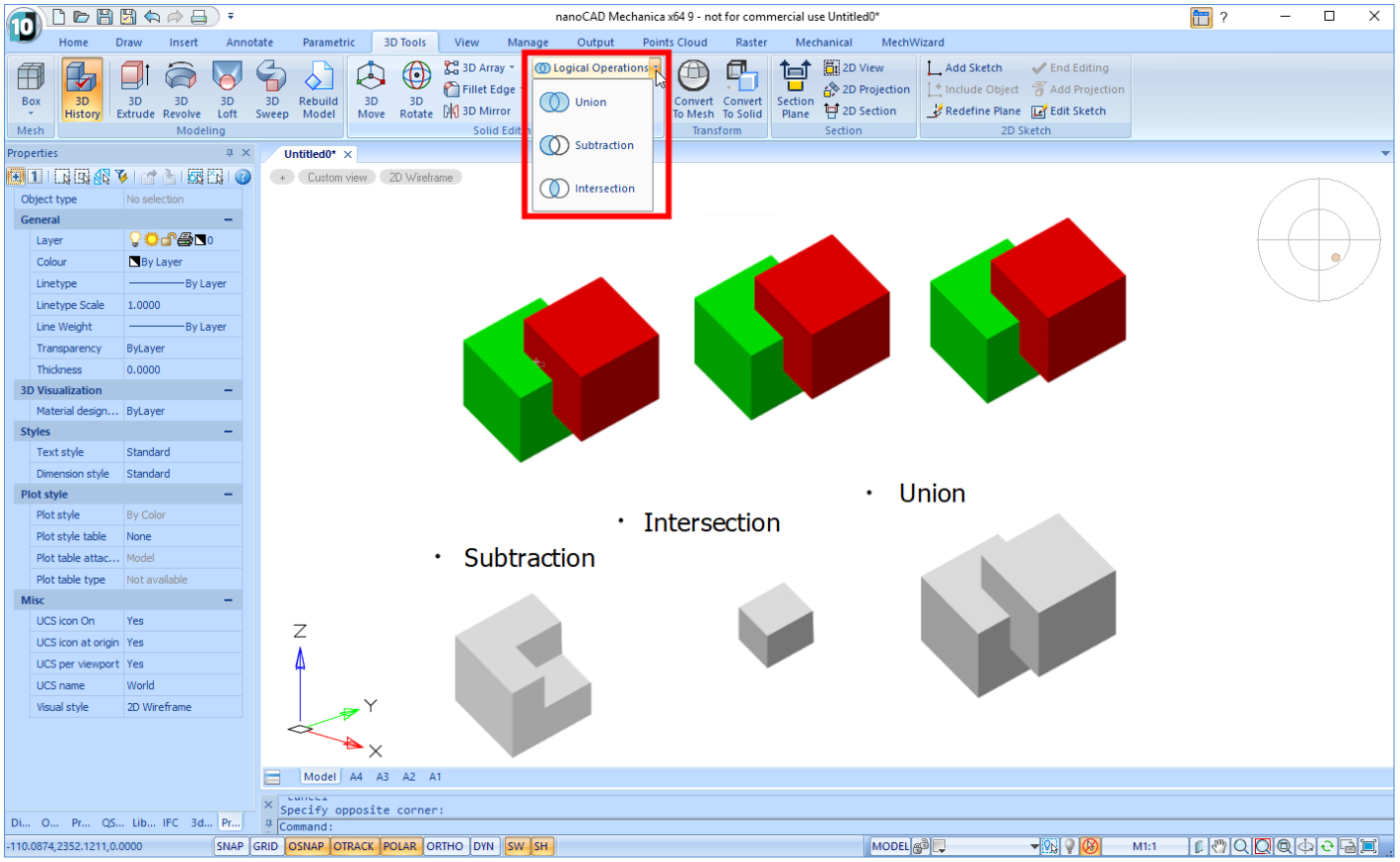
Platform

nanoCAD Mechanica 9.0 is based on nanoCAD Plus 10.1 platform.

3D solid modeling

nanoCAD Mechanica 9.0 incorporates 3D solid modeling based on C3D modeling kernel. nanoCAD Mechanica provides the Autodesk Inventor-style tool for 3D solid modeling. The corner stone of a 3D design environment is a 3D History window containing a Construction tree representing a history of model creation. Construction tree is a sequence of features (actions) that create the model. 3D History is a nanoCAD Inspector window with a specific set of tools.

In addition to the history approach to the solid modeling nanoCAD Mechanica provides standard Boolean operations on solid objects, such as union, intersection and subtraction.



External references allow using three-dimensional parts and subunits from different files in the head assembly file. If an external reference contains one three-dimensional object, it becomes a part in 3D tree, and if an external reference contains several three-dimensional objects, it becomes an assembly unit.

Blocks of three-dimensional objects, as well as external references, help form engineering structure of the assembly. At that, similar to external references, if a block contains one three-dimensional object, it becomes a part in 3D tree, and if a block contains several three-dimensional objects, it becomes an assembly unit.

Thus, now it is possible to compile in 3D tree the head assembly unit, which will consist of assembly units and parts included in it.

Import and Export of 3D files

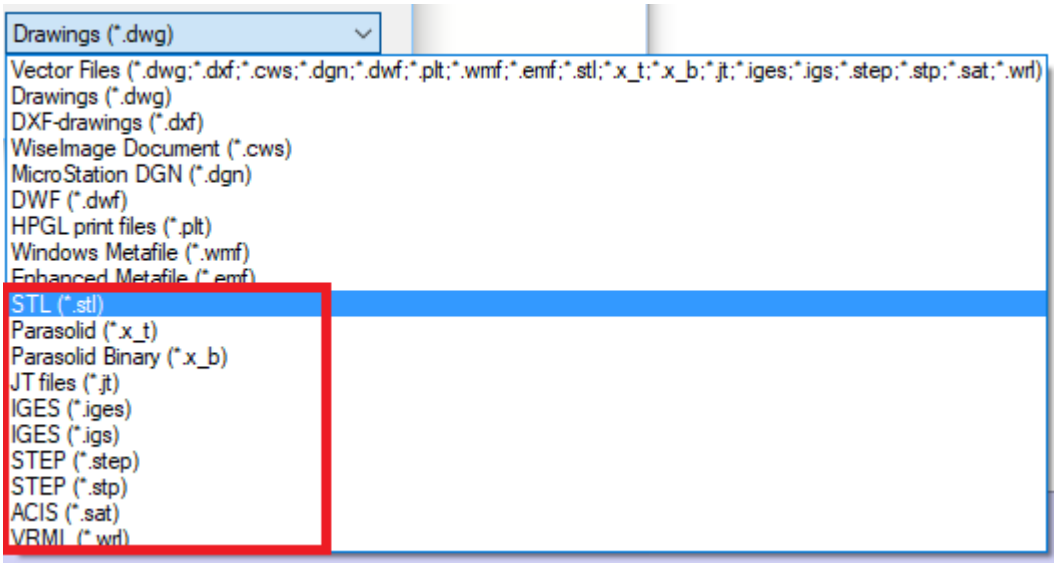
Import and export of popular formats for exchange of 3D models were added.

nanoCAD Mechanica reads and writes B-rep models in the following file formats:

- STEP with PMI supports AP203, AP214, and AP242
- IGES reads and writes v.5.3
- ACIS SAT reads up to v.22.0, and writes v.4.0, 7.0, 10.0
- Parasolid X_T, X_B reads v.29.0 and writes v.27.0

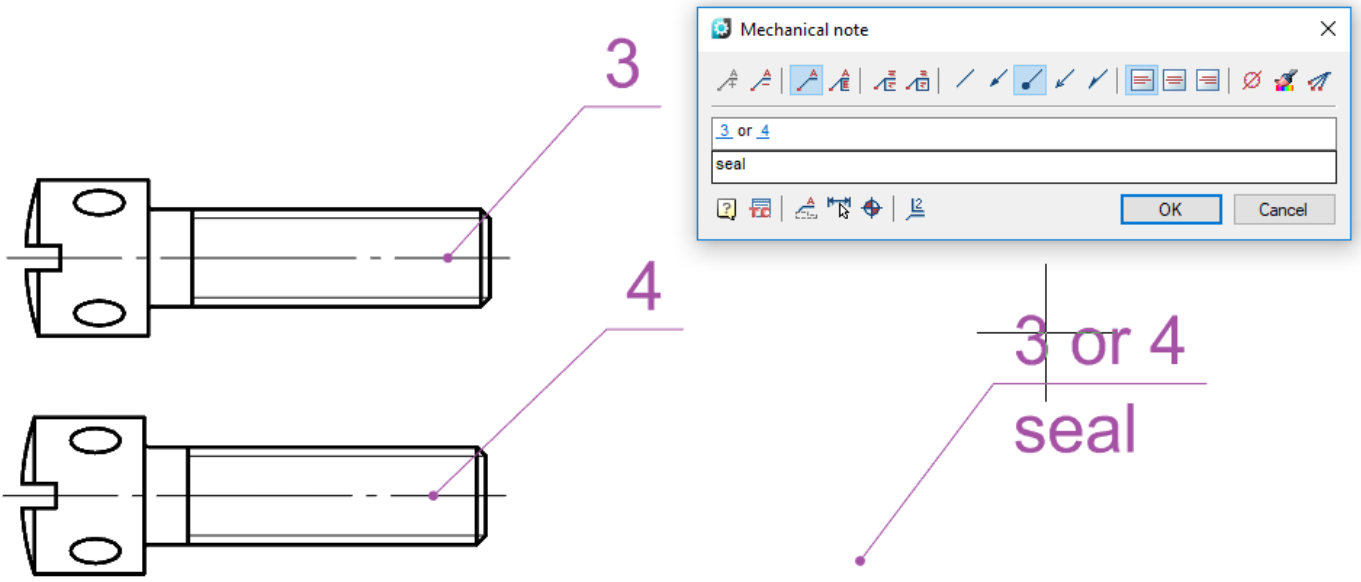
nanoCAD Mechanica imports and exports models in JT file format (v.8.0 – 10.x). It reads and writes polygonal models in the following file formats:

- STL
- VRML v.2.0



Reports and Bill of Materials

Position property now appeared in leaders of specification positions. This property can be also used in other objects of nanoCAD Mechanica, therefore all functional of universal leaders can be used to get complex specification leaders. It is also possible to make leaders of specification positions with several leader lines, leaders of specification positions with replacement, leaders of specification positions with additional text; you can use "Change extension line" command, etc.

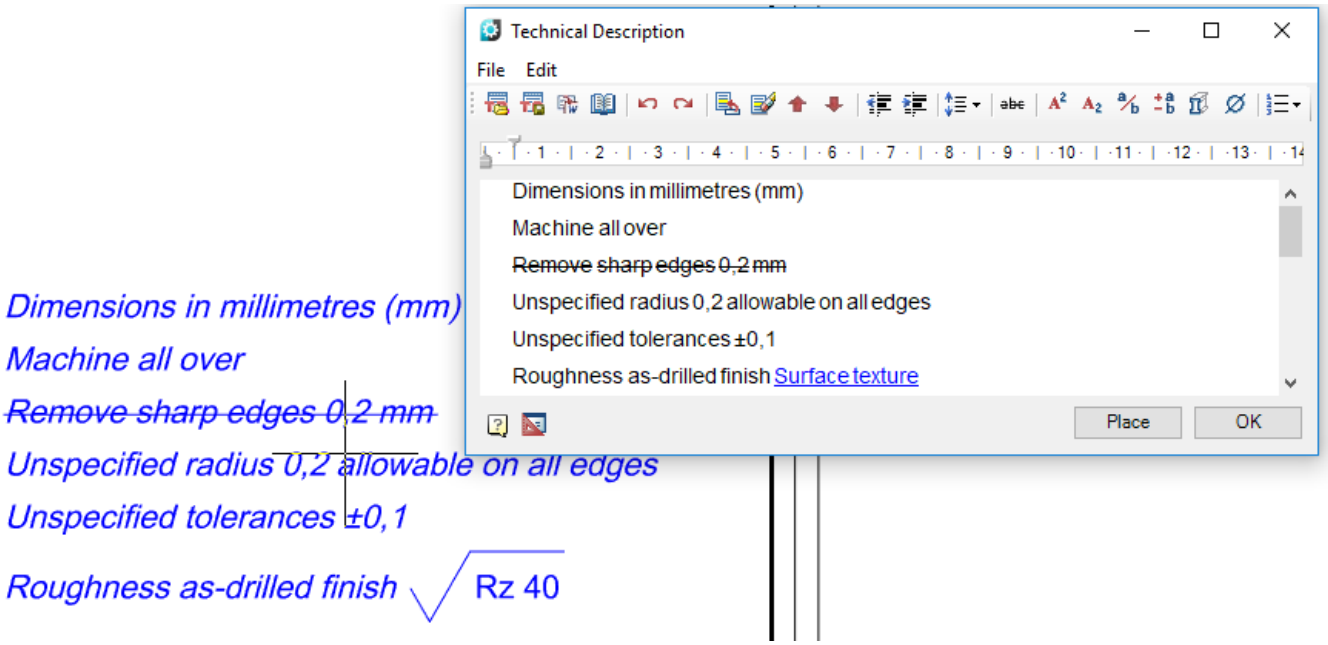


Technical specifications

The possibility to strikethrough text in technical specifications is added. This will help users to make changes in a drawing to make it clear how the drawing looked like before changing and what exactly has changed in the drawing.

A new setting for an offset from item number to the text appeared on the bar of technical specifications editor; it allows reducing and increasing the corresponding offset.

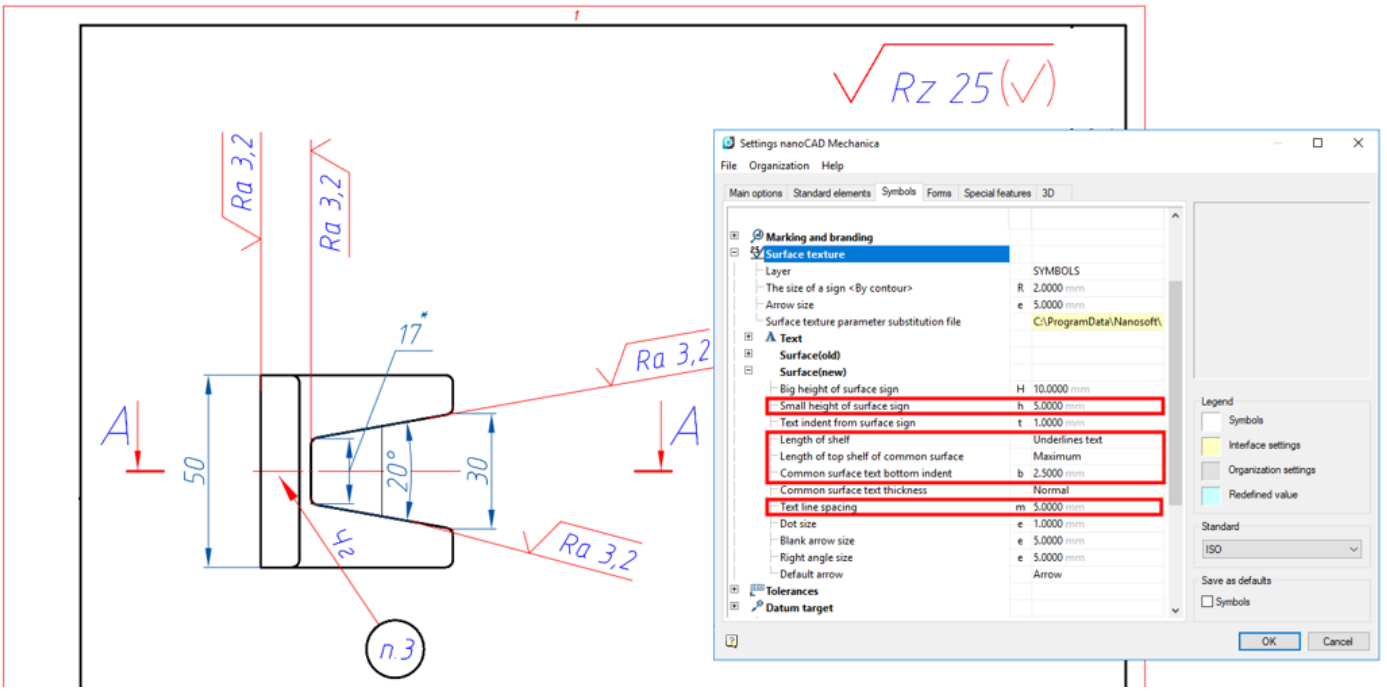
Now it became possible to insert a roughness symbol in the text of technical specifications.



Roughness

New settings appeared for common surface (small height of surface sign, line spacing), as well as for unspecified surface (length of top shelf, text bottom indent, text thickness).

Roughness with extension line can be now placed in any direction.



Other changes

Snap of marking and branding, fixed joints and dimensions to technical specifications has been corrected.