GENIUS TOOLS®

INNEO® That's IT.

GENIUS TOOLS MBD for ISO-GPS

Version 11.0.0.0

Description of all functions

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INNEO Solutions Ltd
www.inneo.co.uk inneo@inneo.com
Infoline +44 (0) 1789 337920

IT-Campus 1 73479 Ellwangen (Germany)
Phone +49 (0) 7961 890-0

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I. GENIUS TOOLS MBD for ISO-GPS

This product supports you in the creation of structured, semantic MBD models in accordance with company-specific standards. MBD models can be both parts and assemblies. The time-consuming manual creation of combined views and the associated properties (e. g. appearances) can be done with just a few mouse clicks and templates. Customizable color schemes and coloring functions allow you to quickly color any display.

Models structured in this way are a suitable basis for generating technical data packages (TDPs). Using rules and templates, TDP generation is based on the structure of a book with different chapters. The result is a TDP PDF in which further data (e. g. PVZ, STEP) can be embedded. The TDP can be generated automatically using other tools, e. g. via the Windchill Worker process.

Other modules help you keep track of annotations and assist you in various situations when creating MBD models. These modules are listed and described in this document:

– Managing functions with *Function Manager* and its Editor

– Generating Technical Data Packages with *Export TDP*

– Multi-dimensional editing with *Dimension*

– Creating and inserting inspection and change symbols for parts and assemblies with *Inspect 3D*

– *Name Generator* assigns names with sequential numbering for file names, e. g. of parts

– Ring menu and mapkey management with *Quick Access*

– Referencing surfaces to the general tolerance with *GenTOL References*

– Getting information about annotations with *Annotation Info*

– Transferring annotations with *Annotation Transfer*

– In-depth annotation text editing and template creation with *GTOL Text* and its Editor

– *Find Contact Surfaces* and *Select Contact Surfaces*

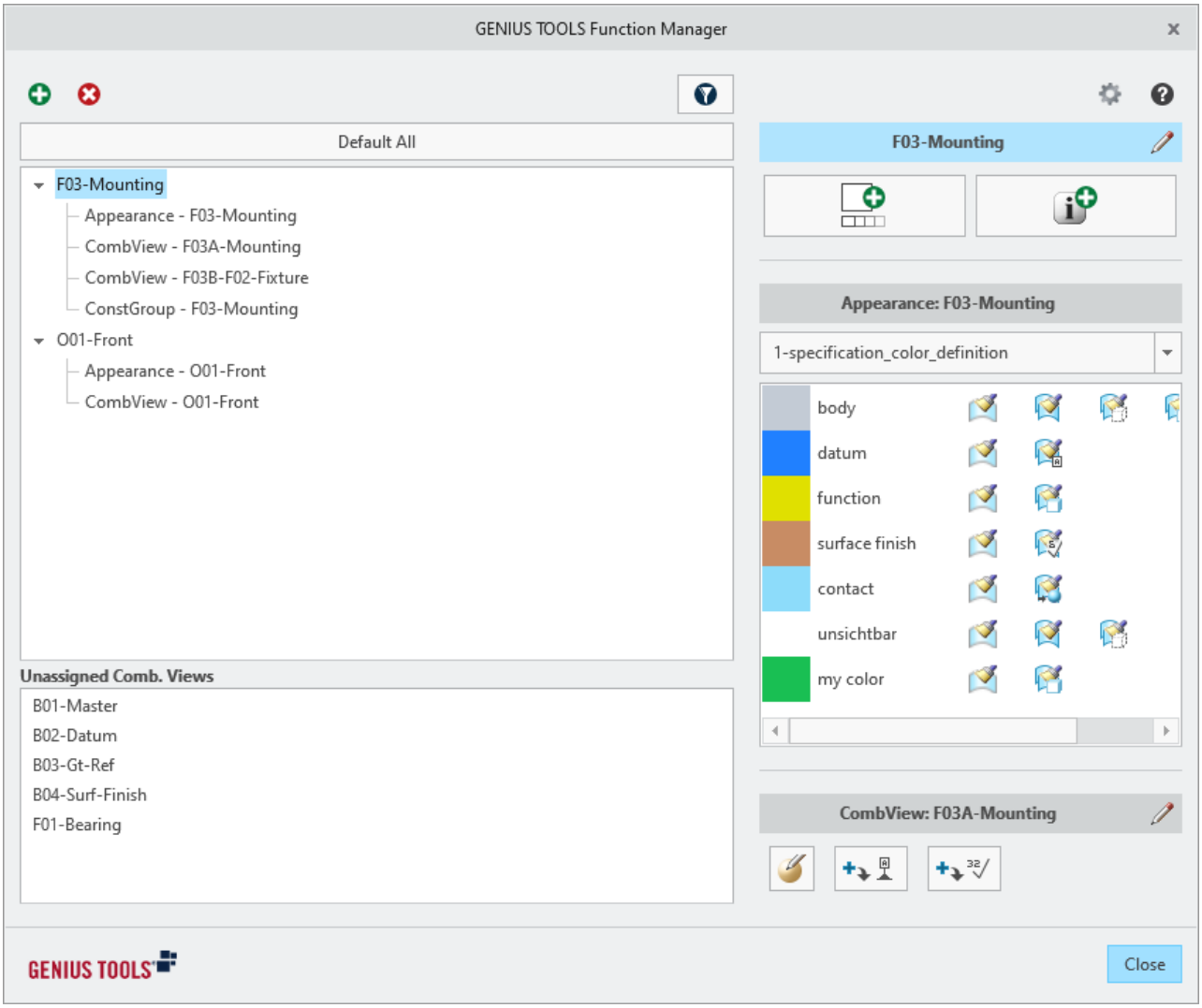
– Subsequent sorting of combined views with *Sort Combined Views*

– Setting TEDs with *Set TED Dimensions*

Please note: *GENIUS TOOLS MBD for ISO-GPS* can be used with Creo Parametric Version 10 or higher.

1. Managing functions („Function Manager“)

The module *Function Manager* allows you to create and manage functions and associated functional objects that you need for functional construction and specification in 3D. Templates for functions and functional objects can be read as XML files.



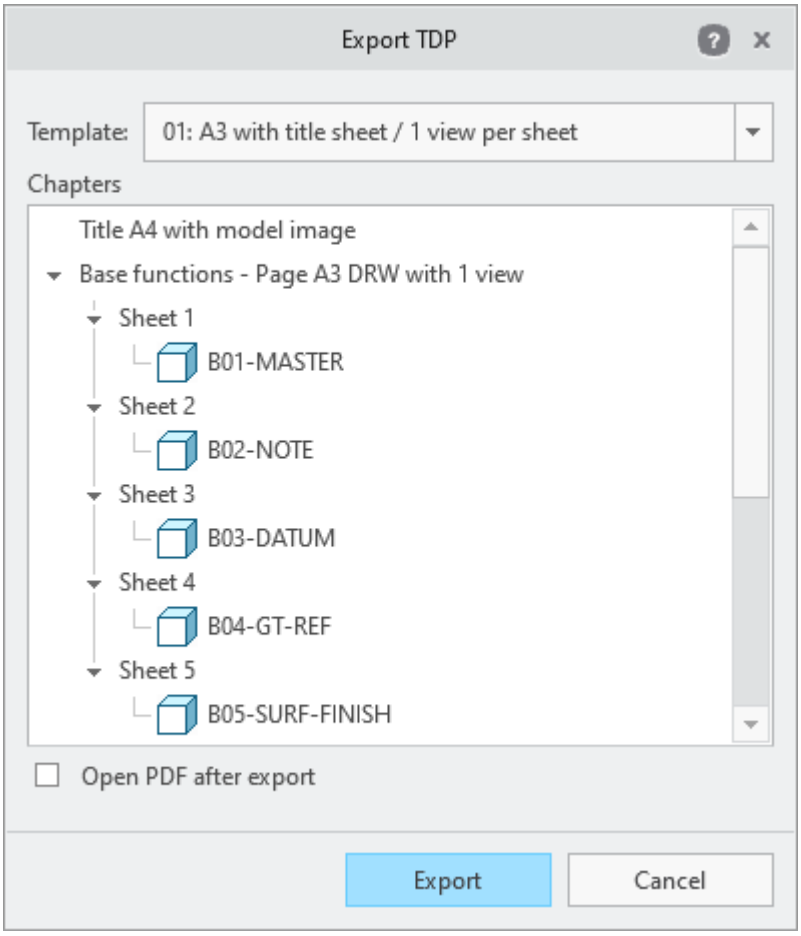
Function Manager is available in part mode and in assembly mode with the following features:

- Overview of existing functions and their functional objects (combined views, appearances, etc.)
- Real-time editing of functions and functional objects: adding, renaming, extending, deleting
- Generating several combined views at the same time and displaying them in the model tree
  - Generating combined views alphabetically without scrolling in the Creo Parametric main window
- Switching between combined views without switching views

– Editing, grouping and deleting combined views
– Automatic naming of functions
– Coloring of surfaces, features and parts
  · A predefined color scheme is provided and accessible via *View* > *Appearances* > *Library* > *startuptools*. This color scheme is ready to use and can also be customized.

2. Generating technical data packages („Export TDP“)

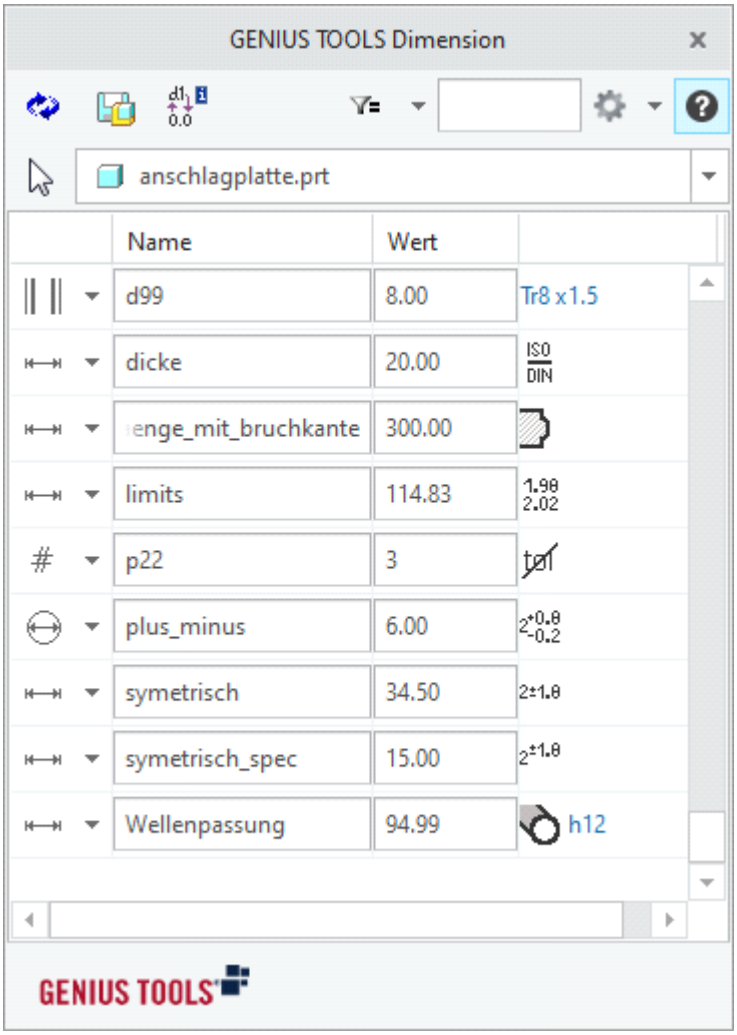
The module *Export TDP* allows you to export technical data packages for viewing 3D models as PDF files. These PDF files contain figures of the MBD model that can be rotated, zoomed, and resized.



The exported PDF files can be created in the following ways:
– Structuring PDF files by chapters
– Optional content: Title page, table of contents, chapters with one or more combined views
– Format: classic drawing format with drawing frame or book format without drawing frame

3. Multi-dimensional editing („Dimension“)

The component *Dimension* allows simultaneous and fast editing of dimension values and names of a feature, a part, an assembly or the subcomponents of an assembly, as well as variable UDF dimensions.



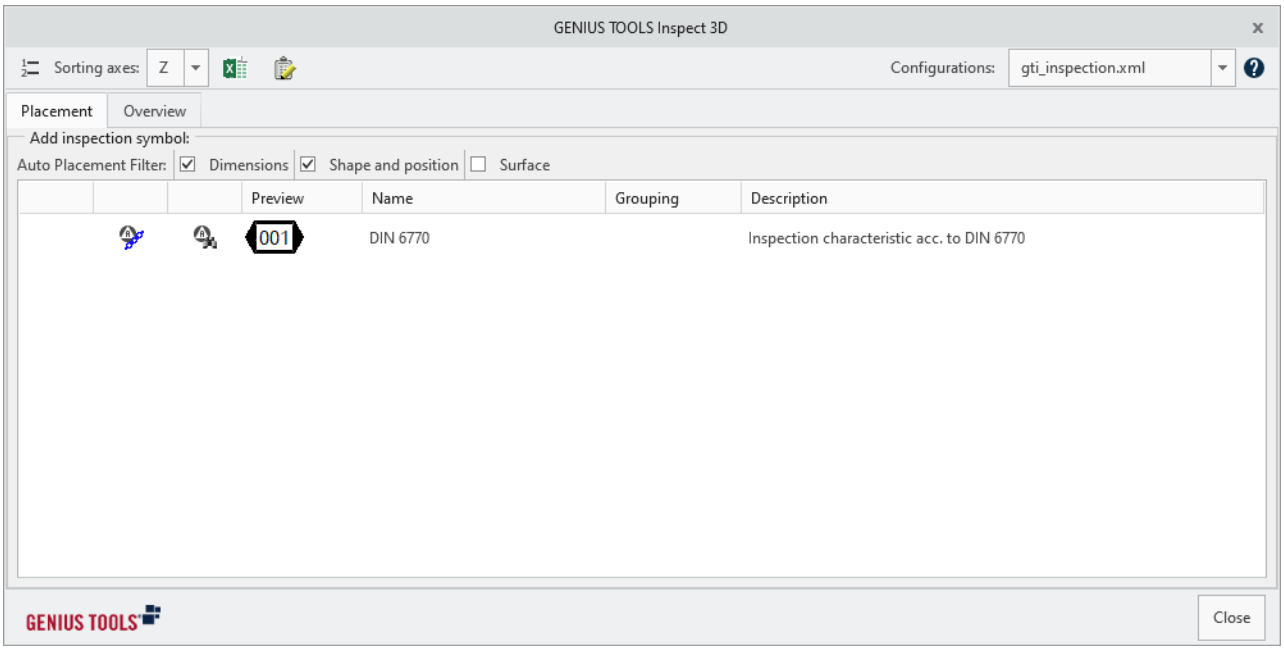
The following functions are available:

- Displaying and modifying dimensions with properties: dimension type (linear, angle, diameter, radius) dimension name and value, tolerance type, dimension status (e. g. in relations, family tables)
- Filtering the displayed dimensions by name, dimension type and tolerance type
- Free text search for dimensions including auto-suggest function
- Highlighting dimensions in the graphics window when selecting a value in the *GENIUS TOOLS Dimension* user interface
- Renaming of dimensions
- Links for quickly accessing the Creo ribbon menu *Dimension* and the Creo dialog *Relations* (for relation-driven dimensions)
- Quickly assigning dimensions to family tables

– Saving the values as a CSV-file

4. Inspection and change symbols for parts and assemblies („Inspect 3D")

GENIUS TOOLS Inspect 3D allows you to add inspection symbols to parts and assemblies in Creo Parametric. *GENIUS TOOLS Inspect 3D Revision* allows you to create a revision history of all symbols.



GENIUS TOOLS Inspect 3D is available in part mode and assembly mode with the following features:

– Placing inspection symbols linked to
  · Dimensions
  · Shape and position tolerances
  · Surface quality symbols
  · Notes
  · Symbols
– Numbering of inspection symbols
  · By axes
  · By symbol type
  · Similar to DIN 6770 (numbers are not assigned anew)
– Exporting data to Excel

GENIUS TOOLS Inspect 3D is configured in *GENIUS TOOLS Inspect Editor*. The same Editor is available for *GENIUS TOOLS Inspect* in drawing mode and *GENIUS TOOLS Inspect 3D* in part mode and assembly mode. Some settings / configuration options can only be set for

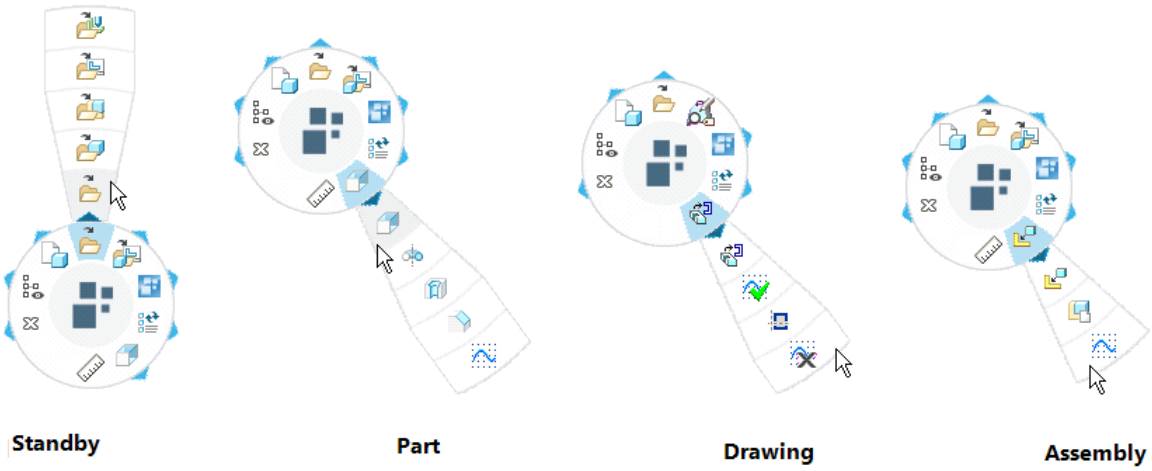
GENIUS TOOLS Inspect in drawing mode or for *GENIUS TOOLS Inspect 3D* in part mode and in assembly mode.

5. Name Generator

The component *Name Generator* assigns names with sequential numbering for file names of parts, sheet metal parts and assemblies. Name Generator can be used both individually on stand-alone workstations (local) and in a network (global).

6. Ring menu and mapkey management („Quick Access")

The component *Quick Access* is a ring menu that provides quick access to suitable commands in different Creo modes and can include individually configurable mapkeys (macros).



The following functions are available:

- Using regular and intelligent mapkeys, i. e. using variables, parameters and placeholders
- Defining commands depending on mode and selection
- Different usage scenarios:
  - Central configuration
  - User-specific configuration
  - Simultaneous central and user-specific configuration
- Easy-to-use graphical editor for a homogeneous operating environment
- Exporting and importing all customized mapkeys with images and descriptions for easy data exchange

7. Configuration Utility

Configuration Utility is an interface for editing all configuration options and saving them to the correct locations.

The following functions are available:

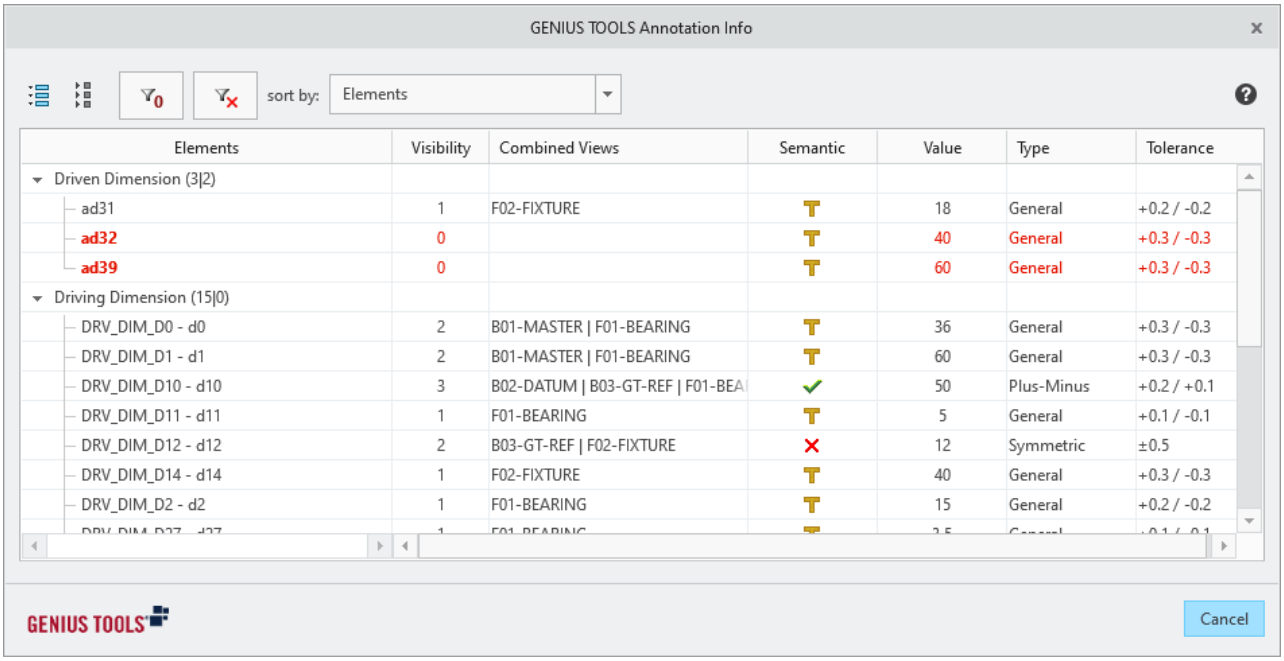
- Viewing, modifying, commenting and deleting individual configuration options for each level
- Quickly checking different configuration variants using the memory function of variants

8. Further useful tools („Utilities“)

In addition to these modules, there are a number of new utilities, e. g. to help you work with references, annotations and contact surfaces.

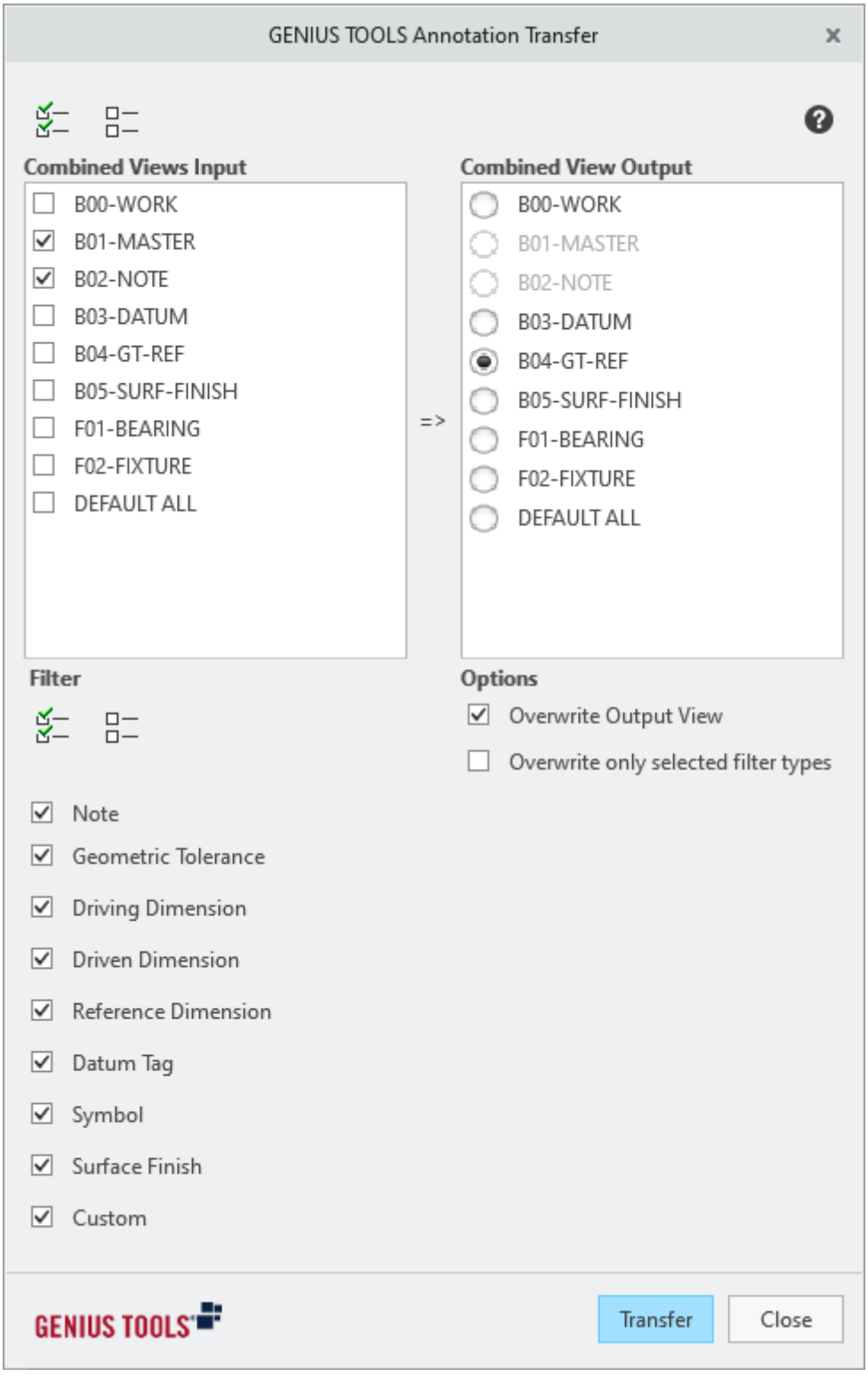
8.1 Annotation Info

Annotation Info provides you with a summarized view of the annotations present in the combined views. You can see the number of annotations, their occurrence, the status of the semantic link and can sort the display column by column.



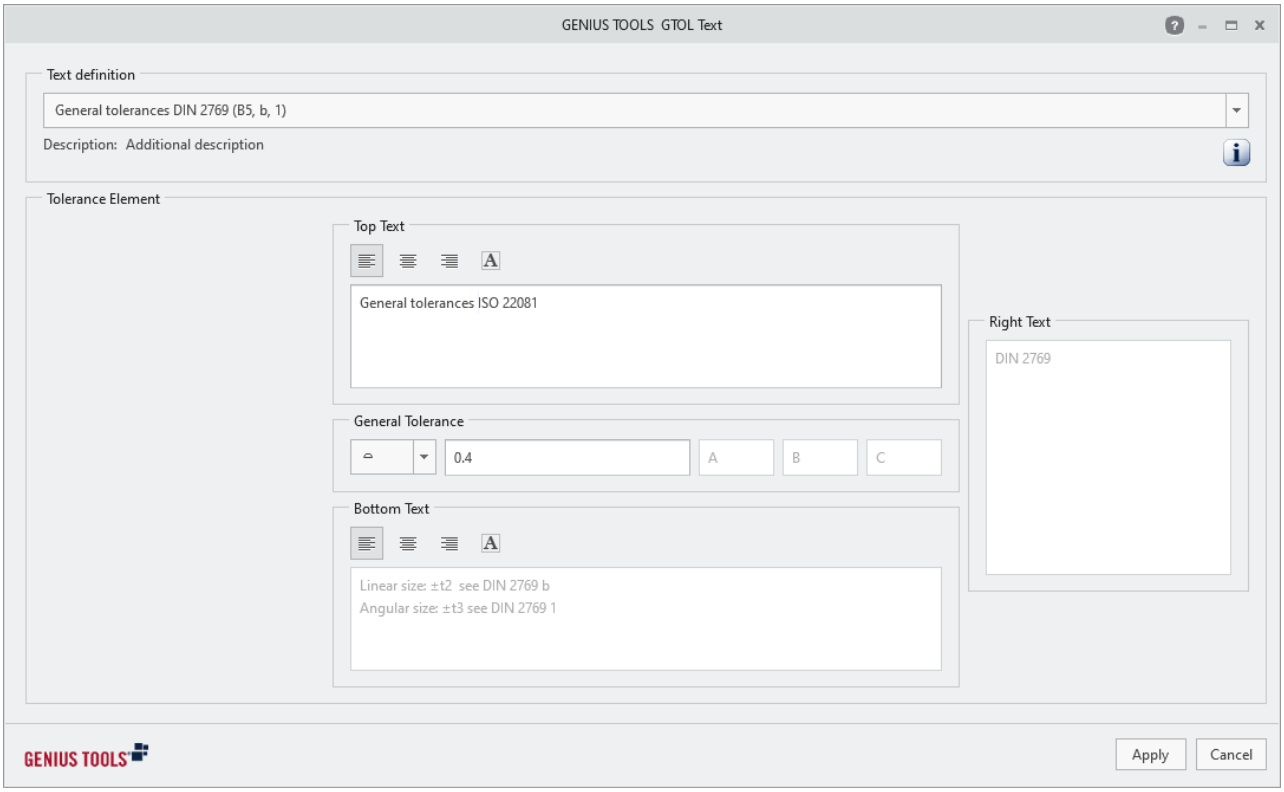
8.2 Annotation Transfer

Use *Annotation Transfer* to transfer existing annotations from one or more combined views to another combined view.



8.3 Extended editing of annotation texts („GTOL Text")

GTol Text allows you to edit texts of existing shape and position tolerance annotations. Set up templates for these texts and links to more information using the *GTol Text Editor*.



8.4 Referencing surfaces to the general tolerance („GenTOL References")

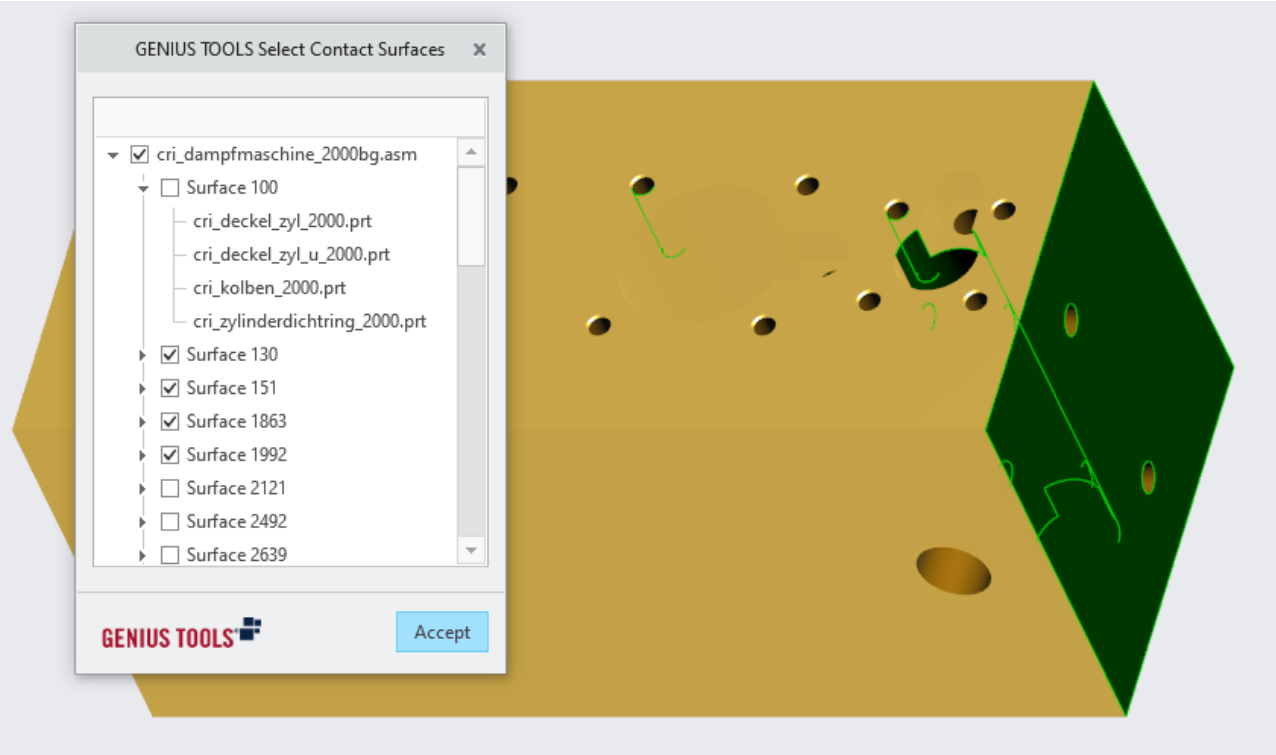
GenTOL References references all available surfaces to the general tolerance. The number of referenced surfaces is listed in the message log.

8.5 Find Contact Surfaces

Find Contact Surfaces is an analysis tool that searches for the adjacent surfaces to a selected surface (=contact surfaces).

8.6 Select Contact Surfaces

View the contact surfaces found with *Find Contact Surfaces* and select them for further processing, e. g. coloring with *Function Manager*.



8.7 Sort Combined Views

Combined views are sorted in alphabetical order after they are generated manually. *Function Manager* also allows you to automatically create new combined views in alphabetical order.

8.8 Set TED Dimensions

Set all TED dimensions in the opened part / assembly.

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IT-Campus 1
73479 Ellwangen
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