

swProp2
version 1.1
November 13, 2003

USER MANUAL

a. What is swProp2?

swProp2 is a SolidWorks Custom Properties editor implemented as an Add-In dll. All aspects of the editor including *Custom Property Names* are fully customizable through an initialization file. It is possible to enter different *Custom Property Values* for each configuration separately if so desired.

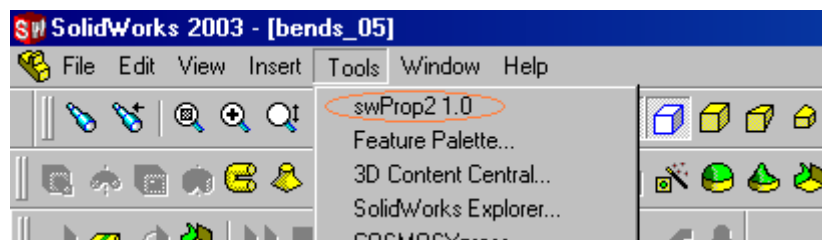
These custom properties may be incorporated into SolidWorks Drawing documents by entering the corresponding Custom Property Names into drawings, or into the Bill-of-Materials bringing with it the advantages of standardization of documentation across several users and auto-updation of filled-in information.

b. Installation

Copy the following files into any convenient directory:

swProp2.dll
swProp2.ini

In SolidWorks browse and “open” the swProp2.dll file as you would any other SolidWorks document. The Add-In will be installed and all required entries to the Microsoft Windows registry will be made automatically on exiting SolidWorks. The menu item for invoking <swProp2> will appear at the top of the Tools menu for either a Part or Assembly document.



c. Disabling the Add-In

You can at any time disable the Add-In through the <Tools->Add-Ins...> menu in SolidWorks

d. Uninstalling the Add-In

Delete all the add-in files from the directory. SolidWorks will complain the *first* time it is loaded after deletion of the files and disable loading of the add-in for any future sessions.

e. Compatibility

swProp2 should work with SolidWorks 2003 and above without problems.

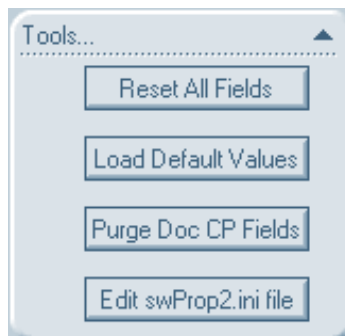
f. Operation

Invoking swProp2 from the Tools menu will display the Property Manager page constructed according to the description given in the <swProp2.ini> file.

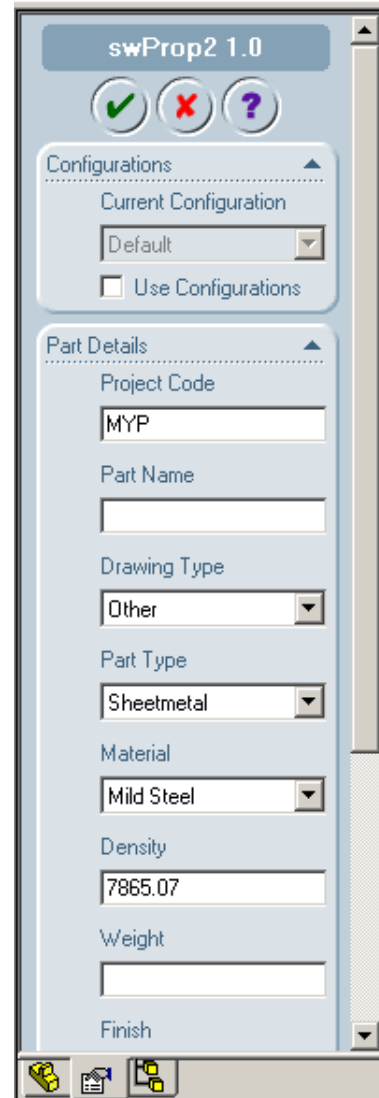
You may enter the custom property values in the various fields for the document itself or for each configuration separately by selecting the “Use Configurations” check box. In the first case, the values are set for the *Custom* properties and in the second case, separate values may be entered for *Configuration Specific* custom properties.

The Custom Properties may be viewed and/ or manually edited from the SolidWorks <File->Properties...> menu.

The last group in the properties manager window is the “Tools...” group.



The menu buttons are self-explanatory. The “Purge Doc CP Fields” removes all Custom Property Names and Values from the document setup with swProp2.



g. Customizing the swProp2.ini file

The <swProp2.ini> file has its own grammar and syntax that controls all aspects of swProp2’s behavior. Please see APPENDIX - I for the description of the ini file and its customization. The file can be edited with any text editor like the Windows NOTEPAD.

h. Including Custom Property Fields into Drawing Documents

The *Custom Property Values* may be incorporated in drawing documents (either the drawing sheet itself or the drawing sheet format) using the corresponding *Custom Property Names*. It is more efficient to create a drawing template with these entries at the appropriate locations. For details, please see the SolidWorks help on how to do this.

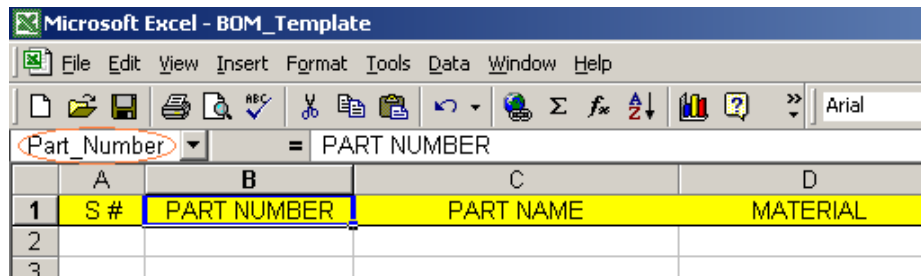
The actual value displayed in the drawing document depends on the following factors:

- a. The active view to which the annotation (field code) is “attached”
- b. The active configuration of the model in that view

Please see the SolidWorks help for more details on these aspects. I couldn't be clearer or more confusing than the SolidWorks documentation. You may have to do a “rebuild” to update any modified data.

i. Including Custom Property Fields in Bill-of-Materials

You can easily incorporate these custom properties into the Bill-of-Materials by “naming” the topmost cell of the appropriate column with the *Custom Property Name* in the Bill-of-Materials template.



Please see the Microsoft Excel help for details on how to do this. Remember that certain columns in the standard Bill-of-Materials template are mandatory for the whole thing to work in SolidWorks. Just hide the fields you don't want in the excel sheet and you'll be fine.

j. Additional Notes

- a. swProp2 will work only on Assembly and Part documents and not on drawing documents.
- b. swProp2 reads-in various field names, values and commands from <swProp2.ini> file. This file is required to be located in the same directory as the swProp2 executable. swProp.ini is a text file and may be edited to suit your purposes.
- c. Note that SolidWorks will copy any existing custom properties in a configuration into a newly created (dependant) configuration.
- d. As of version 1.1, no error checking of entered values are done

k. Limitations of swProp2

swProp2 does not (yet) have any scheme of storing revision history in SW documents. This may be a severe limitation.

I. License Agreement

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5. All copyrights and trademarks are the property of their respective owners.
6. If you are happy with swProp2 and find it useful and would like to send me money, you can contact me at GreenHex@yahoo.com. Oh well, it never hurts to ask!
7. You may wish to contact me for any suggestions/ modifications to swProp2 at GreenHex@yahoo.com.

APPENDIX – I

Customizing the swProp2.ini file

The <swProp2.ini> file must be located in the same directory as the <swProp2.dll> file. It controls all aspects of the behavior of swProp2 within the context of its operation in SolidWorks. You only need to know these details till I write a ini file editor, which, hopefully will be soon. The following features of swProp2 are customizable:

- Custom Property Fields
- Number of “groups” of Custom Properties
- Custom Property value lists, if any
- Default values for the fields, if any
- Incorporation of a few “pre-defined” fields into Custom Properties. (pre-defined fields, like “file name” or “density”)
- Description of “composite” fields. (Composite fields in swProp2 are any combination of other fields and text strings)
- Saving field values for future use in multiple documents if required.
- Issuing commands to control swProp2 behavior.

Please remember the following when editing the swProp2.ini file:

- The ini file *is* case sensitive
- White spaces (like tab and space characters) may affect the interpretation of the ini file though I have incorporated several checks to minimize any misinterpretation.
- Lines beginning with the “#” character are considered as comments and ignored. On other lines, characters after the “#” character are ignored.
- It is important to maintain the “tree” structure of the ini file. Items that are referred must be physically located before the items that refer them.

1. The <swProp2.ini> file

The swProp2.ini file *must* contain the following minimum descriptions:

- A [groups] section consisting of at least one *group*
- A *group* containing at least one *field*

The following description will result in the window as shown on the right:

```
[Groups]          # Mandatory section
Part Details      # Group Name      <--+
                  #                  |
[Part Details]    # Group Heading <--+
Part Name         # Field Name
```

Note that the “Group Heading” (Part Details) is the same as the “Group Name” in the [Groups] section.



An example description and the corresponding swProp2 editor display are shown. It contains two groups, with the first group containing seven items and the second group containing two items.

```
[Groups]
Part Details      # <-----+
Vendor Details    # <--+  |
                  #      | |
[Part Details]    # <--|---+
Project Name      #      |
Project Code      #      |
Part Name         #      |
Part Number       #      |
Material          #      |
Quantity          #      |
Designed By       #      |
                  #      |
[Vendor Details]  # <--+
Vendor Part Number
Vendor Name
```

The above may be extended to as many groups and items as you wish. The important thing is that “groups” are a means of organizing “fields.” They have no other function in swProp2.

The above is the bare minimum and any values entered in the fields can be saved into the custom properties. These may be viewed with the File-> Properties... menu in SolidWorks.

The screenshot shows the swProp2 editor interface. It has a light blue background and a scrollable area. The first group, titled 'Part Details', contains seven input fields: 'Project Name', 'Project Code', 'Part Name', 'Part Number', 'Material', 'Quantity', and 'Designed By'. The second group, titled 'Vendor Details', contains two input fields: 'Vendor Part Number' and 'Vendor Name'. Each field is represented by a text label above a white rectangular input box.

The SolidWorks Custom Property Names actually used are derived from the “Field Name” string specified in the ini file. The following rules apply:

- If there are no spaces in the fields specified in the ini file, then the field name will be identical except that the first letter will be capitalized while the remaining letters will be in lower case. For example, any of “Quantity,” “QUANtity,” “quantity” or “QUANTITY” will be replaced by “Quantity”;
- Any spaces in field names will be replaced by the “_” character. However, the first letter of each word will be capitalized while the remaining letters will be in lower case. i.e. “Vendor PART NaMe” will be replaced by “Vendor_Part_Name”

2. Customizing Custom Property Names

In the above, the Custom Property Name was dependant on the Field Name string specified in the ini file. However you may (optionally) specify your own character string to be used as the Custom Property Name:

```
# Syntax:
# Field Name[;Custom Property Name]

# Example:
Project Name;prj_name      # "prj_name" is used
Project Code;pcode         # "pcode" is used
Part Name                  # "Part_Name" is used
Material;matl              # "matl" is used
Quantity;QTY               # "QTY" is used
Version;Rev                # "Rev" is used
Designed By;DesiGneD By    # "DesiGneD_By" is used
```

Note that any spaces in the Custom Property Name will be replaced with the “_” character while any capitalization is retained.

3. Incorporating lists for field values

Pre-defined lists may be incorporated easily for selected fields by listing the items under a section heading named after the field. Thus, in the above example, if you want to list all the materials used you must list them under the [Material] section. Just remember that the *List Heading* must be the same as the *Field Name*. It is not as difficult as it sounds!

```
...
Material;matl
...

Vendor Name;vndr
...

[Material]      # <- List Heading
Mild Steel
Stainless Steel
Cast Iron
Copper
Brass
Silver
Gold
Wood

...
[Vendor Name] # <- Another List Heading
ABC Corp
XYZ Inc
Acme Trading
Etc Ltd
```

The user is limited to selections from the list and will not be allowed to enter his own values.

Field lists may optionally include a *Field Code* string. These may be incorporated into composite fields (see later section) if required.

```
# Syntax:
# Field Value[;Field Code]

# Example:
[Vendor Name]    # <- List Heading
ABC Corp;001
XYZ Inc;012
Acme Trading;013
Etc Ltd;102
```

4. Specifying default values for various fields

Specifying default values for text fields is accomplished by adding the default string as the third value in the field description. This value will be used if the field is empty during start-up of swProp2

```
# Syntax:
# Field Name[;Custom Property Name[;Default Value]]

# Example:
Project Name;prj_name;MINCED GARLIC
Project Code;;N19                # <- Custom Property Name
                                   #   not specified

Part Name
Material;matl                    # no default value
Quantity;QTY;1
Version;;1.0
Designed By;Designed By;MVK
```

An empty string may be passed using the “;” field delimiter for the Custom Property Name if it is not required. (in line 2 above, “N19” is the default string for the “Project Code” field.

In the case of lists, the default value is indicated by a “*” character in front of the item. You may specify as many items as you wish as default, but the last item is used. Any default value specified in the field description is ignored.

```
Material;matl;Lead    # <- this default value is ignored
...

[Material]
Mild Steel
Stainless Steel
Cast Iron
*Copper              # <- default value for Material list
Brass
Silver
Wood
```

5. Specifying pre-defined fields

Pre-defined fields are values that are read from the SolidWorks document during swProp2 execution. Currently only two pre-defined fields (filename and density) are available. They are specified by character strings enclosed within curly brackets and take the place of default values in the field description string. Currently only one pre-defined field by itself is allowed per field description string.

```
# Syntax:
# Field Name[;Custom Property Name[;{Pre-Defined field}]]

# Example:
File Name;fname;{FILE_NAME} # the curly brackets are mandatory
Density;;{DENSITY}
```

6. Specifying Composite fields

Composite fields are combinations of other fields and character strings. They cannot be edited by the user with swProp2. Composite fields may be included into other composite fields but the restriction is that the field incorporating the Composite field must be located physically below the field in the ini file. They are specified by character strings enclosed within "<" and ">" characters and take the place of default values in the field description string. The individual fields themselves are delimited by "!" characters.

```
# Syntax:
# Field Name[; Custom Property Name[;<Composite field!(s)>]

# Example 1:
Part Number;;<Project Code!-!Material>
# In the above, "Part_Number" will contain "Project Code"
# and "Material" with a "-" between them.
# eg. "N19-Stainless Steel"

# Example 2:
Purchase Info;;<Vendor Name! / !^Vendor Name! - ! Material>
# In the above the "^" character indicates the use of
# "Field Code" instead of the "Field Name" from the list
# The above will set "Purchase_Info" to
# "XYZ Inc / 012 - Stainless Steel"
```

7. Saving field values for future use

Specific field values may be saved and re-used in other documents by preceding the field description string by a "!" character. These field values are saved in the <swProp2.log> file (located in the same directory as the <swProp2.dll> file) and are used as default values in subsequent runs of swProp2.

```
[Part Details]
!Project Name    # field is saved in <swProp2.log> file
!Project Code    # field is saved in <swProp2.log> file
```

Part Name	# field is NOT saved
Material	# - do -
!Designed By	# field is saved in <swProp2.log> file

For other fields, any the default values specified in the <swProp2.ini> file are used.

8. Issuing commands to control swProp2 behavior

Commands are preceded by a “.” character and control the behaviour of swProp2. Currently two commands are available; one controls the “Use Configurations” checkbox status while opening swProp2 in a fresh document, while the other controls the display of ini file edit button in the “Tools...” group. The syntax is as follows:

```
:USE_CONFIGS={True|TRUE|1|Yes|YES|False|FALSE|0|No|NO}  
:ENABLE_INI_EDIT={True|TRUE|1|Yes|YES|False|FALSE|0|No|NO}
```

In addition, display of the group sections (minimized or maximized) on start-up can be controlled by appending a “-” character to the group name.

```
[Groups]  
Part_Details      # will be opened maximized (default)  
Vendor_Details-   # will be opened minimized
```

The default is to open the groups maximized.