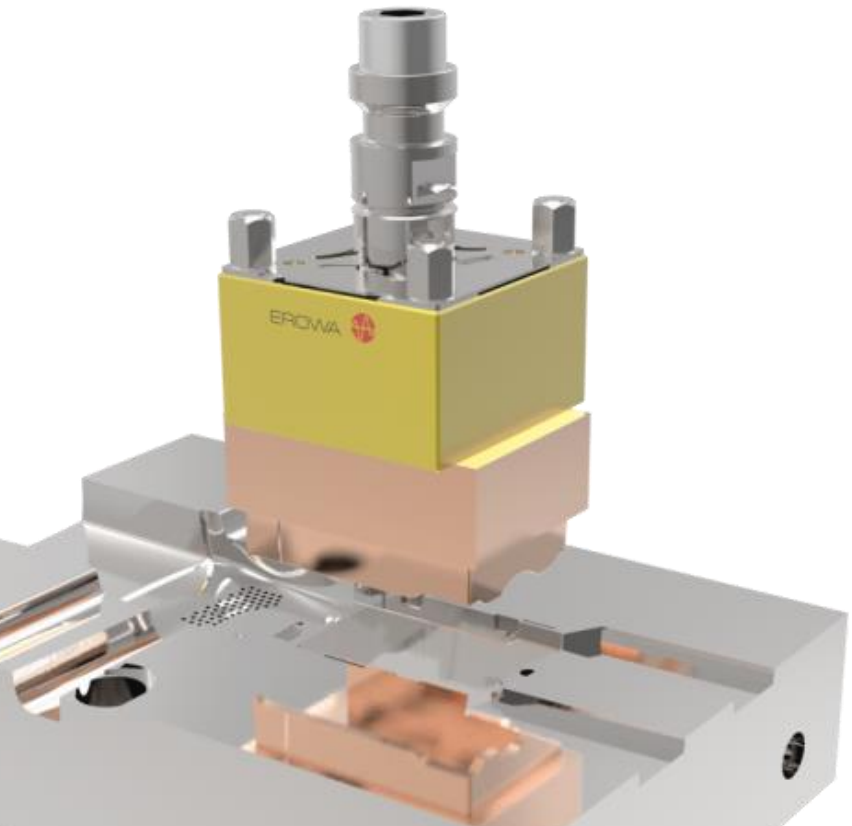


SMARTElectrode 10.0

What's new in SMARTElectrode?

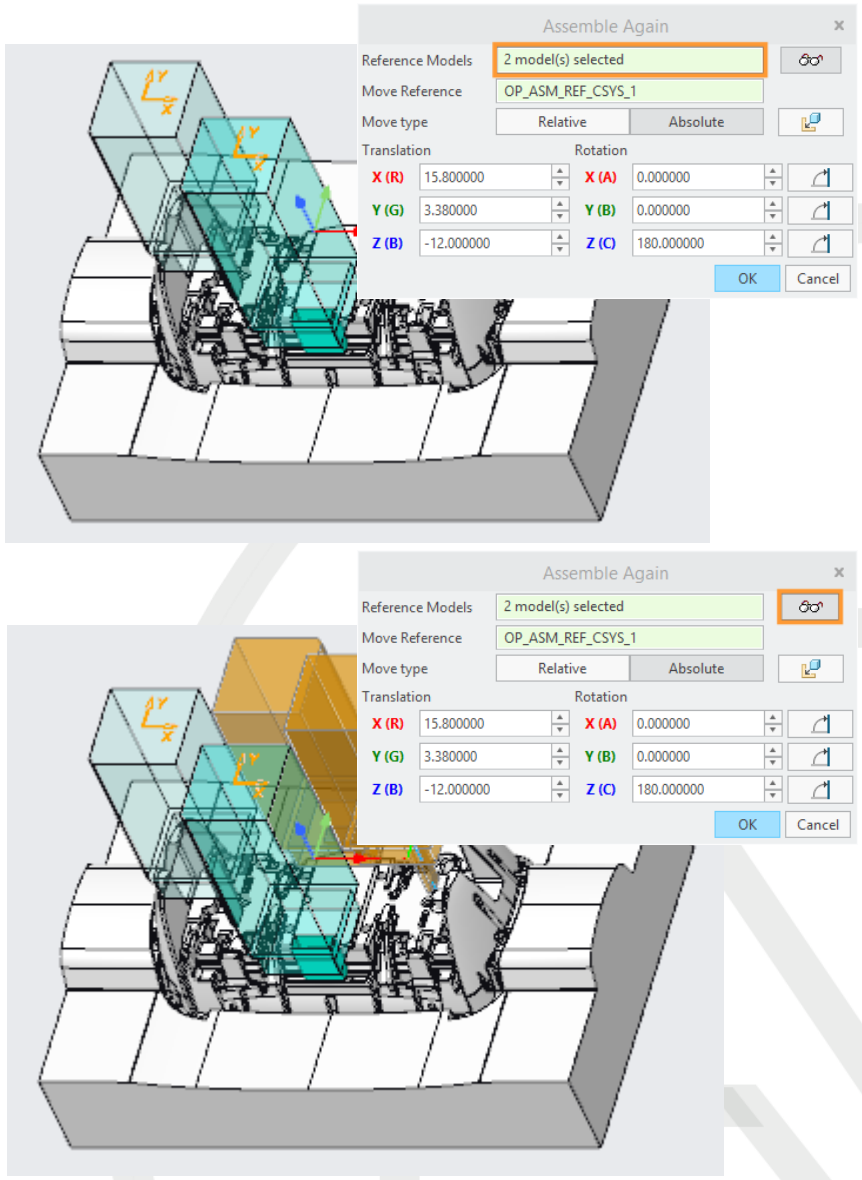
Changes

- **Process Ribbon**
  - Assemble Again
  - Burnsheet
  - 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

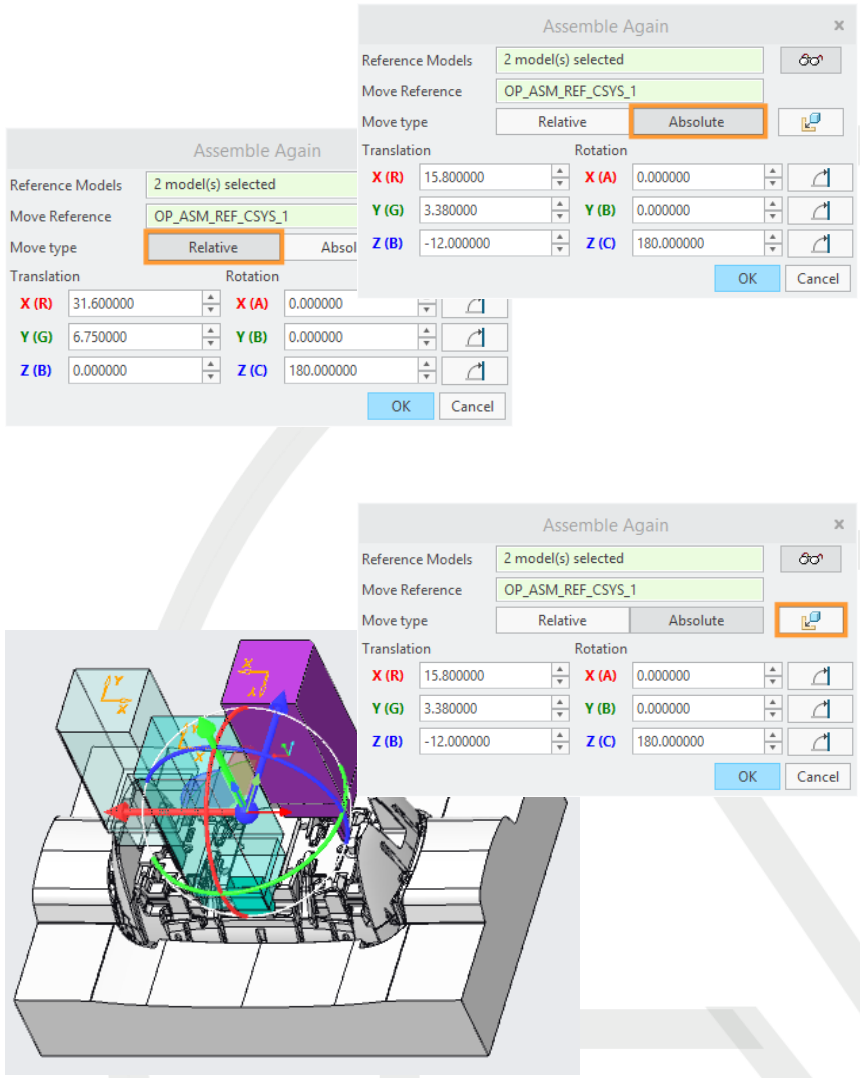
- Disable and enable preview of new electrode positions



Repeat / Assemble again

- **Move**
  - **relative** with respect to current electrode position
  - **absolute** with respect to selected reference

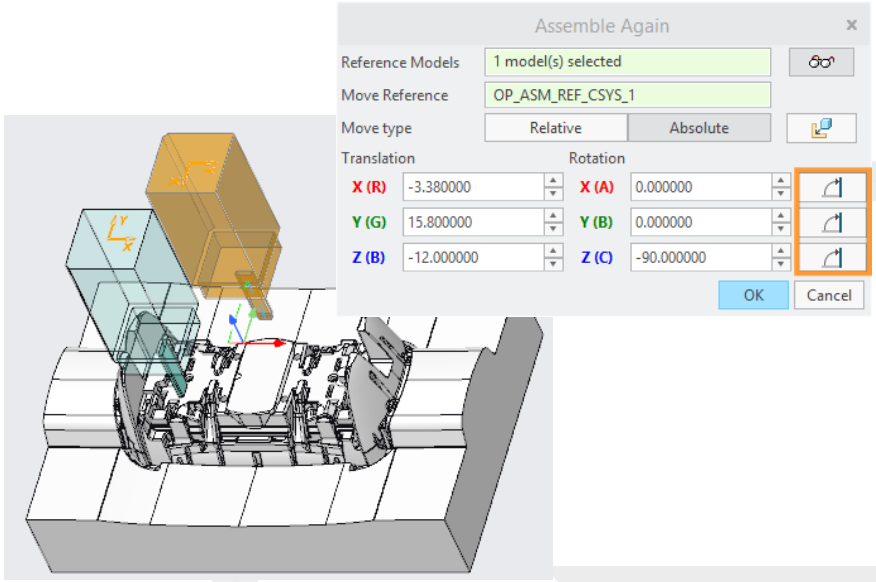
- **Assemble using native Creo UI**

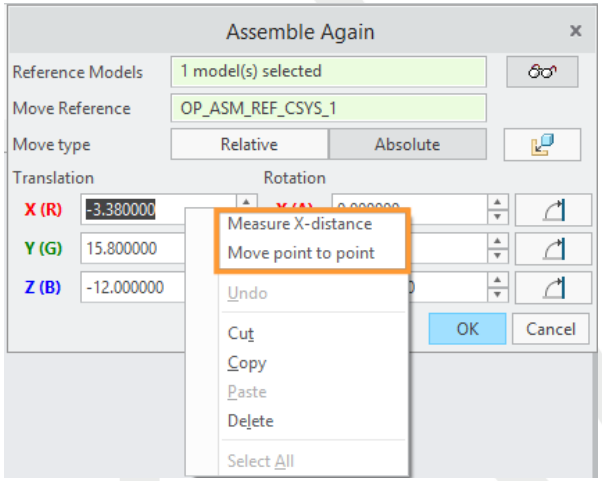


Repeat / Assemble again

- **Rotate in 90° steps**

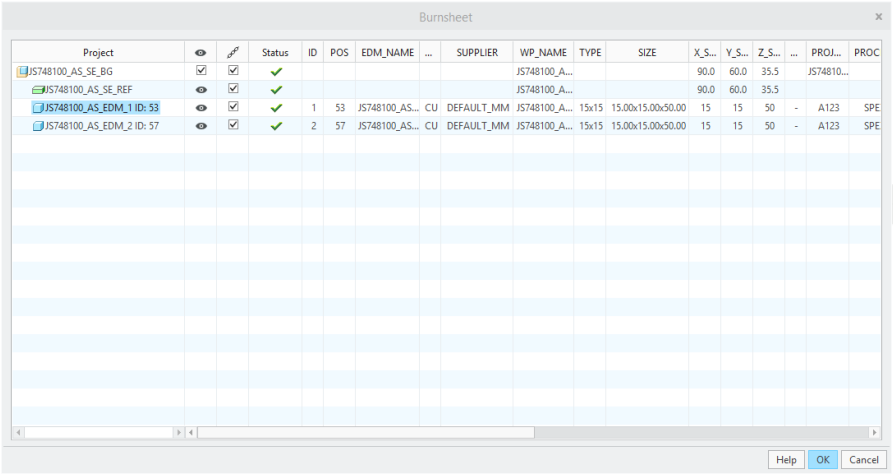
- **Measure distance, angle or move from point-to-point in RMB-menu**



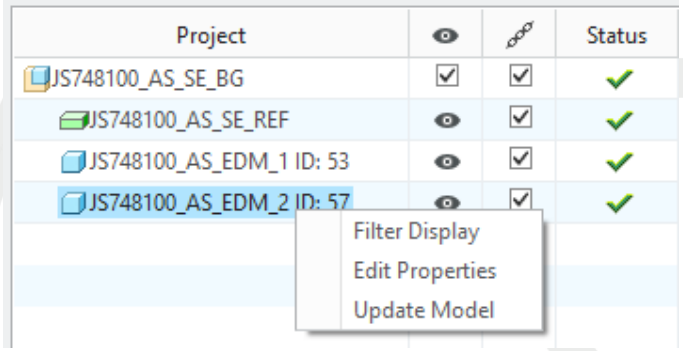


Burnsheet UI

- **Review all electrode parameter in one UI**



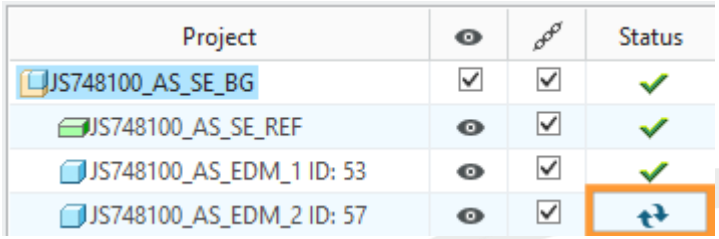
- **Use RMB to**
  - Filter display
  - Open parameter UI
  - Update electrode model

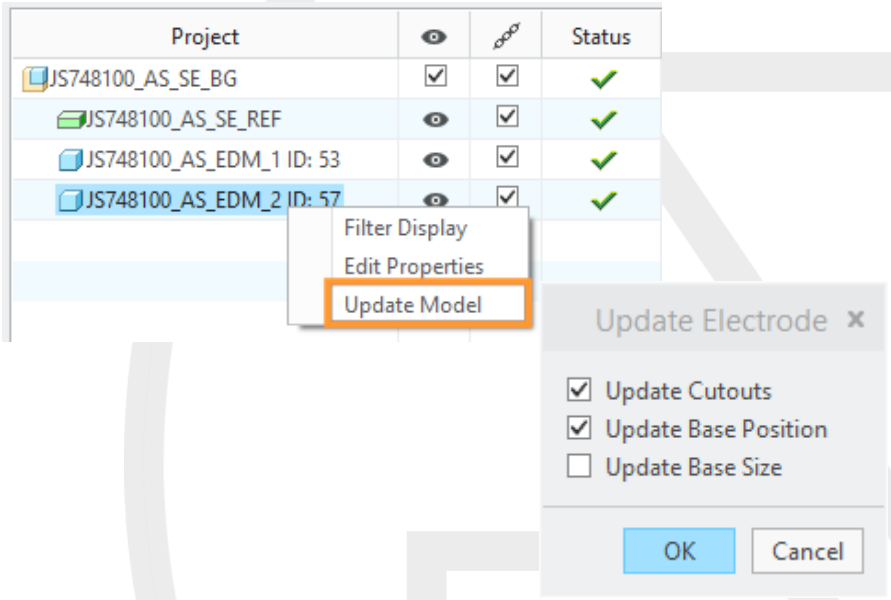


Burnsheet UI

- **Update icon appears in column ‚Status‘ if…**
  - outline of copy-geom changed
  - base not centered anymore on electrode solid

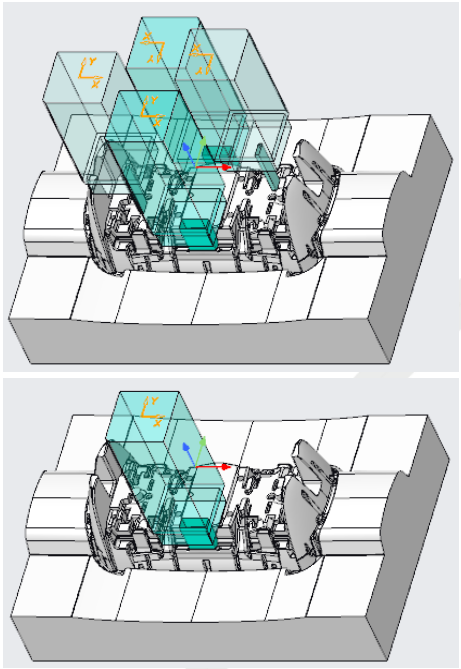
- **Use RMB ‚Update Model‘ to…**
  - update position and size of cutouts (created by SME)
  - recenter base on electrode solid
  - set minimum base size

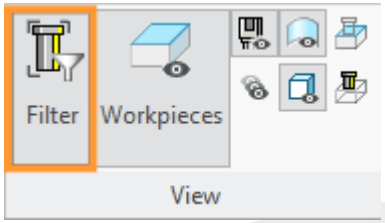




View Control

- **Display of components will be filtered automatically on activation**



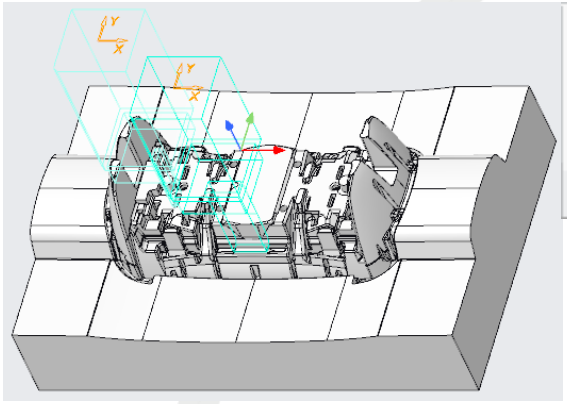


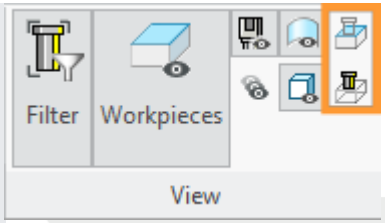
- **In modeltree hidden electrodes stay hidden till command ‚View All‘**

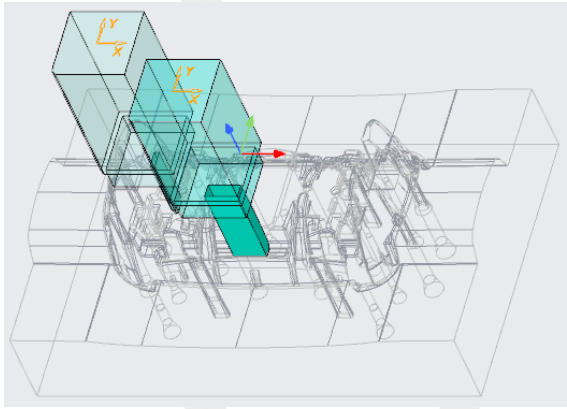
View Control

- **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



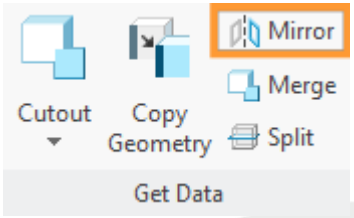


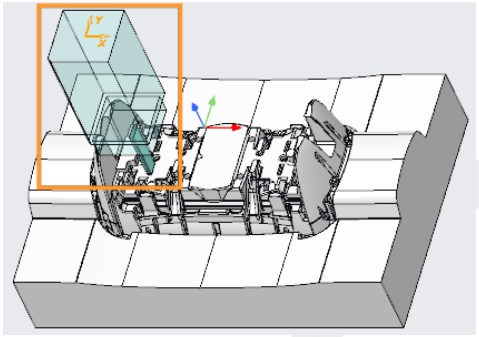


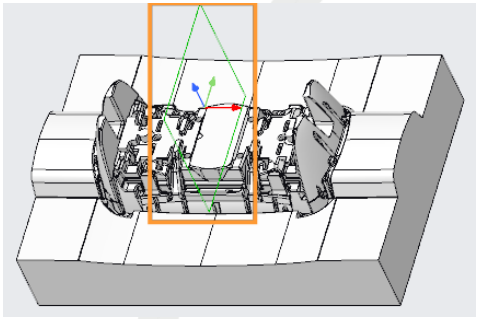
Get Data - Mirror

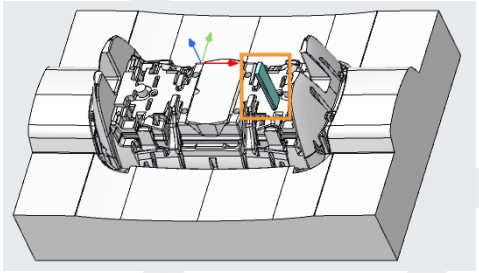
- **Use ‚Mirror' to mirror geometry into active electrode.**
- **Usage**
  - Activate electrode
  - Activate ‚Mirror'
  - Select electrode to mirror
  - Select datum plane to mirror at
- **Electrode with mirror model can't be moved from initial position!**

  Use ‚Repeat' and disable in ‚Classify'





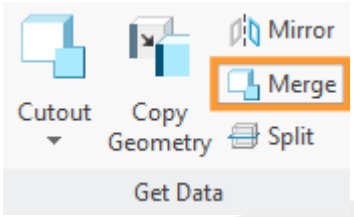


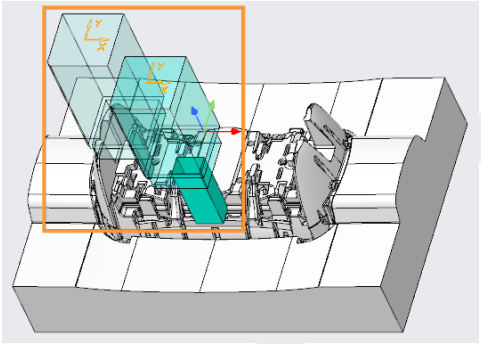


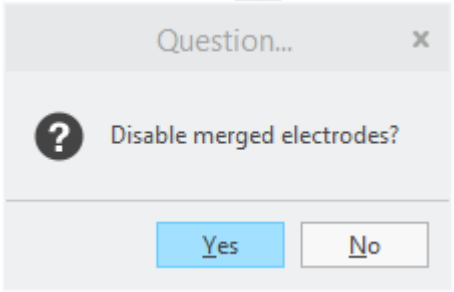
Get Data - Merge

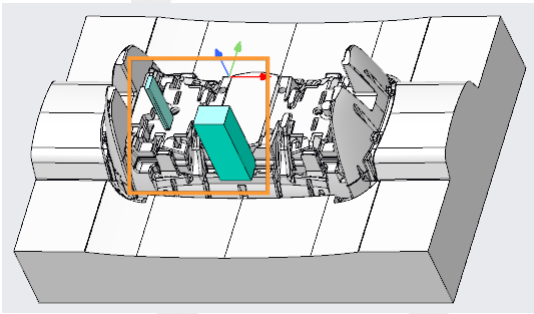
- **Use ‚Merge' to merge electrode geometry into active electrode.**
- **Usage**
  - Activate electrode
  - Activate ‚Merge'
  - Select electrodes to merge
  - Disable or keep parent electrodes
- **Electrode with merged models can't be moved from initial position!**

  Use ‚Repeat' and disable in ‚Classify'







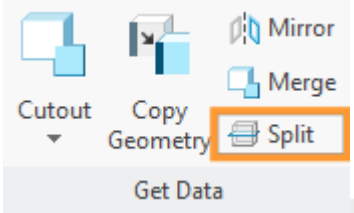


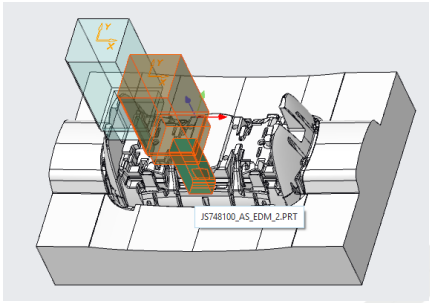
Get Data - Split

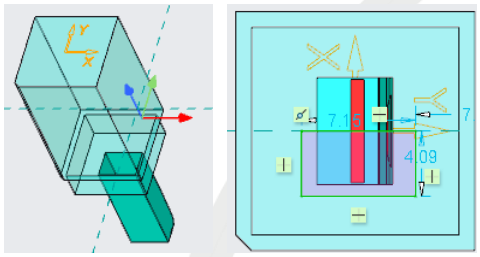
- **Use ‚Split‘ to split electrode geometry into active electrode.**
- **Usage**
  - Activate electrode
  - Activate ‚Split‘
  - Select electrode to split
  - Sketch area to copy to active electrode
  - Decide if sketched area should be removed in parent

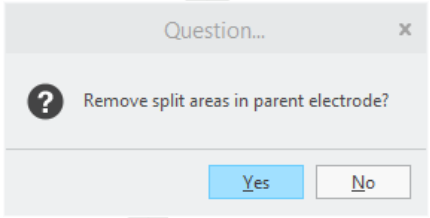
- **Electrode with split can‘t be moved from initial position!**

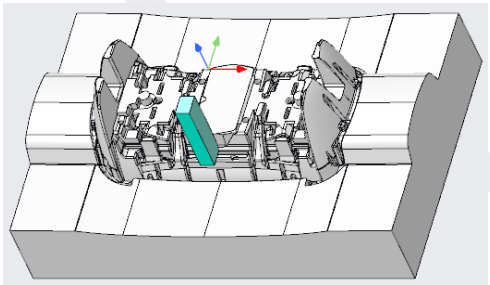
  Use ‚Repeat‘ and disable in ‚Classify‘









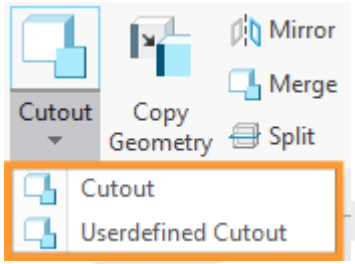


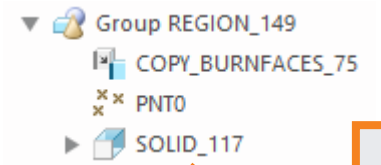
Get Data – Cutout

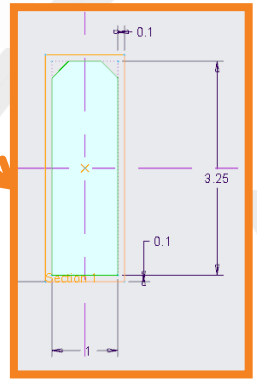
- **Cutout is no indepent geometry anymore**

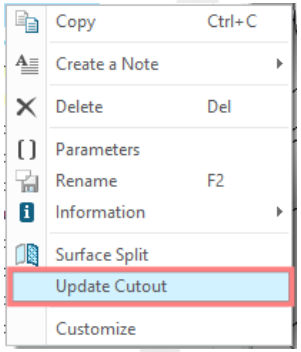
- **Cutout creates…**
  - copy-geom of selected burnfaces
  - a datum point that defines the center and depth
  - extrusion with outline and offset
  - dimensions can be adjusted later if necessary

- **Extrusion can be updated after copy-geom is updated**
  - On RMB
  - In Burnsheet UI



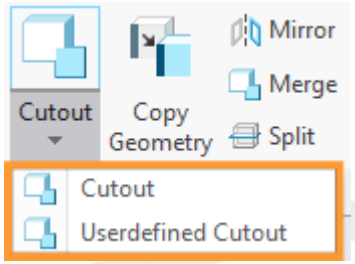


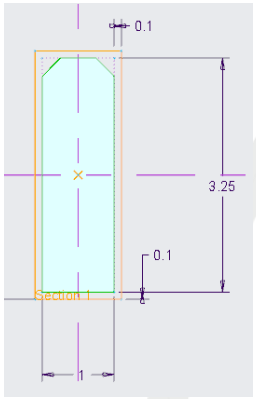




Get Data – Userdefined Cutout

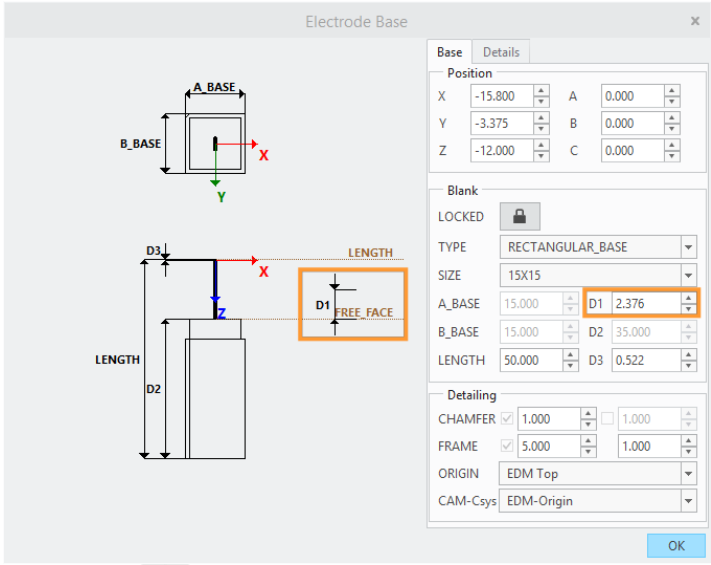
- **Userdefined Cutout is no indepent geometry anymore**
- **Userdefined Cutout creates…**
  - a datum point that defines the center and depth
  - extrusion with outline and offset
  - dimensions can be adjusted later if necessary
- **Userdefined Cutout can‘t be updated by SME, because there are no references to analyse!**

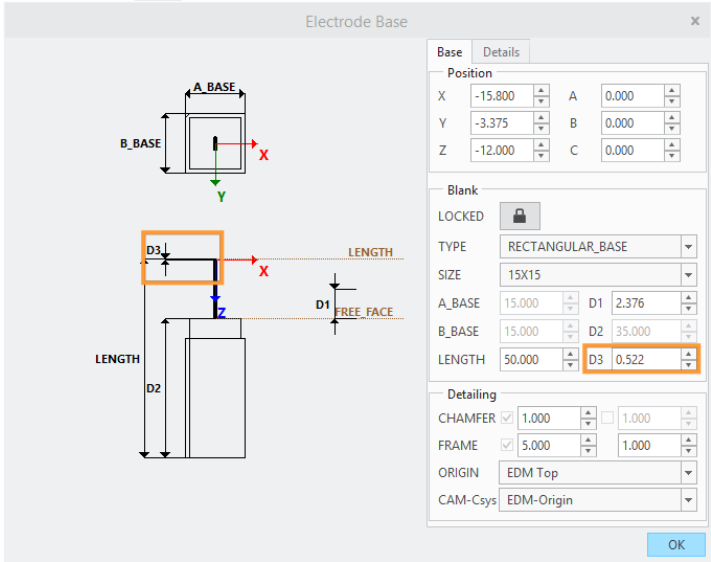




Base UI

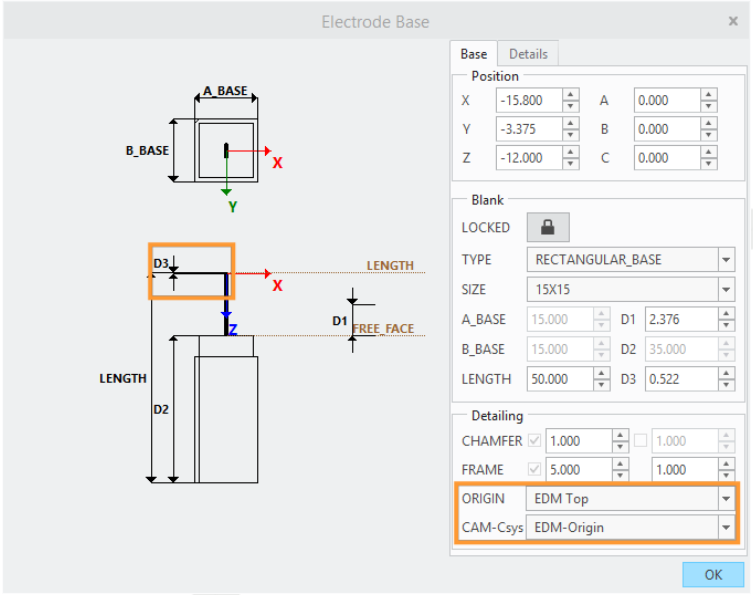
- SME shows calculated distances for better control of base creation!
- Distance D1 is the frontal offset from FREE_FACE to workpiece
- Distance D3 is the top offset from electrode solid to datum LENGTH

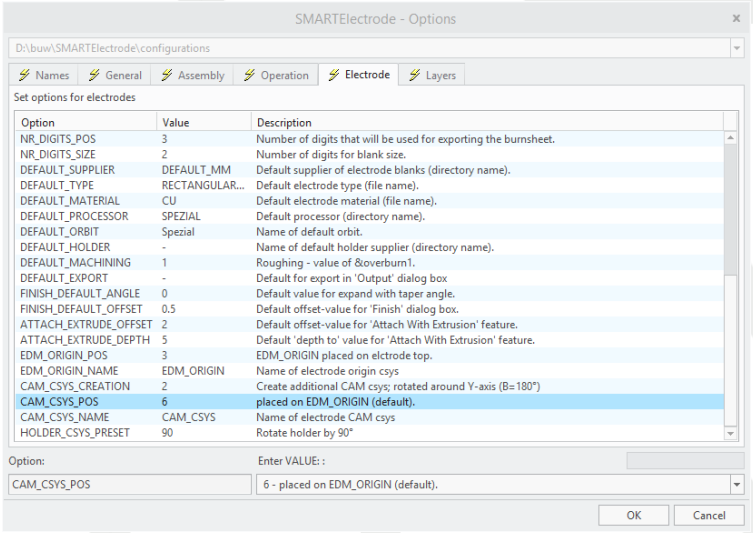




Base UI

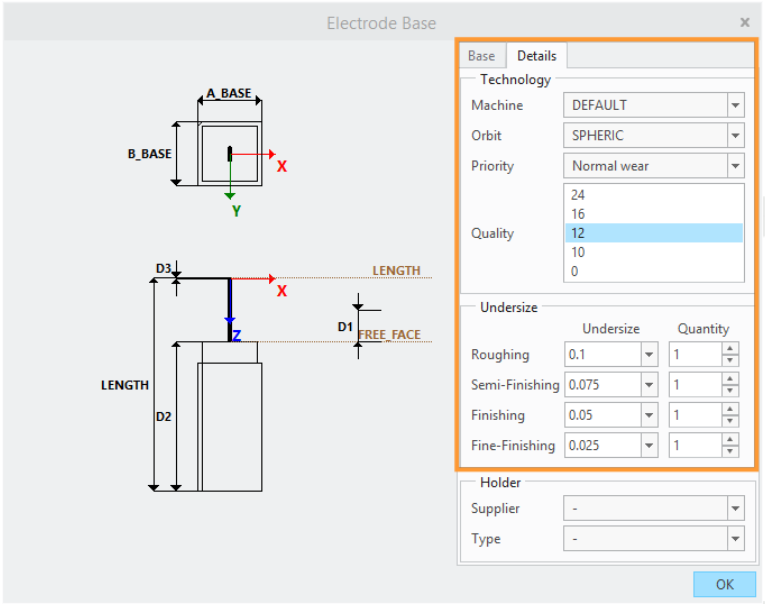
- SME offers the possiblity to place CAM-csys independent from the EDM-origin!
- New option CAM_CSYS_POS

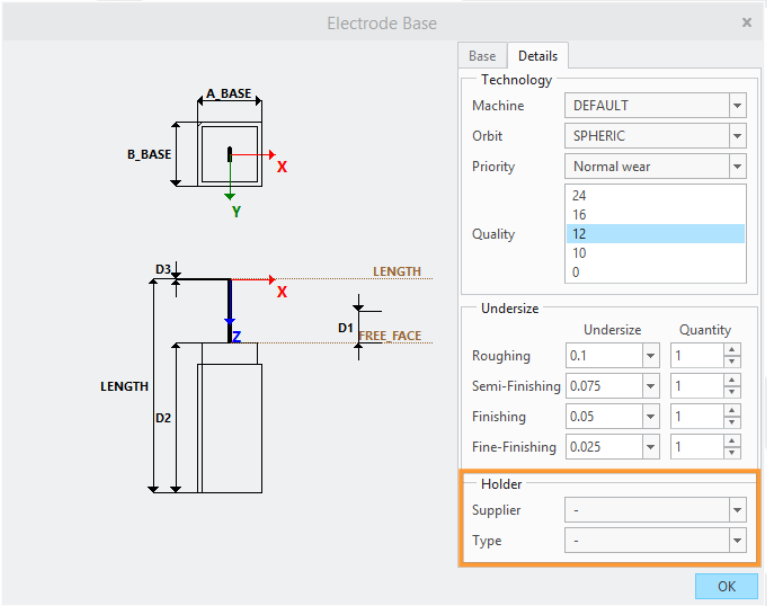




Base UI

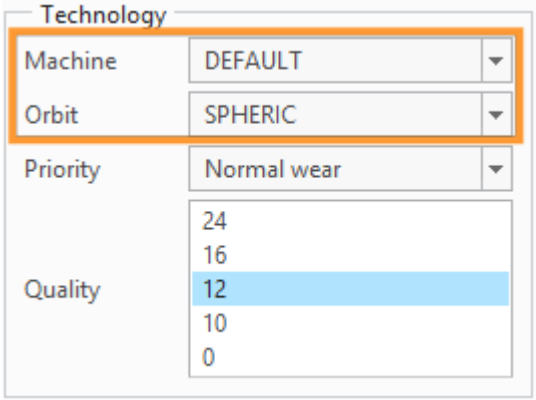
- **Details page offers access to technology paremeters and electrode holder**
- **New default parameters:**
  - &priority (defined in sel_list.txt)
  - &surf_quality (defined in sel_list.txt)

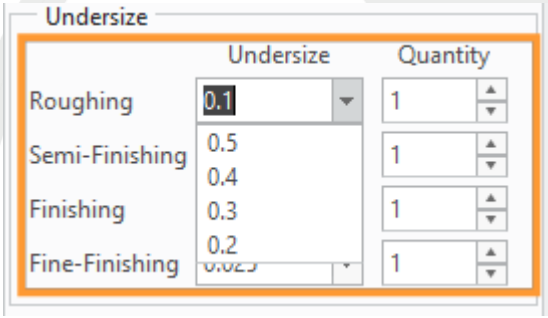




Base UI

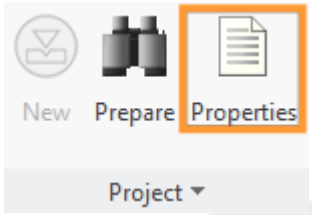
- **Values for undersizes and quantities can be set by…**
  - defaults from machine control and orbit
  - selecting default values from list (defined in sel_list.txt)

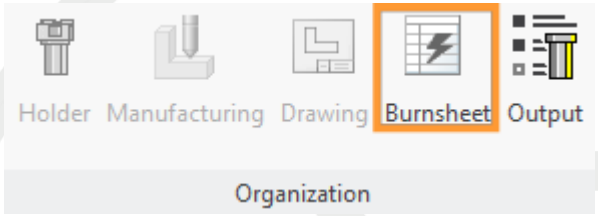


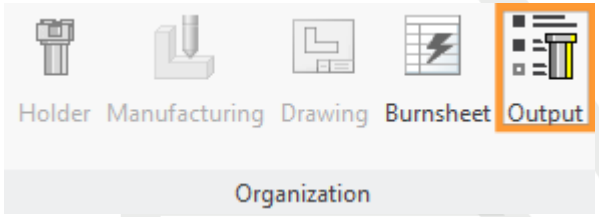


Functions for legacy assemblies

- **Edit electrode parameters in UI**
- **Show complete assembly information in burnsheet 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**

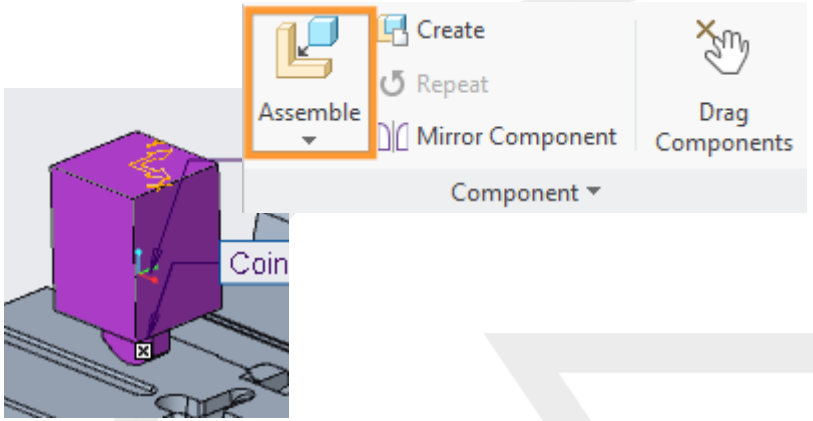
Add design changes to SME 7.0-assemblies

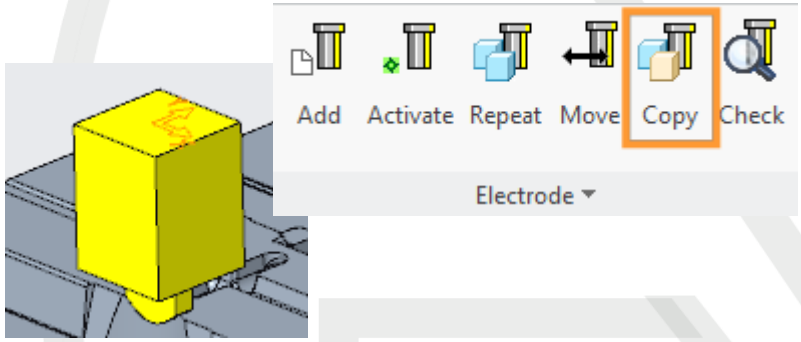
- **Change geometry interactively**
- **Set electrode positions interactively**
  - EDM_ORIGIN
  - EDM_ORIGIN_TOP
  - STARTPOS
  - SECUREPOS
- **SME 10.0 updates position parameters automatically!**

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



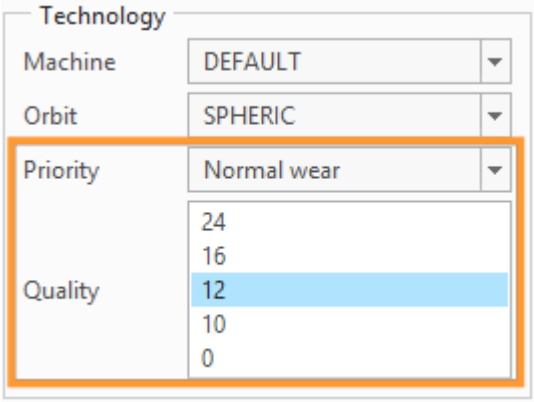


Configuration – New Options

- **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



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**