KISSsoft

KISSsoft Release 2024
Corrections, Features and Improvements

Service Pack 4

General

SP 4 - **Corner distance calculation for not sharp-edged abutment in snap-ring**
The corner distance h was calculated without influence of the corner distance g, when the abutment is not sharp-edged.

SP 4 - **Helical gears right handed weren't fully generated anymore.**
Helical gears right handed weren't fully generated anymore.

SP 4 - **Own input material data for snap ring**
Own input material data for snap ring is now saved correctly.

System Module General

SP 4 - **3D section view**
Improvement in the 3D-viewer section view in the Z-Y plane.

SP 4 - **3D viewer**
Improvement in the simplified gear geometry used in the 3D view of gears with multiple contacts.

SP 4 - **Animation of the rotation of bearings in the the 3D viewer**
The outer ring of connecting bearings follows the rotation of the outer shaft.

SP 4 - **Bearing and shaft auxilary results**
The bearing and shaft auxiliary results now consider planetary and differential copies in the auxiliary results.

SP 4 - **Correction in the selection of shafts to show in the system modal analysis plot**
Only the shafts of the selected shaft calculation are now shown in the system modal analysis plot.

SP 4 - **Gear facewidth used in the 3D viewer**
Correction in the gear face-width used in the 3D viewer, for the case of multi-mesh gears.

SP 4 - **Handling of messages from sub-calculations**
Correction in the handling of messages of sub-calculations in a system module calculation.

SP 4 - **Include face gears in system backlash calculation**
System backlash calculations now includes also face gears.

SP 4 - **Interference check**
Improved interference check between gears and housing elements.

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Housing Deformation

SP 4 - **Housing deformation calculation**
Improvement in the update of shaft calculations in the iterations of housing deformation.

SP 4 - **Housing deformation special tab**
Update of the housing deformation tab, after loading a file.

SP 4 - **Nastran symmetric reduced stiffness matrix**
Improvement in the reading of symmetric Nastran reduced stiffness matrices.

SP 4 - **Reading of initial offsets from reduced stiffness matrix file**
Improvement in the stability of the initial offsets reader.

Eigenfrequencies

SP 4 - **3D view of mode shapes**
Improvement in the animation of mode shapes in the 3D viewer.

SP 4 - **Better format in reports**
The format of the reports in modal analysis and Campbell diagram is improved.

SP 4 - **Campbell diagram analysis**
Improvement in the Campbell diagram analysis in shaft calculations for some special cases, where the number of matching eigen-frequencies is not the same for all speeds.

SP 4 - **Simultaneous change of UI parameters, and graphics property list in the Campbell diagram**
Simultaneous change of UI parameters, and graphics property list in the Campbell diagram is not possible. For instant, one can see the issue by changing "Number of calculations steps” in the UI, and "Number of resonance curve” in the property list.

Forced Response Shafts

SP 4 - **Curve saving in the forced response analysis in the shaft module**
Activation of saving the curves in the forced response analysis graphic in the shaft module, when the option “Reference position” is selected.

Gears

SP 4 - **Language updated in the modification table**
The language of the modification type in the modification table is updated instantaneously.

SP 4 - **Pressure viscosity coefficient for PAG-based oils**
The calculation has been improved to use the formula from ISO/TR 6336-22:2018.

SP 4 - **Sizing of the tip gear alteration**
Sizing of the tip alteration in tab "Reference profile" now sets the calculation to inconsistent.

Cylindrical Gears Rating

SP 4 - **Annex E calculation with modifications per flank**
Annex E calculation with modifications per flank now selects correct flank when single bin from load spectrum is selected.

SP 4 - **Annex E planet shaft deformation**
Corrected shaft deformations during Annex E calculations for separate planets.

Cylindrical Gears Geometry

SP 4 - **3D export of cylindrical, planetary gears and racks**
Correction in the orientation of the gears in the 3D export.

SP 4 - **Backlash calculation with actual tooth form**
Flank line modifications for the first gear in a gear pair are now properly considered in the backlash calculation with actual tooth form.

Bevel Gears

SP 4 - **Bevel Annex E with multimesh**
Bevel face load factor according to Annex E can be calculated when the bevel has multiple meshes.

SP 4 - **Warning message for factor Z_{KP}**
The warning message for factor Z_{KP} is now shown correctly in case of user defined value.

Globoid Worm Gears

SP 4 - **Manufacturing data for worm wheel**
Measurement over 3 pins for the worm wheel in the manufacturing data report now has the correct value.

Beveloid Gears

SP 4 - **System 3D view of beveloid gears**
Fix in the overlap of beveloid gears when switching to “Position like an internal toothing” and back.

Shafts

SP 4 - **Gear inner diameter**

When gear data is read from the gear calculation file, inner diameter of the gear (outer diameter in case of internal gear) is now also read from the file.

SP 4 - **Rotational constraint of the shaft for single bin calculations**

In case of single bin calculations rotational constraint of the shaft is now properly set.

SP 4 - **Shaft strength calculation with load spectra and small load sum**

For the shaft strength calculation with load spectra and small load sum, K_{BK} factor will be set to 1.

Bearings

SP 4 - **Pressure curve graphic for roller bearings**

Roller bearing pressure curve graphic now shows different colors and line styles for each roller.

Bolts

SP 4 - **For the length of engagement m_{ges}**

Value for the length of engagement m_{ges} is now kept, if the checkbox is activated.

SP 4 - **Roughness of the plates read from database**

The roughness of the plates is read out from the database correctly, and the variables are updated.

SP 4 - **Tightening factor influence on F_{V1}**

The tightening factor now correctly affects the calculated F_{V1}.

SP 4 - **Tolerance 7H and 8H for D_{1max}**

The tolerances for 7H and 8H for D1max have the proper order in the database.

FEM Calculations

SP 4 - **Plotting of Tresca equivalent stress**

The Tresca equivalent stress is now plotted to the graphic results of FEM components.

Scripting

SP 4 - **Array literals**

Variables can now be initialized from array literals, e.g., number[][] array = [[0, 1, 2], [2, 3, 4]]

SP 4 - **Order of indices**

When several indices are present in a variable, the correct order is applied.

SP 4 - **Unknown variable message**

An error message is shown in the script output if an unknown variable is found.

STEP-Interface

SP 4 - **Step export of shaft system with worm gear**
Improvement in the orientation of a worm gear, contained in the step export of a shaft system.

CAD-Interfaces

SP 4 - **Interface to Autodesk Inventor 2026**
Interface to Autodesk Inventor 2026 added.

KISSsys

SP 4 - **3DGLViewer shaft elements user color selection**
The 3DGLViewer shaft elements show the user color selection.

Service Pack 3

General

SP 3 - **File format for saved tables**

File format for saving tables set to UTF16 LE BOM.

SP 3 - **Initialization with start parameter**

Parameter initialization with START parameter aligned with standard initialization.

SP 3 - **Torsional stress in report now includes the reduction coefficient**

The formula for torsional stress in VDI2230 includes the reduction coefficient. Therefore we also have to include this coefficient in the amount we show in the report. This means the amount now reflects the torsional stress under operating conditions, not during mounting.

System Module General

SP 3 - **Churning losses calculation**
Churning losses calculation has been improved to better consider bevel gears and immersion depth for different axes orientations.

SP 3 - **Connecting bearing tables**
Bearing tables now show the correct information for connecting elements.

SP 3 - **Data representation table shaft overview**
Data access for data representation table shaft overview fixed.

SP 3 - **Default values in gear load spectrum table**
Unspecified factors and values in the load spectrum table will have a default value if not specified in order to avoid cases where a 0 was used and causing an error.

SP 3 - **Force transfer for planet copies**
Force transfers for planet copies are now correctly considering the number of planets when transferring any support reaction force to the receiver load on the carrier.

SP 3 - **Over defined kinematics**
Over defined kinematics are now converging during any step of the modelling phase.

SP 3 - **Roll, polar and meshing angles**
Roll, polar, and meshing angles are now defined when a gear is positioned according to two other fixed gears.

SP 3 - **Shaft operating temperature in load spectrum**
The shaft operating temperature can now be defined for each individual shaft in the system load spectrum.

SP 3 - **State of submodule graphics**
The state of the graphic windows of all submodules of a system calculation is saved and restored automatically.

SP 3 - **Updated profile shift coefficient in gear list report**
Profile shift coefficient in the gear list report no longer shows 0 in some cases with a defined profile shift.

Sketcher

SP 3 - **Sketcher label positioning**
The labels can now be positioned closer to the shafts and other shaft elements.

Eigenfrequencies

SP 3 - **Eigenfrequencies in a system of shafts**
Improvement in the search for eigenfrequencies in a system of shafts.

SP 3 - **System characteristic frequencies diagrams enabled with the correct license**
The diagrams for the system's characteristic frequencies are activated under the correct licensing.

Forced Response Shafts

SP 3 - **Time domain data in the forced response analysis**
Calculation of the excitation frequencies and time domain data in the forced response analysis of the shaft calculation module (when the reference speed is selected), has been updated to consider the excitation frequencies of the unbalanced masses.

Cylindrical Gears Rating

SP 3 - **Addition of error message in cases where the gear body deformation fails during the Annex E calculation**
If the gear body stiffness has not been able to be included to the Annex E calculation an error message appears to the user.

SP 3 - **Annex E results with matching load spectrums**
When Annex E is run with shaft files that having a matching load spectrum to the gear calculation, each bin is correctly used for the load spectrum results. This also occurs for the contact analysis results.

SP 3 - **Face load factor report tables**
Total deformation in the gap tables now includes the gear body deformation and references to "gb" are replaced with "FE".

SP 3 - **Micropitting single or nominal load calculation**
Improvements have been made to ensure the hidden load spectrum application factor setting is no longer considered when calculating single or nominal load. Previously, this issue caused the local Hertzian pressure to be calculated as zero.

SP 3 - **Sizing of torque or power with Annex E**
Accuracy of the torque or power sizing functionality using Annex E is improved.

Cylindrical Gears Contact Analysis

SP 3 - **Local stiffness curve for planetary contact analysis considers friction properly**
The tangent stiffness curve (operating stiffness point) now considers the friction correctly.

SP 3 - **Normal force graphic improvement**
The normal force along pitch diameter graphic no longer gives an error when Gear 2 is driving.

SP 3 - **Sound pressure level based on Masuda**
The sound pressure level based on Masuda now gives the same results if you choose transmission error setting as an angle instead of a distance.

Cylindrical Gears Geometry

SP 3 - **Calculation of d_{Fa} with rounding in axial section**
Calculation of d_{Fa} with applied rounding in axial section of 0.0 mm now returns correct values.

SP 3 - **Marker value conversion according to the coordinate unit settings**
Marker values are now shown correctly according to the coordinate unit settings.

SP 3 - **Modifications for asymmetric gears**
In cases where modifications were applied for asymmetric gears and the tooth form had an error, the flanks of the modifications might got swapped.

SP 3 - **Profile diagram for asymmetric gears**
Profile diagram of asymmetric gears is now shown correctly for the left flank.

SP 3 - **Sizing profile shift**
Using the sizing button for the profile shift coefficient was sometimes overwriting the user defined value for "Start modification at height coefficient".

SP 3 - **Start of modification for asymmetric gears**
Parameter "Modification value defined at" is now saved correctly to the calculation file for asymmetric gears.

SP 3 - **Twist applied through tab Tooth form**
Twist applied through the tooth form operation "Take modifications into account" is now considered correctly in the 3D models and contact analysis.

Bevel Gears

SP 3 - **Contact analysis results window**
Contact analysis results for bevel gears are shown correctly in the result window when the calculation method is chosen as static or differential.

SP 3 - **Own input of face load factor $K_{H\beta}$**
Face load factor $K_{H\beta}$ when set to "Own input" is now correctly considered in the AGMA 2003 calculation.

Shafts

SP 3 - **Bevel gear in shaft editor**

Bevel gears that are not fully defined are displayed in the shaft editor anyway.

SP 3 - **Outer contour table data input**

Outer contour table allows input or roughness data.

SP 3 - **Update issue in shaft editor**

Cross sections in shaft editor do repaint after each calculation.

Bearings

SP 3 - **Rolling bearing clearance change calculation**

Housing temperature was not considered in the rolling bearing clearance change calculation.

SP 3 - **Rolling bearing damage with load spectrum and lifetime acc. to ISO 281**

Precision of rolling bearing damage calculation in case of lifetime acc. to ISO 281 and for load spectrum with bin frequency < 0.001% has been improved.

Shaft-Hub Connections

SP 3 - **Change of minimum effective tolerance value S_{vmin} in DIN 5480**

The minimum effective tolerance value S_{vmin} was not defined in DIN 5480. Now the definition from the ISO 4156 is used to calculate the value.

Bolts

SP 3 - **Typo in guideline VDI 2230 paper 1, equation 213**

In the guideline VDI 2230 paper 1, equation 213 was written in the denominator d_{min}, however it should be D_{1max} (according Prof. Wuttke, VDI committee). The correct equation is now implemented.

FEM Calculations

SP 3 - **2D FEM graphic display in case of helical gears**
In case of helical gear geometries the 2D FEM analysis solves a 2D model of the equivalent spur gear. In the 2D graphic the diameter of the equivalent tooth form is displayed (as in version <=23).

SP 3 - **Export filter of FEM graphics**
The export options of FEM graphics have been adjusted based on the graphic type (geometry, mesh, results).

SP 3 - **FEM root stress 2D options for old files**
When loading old KISSsoft files containing 2D/3D FEM root stress calculations the displayed FEM options were not always up to date. This has been corrected now.

SP 3 - **Finit-Elements mesh of gear bodies with thick rim**
In case of a gear body with thick rim defined the FE algorithm has been improved to include more elements radially.

SP 3 - **Robustness improvement of gear body FEM model creation**
The creation of the FEM model of the gear body has been considerably improved in case of manual definition of its cross section.

SP 3 - **Stress singularity display of 3D root stress calculations**
The filtering algorithm for the stress singularity positions of the root stress 3D calculations has been improved.

COM-Interface

SP 3 - **COM registration problem**
The COM interface dependent on version can't register correctly for standalone versions (copy of the installation).

CAD-Interfaces

SP 3 - **Interface to Siemens NX 2412**
Interface to Siemens NX 2412 added.

SP 3 - **Interface to SolidEdge 2025**
Interface to SolidEdge 2025 added.

SP 3 - **Interface to SolidWorks 2025**
Interface to SolidWorks 2025 added.

KISSsys

SP 3 - **Shafts files for bevel gear calculation**
Shafts files for bevel gear calculations are now directly created when running the full model strength.

Service Pack 2

General

SP 2 **- 3D section view**
Improvement in the view of the 3D sections in the 3D viewer.

SP 2 **- DUI example files extended**
The DUI examples files have been extended to use the improved title handling.

SP 2 **- Importing projects from previous releases**
KISSsoft now supports importing projects from the previous releases 2023 back until 03-2016.

SP 2 **- Message added before deleting table data**
A message has been added to confirm if the user wants to delete the table data.

SP 2 **- Messages with sign** @
Messages or other information containing sign @ are now supported.

SP 2 **- Overlapping texts in graphic properties removed**
Overlapping texts in drop down list in graphic properties have been removed.

SP 2 **- Tag fixed for KUI files**
Tag fixed for all KUI files.

SP 2 **- Units added for length per force**
Units mm/N and mm/kN added.

SP 2 **- User defined variables created with file load**
User defined variables in a calculation file are created directly on load. Therefore they will be available without any user interface.

System Module General

SP 2 - **Auxilary results for boundaries attached to loads other than couplings**
The generation of auxiliary results is supported when boundaries are attached to loads besides couplings.

SP 2 - **Bearing data in tables**
Bearing data was swapped in the tables for some cases.

SP 2 - **Correction in the view of gear bodies in the 3D viewer**
Correction in the view of gear bodies in the 3D viewer, when multiple gear bodies are visible.

SP 2 - **External lubrication ID check added**
The software now checks if a file refers to an external lubrication ID and in such cases, switches to own input.

SP 2 - **Improve runtime of housing calculation**
The runtime of the housing calculation is improved.

SP 2 - **Improvement in the position of the rings of bearings in the 3D viewer**
The outer rings of bearings are now fixed in space and the inner rings follow the supporting shaft in the 3D viewer.

SP 2 - **Multiple fixed switchable elements on the same shaft**
It is now possible to define multiple fixed switchable elements on the same shaft. The shaft calculation takes care of splitting the power accordingly.

SP 2 - **Planet copies in system**
The possibility to create planet copies has been removed to simplify user experience.

SP 2 - **Planetary efficiency and loss results**
Planetary efficiency and loss results are now displayed depending on the defined number of planets.

SP 2 - **Progress bar added in the interference check of the 3D viewer**
A progress bar is added, showing the progress of calculation during an interference check in the 3D viewer.

SP 2 - **Rolling bearing damage for bearings without rotating speed**
Bearing damage is now calculated for still-standing rolling bearings.

SP 2 - **Show critical element in gear pair safety factors in result overview**
The result window now shows the gear pair safety factor for critical elements.

SP 2 - **Swap gear geometry**
The geometry of two meshing gears can now be swapped on system level via the context menu. This action is only provided when possible.

SP 2 - **Switchable elements stiffness and clearance**
Stiffness and clearance of Y-axis rotation can now be defined on system level for switchable elements.

Sketcher

SP 2 **- Delete key for gear calculation activated**

The delete key has been activated for multimesh gear calculations in the sketcher.

Eigenfrequencies

SP 2 **- Modal analysis of the system module**

Improvement in the positioning of the shafts' sketch in the modal analysis graphics of the system module,. Eigenmodes characterization is also improved.

Forced Response Gears

SP 2 **- Collection of forced response data for the 3D view of the results**

The collection of data to be seen in the forced response 3D results has been improved.

SP 2 **- Considering of gear mass in forced response based on the definition of "Gear on shaft" in shaft calculation has to be modified**

Based on the definition of “Gear on shaft” in shaft calculation, consideration of the gear mass in the forced response is modified to properly model the effect of gear mass in calculating the system response.

SP 2 **- General plot in the forced response**

Improvement in the handling of documentation point results in the general plot of the forced response.

Gears

SP 2 **- Fine sizing center distance of three and four gear trains**

Center distance in the fine sizing calculation of three and four gears is automatically taken from the tab "Basic data".

SP 2 **- Fine sizing graphic updates on delete**

The fine sizing result graphic automatically updates after deleting results from the results table.

SP 2 **- Operating backlash calculation**

The operating pressure angle is now considered more precisely in the operating backlash calculation.

SP 2 **- Root fatigue data for Delrin 51HSE**

Root fatigue data is now available for Delrin 51HSE at 20°C, 80°C and 100°C.

Cylindrical Gears Rating

SP 2 - **Annex E gear body deformation flank projection**
When using gear body influence within the Annex E calculation, the projection for the gap is considered depending on the flank.

SP 2 - **Annex E shaft matcher for multimesh in three and four gear chain modules**
The shaft matcher is improved during Annex E to better handle multimesh gears in shaft files.

SP 2 - **Ensure Annex E results use the correct load bin when shaft and gear have matching load spectrums**
When Annex E is run with shaft files that have a matching load spectrum to the gear calculation, each bin is used for the load spectrum results. This also occurs for the contact analysis results.

SP 2 - **Import of the hardness curve**
The user import of the hardness curve is now improved with an additional stability check.

SP 2 - **Optimization of $K_{H\beta}$ calculation logic in case of gear body consideration**
In case of $K_{H\beta}$ calculations including the effect of gear body, the FEM computation is now performed only at the beginning of the iterative calculation, thus reducing a lot the calculation time.

SP 2 - **Power calculation for double pinion planetary setup**
Power, speed, and torque calculation are now calculated correctly for the double-pinion planetary setup.

Cylindrical Gears Contact Analysis

SP 2 - **Contact lines on tooth flank color range**
The color range in the "Contact lines on tooth flank" graphic now follows the values specified in the properties.

SP 2 - **Export of 3D contact analysis always shows all data**
Sometimes, the export of .dat files from 3D contact analysis graphs cut off parts of the data. Export now includes all data shown in graphic.

SP 2 - **Improved stability of contact analysis with face chamfers**
Contact analysis improved to be more stable in case of heavy face chamfers.

SP 2 - **Load contact pattern for internal gears**
The no-load contact pattern shows the gap for internal gear meshes.

SP 2 - **Saving curves works again for contact analysis graphics**
You can now save curves in 2D contact analysis graphics again.

SP 2 - **Small overhung edges effect improved on contact analysis results**
When running the contact analysis with a small overhung edge, the edge influence has been improved.

Cylindrical Gears Geometry

SP 2 - **Calculation of d_{Ff} for premanufacturing**

The root form diameter d_{Ff} for the premanufacturing is now calculated correctly for cases with undercut.

SP 2 - **Measurement over the balls for helical asymmetric gears**

Calculation of measurement over the balls M_{dK} for helical asymmetric gears improved.

SP 2 - **Power skiving check with helix angle defined for the tool**

Power skiving check when helix angle is defined for the tool is now calculated more precisely.

SP 2 - **Tooth form operation "Manufacture cylindrical gear with a gear generation process"**

For tooth form operation "Manufacture cylindrical gear with a gear generation process" where the difference between s_{P0}^* and $\pi/2$ is big ($Abs(s_{P0}^* - \pi/2) > 0.25 \cdot \pi$), now the user defined s_{P0}^* factor is considered for the calculation of tooth form.

Globoid Worm Gears

SP 2 - **Precision of the efficiency calculation**

The efficiency calculation for DIN / ISO calculations of the globoid worm gears has been improved to be more precise. Also, the efficiency between the system (s020) module and the z170 module now matches.

SP 2 - **Sizing profile shift**

The function to size profile shift (SizeProfileShift()) is now available through COM or skript.

Shafts

SP 2 **- 3D supports and plain bearings shaft position**

The 3D supports and plain bearings position is the center of the object.

SP 2 **- 3D synchronizer color matches its icon color**

The 3D synchronizer color matches its icon turquoise color.

SP 2 **- Improvement in the consideration of the shaft start position, in the 3D viewer of the W010 module**

The shaft position in the 3D viewer of the W010 module matches now correctly the "position in global system Y".

SP 2 **- Improvement in the rotation animation in the 3D viewer**

Improvement in the view of the rotation animation, when a cross section is visible in the 3D viewer.

SP 2 **- Improvement in the view of the coordinate system in the 3D viewer**

The coordinate system shown in the 3D viewer agrees now with the coordinate system shown in the shaft editor.

SP 2 **- Messages in case if the sizing of the required lifetime can't be executed**

Messages are now shown if the sizing of the required lifetime can't be executed and the limit values for the lifetime is set.

SP 2 **- Shaft editor selection with background drawing**

The selection of the inner contour has improved when a background drawing is loaded.

SP 2 **- The equivalent stresses for static calculation**

The equivalent stresses for the neutral line and the bending line outside for the static calculation gave the same results. Now different components are used (case 1: shear stress = 0, case 2: bending stress = 0) to calculate the values.

SP 2 **- Thermal expansion of housing in case of housing temperature load spectrum**

When calculating shafts with the load spectrum with defined housing temperature this temperature is now considered in the calculation.

SP 2 **- Update of gear body in the shaft editor**

Improvement of the update of the gear body view in the shaft editor, based on a connected gear calculation.

FEM Calculations

SP 2 - **3D FEM results update after gear material modification**
The 3D root stress result updates in case the user changes the material of a gear and performs the FEM calculation without repeating the LTCA calculation.

SP 2 - **Correction in the view of the gear body in the 3D graphic of the gear**
The gear body was not shown in the 3D view of the gear after a gear body calculation.

SP 2 - **Correction of diameter display in the 3D tooth root stress calculation report**
A typo displaying the radius instead of the diameter was corrected in the 3D root stress report.

SP 2 - **Equivalent gear diameter of helical gears in 2D FEM tooth root stress calculation**
In case of helical gears, the 2D FEM is applied on an equivalent spur gear. After the calculation, all diameters should refer to the original helical gear, not the spur one.

SP 2 - **Improvement of 3D root stress sorting algorithm**
The sorting algorithm for the calculation and reporting of the 3D tooth root stress was improved and made more robust.

SP 2 - **Improvement of the 3D FEM result default display functionality**
In cases when a 3D FEM graphic was open and a re-calculation takes place the 3D graphic does not move back to the default state (showing the Principle Stress results). It stays on the result type the user had selected.

SP 2 - **Reading the gear body local path when a project is active**
The local path definition when working with an active project is now supported. The STEP path of the gear body can be defined as a global or local path also when a project is active.

SP 2 - **Simplification of the export of stiffness matrix of gear body**
In case the option to export the stiffness matrix of a gear body has been selected, the export will always overwrite any existing file.

SP 2 - **Update of FE meshing library to newest version**
Improvement in the FE mesh functionalities mainly coming from an update of the external cm2-library to the new version 5.5.0.

COM-Interface

SP 2 - **User interface initialization via COM**
The user interface shows the default initialization when called via COM interface.

STEP-Interface

SP 2 - **Improvement in the gears exported to a step file from the shaft calculation**
Correction of the simplified gear geometry in the step export from the shaft calculation.

CAD-Interfaces

SP 2 - **Interface Siemens NX 2406**

Interface to Siemens NX 2406 added.

SP 2 - **Opening KISSsoft calculation file in CREO**

It was not possible to reopen the KISSsoft calculation for Creo 9 and 10.

KISSsys

SP 2 - **Color of lines in KISSsys 2D plots**

Improvement of the color of lines in the 2D plots of KISSsys.

SP 2 - **Forced response calculation**

The stability of the forced response calculation has been improved.

Service Pack 1

General

SP 1 - **Data representation tables extended**
Data representation tables have been extended with headlines.

SP 1 - **Helix angle cylindrical gears**
Improvement in helix angle communicated to the shaft module for some cylindrical gears cases.

SP 1 - **Permissible tensile stress σ_{Mzul} calculation**
The permissible tensile stress σ_{Mzul} is now calculated with the formula 143 according to VDI 2230 paper 1 (2015).

SP 1 - **Shrinking diameters is now working in all cases**
Shrinking diameters was not working in some cases, this is now fixed.

SP 1 - **Spline calculations**
Shaft-hub calculations are now performed with any given torque to allow the full system analysis.

SP 1 - **Transparency of elements shown in a cut view of the 3D viewer**
When a cut view is activated in the 3D viewer, the transparency of the elements shown is now updated correctly.

SP 1 - **US customary units for data representation tables**
Data representation tables show US customary units.

System Module General

SP 1 **- Bevel gear tables extended**
Values have been added to the data representation tables for bevel gears.

SP 1 **- Deleting all bins or columns**
Deleting all bins or columns was not working for some old models, it is now fixed.

SP 1 **- Drawing number added to KISSdesign table**
The shaft drawing number has been added to the data representation table in KISSdesign.

SP 1 **- Graphical representation of rotation arrows, torque and forces.**
The scale and position of rotation arrows, torque and forces. is more accurate for models with very small gears.

SP 1 **- Hand of helix of a internal gear in 3D viewer**
Hand of helix of a internal gear in 3D viewer is correctly shown.

SP 1 **- Housing deformation calculation when the shaft strength calculation is ignored**
The housing deformation calculation does not run, if the shaft strength calculation is ignored in the control panel.

SP 1 **- Load spectrum requested lifetime with factors**
When the requested lifetime is defined with factors in the load spectrum tab, the values are not changing anymore while changing the calculation type.

SP 1 **- Not loaded gears are ignored during load spectrum**
Not loaded gears throughout a load spectrum calculation are now completely ignored.

SP 1 **- Own input losses can now be defined as torque or power**
Own input losses can now be defined as torque or power, and not only as efficiency.

SP 1 **- Part lists do not show data when calculations were not run**
Bearing and shaft list reports do not show data when shaft calculations are ignored, and gear list report does not show data when "Only kinematics" is selected.

SP 1 **- Sense of rotation for fixed shaft showing the proper direction**
With a fixed shaft, the sense of rotation is now showing the correct direction, depending on the relative speed to the carrier.

SP 1 **- Update of the data of idle gears**
The gear data of the idle gear in a multimesh gear calculation is now passed correctly to the shaft calculation, for the case of taking the gear body into account.

Sketcher

SP 1 **- Annotation improvements**
Several minor issues with annotations have been improved. The data update between annotations and element editor has also been improved.

SP 1 **- Mirroring face gears**
Mirroring face gears is now possible.

Forced Response Gears

SP 1 - **Forced response analysis of the gear mesh outputs in the time domain**
Forced response analysis of the gear mesh outputs in the time domain is shown based on the last running speed.

Gears

SP 1 - **Bold print variant solution in gear sizing results**
Bold print indicator fixed for gear sizing result tables.

SP 1 - **Considering tooth contact stiffness from tooth form in load spectrum**
Tooth contact stiffness from tooth form is now considered correctly in the load spectrum calculation.

SP 1 - **Gear body overlaps with gear geometry in the 3D viewer.**
Fix of the overlap of the gear body and the gear geometry in the 3D viewer (in gear calculation, shaft calculation and KISSdesign).

SP 1 - **Input of temperature in the load spectrum**
The input field for the temperature in the load spectrum table is now shown correctly.

SP 1 - **Material properties of Duracon M90-44 from Polyplastics**
Root fatigue data is added for plastic material Duracon M90-44 from Polyplastics. Some general material properties are also updated.

SP 1 - **Rounding for number of teeth**
Double value for number of teeth is rounded instead of truncated for the integer setting for the number of teeth.

SP 1 - **The oil viscosity graph is shown correctly for small viscosity values**
The oil viscosity graph was now correctly drawn even when the oil viscosity is smaller than 10.

Cylindrical Gears Rating

SP 1 - **Improvement in the calculation of Y_{CHD} and Z_{CHD} factors calculated according to FVA 271**
Y_{CHD} and Z_{CHD} factors calculated according to FVA 271 now properly consider the min/max hardening depth defined by the user.

SP 1 - **Influence of alternating bending on the flank safety factor**
Tooth flank load spectrum setting "Calculate both cases and document the unfavorable case" works correctly in cases that Y_M factor for all gears is set to 1.0.

SP 1 - **Scuffing results in the special Load spectrum report**
Scuffing results per bin are now shown again in the special load spectrum report.

Cylindrical Gears Contact Analysis

SP 1 - **Comments added back to contact analysis graphics**

The texts in the contact analysis graphics were missing and now are available in the comments window.

SP 1 - **Legends added back to contact analysis graphics**

The legends were missing from the contact analysis 2D graphics and are now added back.

SP 1 - **Number of pitches is set based on pitch error**

If the "Own input" is not selected for resolution, the number of pitches used in the contact analysis will always be 1, if there is no pitch error, and 2, if there is pitch error. Previously it didn't revert back to 1 when pitch error was removed.

Cylindrical Gears Geometry

SP 1 - **Pinion type cutter dimension in tab Tooth form**

Pinion type cutter dimension in tab Tooth form were not drawn correctly in case a full rounding or chamfer was set.

SP 1 - **Profile diagram shows individual modification curves properly**

Profile diagram shows individual modification curves properly when the axis settings is set to roll angle, diameter and rotation angle.

SP 1 - **Step export of a planetary system that contains a planet carrier**

Improved stability of the software during the step export of a planetary system that contains a planet carrier.

SP 1 - **Tool drawing with dimensions**

Several improvements were made to the tool dimension drawing.

Globoid Worm Gears

SP 1 - **The user input for J_{0T} coefficient**

The user input J_{0T} coefficient for wear calculation is now saved in the calculation file.

Shafts

SP 1 - **Calculation of factor $K_{WK,RS}$ according to FKM**

Formula for the calculation of factor $K_{WK,RS}$ to estimate the fatigue limit of surface treated components according to FKM has been corrected.

SP 1 - **Internal message for beams fixed in shaft editor**

Internal RotCAD message for beams has been fixed in the shaft editor.

SP 1 - **K_{AK} factor was calculated with maximum equivalent stress instead of the equivalent stress per load bin**

The K_{AK} factor per load bin was calculated with the maximum equivalent stress σ_{mv} and τ_{mv} instead of the equivalent stress per load bin.

SP 1 - **Shaft solver convergence**

Convergence of shaft solver for classic bearing calculation has been improved for some cases.

SP 1 - **Update of a gear calculation file connected to a shaft calculation file**

Improvement for the case a shaft calculation file reads the gear data from a gear calculation file and something changes in this gear calculation file.

Bearings

SP 1 - **Fatigue load limit for custom rolling bearing read from the file**

Fatigue load limit Cu for custom rolling bearing, whose data was read from the calculation file, was not considered in the calculation of modified reference rolling bearing lifetime. Instead, internally calculated fatigue load limit was used.

SP 1 - **Rolling bearing damage for single load level and lifetime from load spectrum**

When calculation with single load level and lifetime from load spectrum is chosen, rolling bearing damage calculation now considers lifetime from chosen load bin (before nominal required service lifetime was considered).

SP 1 - **Rolling bearing lifetime calculation with single bin calculation**

Rolling bearing lifetime calculation for single bin with the lubricant temperature defined individually per bin has been improved.

SP 1 - **Rolling bearing table structure**

The structure of the rolling bearing table has been improved.

Bolts

SP 1 - **Typing error in formula of the guideline VDI 2230 paper 1 (2015) to calculate the length of engagement**

Typing error in formula of the guideline VDI 2230 paper 1 (2015) to calculate the length of engagement (Bolt thread critical) is fixed. In formula 213 denominator D_1 instead of d_{min} should be written.

FEM Calculations

SP 1 **- Fine tune the FEM mesh density of big planet carrier models**
Improve between runtime and accuracy of the FEM calculation for big planet carrier models.

SP 1 **- Improvement of the LTCA - FEM interface for gear body calculations**
The internal interface of LTCA to FEM in case of gear body simulations was improved and made more robust. Appropriate user message was added.

SP 1 **- View of the gear body in the 3D graphic of the gear**
The gear body was not shown in the 3D view of the gear after a gear body calculation.

COM-Interface

SP 1 **- Running rough sizing through COM or skript**
Running rough sizing for gears is possible again through COM or skript. The corresponding functions are setupRoughSizing() and calculateRoughSizing().

Scripting

SP 1 **- Graphic generation through SKRIPT**
Improvement of image generation from SKRIPT. Robustness issues have been resolved.

SP 1 **- Stopping a script causes deletion of code**
Bugfix of the editor losing the previous run code, when the running script was stopped manually through the editor.

CAD-Interfaces

SP 1 **- Interface to Autodesk Inventor 2025**
Interface to Autodesk Inventor 2025 added.

Interfaces for Data Exchange

SP 1 **- Clean additional mass component attributes in the REXS_Export function**
Clean attributes in additional mass component in the REXS_Export function of KISSsys.

SP 1 **- GDE export of design_helix and design_profile**
Values in the GDE file for design_helix and design_profile are now exported in millimeter units.

SP 1 **- GDE export of internal gears**
Measurement tolerances for M_{dK} are now exported with the correct sign for internal gears.

KISSsys

SP 1 - **Database access error for shaft calculations with needle cage bearings**
When trying to calculate KISSsys files created before release 2024, which contain needle cage rolling bearings with wrongly set clearance, a message with Database access error was being shown.

SP 1 - **Journal bearings' reaction forces**
Reaction forces from the journal bearings are now transferred from the shaft calculation to the system calculation.

SP 1 - **Shaft axis alignment dialog**
The selection of own input to calculate the axis alignment is now available.

SP 1 - **Spiral bevel gear setting**
The setting for spiral bevel gear in the bevel gear calculation is transferred from KISSsoft to KISSsys.

SP 1 - **Support's reaction forces**
Reaction forces from the supports transferred from the shaft calculation to the system calculation.