

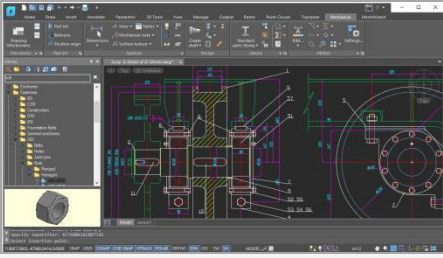
# M nanoCAD Mechanica Module

**nanoCAD Mechanica** is a mechanical engineering tool with 2D drafting and 3D mechanical designing. It is based on an advanced parametric engine, and works with a large library of standard parts. It enables users to carry out fast development of high-quality mechanical engineering drawings and project documentation.

## New in Mechanics Module

- ✓ Flange Properties
- ✓ New Types of 3D Thread
- ✓ Document properties window
- ✓ Assembly unit properties window
- ✓ Specification by 3D model
- ✓ Specification positions
- ✓ Stamping
- ✓ Flanging

## Features

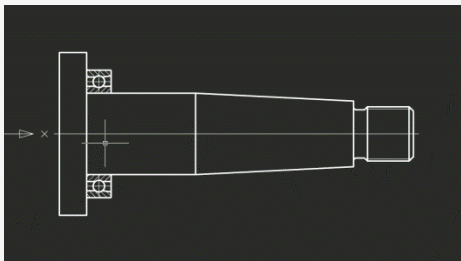
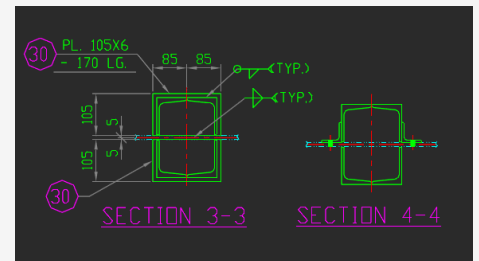


## Library of standard and complex parts

- Search filter
- Fasteners
- Standard profiles
- Reamers
- Circuit elements symbols

## Broad range of design tools

- Supports multi-sheet drawings
- Constructs objects and symbols by a variety of methods, such as orthogonal drawing and using object snap
- Manages drawing order of overlaying objects
- Draws standard and custom line types, hatches, and fonts with styles

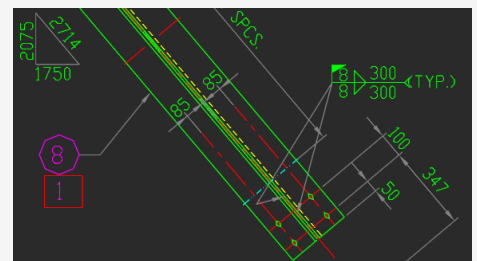


## Parameterized parts database

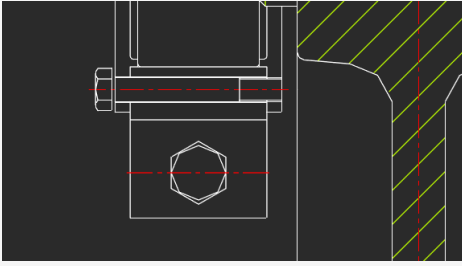
Mechanica's parts database contains a vast collection of parametric and object-dependent elements, including three-dimensional ones. When you change the parameters of a part, all associated parts in the drawing also change automatically, according to their database values. This powerful tool generates design variations, which improve the design quality.

## Standards-based engineering drawings

- ISO-standard fonts, line types, and dimension styles
- Tolerance zones and deviations for dimensions and fits
- Form and plane position tolerances
- Surface texture symbols
- Gradient symbols



## Designing bolted and riveted joints



Mechanica offers flexibility in handling bolt and rivet functions:

- Connect groups of parts with arbitrary thickness using bolts, screws, or studs
- Connect parts of arbitrary thickness with rivets displayed in regular and high accuracy, made of hollow and semi-hollow rivets
- Display simplified fasteners in joints
- Generate patterns of bolts and rivets in joints

## BOM tools

Mechanica's BOM tools create bills of material of parts linked to drawings. BOM tables can contain the following items:

- Itemized specification numbers
- Electrical specifications
- Automatic receipt of specifications
- Custom specifications

BILL OF MATERIALS				
ERECTION MKD.	PART MARK	ITEM NO.	SECTION	LENGTH IN mm
A/CBR-1	1	1	L 130x130x12	2160
		2	PL 100x10	250
	2	3	L 110x110x12	3442
		4	PL 675x10	992
		37	PL 85x10	210
		5	L 130x130x12	2134
1	2	PL 100x10	250	

## Other important features

### Dimension styles

Mechanica supports dimension styles, which are named collection of dimension settings that control the appearance of dimensions, such as the arrowhead, the text placement, and display of tolerances. It includes styles preset for a number of local and international standards.

### Detail views with automatic updates

Mechanica generates detail views as objects that are updated by the MCREGEN command when the source model changes. When at least part of a scaled object falls into the view frame, then its scale is applied to the entire detail view.

### MechWizard parameterizer

Mechanica's MechWizard guides users through advanced functions:

- Overlaying assembly and parametric dependencies on objects
- 'Behavior training' of standard parts
- Modification of database elements
- Custom database elements

### Calculation wizard

Mechanica's powerful engineering calculators handle gear strengths, complex cross-sections of geometric properties with arbitrary axes, fasteners, bearing life at given load conditions, and more. Results of calculations are generated automatically as reports that show all formulas and ISO references used for the calculations.