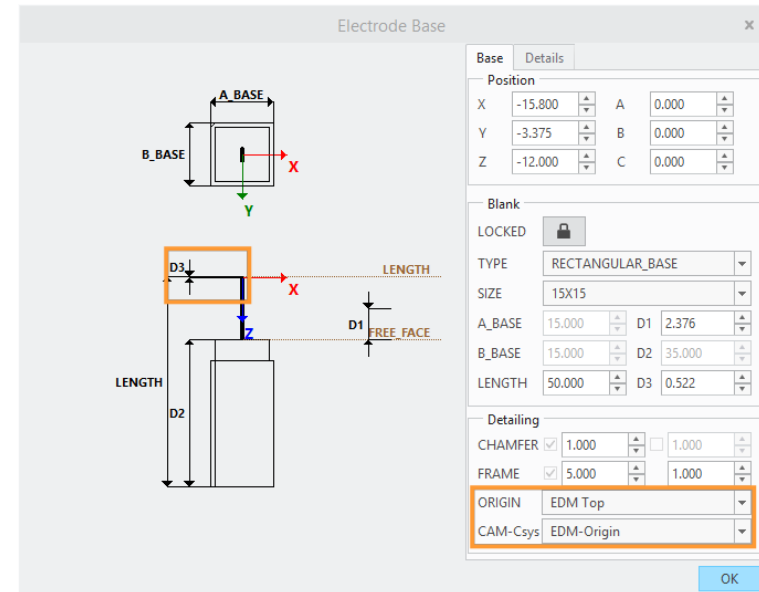
- **Userdefined Cutout is no indepent geometry anymore**
- **Userdefined Cutout creates...**
 - a datum point that defines the center and depth
 - extrusion with outline and offset
 - dimensions can be adjusted later if necessary
- **Userdefined Cutout can't be updated by SME, because there are no references to analyse!**



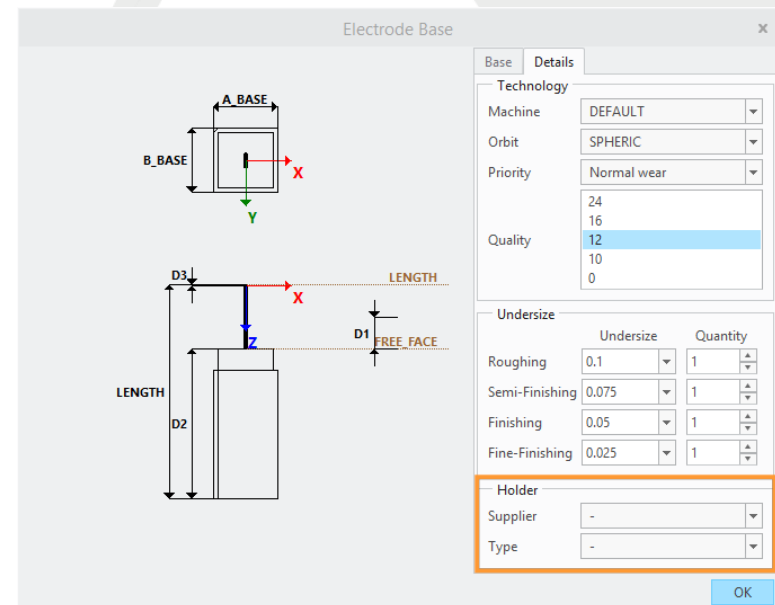
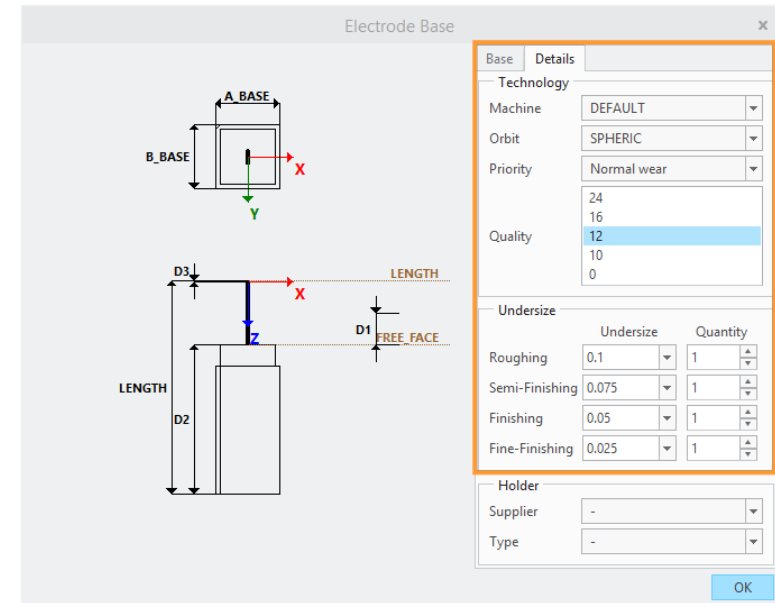
- SME shows calculated distances for better control of base creation!
- Distance **D1** is the frontal offset from **FREE_FACE** to workpiece
- Distance **D3** is the top offset from electrode solid to datum **LENGTH**



- SME offers the possibility to place CAM-csys independent from the EDM-origin!
- New option CAM_CSYS_POS



- Details page offers access to technology parameters and electrode holder
- New default parameters:
 - &priority
(defined in sel_list.txt)
 - &surf_quality
(defined in sel_list.txt)



- **Values for undersizes and quantities can be set by...**
 - defaults from machine control and orbit
 - selecting default values from list (defined in sel_list.txt)

Technology

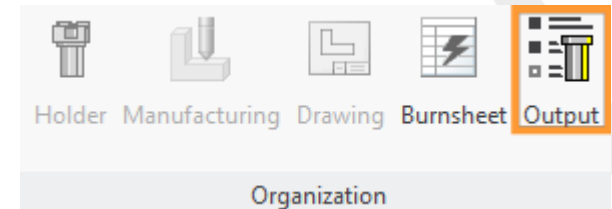
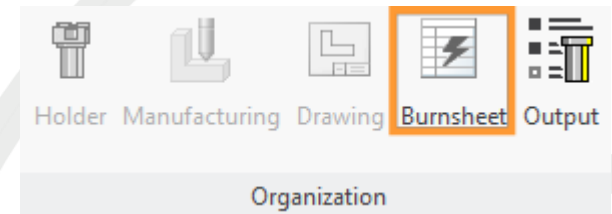
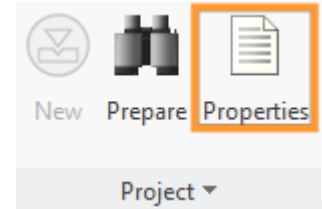
Machine	DEFAULT
Orbit	SPHERIC
Priority	Normal wear
Quality	<div>24 16 12 10 0</div>

Undersize

	Undersize	Quantity
Roughing	0.1	1
Semi-Finishing	0.5	1
Finishing	0.4	1
Fine-Finishing	0.3	1

Functions for legacy assemblies

- **Edit electrode parameters in UI**
- **Show complete assembly information in burnsheat UI**
- **Export data for EDM!**
 - Suppress all but one operation!
 - Make sure `USE_EDM_ORIGIN_TOP` is set in options.



Functions for legacy assemblies

- **Use display commands like in current assemblies**



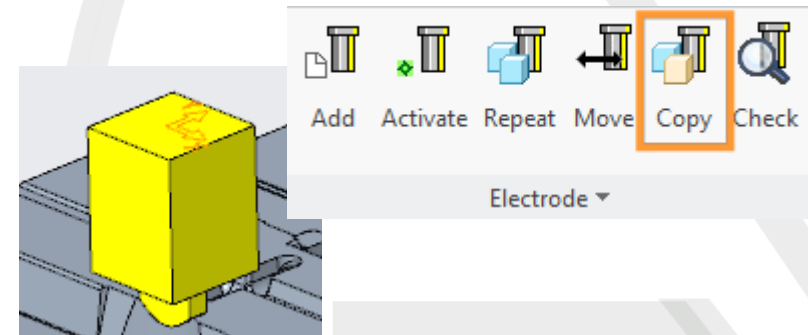
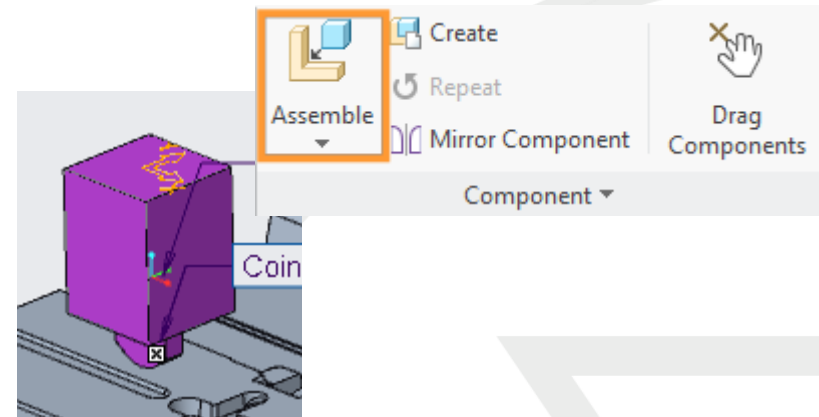
Add design changes to SME 7.0-assemblies

- **Change geometry interactively**
- **Set electrode positions interactively**
 - EDM_ORIGIN
 - EDM_ORIGIN_TOP
 - STARTPOS
 - SECUREPOS
- **SME 10.0 updates position parameters automatically!**

Use electrodes again

There are two options to use an electrode from SME 7.0 again:

- **Assemble original model**
 - SME reads the data and does not change the model
- **Assemble original model and create a copy**
 - new electrode model that belongs to project



- **New option CAM_CSYS_POS allows independent placement of CAM-csys**
- **Values**
 - placed on holder base
 - placed on top surface of base
 - placed on FREE_FACE of base
 - placed on electrode top
 - placed on blank length
 - placed by user
 - placed on EDM_ORIGIN (default)

Configuration – New Parameters

- **PRIORITY**

- Values

- Low wear
 - Normal wear
 - High removal
 - Surface view
 - Very low wear

- Edit available values in configuration\sel_list.txt

- **SURF_QUALITY**

- Values

- 24
 - 16
 - 12
 - 10
 - 0

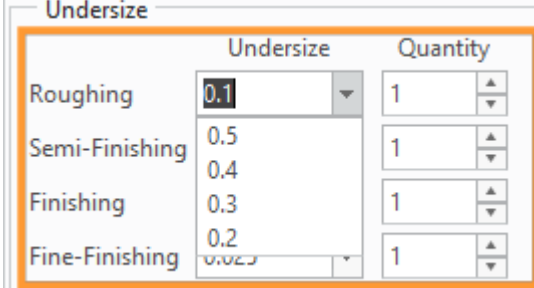
- Edit available values in configuration\sel_list.txt

The screenshot shows a configuration window titled 'Technology'. It contains four dropdown menus: 'Machine' set to 'DEFAULT', 'Orbit' set to 'SPHERIC', 'Priority' set to 'Normal wear', and 'Quality' set to '12'. The 'Quality' dropdown is highlighted with an orange border, and its list of values (24, 16, 12, 10, 0) is visible, with '12' selected.

Technology	Value
Machine	DEFAULT
Orbit	SPHERIC
Priority	Normal wear
Quality	24 16 12 10 0

Configuration – Userdefined Defaults

- **Default values for overburns available in option-menu**
 - Roughing (Overburn1)
 - Semi-Finishing (Overburn2)
 - Finishing (Overburn3)
 - Fine-Finishing (Overburn4)
- **Edit available values in configuration\sel_list.txt**



The screenshot shows a window titled "Undersize" with a table of configuration values. The table has two columns: "Undersize" and "Quantity". The rows represent different finishing stages: Roughing, Semi-Finishing, Finishing, and Fine-Finishing. The "Undersize" column contains a list of values (0.1, 0.5, 0.4, 0.3, 0.2, 0.025) with a dropdown menu currently showing 0.1. The "Quantity" column contains the value 1 for each row, with up and down arrows for adjustment.

	Undersize	Quantity
Roughing	0.1	1
Semi-Finishing	0.5	1
Finishing	0.4	1
Fine-Finishing	0.3	1
	0.2	
	0.025	