

Model Processor

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Function Document

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I. GENIUS TOOLS Model Processor

The products in the GENIUS TOOLS Model Processor series are powerful programs for analyzing and editing model data. They are used to automatically standardize your existing Creo Parametric data. Automatic data revision replaces time-consuming and error-prone manual work, which is necessary, for example, when adapting existing CAD data to current company standards or when introducing a PDM system.

Model Processor products are optimized for processing large amounts of data and complex tasks. Large amounts of CAD data can be processed overnight without user intervention.

Complex tasks involved in data processing can be divided into individual tasks and grouped into task lists. You have over [130 tasks](#)^[6] at your disposal for editing a wide range of properties in your constructions, e.g.

- parameters, relations, layers,
- material, units, accuracy, tolerances,
- family tables (verify),
- views, image generation, appearance effects, and much more.

Batch processing simplifies the editing of large amounts of data, for which rules are created in Model Processor.

The GENIUS TOOLS Model Processor product range supports compliance with Creo Parametric model and work guidelines through a standardized implementation specified by the administrator. The individual products can be used in different situations.

These are the functions of the individual products:

- I. [GENIUS TOOLS Model Processor Report](#)^[5]: Basic component for analyzing model data
 - Program for Creo Parametric administrators
 - Quality analysis and report in batch processing using inventory data, as a prerequisite for revisions
 - Definition and testing of task lists
 - Automatic mass processing of models
- II. [GENIUS TOOLS Model Processor Rework](#)^[14]: Editing model data and saving the modified models
- III. [GENIUS TOOLS Model Processor User](#)^[15]: User component for executing task lists in Creo Parametric
 - Program for Creo Parametric users
 - Revision of models undergoing the change process



IV. GENIUS TOOLS Model Processor Worker Extension:¹⁶ PDM component for executing task lists in the Windchill visualization process

The use of the products depends on the application and can be combined. Applications include model analysis and editing. Model analyses provide qualitative information about model settings in inventory data and are a prerequisite for estimating the effort involved in PDM implementations and for realistically assessing proposed CAD work guidelines. Model revisions are necessary when introducing PDM (inventory data, library adjustments, parameter maintenance, etc.), when implementing CAD work guidelines, as well as for improving model data quality.

	Model Processor			
	Report	Rework (includes Report)	User	Worker Extension
Create model analyses	✓	✓	—	✓
Execute model revisions	—	✓	—	✓
Generate task lists	✓	✓	—	—
Edit current Creo model (Execute predefined task lists)	✓	✓	✓	✓
Edit Creo models in automatically (Executing the predefined task lists)	—	✓	—	✓
Apply model revisions (Saving the modified model data)	—	✓	✓	✓
Windchill connection	—	—	—	✓
User	Report CAD/PDM administrators, system administrators	Rework CAD/PDM administrators, system administrators	User CAD users	Worker Extension PDM/PLM administrators
Create Task Lists	✓	✓	—	—
Executing the	✓	✓	✓	✓



predefined task lists

Licensing

floating

floating

floating, bound
to Creo session

Node-locked

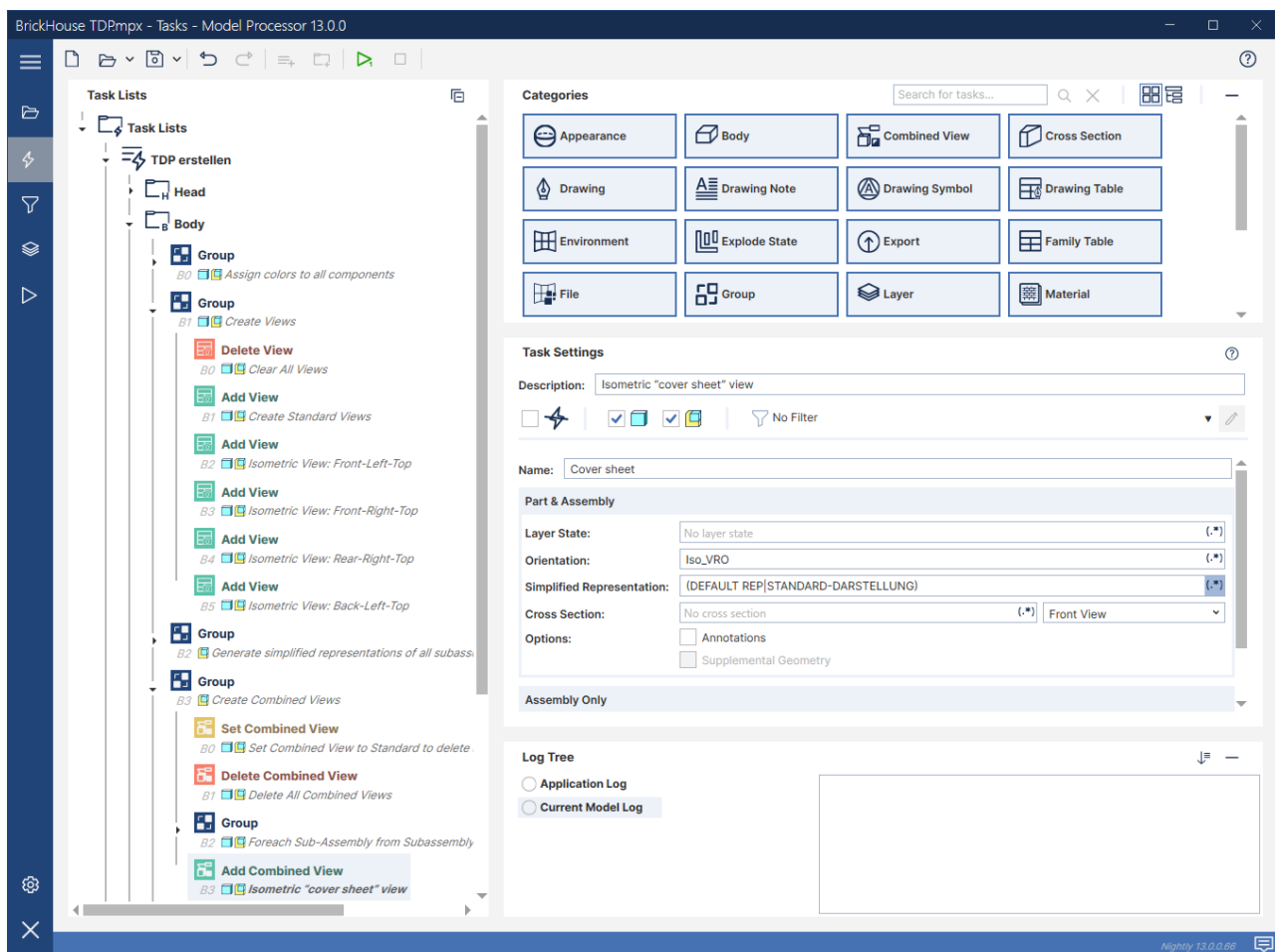
GENIUS TOOLS Model Processor has been revised and is now available with improved user guidance, diverse filters, and numerous additional functions.

II. GENIUS TOOLS Model Processor Report

With GENIUS TOOLS Model Processor Report, you can analyze your model data and generate reports. It is the basic component of the Model Processor products.

The following functions are available:

- Generate reports on model data, e.g., start objects used, parameters, and material definitions, find double file names
- Checking the entire database, e.g., for regeneration and accessibility
- Creating an MPX file
- Batch mode: Batch processing for automatically loading models and writing model information to CSV files
- Creating and modifying task lists, see [Comparing tasks](#)
- Model Processor Report finds and revises all dependent models for a current model
- Creation and saving of individual new models to which the corresponding tasks are applied





1. Tasks

Tasks are divided into categories. The following tasks are available to you:

Appearance

Clear Appearance

Set Appearance from RGB

Body

Delete Body

Show/Hide Body

Rename Body

Combined View

Add Combined View

Edit Default Combined View

Delete Combined View

Set Combined View

Edit Combined View

Cross Section

Add Cross Section

Set Cross Section

Delete Cross Section

Update all Cross Sections

Drawing

Edit Drawing Note from Dictionary

Replace View Model Display

Remove All Annotations

Set Current Drawing Model

Remove Unused Drawing Models

Set Current Sheet Scale

Replace Drawing Format

Show Drawing Format

Replace Drawing Model

Show Unbend Features on Views

Drawing Note

Add Note

Edit Model Notes from File

Delete Note

Move Symbol

Drawing Symbol

Add Symbol

Create QR Code Symbol

Change Symbol Group Variant

Delete Symbol

**Drawing Symbol**

Create Data Matrix Code Symbol

Move Note

Create PDF417 Barcode Symbol

Remove Symbol Paths

Drawing Table

Add Table

Move Table

Delete Table

Environment

Close All Open Windows

Start Mapkey

Erase Undisplayed Models

Start MS-DOS Command

Load Config from User Variables

Start Plugin Function

Repaint View

Start PowerShell Command

Run JavaScript

Start Python Script

Save Config to User Variables

Start Trail File

Set Config Options

Transform XSLT

Set Environment Variable

Write To Model Data

Set Working Directory

Write to Creo Log

Explode State

Add Explode State

Set Explode State

Delete Explode State

Toggle Explode State

Export

Export 2D-PDF

Export JPG

Export 3MF

Export Neutral

Export ACIS (SAT)

Export Parasolid

Export Creo View

Export STEP

Export DWG

Export STL

Export DXF

Export TIFF

Export Feature Tree

Export U3D-PDF

Export IGES

**Family Table**

Delete Family Table Instances	Unlock All Instances
-------------------------------	----------------------

Split up Family Table	Verify Family Table
-----------------------	---------------------

File

Copy File	Rename File
-----------	-------------

Delete File	Write File
-------------	------------

Move File

Group

Group	While Loop
-------	------------

Layer

Add Layer State	Rename Layers
-----------------	---------------

Add Layers	Set Layer State
------------	-----------------

Delete Layer State	Set Layer Status
--------------------	------------------

Delete Layers	Update Current Layer State
---------------	----------------------------

Group Layers

Material

Add Material	Edit Material from File
--------------	-------------------------

Add Material Parameter	Edit Material Parameter
------------------------	-------------------------

Delete Material	Replace Material
-----------------	------------------

Model

Back up Model	Move Feature to Footer
---------------	------------------------

Cancel Feature Insert Position	Regenerate Model
--------------------------------	------------------

Compute Mass	Remove Features
--------------	-----------------

Copy Model	Rename Feature
------------	----------------

Create Feature	Rename Model
----------------	--------------

Create DM Dot Matrix	Replace Model
----------------------	---------------

Create QR Dot Matrix	Rescale Component Positions
----------------------	-----------------------------

**Model**

Edit Common Name	Save Model
Edit Dimensions from Dictionary	Set Feature Insert Position
Edit Dimensions from File	Set Style
Embed Model	Start ModelCHECK
Load Tolerance Table	Suppress Features
Move Feature from Footer	

Model Properties

Set Accuracy	Set Tolerance
Set All Dimension Bounds	Set Unit System
Set Model Options (DTL)	

Model Processor

Pause	Set User Variable from Dictionary
Request User Input	Set User Variable from File
Request Variable from File Chooser	Set User Variable from Model Data
Reset Error State	Set User Variable from URL
Set Global User Variable	Write to ModelProcessor Log
Set User Variable	

Parameter

Add Associative Parameter to Flexible Dimension	Edit Parameter
Add Feature Parameter	Edit Parameter from Dictionary
Add Parameter	Edit Parameter from Table Cell
Change All Designation Flags	Edit Parameters from File
Delete Feature Parameter	Rename Feature Parameter
Delete Parameters	Rename Parameter
Edit Drawing Parameter from Model	Set Access State of Parameter
Edit Feature Parameter	

**Pro/PROGRAM**

Delete Pro/PROGRAM Input Lines

Delete Pro/PROGRAM Lines

Relation

Add Feature Relations

Edit Feature Relations

Add Model Relations

Edit Model Relations

Delete Feature Relations

Set Relations Unit Sensitive

Delete Model Relations

Report

List Report Definition

Report Features

Report Annotations

Report File Data

Report BOM Balloons

Report Geometry Properties

Report Combined Views

Report Layers

Report Definition

Report Materials

Report Dependencies

Report Model Data

Report Dimensions

Report Parameter Values

Report Drawing Data

Report Pro/PROGRAM

Report Drawing Formats

Report Relations

Report Drawing Tables

Report Universal

Report Family Table

Write Report

Report Features Positons

Simplified Representation

Create Simplified Representation

Rename Simplified Representation

Delete Simplified Representation

Set Simplified Representation

Edit Simplified Representation

View

Add View

Rename View

Delete View

Set View

**Windchill PDM**

Add File to Workspace	Remove File from Workspace
Check In Model	Set Server Active
Check Out Model	Undo Checkout
Clear Workspace	

2. Filter

Filters can be applied to all tasks to determine whether a task is executed. The following filters are available:

Combined View

Combined View Exists	Name of the Current Combined View
----------------------	-----------------------------------

Cross Section

Cross Section Exists

Drawing

Current Drawing Model	Formats on Sheets
Current Sheet Size	Is Multi Model Drawing
Dimension Text Exists in Drawing	Symbol Exists in Drawing
Format Name	Symbol Exists on Drawing

**Environment**

Creo Version	File Exists
DTL Option	Modell Exists
Environment Variable	

Explode State

Assembly is Exploded	Explode State Exists
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Family Table

Instance Exists	Solid is Instance
Solid is Generic	Ungenerated Instance Exists

Group

"And" Filter Group	"Or" Filter Group
--------------------	-------------------

Layer

Layer Exists	Layer has Status
Layer has Items	Layer State Exists

Material

Current Material Name

Model

Dimension Tolerance	Model is Modified
Feature Exists	Model is PDM Object
File Name	Model is Regeneratable
File Path	Model Subtype
Geometric Checks Exists	Part is Skeleton Model
Is Insert Mode Active	Table on Drawing
Model has Circular References	Unit System
Model is Embedded	

**Model Properties**

Solid Accuracy

Solid has Tolerance

Parameter

Active Model Parameter Value

Parameter is Designated

Double Defined Parameters

Parameter Type

Material Parameter Value

Parameter Value

Parameter Exists

Relation

Relation Exists

Simplified Representation

Simplified Representation Exists

Style State

Style State Exists

Utility

An Error Occured

Linked Filter

Expression

User Variable

View

Current View Name

View Exists

III. GENIUS TOOLS Model Processor Rework

GENIUS TOOLS Model Processor Rework extends the functionality of GENIUS TOOLS Model Processor Report: You can revise and clean up all your model data, e.g., for migrations and update projects or when changing the parameter or layer concept. In order to automate changes to models using batch processing (batch mode), you need Model Processor Rework.

All functions of GENIUS TOOLS Model Processor Report are available as well as the following additional functions:

- Batch mode with model data save function: Batch processing for revising and cleaning up the entire database
- Saving modified models
- Creating and saving new models in batch mode to which the corresponding tasks are applied
- Processing of a database from a PDM system (importing a generated file name list) or from the hard disk
- Merging of Creo databases

GENIUS TOOLS Model Processor Rework includes additional tasks that enable you to save modified models within batch processing:

Model

Save Model

Environment

Run JavaScript
Start Mapkey

Start MS-DOS Command
Start Trail File

Start Powershell Command
Start Python Script

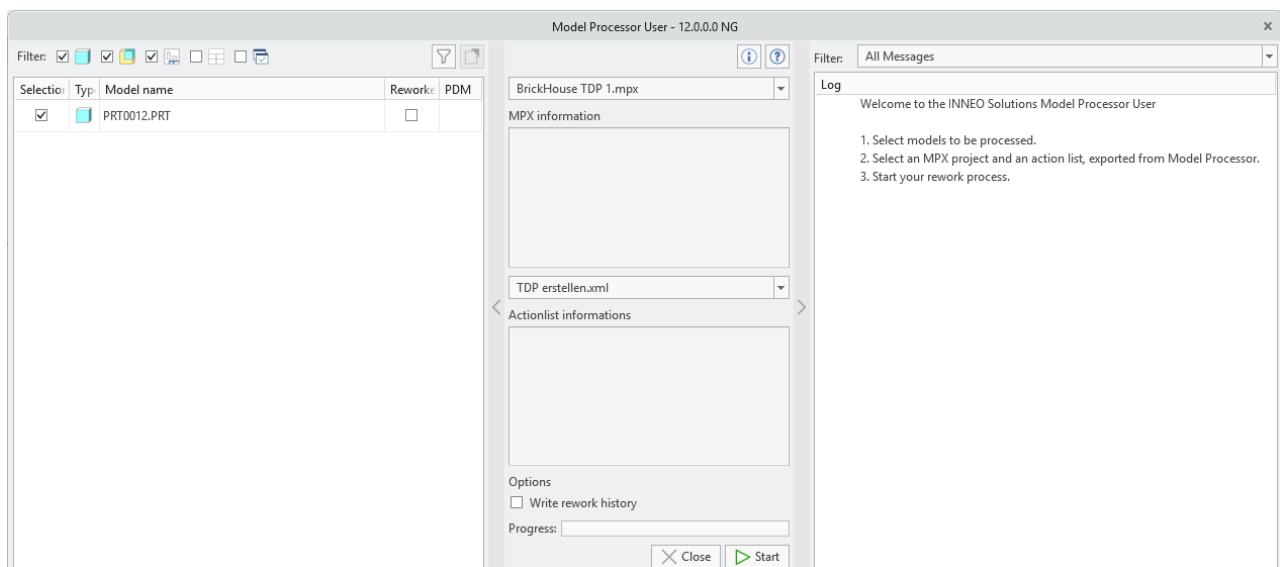
IV. GENIUS TOOLS Model Processor User

CAD users can use GENIUS TOOLS Model Processor User to execute task lists for data processing in Creo Parametric, e.g., to adapt catalog parts to company standards. This license gives you access to the defined task lists created with GENIUS TOOLS Model Processor Rework or Report.

Model data can be edited in a Creo Parametric session as follows:

- Select a predefined task list and apply it to models. (A command can be added to the ribbon for task action list.)
- Trigger mode: Automatically executes task lists when Creo models are loaded or saved.

Task lists cannot be created or modified with GENIUS TOOLS Model Processor User. This serves quality assurance purposes and has the advantage that different versions of an task list cannot circulate within a department.



Advantages:

- More user-friendly interface and less complexity than Model Processor Rework and Report
- Revision of models that are undergoing change
- Model Processor User finds and revises all dependent models for a current model
- A wide variety of special functions specified by the administrator can be executed in the normal modeling or engineering process, e.g., updating the model settings to the company standard or a combined use of changes to Config.pro settings and "intelligent map keys" (standard map keys with variables).



V. GENIUS TOOLS Model Processor Worker Extension

While previous versions of the Model Processor were designed for engineers, the Model Processor Worker Extension offers a way for the whole company to benefit from automation. The Model Processor Worker Extension operates within the Windchill Visualization Process (also known as Windchill Worker). This is where task lists are processed on your Creo Parametric models. You can also export these models in additional file formats, such as STEP files, PDF files, and/or images rendered with KeyShot.

This enables you to link the generated data to the original object in Windchill while preserving your original model.

The following functions are available:

- Creating and modifying task lists
- Generating additional file formats from models, e.g., STEP files, PDF files, or images rendered with KeyShot



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INNEO Solutions GmbH
IT-Campus 1
73479 Ellwangen
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