Training Document

015 Research + Development

Training Document – Transfer of SmarTeam Engineering BOM to SAP

T_015_007

Training document

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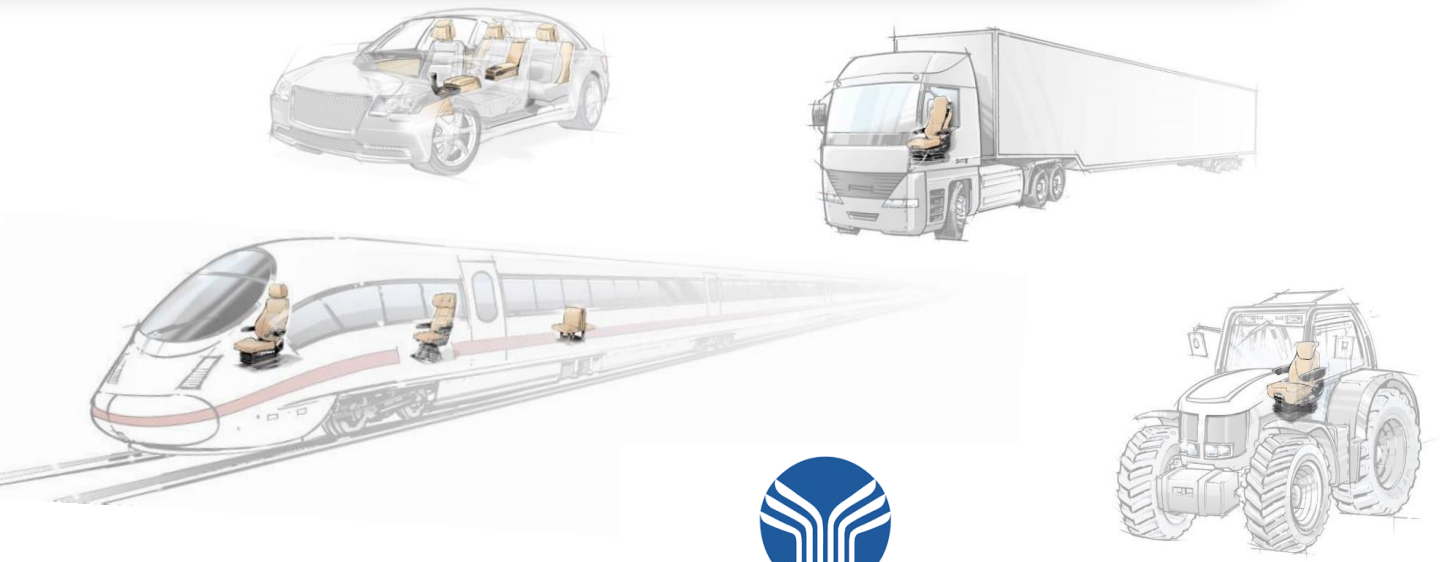


GRAMMER

Inhalt

1 Purpose 4
2 Scope 4
3 Terms 4
4 What are “mounting positions”? 5
5 Transfer of Engineering BOMs (PPKO) to SAP 7
6 Exception when transferring BOMs from SmarTeam 8
6.1 Special case of installation positions 8
6.2 Special case “Assembly within an assembly“ 9
7 BOM transfer requirements in SAP 10
8 BOM transfer requirements in SmarTeam 11
9 Linking mounting positions (“_EBx) to related individual part (Catia part) in SmarTeam 11
10 SmarTeam error messages 12
10.1 “Related SAP Material” field is not complete 12
10.2 Installation positions with reference to different version statuses 13
10.3 Reference to revision statuses that do not yet exist in SmarTeam 14
10.4 Invalid text input/incorrect spelling 15
11 Summary 16
12 Mitgeltende Unterlagen 17
13 Aenderungen 17

1 Purpose

- Description of components that are designed and presented in their “mounting positions” in CatiaV5.
- Transfer of Engineering BOM from SmarTeam to SAP.

2 Scope

This training document applies for all companies in the GRAMMER Group, as well as external partners who are involved in the engineering/development process of the GRAMMER Group and prepare data for the GRAMMER Group. or provide the GRAMMER Group with such data within this capacity.

This training document includes specifications for generating and managing data using the team data management system SmarTeam, in conjunction with the CAD system CATIA, version 5 (CATIA V5)/NX, used by Engineering departments within the GRAMMER Group. Moreover, this training document also applies for all departments in the GRAMMER Group that are actively involved in the PLM process.

This training document, including the technologies and procedures described herein, also applies for customer projects, provided they are not subject to any special agreements in part or in full. In this case, the CAD Engineering Services team must be consulted.

3 Terms

None

4 What are “mounting positions”?

CAD models should always have a production-oriented design and purchased parts should always correspond to delivery standard.

Single parts / Catia parts must therefore be created from the geometrical zero point in the axis/coordinate system.
In other words, the geometry is referenced to the “origin” XYZ/0,0,0 in the axis/coordinate system.

Assemblies/Catia products designed in CatiaV5 always incorporate parts created in CatiaV5 to delivery or manufacturing standard, according to the criteria described above.
However, in assembly design there are always “special cases” that have to be taken into consideration.

For example, these may include belts, springs, cable ties or wire harnesses etc. As mentioned above, these types of component are designed according to delivery standard.

Components installed in Catia products/assemblies are presented or illustrated in an installed condition, i.e. compressed, misshapen or laid (cables).

In other words, parts have to be designed in their “mounting positions”.

The seven-digit article number of the component always forms the basis for designating “mounting positions”.

Below is an example of a correct designation: **1234567_EBx**

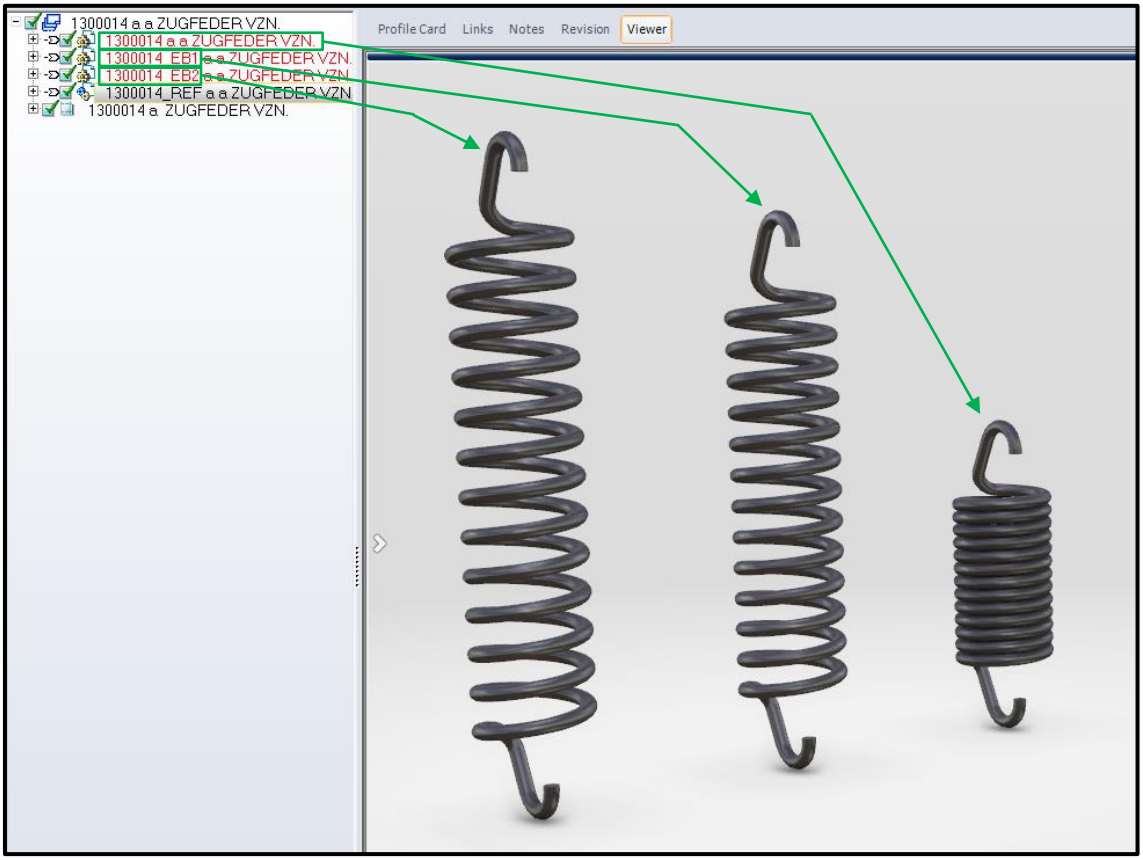
- The ending “EB” means “mounting position“
- The “x” is a placeholder for a number. Multiple installation positions can be created for each article number.

Components included in a BOM in their installation positions can be integrated in assemblies and linked to the related seven-digit SAP article number.

Before they can be linked to a workflow, seven-digit SAP article numbers must be released beforehand in a separate workflow.

Example of a spring (1300014) designed in Catia in delivery condition:

Example of the same spring designed and presented in different installation positions, i.e. in different lengths.

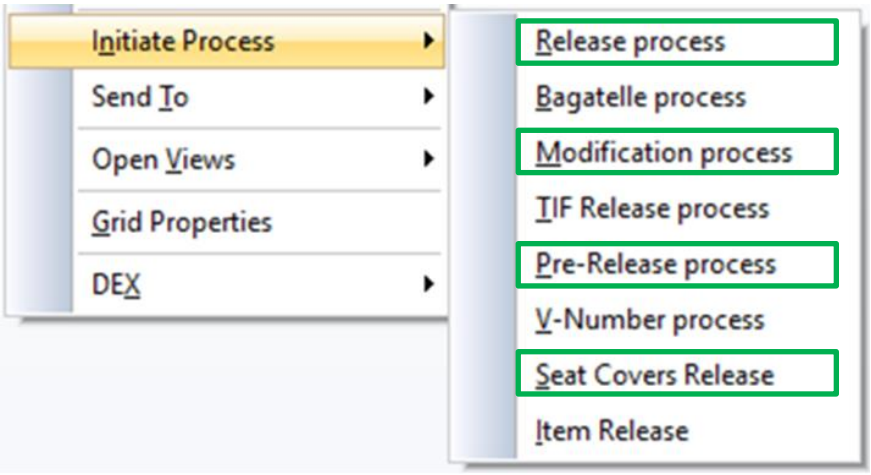


5 Transfer of Engineering BOMs (PPKO) to SAP

For the release of assemblies designed in CatiaV5, engineering BOMs are transferred to SAP.

This affects releases through the following types of SmarTeam workflow:

- Release process
- Modification process
- Pre-release process
- Seat covers release



Engineering BOMs are **NOT** transferred for the **unmarked** workflow types.

Engineering BOMs can be found in SAP, transaction codes, e.g. CS11/ CS12 or CS03.

All content of the engineering BOM can be combined as required. This BOM can contain all SAP material types.

Engineering BOMs can be derived from the following SAP material types:

- HALB – Semi-finished products
- FERT – Finished products
- ZCHN – Drawings

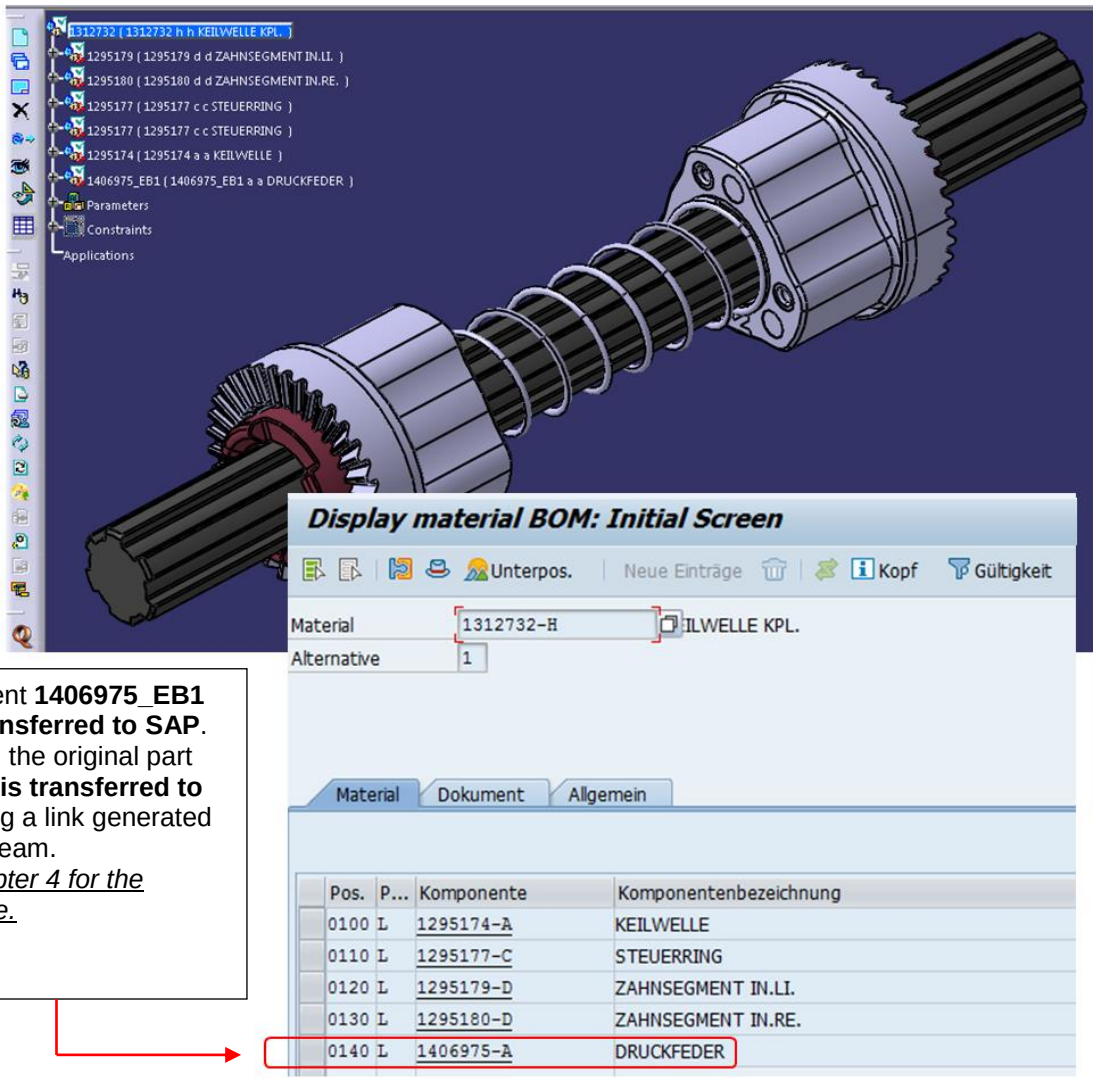
6 Exception when transferring BOMs from SmarTeam

6.1 Special case of installation positions

The transfer of BOMs to SAP is always unrestricted.

However, the designs in installation position described in chapter 4 represent an exception when transferring BOMs to SAP.

Article numbers of individual parts with an extension in the form of an underscore "_" after the seven-digit article number are not taken into consideration when a BOM is generated.

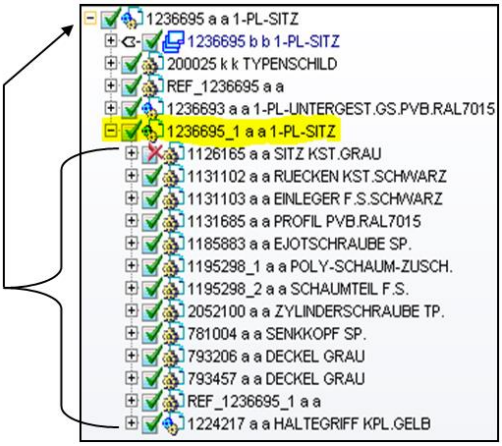


Component **1406975_EB1** is **not transferred to SAP**. However, the original part **1406975 is transferred to SAP** using a link generated in SmarTeam.
See Chapter 4 for the procedure.

6.2 Special case “Assembly within an assembly“

If an assembly contains another assembly with an article number extended with an underscore “_”, this level is skipped.

Transfer from SmarTeam to SAP.



Material 1236695-A
Werk/Verw./Alt. / 2 / 01
Bezeichnung 1-PL-SITZ

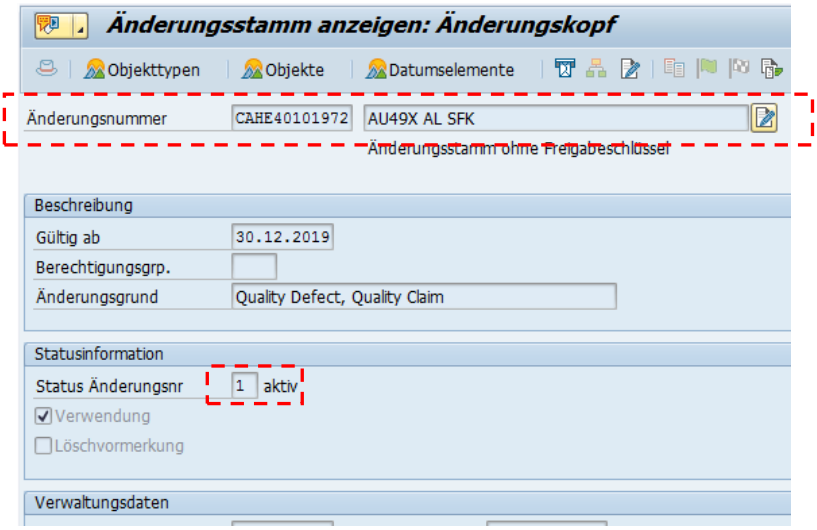
St	Pos.	Obj	MatArt	ObjektId	Objektkurztext
1	0100		HALB	793206-A	DECKEL GRAU
1	0110		HALB	200025	TYPENSCHILD
1	0130		HALB	1236693-A	1-PL-UNTERGEST.GS.PVB.RAI
1	0140		HALB	793457-A	DECKEL GRAU
1	0150		HALB	1131102-A	RUECKEN KST.SCHWARZ
1	0160		HALB	1224217-A	HALTEGRIFF KPL.GELB
1	0170		HALB	1131103-A	EINLEGER F.S.SCHWARZ
1	0180		HALB	1126165-A	SITZ KST.GRAU
1	0190		HALB	1185883-A	EJOTSCHRAUBE SP.
1	0200		HALB	2052100-A	ZYLINDERSCHRAUBE TP.
1	0210		HALB	781004-A	SENKKOPF SP.
1	0220		HALB	1131685-A	PROFIL PVB.RAL7015

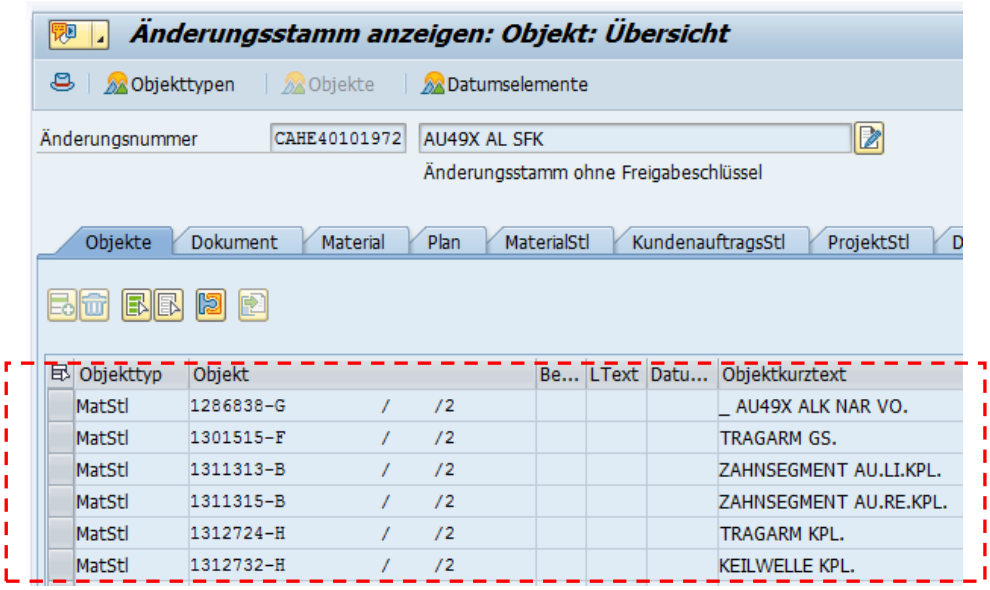
7 BOM transfer requirements in SAP

To ensure the transfer of the assembly structure from SmarTeam to SAP, please note the following:

- Change master data must be created
- Change master data must be "active"
- The object types for creating the BOM must be indicated in the change master data

These requirements are checked when a workflow is started in SmarTeam!
A workflow cannot be started unless these requirements are met.





8 BOM transfer requirements in SmarTeam

- The assembly structure must be released using a workflow from SmarTeam. (See Chapter 7)
- Mounting position parts can only be parts and not products!
- Engineering BOMs are only created from assemblies with 7-digit article numbers!

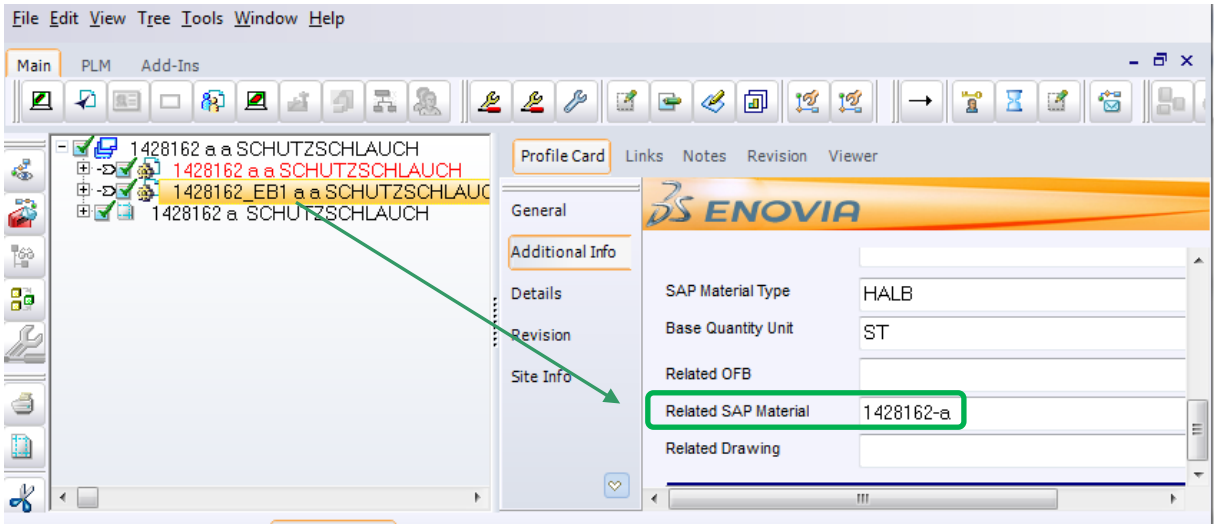
9 Linking mounting positions ("_EBx) to related individual part (Catia part) in SmarTeam

The "Related SAP Material" field in the "Additional Info" tab of the SmarTeam profile card must be completed.

This manual entry links the extended article number 1428162_EB1 with the seven-digit article number 1428162-a.

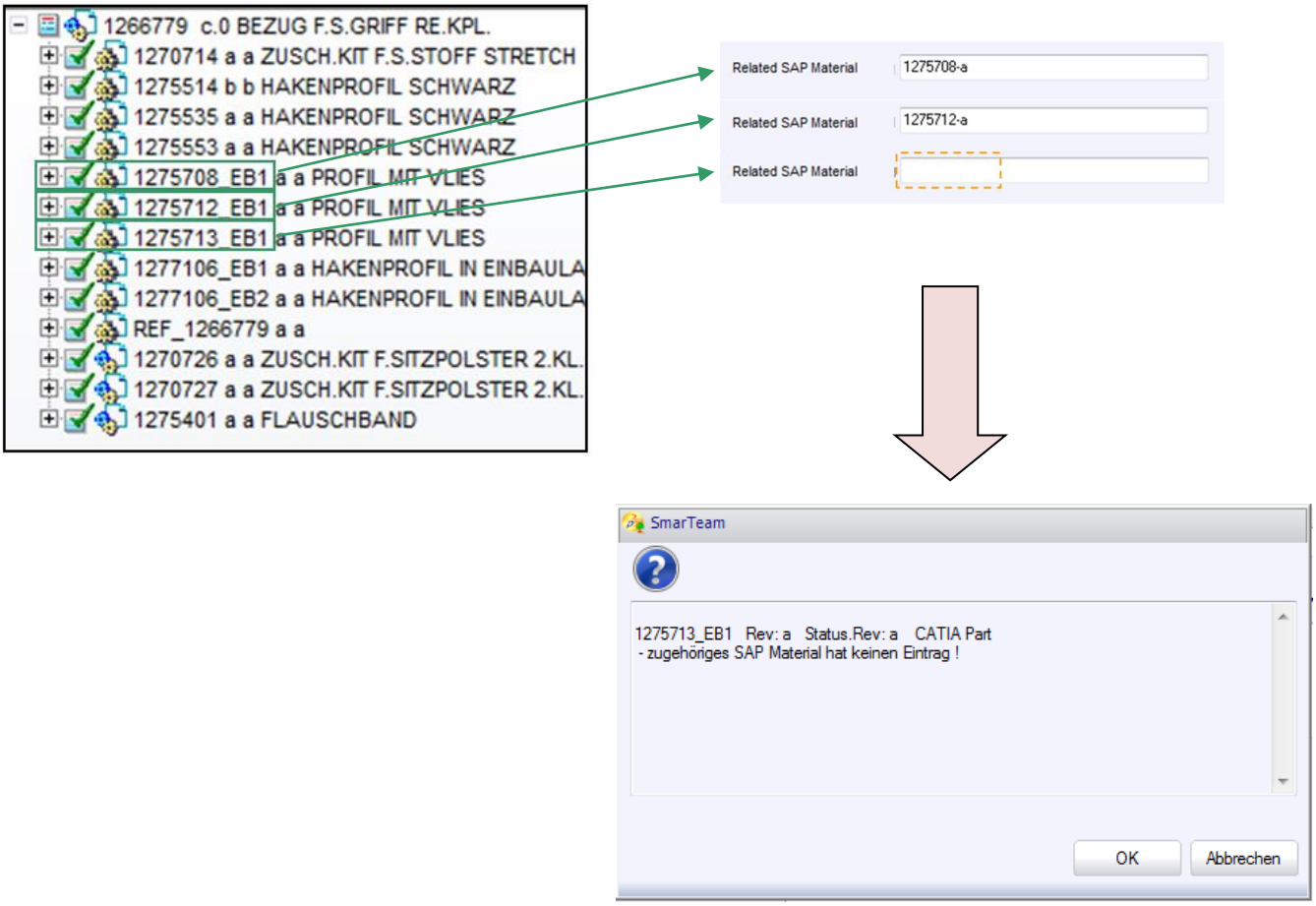
The component in installation position is released together with the assembly in which it is housed!

If installation positions are used in the assembly structure, the reference to the seven-digit article number can be generated manually.



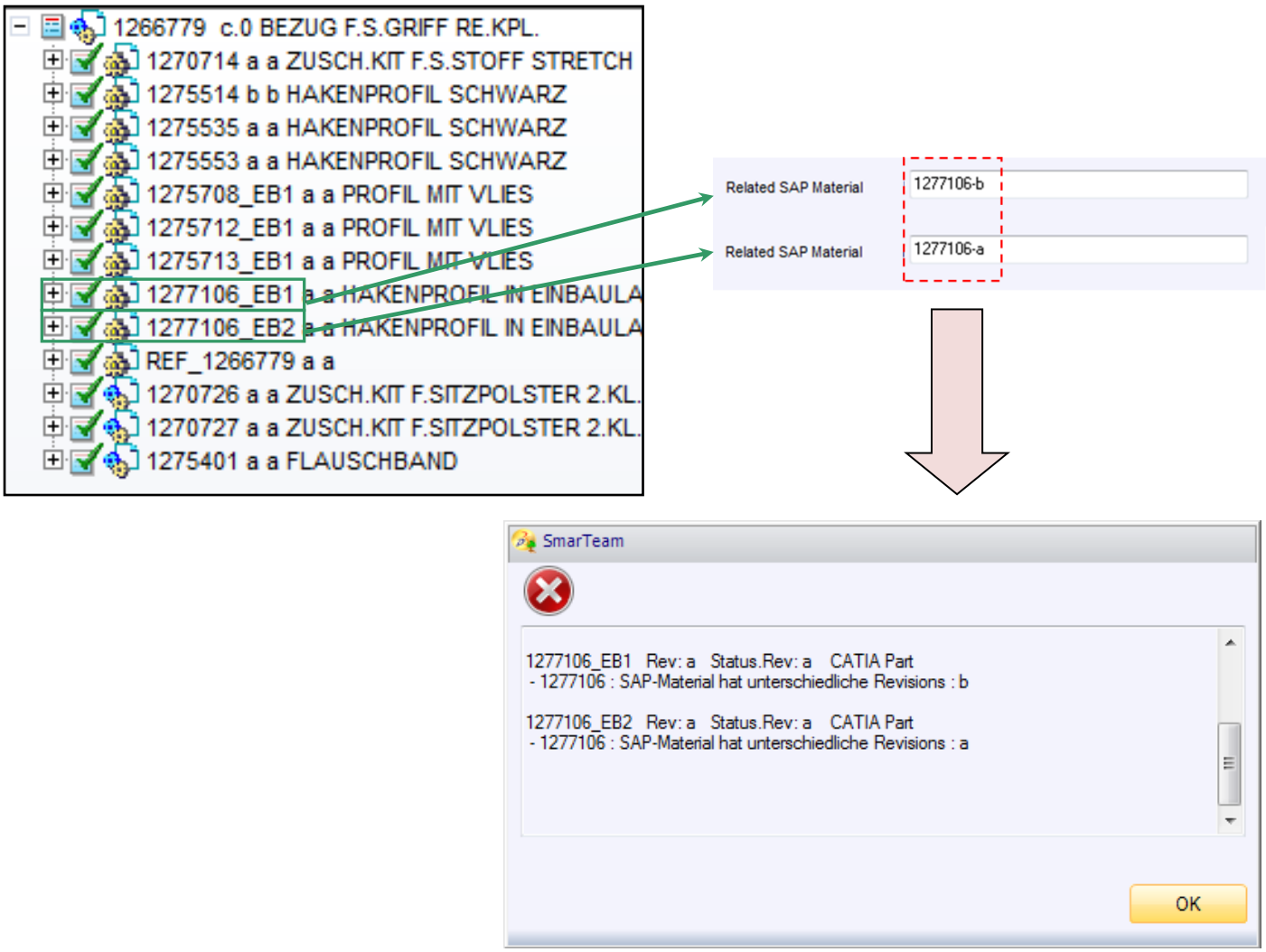
10 SmarTeam error messages

10.1 “Related SAP Material” field is not complete



If a seven-digit article number with revision has not been entered in the “Related SAP Material” field, a corresponding message is displayed when the workflow is sent (1266779 in this case), but the process is not aborted.

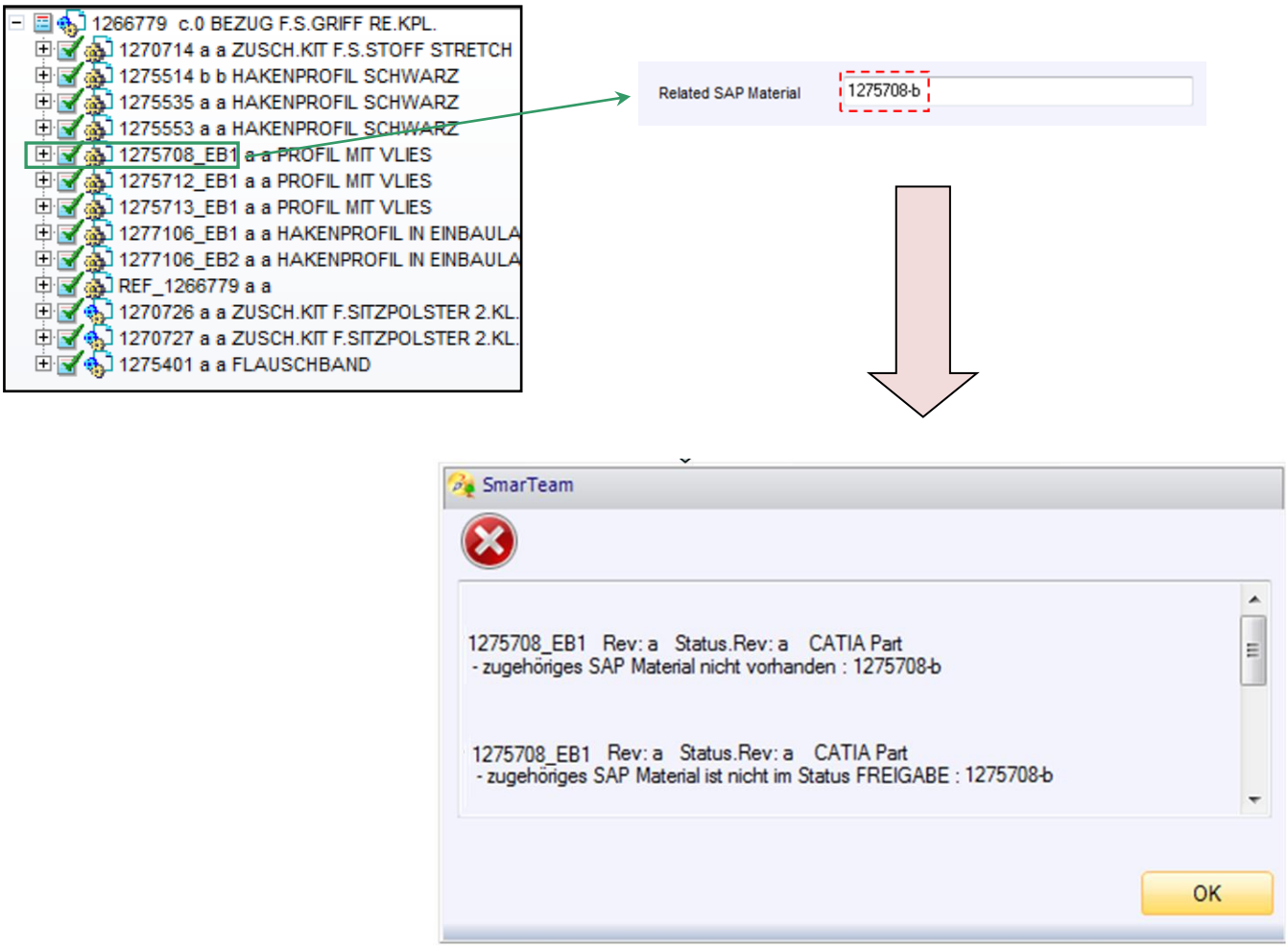
10.2 Installation positions with reference to different version statuses



If two different values are entered in the “Related SAP Material” field, an error message is displayed when the workflow is sent (1266779 in this case) and the process is aborted.

Tip:
Click the left mouse button to update article numbers ending with “_EB” and modify the index in the “Related SAP Material” field. This is also possible with released article numbers.

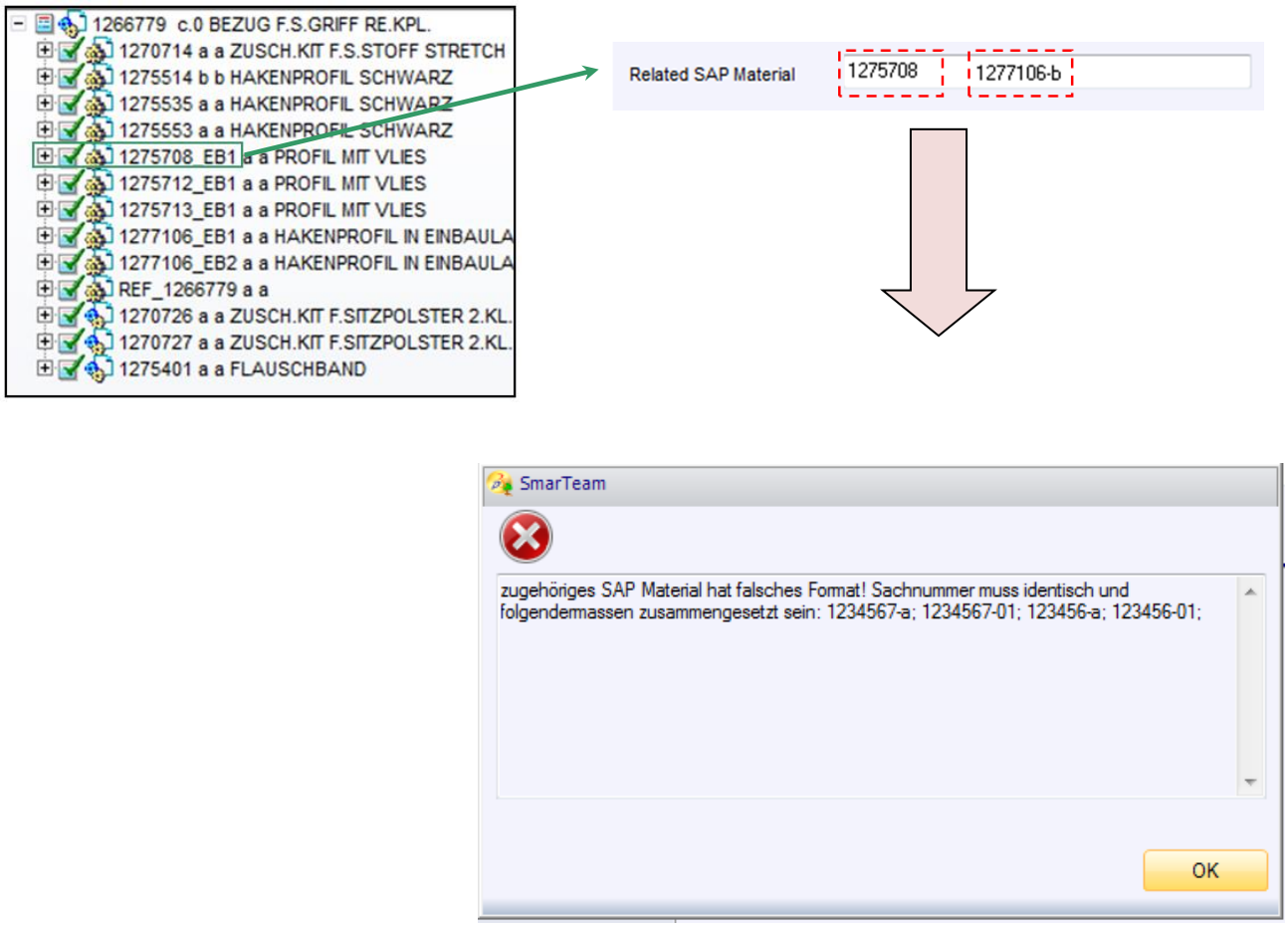
10.3 Reference to revision statuses that do not yet exist in SmarTeam



If a reference is created to a revision that is not yet available as a released article number in SmarTeam, the process is aborted when the workflow is sent.

Please note:
If an article number with EBx extension is generated that makes reference to a seven-digit article number with no index, a hyphen must be added to the end of the seven-digit article number for the related SAP material. Example: 1234567-
This may be necessary for older SmarTeam revisions that were integrated without an index.

10.4 Invalid text input/incorrect spelling



Invalid text input will result in an incorrect entry and the workflow will always be aborted as a result.

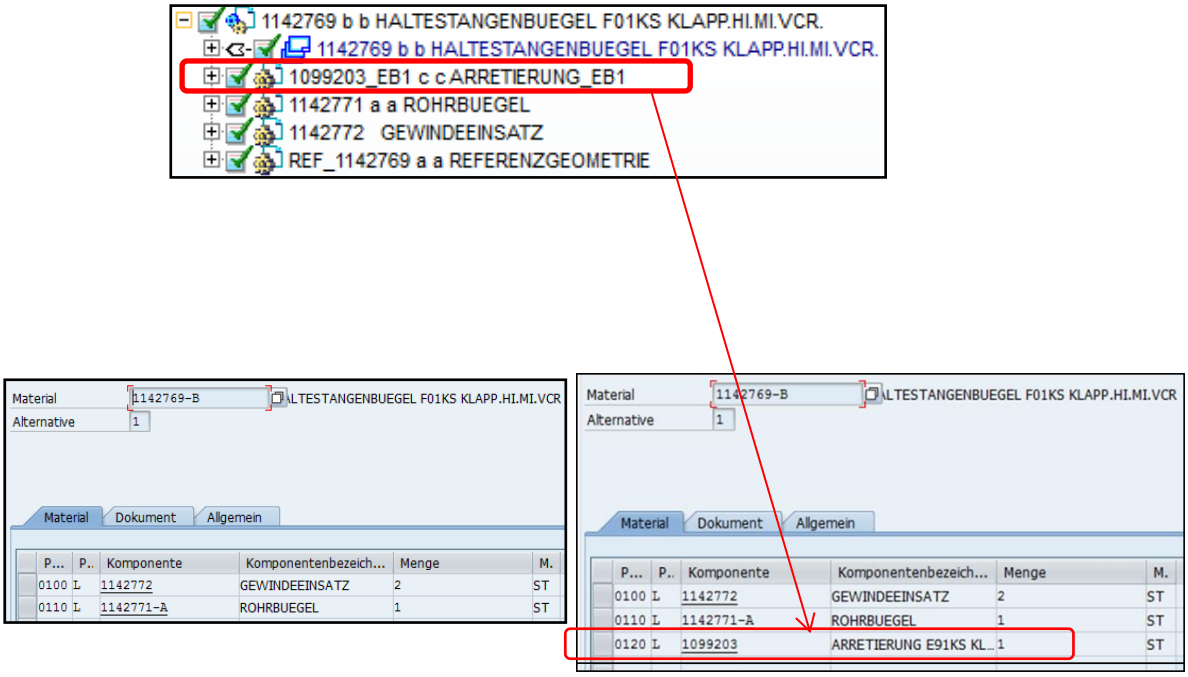
Please ensure the spelling is correct!

The article numbers must be identical, only the extensions “_EBx” can vary.

11 Summary

If the article numbers of parts mounting position ("_EBx") are **NOT** linked via the "Related SAP material" field in SmarTeam, these parts will **NOT appear in a BOM!**

The following is an example of a holding rod bracket assembly (Catia product) that incorporates a lock in mounting position.



SAP BOM **WITHOUT** link generated in SmarTeam, lock 1099203 is **NOT** transferred to the SAP BOM.

SAP BOM **WITH** link generated in SmarTeam, lock 1099203 is transferred to the SAP BOM.

12 Mitgeltende Unterlagen

Schulungsunterlage_SmarTeam / SmarTeam_Training_Document	T_015_004

13 Aenderungen

XX/XXXX
Änderungen