english

EngGraph | Renamer | v1.0

USER MANUAL

Developed by engineers for engineers.

ENGGRAPH
engineering

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We reserve our right to modifications without prior notice!

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1 Installation

1.1 System Requirements

- CATIA V5 above Release 16
- Microsoft Net Framework 2.0
- Microsoft Windows XP, Vista o. Windows 7

We would like to indicate that the actual and present version of *EngGraph Renamer* can only access one CATIA V5 CAD System entity. That means, only one CATIA V5 entity is permitted to be open, in order to start *EngGraph Renamer*.

1.2 Local Installation

The packed file provided by *EngGraph Engineering GmbH* can be unpacked in an optional directory. The application runs through the file *EngGraphRenamer.exe*. The user shall manually create a link or a short-cut on the Desktop or in the Start Menu.
The local installation does not imply Administrator Rights if the optional directory to be unpacked is not located in a locked file system.

1.3 Network Installation

Network Installation differs from Local Installation only by administrator rights, required for server or network access. For more info, please see the chapter 1.2, *Local Installation*.

1.4 Uninstall

EngGraph Renamer will not be placed into the file system by means of an installation program, this indicates that the directory in which the application files have been unpacked, can be deleted. The user shall manually delete links or short-cuts on the Desktop or in the Start Menu.

2 License

2.1 License Determination

Prior to receiving a valid license from *EngGraph Engineering GmbH*, the network interface card's "MAC-Address" shall be readout. This happens according to the following instruction.

Start Menu ⟶ Command ⟶ `cmd`

The string "cmd" is the command to be typed. As a result, the Windows prompt opens. To access the prompt, the *Start Menu* tools can also be used. Subsequently, the following string shall be typed into the prompt and confirmed with *Enter*.

```
ipconfig /all
```

All available network interface cards and their types of arrays will be listed. The user shall search only for a single entry, similar to figure 2.1.

Figure 2.1: *MAC-Address* Readout

If more network interface cards are available, the user can easily select one. The user shall write down the *Physical Address*, that is the *MAC-Address*, and request the license.

2.2 Start and Finalize Licensing

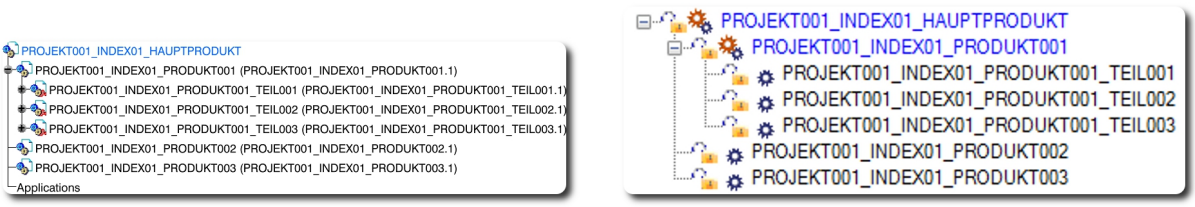
EngGraph Engineering GmbH will send you the license file after receiving the *MAC-Address*. The file has to be copied into the application directory.

3 Enggraph Renamer - Clear and Brief

CATIA V5 System is a powerful tool, created to help users to find great solutions. Just due to the complexity of such a system, the effectiveness of each module respectively each integrated tool cannot be guaranteed. Designing, administration and naming processes of the part structure cannot be guaranteed either. In CATIA V5 system, problems can occur at later part number changes or at part nomenclature completions. It can also be said that CATIA V5 tree structure administration, is rather expensive and costly in terms of time.
Enggraph Renamer supports the user exactly in this matter. Known as being applicable in an easy manner, the software helps users in customising complex tree structures so efficiently and rapidly as possible. *Enggraph Renamer* can rename more parts collectively, as well as part sections, in just a few seconds.

3.1 Quick Guide - Step-by-Step Example

After successful installation and licensing of *Enggraph Renamer*, start CATIA V5 and load the `CATProduct` to be edited, the so called product structure. The Renamer immediately starts analysing the tree structure, and in a few seconds the structure is being displayed in the list field. The figures represented below, can be displayed in a CATIA V5 window as well in the Renamer window of another user. As shown by the figure 3.1, a product structure named



(a) CATIA V5 - Tree structure (b) Tree structure in Renamer

Figure 3.1: Tree Structure Representation in CATIA V5 and Renamer

`PROJEKT001_INDEX01_HAUPTPRODUKT`

has been loaded. Furthermore it is visible that all names to

```
...INDEX01...
```

are identical. All names or part numbers, contain the following string.

```
PROJEKT001_INDEX01...
```

The *Save Management* Option Field specifies the file directory in which the open files are located. After loading the structure, Renamer selects basically the directory that includes the loaded product while placing a check-mark. The main product, called also source product, is saved in the source/root directory, identified by Renamer as the *Root Directory*.

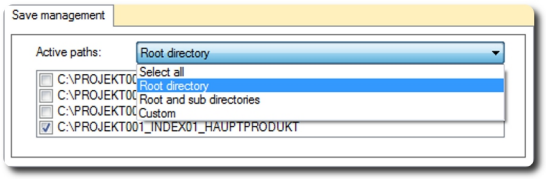


Figure 3.2: *Save Management* Option Field

Select from the Drop-Down-Menu of the *Memory Management* Option Field the option

```
Root and Subdirectories
```

Now a checkmark is being placed before each directory, subordinated to the *Root Directory*. If there are files or elements/units in the structure, located in directories that are not under the subordination of the *Root Directory*, than you can place checkmarks next to the supplementary memory locations or you can select the option

```
Select All
```

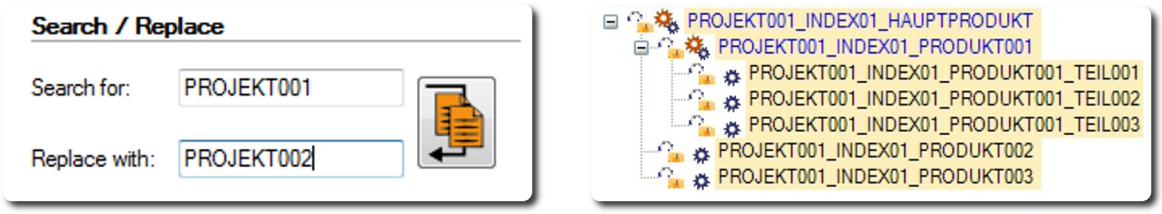
Renamer receives only after this step the user's permission to save in future the parts to be renamed in the respective directory.
The task is to rename only a subdomain of all part numbers and to assimilate the Instance Names as well as the Directory Names. The subdomain to be modified,

```
PROJEKT001...
```

shall be renamed into

```
PROJEKT002...
```

For this purpose you have two possibilities.
Type the required subdomain into the input field *Search for*, as presented in figure 3.3 on the next page. All part numbers of Renamer's list field, that contain those entered strings, will



(a) Search / Replace (b) Selected part numbers in Renamer

Figure 3.3: Part Selection in Renamer

instantly be highlighted.

Now type the string into *Replace with* input field or press the *Copy-Button* right beside the input fields to transmit the string for subsequent modification. After pressing the *Start-Button* the part numbers will be renamed within seconds, however, for the time being, only in the CATIA V5 structure and not at file level.

The second possibility of selecting a part number out of the Renamer's list field is a left mouse button click. The selected part number will immediately be displayed in the input field *Search for*. In this way you can reduce typing. Remove redundant characters and continue as already described.

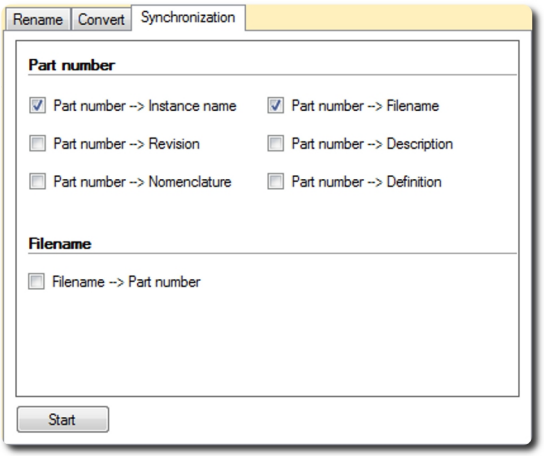


Figure 3.4: *Synchronising* Tab

The *Synchronising* Tab provides last setups for completing the procedure. As shown figure 3.4, the appropriate checkmarks can already be placed. Finally press the *Start*-Button in order to assimilate the *Instance Names* with the part numbers and to save part numbers as file names. After the work is done, it is worthwhile to verify the directory, to make sure that Renamer has renamed and saved the files as requested.

If you want to rename only a part number, make a click as described above on the respective string in the list field, so that this shall be copied into the input field *Search for*, that is under

subordination of the *Rename* tab. In this example the string

```
...INDEX01...
```

part number

```
PROJEKT002_INDEX01_PRODUKT001_TEIL003
```

shall be renamed into `...INDEX02...`

Figure 3.5: Renaming a Single Component

Copy the string by the *Copy Button*, described above, into the input field *Replace with*, modify the string, like presented in figure 3.5, and close the process with the *Start* Button. From here on, the process repeats under the *Synchronisation* tab in order to match instance names and file names.

4 Enggraph Renamer's Input Mask

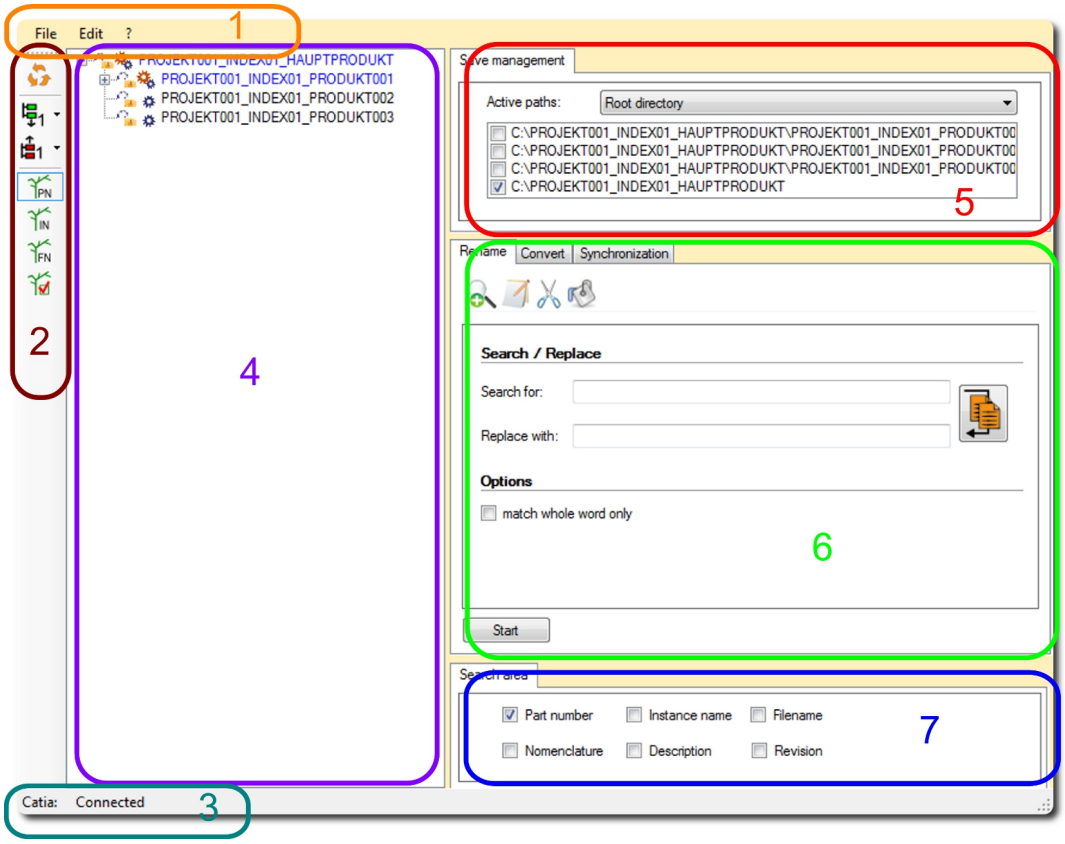


Figure 4.1: Renamer's Input Mask

The Enggraph Renamer consists of seven main components, which in turn unify different functional elements. The following chapters describe step by step the Enggraph Renamer's range of function. The individual components and its functions are described at length, in sequence, according to figure 4.1.

4.1 Menu Bar

You have three Pop-Up-Menu options to choose from, "**File**", "**Edit**" and "?". Fortunately the menu bar is so simple as possible and the available functions can be found in the operation

area and in the input mask.

- The menu option "**File**" contains the following two freely selectable functions, "**Connect to Catia**" and "**Exit**". The first one is described in chapter 4.1.1.
- The menu option "**Edit**" includes the freely selectable function "**Setup**". This function is described in chapter 5 on page 26.
- The menu option "?" includes the help functions.

4.1.1 Connect to Catia

Renamer connects automatically to CATIA V5 if the CAD system had already been launched and if a structure has already been loaded before launching Renamer. Therefore, after launching, Renamer verifies if a CATIA V5 entity has been started and analizes if a valid structure is available.
If there has not been launched any CATIA V5 entity, Renamer will generate a message. If there has been launched only one CATIA V5 entity, without loading a valid structure, the input mask will open and Renamer will not be accessible for normal use. After loading a structure in CAD-System, Renamer shall be notified, because CATIA V5 window modifications are not being automatically verified. With the function "**Connect to Catia**", subordinated to the menu item "**File**", Renamer initiates another verification, and the user can read in the structure to be edited.
If a finished and edited structure has been closed and a new structure to be edited has been loaded, Renamer shall be notified. Even in this case, Renamer does not initiate an automatic tests of state changes in the CATIA V5 window.

4.2 Visualisation Bar

The functions of the visualisation Bar allow you to adjust the structure's layout to the list field. It is often important to see if the file name corresponds with the part number or if the instance names are right. Only this bar allows you to quickly verify the structure's contentual status. We would like to point out that the visualisation bar does not allow you to modify the structure. The visualisation bar solely serves the purpose of adjusting the layout in the Enggraph Renamer's list field.

The activation of this button has the same effect like the function "**Connect to Catia**", as described in chapter 4.1.1 on the previous page. Therefore we do not offer here more explanation. This button has been additionally added to the input mask due to efficiency reasons, and allows the user to refresh the view easily and instantly.

Both CATIA V5 and Renamer allow at the push of a button to expand the tree structure's levels in the list. The arrow pointing downwards indicates yet other functions of that button. The displayed button only expands the tree structure one level, trying to indicate "1". The two hidden functions, not illustrated here, can let the tree structure expand once two levels and once all levels.

Here, the tree structure expansion principle will be inverted. Due to a strongly expanding tree structure, the list field can quickly become unclear. If, in addition, the elements of the lowermost level are not important for the structure, with this button and its subordinated functions the user can limit the tree structure to the required levels that shall be represented.

After launching Renamer, this function will be activated by default. This button enables displaying of the unit's part numbers in the list field.

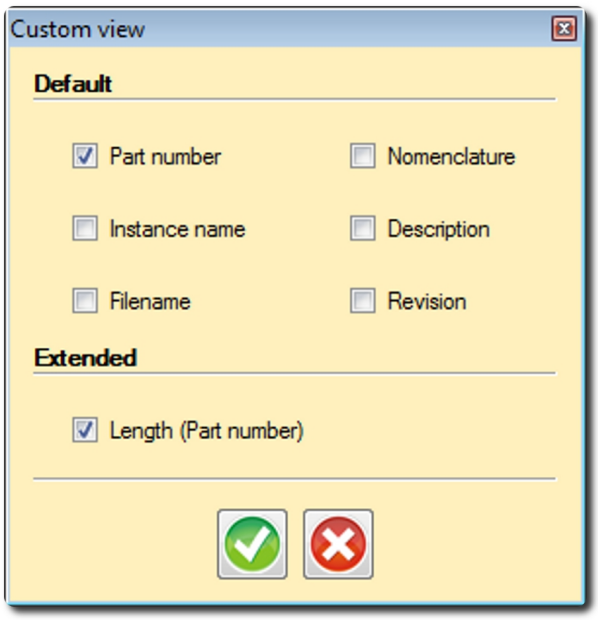
If you would like to verify the units instance names in the list field, push that button and the instance names only will be displayed.

Like the entity names, the file names of all units can also be displayed in the list field. However, only the file names will be listed.

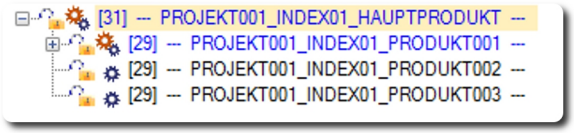
It is often reasonable to display more information at the same time, like part number, instance name or character length, in order to accelerate visual inspection. For this reason, you can make use of the customisation option. For detailed description see chapter 4.2.1 on the following page.

4.2.1 Customised View

The customised view makes sure the user can view more information in the list field at the same time. In figure 4.2 the part numbers and the character lengths have already been set up. Therefore, both informations will be represented in the list filed.



(a) Customised view



(b) Character length view

Figure 4.2: Customised View

If the unit's component characteristics, including *Nomenclature*, *Description* and *Revision* have not been indicated, than Renamer shall ignore this and shall stop listing.

4.3 Status Bar

The status bar acts as a customer-friendly auxiliary display. The connection between Renamer and CATIA V5, is indicated in the status bar by the string *Connected*. However, the connection does not exist directly between Enggraph Renamer and CATIA V5, it is rather the structure that shall be loaded. If only the CAD System has been started, Renamer can be launched, however the status bar will show a "Disconnected" message.

(a) Status bar "Disconnected" (b) Status bar "Connected"

Figure 4.3: Status Bar with Two Statuses

For information regarding how to establish a connection between CATIA V5 and Enggraph Renamer, see chapter 4.1.1 on page 13.

4.4 List Field

A great advantage of Enggraph Renamer is the speed of adjusting to the tree structures. This is due to the fact that many actions can be carried out without being directly saved to the harddisk. In general it is known that saving shall be the last step of a structure, because it requires most of the time. Though the user has the possibility to save the files after each step, which in fact, is a very time-consuming action. Another advantage is the fact that it is not necessary to jump back and forth between the structure tree in CAD system and a macro or a program. The list field replaces the listing in CATIA V5. Therefore, over the modification process the user is not forced to rifle through various windows.

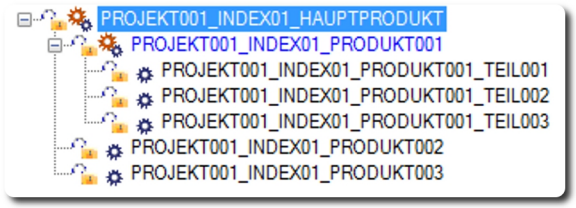


Figure 4.4: List Field

Listing of the hierarchy is carried out according to the same principle like in CATIA V5. As described in chapter 4.2 on page 13, the hierarchy can be easily expanded by means of the visualisation bar or a left mouse click on the "+" key, that illustrates the next lower level.
The figure 4.4 shows an ordinary product structure. Open lock symbols are visible before every unit. Those symbols show the user that this units are not write-protected. If in the tree structure would exist write-protected units, than Renamer would indicate closed lock symbols. Beside the "+" symbol, you can find a pinion symbol before every element, that indicates if other units can be found under this unit. The two pinions that are geared into another, red and blue, symbolise a "**CAT-Product**", with elements under subordination. The blue pinion on his own symbolises a "**CAT-Product**" with no elements under subordination, or it symbolises a "**CAT-Part**" that cannot have elements under subordination.

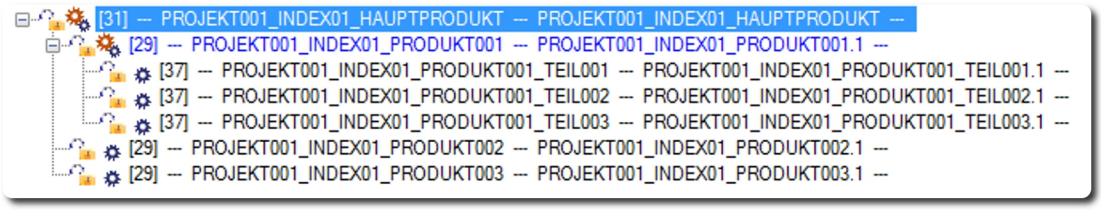


Figure 4.5: Advanced List Field

If several information has to be displayed including part number, instance name and character number, it will be displayed in a line, while being hyphenated. Figure 4.5 clarifies the manner of representation. If you want to know more about the way such supplementary information can be displayed, see chapter 4.2 on page 13.

4.5 *Save Management* Option Field

In some cases, a complete product structure can be found in a single data-file. Often, a product structure is divided into several components, that, in turn, can be found in the data files specially created for this purpose. Enggraph Renamer detects the data structure at explorer-level and displays it in the Save Management. Furthermore, the user can select the data file in which writing is permitted or not permitted. Overwriting data might put the user at risk. The Save Management provides a system, that protects against accidental overwriting.

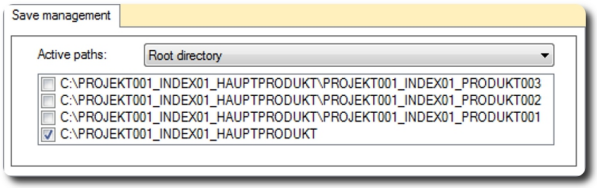


Figure 4.6: Save Management

While loading a structure in Renamer, the superior node and it's subordinated nodes will be recognised. The superior node or the main-product will be defined and treated as source-data, to be found in the source directory. Consequently, also the *Root-Directory* will be preselected by default, that allows writing into the source directory.
The Pop-Up-Menu with the inscription *Root-Directory*, figure 4.6, provides several preselections, sufficient in most cases to configure the Save Management efficiently. Certainly it is possible to manually select each directory, if the user wants to write only in some specific directories.

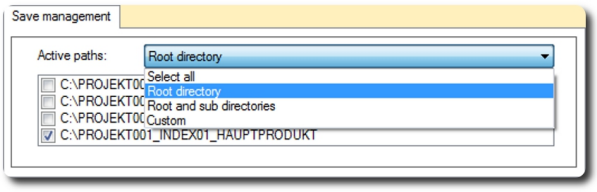


Figure 4.7: Save Management Options

Select all This option will select all directories for rewriting. In fact, only data will be rewritten that has been modified.

Root directory This option will select the directory in which the main-product respectively the source file have been archived.

Root and sub directories If the data structure consists of hierarchically stored directories, such as a CATIA V5 product structure, than this option will allow the selection of all this directories at once. Directories outside of the hierarchy will be ignored.

custom This option can be selected only indirectly, because a user-defined setting can be accessed only if individual directories have been selected by hand.

4.6 Operation Field

At the core of Enggraph Renamer is the operation field. The user can directly influence the tree structure and can decide how the structure shall look like and when the structure shall be transmitted to the CAD System. The above described functions help to configure structures efficiently.

4.6.1 *Rename* Tab

Enggraph Renamer's Tab provides an utmost effective function that can modifiy CATIA V5 element properties. It is possible to modify strings within part numbers. The cutting and filling of part numbers is also possible.
At first, it is important to understand that the operation field and the list field (see chapter 4.4 on page 16) are permanently connected and because of this, any action in the operation field can have an impact on the list field.
Rename tab activates by default at Renamer start up. Within this tab, other functions can be found, that are represented by the following icons.

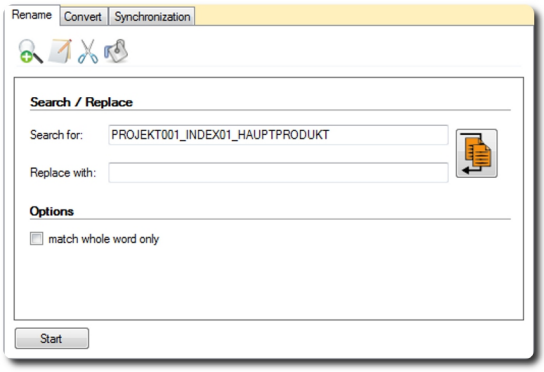


Figure 4.8: *Rename* Tab

Search and Replace This function will search for strings or parts of strings in the list field and will replace them, if required, with new strings.

Insert This function will insert rapidly specific strings into a specific location of the string.

Cut to This function will reduce too long part numbers if there are specified settings.

Fill to Contrary to "Cut to", this function will fill part numbers with specific characters, in order to reach the desired part number length.

Search and Replace

Renamer offers the user several possibilities to indicate which string shall be renamed. The user can rename the complete string of an element or a part of the string. Applied to al levels, the string that has been selected out of the list field will be highlighted in colour. If a single unit has been selected for editing, in the list filed the unit will change into light-blue colour. If several elements have been selected, they will be highlighted in yellow. The selection of a single element is very simple, because the element that shall be modified can be highlighted with a left mouse click, what causes the instant display of the string in the input field *Search for* (see figure 4.9 on the next page).

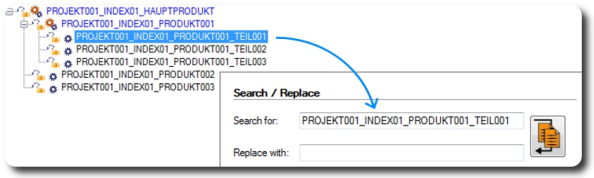


Figure 4.9: Selection in the List Field

Copy-Button This button will transfer the string from the input field *Search for* to the input field *Replace with*. By this means much typing time can be saved if only parts of a string are to be renamed.

The user has the possibility to introduce manually the new string into the input field *Replace with*. In order to rename only a single number or a particular part section, the *Copy-Button* can be used to move data into the input field *Replace with*. Finally, only the part section needs to be modified.

In order to rename several elements, which contain a certain part section in their string, the part section can be introduced into the input field *Search for*, as described in figure 4.10. Instantly all elements from the list field, which contain exactly this part section in its string,

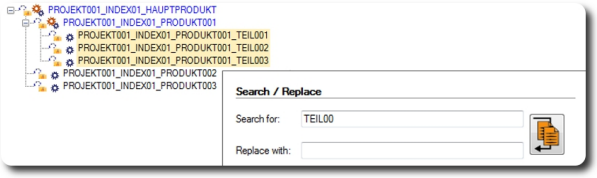


Figure 4.10: Selection of Part Sections

will be highlighted. This part section can be renamed while inserting a new string in the input field *Replace with*.

If a big structure needs to be edited, with several similar part sections in different elements, elements might be renamed unintentionally. Selecting the option *match whole word only* will

Figure 4.11: Option *match whole word only*

stop the selection of part sections. Has the checkmark been placed, the string in the input field *Search for* shall totally match with an element in the list field, in order to edit it, otherwise none of the elements will be highlighted.

Press *Start*-Button to confirm modifications. Renamer will transmit instantly the new strings to the CAD System.

Insert

Insert icon will help to integrate a specific string into each element of a structure. The string can be introduced at the desired position, at the beginning or at the end. The string will be introduced into the input field *insert*. If a number has been entered under *Position*, representing the element position within the string, than the entered string will be introduced in this position, as soon as the *Start*-Button has been pushed.

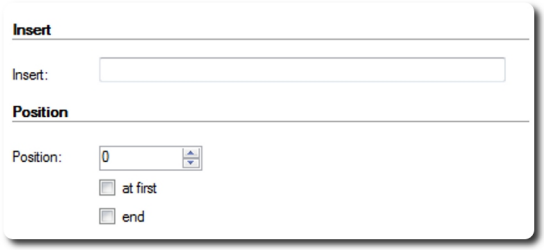


Figure 4.12: Inserting Characters or Strings

In order to insert only a string at the beginning or at the end, it is not necessary to count positions. While placing the checkmarks in the option box *at first* or *end* the selected string will be inserted accordingly.

Cut to

This option will reduce the string to the desired length or to the desired character number if the strings in the product structures are too long.

Figure 4.13: Reducing Strings

The final character number will be inserted in the input field, in the box *Cut to*. If the number "10" has been introduced, the strings will be reduced to just 10 characters. To control the

reducing process, the user can choose to start the reducing process from left, the beginning of the string, or from right, the end. Consequently, the last ten signs will remain after the reduction process if the option *at first* under the box *Cut from* has been selected before. If the option *end* has been selected, the first ten characters will be left, because shortening starts from the end.
The third option *keep elements* will avoid deleting characters at the beginning or at the end of a string. If the user introduces number "3" and wants the strings to be reduced to 20 characters, the characters of the 4th position will be deleted, so that, after the reducing process 20 characters will be left.

Fill to

The character filling principle is very much the same as the reducing principle. The only difference is, that Renamer shall be notified regarding the character to be filled. If each element of the structure should have the same length, each element can be extended with an underline "_".

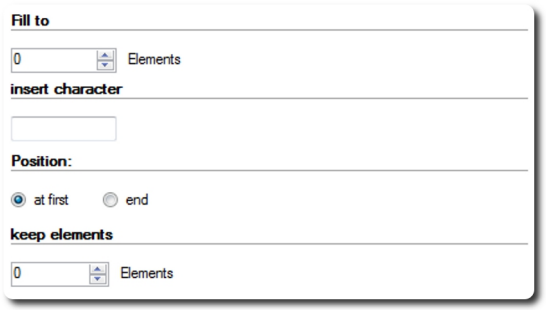


Figure 4.14: Filling Strings

4.6.2 *Convert* Tab

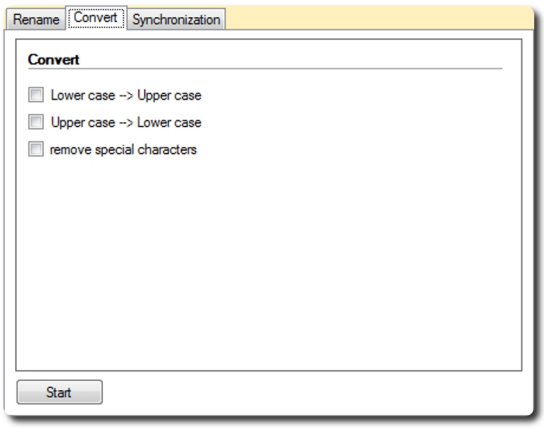


Figure 4.15: *Convert* Tab

To constantly use capital letters or small letters, the structures can be customised afterwards. Furthermore special characters can be removed out of the structure without problem. It is to be considered that Renamer follows the same conventions like the DOS console of the operating system. Special characters are excluded, that cannot be used in a DOS file name.

4.6.3 *Synchronisation* Tab

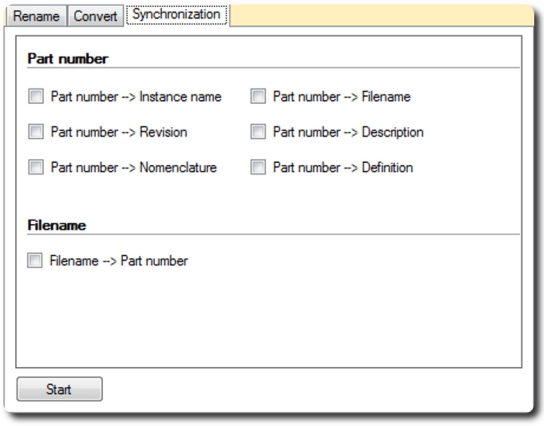


Figure 4.16: *Synchronisation* Tab

This tab of the operation field will introduce the last step for CATIA V5 structure preparation, namely the saving to harddisk. To modify only the tree structure within the CATIA V5 window, without renaming the file names on explorer level, close Renamer and save the structure to the hard disk by CATIA V5 save management.
To save the structure place the checkmark to

`Part Number ⟶ Filename`

before pushing the *Start*-Button. This selection will have the following effect in Renamer,

> ... take the part names from the tree structure of CATIA V5 window and overwrite the file name with the file name of the tree structure.

According to this model, other important settings can be done, like synchronisation of the *Instance*-names or the *Nomenclature*.
Renamer will always take the part number respectively the part name as source information. Conversely, Renamer allows to use the files themselves as source information, in order to synchronise them with the part numbers in the tree structure. For this, a checkmark has to be placed in the choice box,

`Filename ⟶ Part Number`

To maintain the effectiveness, of course, several choice boxes can be set, thereafter the synchronisation shall be started with the *Start*-Button.

4.7 *Search Area* Option Field

In general the user shall adjust the tree structure by means of the *Rename* tab and initiate the synchronisation with the *Synchronise* tab. In that matter, the user is required to work structured, in order to achieve a comprehensible result.
Though, in some cases the user should edit such a small data volume that he might not run the risk of losing the overview. The component *Search area* is a possibility of letting the *Synchronisation* tab skip ahead. Therefore, this is activated for use, as long as the user has accessed *Rename* and *Convert* tabs.

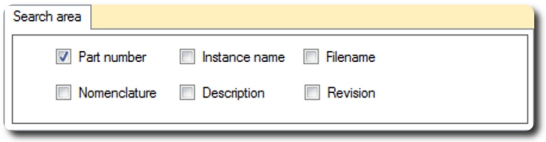


Figure 4.17: Search Area

If a single part number shall be renamed and the instance-name and the data-name shall be synchronised, the adequate checkmarks shall be placed in the boxes

`Part Number`

`Instancename`

```
Filename
```

and the process shall be closed with the *Start*-Button. By this means the long way through the *Synchronisation* tab is not necessary. Do not forget that saving data on the hard disk is a very time-consuming process, so that in case of bigger tree structure reorganisations, do not access the search area, in order to maintain the highest efficiency level offered by Renamer.

5 Settings

Like in case of several Software-Packages, the settings in Renamer are not being lost after closing applications. Figure 5.1 clarifies that settings related to writing with small letters or capital letters, as well as data backup options can be activated.

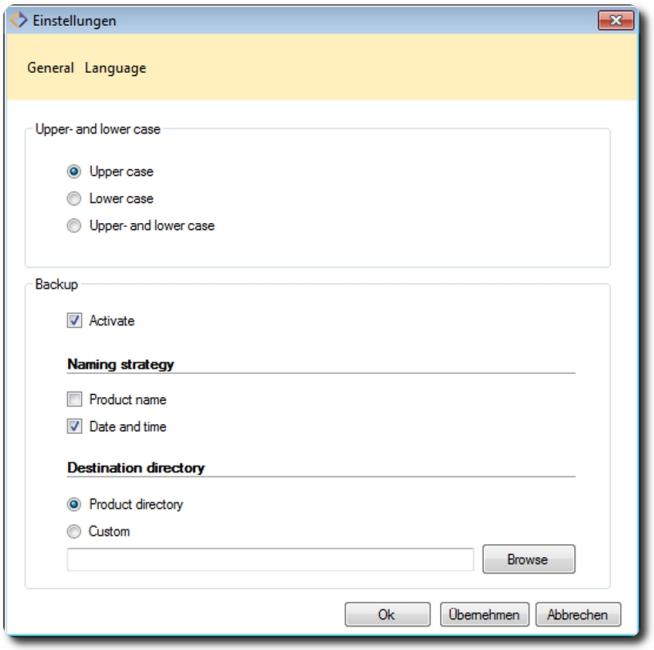


Figure 5.1: Window for Settings

5.1 Writing with Small or Capital Letters

Although options in the *Convert* tab allow the user to determine capital or small letters, setting repeatedly the use of capital or small letters might be inconvenient. For instance, the continuous use of only capital letters, can be permanently set here. Also to be set here, is the use of both types of spellings at once.

5.2 Backup by Renaming and Saving

In general, the user should never trust a software that scrolls, deletes etc. data on explorer level. Because there are data in the system used by more than a single program, it shall be granted that minimum a single backup copy of the file or directory has been made. Furthermore, so called useless CAD data might be subsequently needed.
In consideration of the previous editions, Renamer copies by default the original file into a backup file, after every saving action. The backup function can be deactivated, but this action shall be well-considered. Using specific settings, the user can control in some degree the backup process, as shown in the figure 5.1 on the preceding page.
As showed before, the backup function can be deactivated. The user can activate or deactivate the option

`Activate`

Under *Naming Strategy* it is possible to influence, to some extent, the backup folder's renaming process. Two options are available to be activated individually or simultaneously.

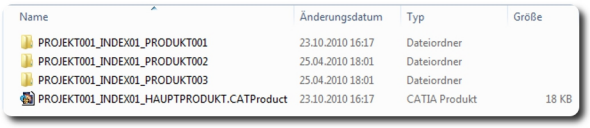


Figure 5.2: Data Structure before Backup

The initial structure shown in figure 5.2 shall be used for explanation purpose. If the option

`Product name`

has been activated, Renamer will create a backup folder with the same name like the source product from the product structure. In the figure 5.3 you can see that a new folder has been created. This folder holds, as we mentioned before, the name of the source product.

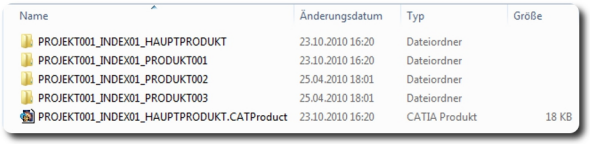


Figure 5.3: Backup by the Option *Product Structure*

While activating the option

`Date and time`

a backup folder will be created, and date and time will be included in the folder name. In this way, two folders can not have the same name.

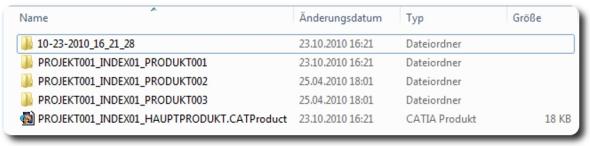


Figure 5.4: Backup by the Option *Date and Time*

Combining both options, by activating them at the same time, a backup folder with a significant name will be created. The date will be inserted in the beginning, followed by the time and the name of the source product. If such backup folders are being archived for a longer time, they can be referred to even at a later date.

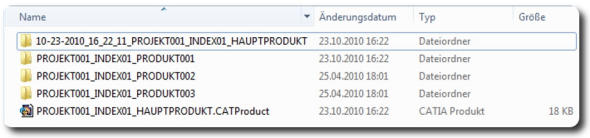


Figure 5.5: Backup by Combining both Options

Under *Destination directory* the user can set the location where the backup folder shall be filed. If the option *Product Directory* has been activated, the backup folder can be found beneath the source structure, as it is shown in figure 5.3 on the previous page, 5.4 and 5.5.
If the option *Custom* has been activated, a directory can be indicated where the backup shall be filed. The advantage in this situation is that the source structure will not get unnecessarily spamed or several backups will be filed on specially provided servers.