



SMARTElectrode 15.1.1.0

What's New



ENHANCEMENT

What

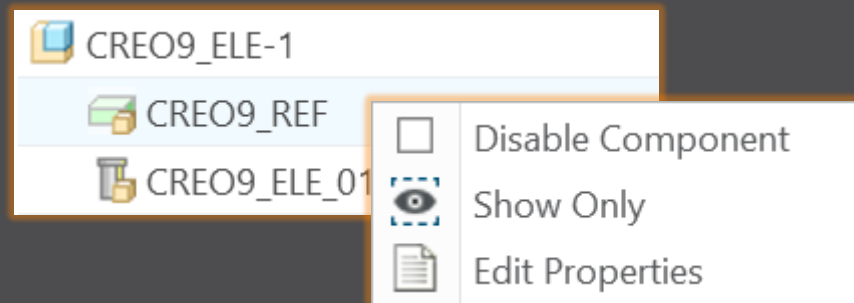
- Disable workpieces or electrodes in Burnsheat UI.
- <https://redmine.buw-soft.de/issues/4595>

Why

- Disable a design dummy. Especially when using electrode merge or mirror.
- Original position of an electrode should not be used in export.
- Use disabled auxiliary model to display a start-position.
- Disable outdated version of workpiece.

How

- Disabled components are ignored in export, collision check and touching surface analysis.
- Open Burnsheat UI and use right mouse button context menu to disable component.
- Disabled components are displayed with specific icons.



ENHANCEMENT

What

- Allow usage of layer settings file during export of 3d data.
- <https://redmine.buw-soft.de/issues/14469>

Why

- More control over the result of the export.

How

- The file has to be named “layer_settings.txt” and has to be located in export or post-processor configuration. Examples can be found in configurations that create 3d exports. Customize content and rename “example_layer_settings.txt” to “layer_settings.txt” to activate.

| Model Name | Export Status | Display Status | Layer Name |
|----------------|-----------------|----------------|----------------|
| SE_EXPORT_TEMP | Exclude Content | Blank | SE_EXPORT_TEMP |

Improvement

What

- Provide export profiles for some processors with installation.
- <https://redmine.buw-soft.de/issues/14257>

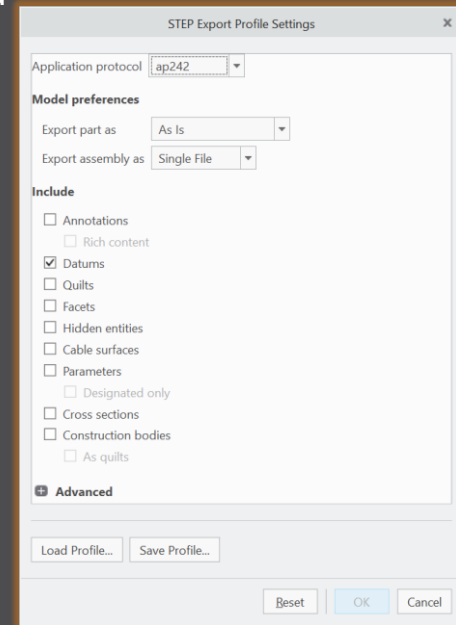
Why

- Some interfaces include export of electrodes as STEP, IGES or PARASOLID.
- Export profile is necessary to include datum points used as CMM points.

How

Added profiles to:

- processor/ZK/pp/def_profile.dep_step
- processor/MAKINO/pp/def_profile.dep_para



Improvement

What

- Automatically add all axes to layer “SE_EXPORT_TEMP” before 3d export file (IGES, STEP, ...) is created.
- <https://redmine.buw-soft.de/issues/14469>

Why

- Not needed datums like points, axes and planes are obstructive in downstream processes.

How

- Embedded axes in Extrude or Hole features are also considered.

Improvement

What

- Remove enforced regeneration of assembly to avoid continuous update of model data.
- <https://redmine.buw-soft.de/issues/14267>

Why

- SE automatically regenerates models with status “modified/outdated”. That is displayed by regeneration flag in status-bar.



- In some cases, Creo does not remove regen flag after successful regeneration.
- This leads to repeated regeneration of whole assembly if workpiece is affected.
- In such a case further processing is difficult, because of waiting times.

How

- Remove automatic regeneration.
- Users are now responsible to update design data when necessary.

Fixed error

Description

- Fix usage of wrong simplified representation in drawing repeat region after another drawing is merged.
- <https://redmine.buw-soft.de/issues/7504>

Cause

Problem appears if:

- user already created a drawing with repeat region
- adds a new electrode
- runs drawing creation again to add new sheet to drawing
- first repeat region may be changed to show data of merged drawing

Solution

SMARTElectrode automatically updates first occurrence of tables on drawing loaded from “asm_edm.tbl” and “asm_operation.tbl” after drawing creation.



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What's New

software
B&W

Fixed error

Description

- Allow renaming of manufacturing assembly and workpiece in Manufacturing UI and Rename UI.

- <https://redmine.buw-soft.de/issues/13988>

Cause

- A renamed electrode may not meet the naming format anymore
- Allow edit of default MFG and workpiece name in Manufacturing UI.
- Allow adjusting of names of existing MFG and workpiece during rename.

Solution

- Double click Mfg or Workpiece name in Manufacturing UI to edit names for objects to create (📄). Existing assemblies and parts (✅) can't be renamed Manufacturing UI.
- Rename UI shows input panels for MFG and workpiece if available.

| ID | Electrode | Size | Status | Mfg Name | Workpiece Name | Template |
|----|-----------------|----------------|--------|-----------------|----------------|-----------------|
| 1 | SE_CREO8_EDM_01 | 15.0x15.0x28.0 | ✅ | SE_CREO8_MFG_01 | SE_CREO8_WP_01 | mfg_default.asm |
| 2 | SE_CREO8_EDM_02 | 15.0x15.0x28.0 | 📄 | SE_MFG_02 | SE_CREO8_WP_02 | |

Rename

Electrode SE_CREO8_EDM_01

New Name SE_CREO8_EDM_01

Manufacturing SE_CREO8_MFG_01

Workpiece SE_CREO8_WP_01

OK Cancel

Improvement

What

- Prefer template without rotation ($C=0^\circ$) if several templates with same blank dimensions are available.

Why

- <https://redmine.buw-soft.de/issues/13672>
- Order of templates in .dat decided which template - with or without rotation - was assigned. This is improved by defined behavior.

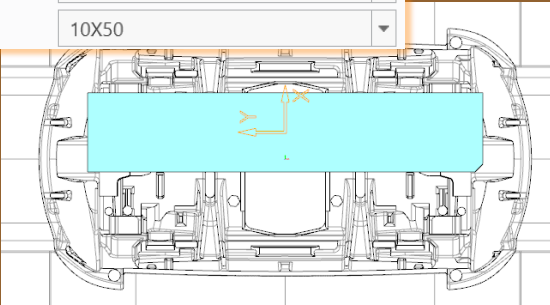
How

Current Behavior

| | |
|---|-------|
| A | 0.00 |
| B | 0.00 |
| C | 90.00 |

Z 5.0000

Blank
Type RECTANGULAR_BASE
Size 10X50

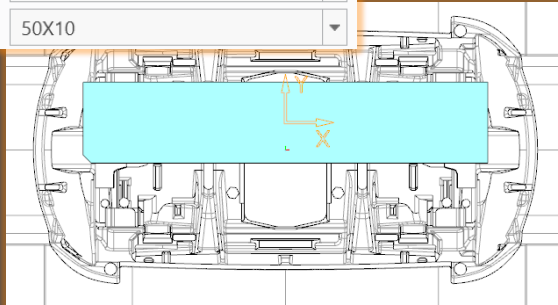


New Behavior

| | |
|---|------|
| A | 0.00 |
| B | 0.00 |
| C | 0.00 |

Z 5.0000

Blank
Type RECTANGULAR_BASE
Size 50X10



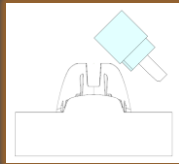
Fixed error

Description

- Ignore rotation of EDM_ORIGIN for default start and secure position
- <https://redmine.buw-soft.de/issues/13878>

Cause

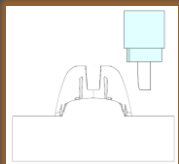
- In some cases a rotated EDM_ORIGIN is useful
 - Easier definition of start position
 - EDM_ORIGIN is rotated for later NC setup
- In both cases either the calculated angles or the display are wrong



| SX | SY | SZ | SA |
|-------|--------|-------|---------|
| 0.000 | 18.887 | 1.571 | -45.000 |

Solution

- Applied rotation to EDM_ORIGIN is ignored for calculation of angles.
- SE_EDM_BASE is used for electrodes created in current releases.
- EDM_ORIGIN is used for electrodes created in versions prior 8.0.



| SX | SY | SZ | SA |
|-------|--------|-------|-------|
| 0.000 | 18.887 | 1.571 | 0.000 |



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What's New



Enhancement

What

- BREAKING CHANGE
- Consider contour height on calculation of default start- and secure-position.
<https://redmine.buw-soft.de/issues/13762>

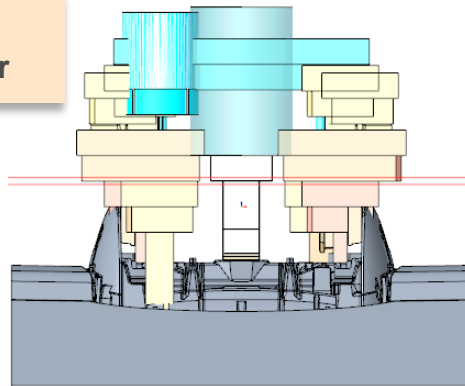
Why

- Calculation of default start and secure position using EDM_ORIGIN led to disadvantageous or wrong values.
- Reduce effort to set start and secure positions.

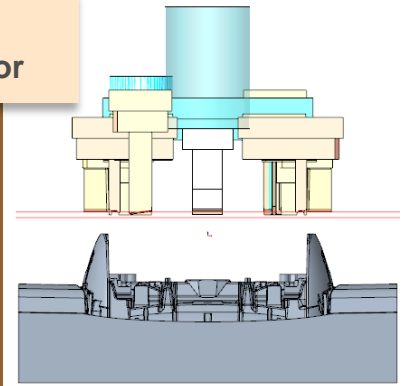
How

- **NOTE:** Adjustment of operation default planes may be necessary to respond appropriately to the new behavior.
- New behavior is available for all assemblies from current versions.

Current Behavior



New Behavior



Enhancement

What

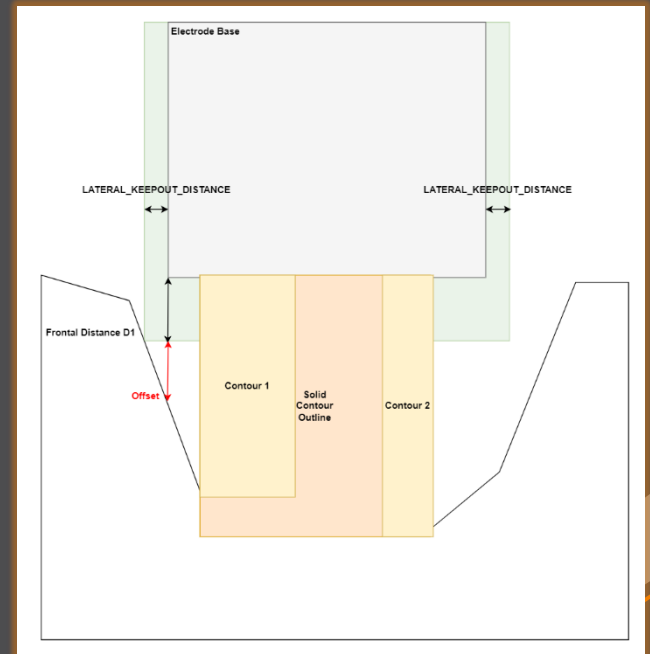
- Introduce new option #Electrode #LATERAL_KEEPOUT_DISTANCE
<https://redmine.buw-soft.de/issues/13766>

Why

- Defines the minimum distance in XY direction from the base that must not be disturbed by workpiece geometry.

How

- Default value '0'
- When adding a new base, position will be adjusted to...
 - ...meet normal distance D1 and
 - ...to fulfill lateral offset defined in LATERAL_KEEPOUT_DISTANCE



Enhancement

What

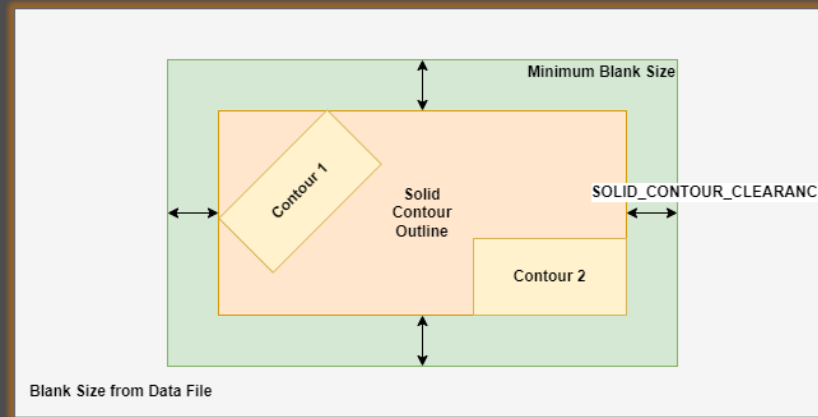
- Introduce new option #Electrode #SOLID_CONTOUR_CLEARANCE
<https://redmine.buw-soft.de/issues/13765>

Why

- Necessary to specify the minimum clearance in XY direction between the contour and blank outline

How

- Option value SOLID_CONTOUR_CLEARANCE defines the clearance added to electrode's solid contour before blank size selection.
- Default value '0'



Improvement

What

- Allow enabling or disabling automatic calculation of a variable measure in the Base UI. <https://redmine.buw-soft.de/issues/13672>
- (related to: <https://redmine.buw-soft.de/issues/12517>)

Why

- Allows users to switch between both behaviors

How

1. **Variable dimension used (-1)**
Variable dimension will be disabled and calculated automatically based on other inputs.
2. **Blank unlocked**
Z position of blank length should stay fixed on input.
Change of D2 changes D2 and D3.
Change of Z position changes LENGTH and D3 accordingly.
Change of LENGTH changes LENGTH and D3 accordingly.
3. **Blank locked**
Blank (A_BASE, B_BASE, LENGTH and D2) are disabled and can't be changed. Changes to D1, D3 or Z position change the other two dependent values accordingly.

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: Blank Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: 1.000 0.200

Frame: 5.000 1.000

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: Blank Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: 1.000 0.200

Frame: 5.000 1.000

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: Blank Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: 1.000 0.200

Frame: 5.000 1.000

Enhancement

What

- Allow export of files for Creo View
<https://redmine.buw-soft.de/issues/13699>

Why

- Provide data for downstream processes

How

- Use keywords “SE_EDM_BACKUP_PVS” or “SE_EDM_BACKUP_PVZ” in export template to create a file structure for Creo View (PVS) or a zipped archive of the files (PVZ). PVS creates a *.pvs for the file structure and numerated *.ol files containing viewable geometry.
- Example: export PVS/PVZ of assembly

```
Assembly PVS: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVS#  
Assembly PVZ: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVZ#
```

- Example: export PVS/PVZ for each electrode

```
ELECTRODE_START  
PVS: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVS#  
PVZ: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVZ#  
ELECTRODE_END
```

Enhancement

What

- Use default profiles or option files for 3D exports
<https://redmine.buw-soft.de/issues/13681>

Why

- Support of custom option files

How

- Save options file named “def_profile” to export/<type> or processor/<type>.

| Type | Keyword in export template | Options file name |
|------------------------|----------------------------|-----------------------|
| VDA | SE_EDM_BACKUP_VDA | def_profile.dep_vda |
| STEP | SE_EDM_BACKUP_STEP | def_profile.dep_step |
| IGES | SE_EDM_BACKUP_IGES | def_profile.dep_iges |
| CATIA | SE_EDM_BACKUP_CATIA | def_profile.dep_catv5 |
| SAT (Acis) | SE_EDM_BACKUP_SAT | def_profile.dep_acis |
| NEUTRAL | SE_EDM_BACKUP_NEUTRAL | def_profile.dep_neu |
| X_T (Parasolid) | SE_EDM_BACKUP_X_T | def_profile.dep_para |
| UG (NX) | SE_EDM_BACKUP_UG | def_profile.dep_nx |
| JT (license necessary) | SE_EDM_BACKUP_JT | def_profile.dep_jt |

Enhancement

What

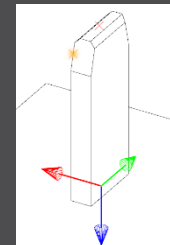
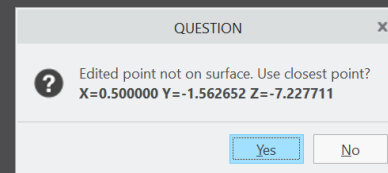
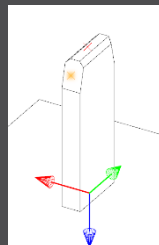
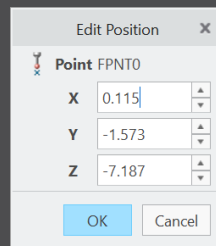
- Edit CMM points in user interface
- <https://redmine.buw-soft.de/issues/12392>

Why

- Move measuring points to even value

How

- Open “CMM points”
- Select point to edit in table
- Start edit on double-click or press “Edit”
- Point will be automatically moved to new position or reachable coordinates are suggested if point is out of bounds
- Original coordinates are restored on cancel



Enhancement

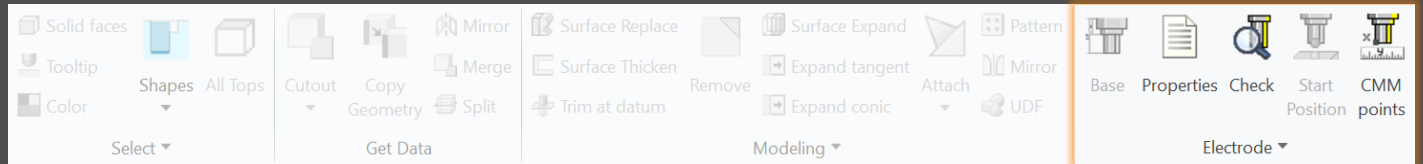
What

- Allow CMM points in workpiece models
- <https://redmine.buw-soft.de/issues/12327>

Why

- Enable definition and output of measuring points for CMM in workpieces

How



Workflow and functionality is the same as for electrodes

- Activate component
- Open “CMM points”
- “Add” measuring points on pick position till loop is cancelled with MMB
- Confirm or discard points

The image shows a dialog box titled 'Measuring Points' with a table of data. The table has columns for ID, X, Y, Z, I, J, and K. The data is as follows:

| ID | X | Y | Z | I | J | K |
|----|-------|------|-------|------|------|------|
| 1 | 26.17 | 5.98 | 2.57 | 0.81 | 0.26 | 0.95 |
| 2 | 29.11 | 2.26 | 83.16 | 0.97 | 0.09 | 0.24 |
| 3 | 26.32 | 2.11 | 5.24 | 0.80 | 1.00 | 0.05 |

