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| Test ScriptSAP S/4HANA - 17-09-20 | public |
| Bill of Material - Mass Change (1R5\_DE) |

Table of Contents

[1 Purpose 3](#_Toc51237993)

[2 Prerequisites 4](#_Toc51237994)

[2.1 System Access 4](#_Toc51237995)

[2.2 Roles 4](#_Toc51237996)

[2.3 Master Data, Organizational Data, and Other Data 5](#_Toc51237997)

[2.4 Business Conditions 6](#_Toc51237998)

[3 Overview Table 7](#_Toc51237999)

[4 Test Procedures 8](#_Toc51238000)

[4.1 Mass Change of Change Master-Controlled BOMs 8](#_Toc51238001)

[4.1.1 Create Change Master 8](#_Toc51238002)

[4.1.2 Display Where-Used List 9](#_Toc51238003)

[4.1.3 Replace Material 11](#_Toc51238004)

[4.1.4 Set Change Master Status to Inactive 12](#_Toc51238005)

[4.2 Mass Change of Versioned Engineering BOMs 13](#_Toc51238006)

[4.2.1 Display Where-Used List 14](#_Toc51238007)

[4.2.2 Replace Material 15](#_Toc51238008)

[5 Appendix 18](#_Toc51238009)

[5.1 Process Integration 18](#_Toc51238010)

[5.1.1 Preceding Processes 18](#_Toc51238011)

[5.1.2 Succeeding Processes 18](#_Toc51238012)

# Purpose

This scope item covers the follow-up material and component date effectivity-controlled mass change process of one or more Engineering Bills of Materials (BOMs). To control the replacement date of the follow-up component or material, you first create a date effectivity-controlled change master. When you start the Where-Used List application with the component or material to replace, all BOMs are listed. To replace the component or material of one or more Engineering BOMs, the BOMs must be selected. The change number is used to manage the phase in date. All changes are managed as draft changes and must be confirmed before setting the change number status to inactive to finalize the mass replacement process.

This document provides a detailed procedure for testing this scope item after solution activation, reflecting the predefined scope of the solution. Each process step, report, or item is covered in its own section, providing the system interactions (test steps) in a table view. Steps that are not in scope of the process but are needed for testing are marked accordingly. Project-specific steps must be added.

# Prerequisites

This section summarizes all the prerequisites for conducting the test in terms of systems, users, master data, organizational data, other test data and business conditions.

## System Access

|  |  |
| --- | --- |
| System | Details |
| System | Accessible via SAP Fiori launchpad. Your system administrator provides you with the URL to access the various apps assigned to your role. |

## Roles

Assign the following business roles to your individual test users. Alternatively, if available, you can create business roles using the following spaces with pages and predefined apps for the SAP Fiori launchpad and assign the business roles to your individual test users.

Note These roles or spaces are examples provided by SAP. You can use them as templates to create your own roles or spaces.

For more information about business roles, refer to Assigning business roles to a user in the [Administration Guide to Implementation of SAP S/4HANA with SAP Best Practices](https://help.sap.com/viewer/S4HANA2020_AdminGuide) .

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name (Role) | ID (Role) | Description (Space) | ID (Space) | Log On |
| * BOM Engineer

Creates bills of material and consistent overall product model.Drives changes across organizations.Is responsible for the change process until hand over to manufacturing.Is typically a member of the R&D group of the company. | SAP\_BR\_BOM\_ENGINEER | BOM Management | SAP\_BR\_BOM\_ENGINEER |  |
| * Production Engineer - Discrete Manufacturing

Maintains the production-specific master data such as BOM, routing, and so on, for discrete manufacturing.Collaborates closely with the engineering and planning departments, production supervisors, and other people relevant to manufacturing. | SAP\_BR\_PRODN\_ENG\_DISC | Production Engineering - Discrete Manufacturing | SAP\_BR\_PRODN\_ENG\_DISC |  |

## Master Data, Organizational Data, and Other Data

The organizational structure and master data of your company has been created in your system during activation. The organizational structure reflects the structure of your company.

Use your own master data or the following sample data for the test procedures.

|  |  |  |  |
| --- | --- | --- | --- |
| Data | Sample Value | Details | Comments |
| Material | FG126 | Finished Good MTS for Discrete Industry (PD planning) |  |
| Material | FG326 | FIN326,PLM,MTS-DI,PD,Batch-Fifo |  |
| Material | SG21 | SEMI21,PD,RepetitiveManuf. |  |
| Material | SG22 | SEMI22,PD,Phantom |  |
| Material | RM122 | RAW122,PD,Batch-Fifo,ProcureImport |  |
| Material | RM128 | RAW128,PD,Consignment |  |
| Material | RM120 | RAW120,PD,QualityManaged |  |
| Material | SG23 | SEMI23,PD,Subcontracting |  |
| Material | SG25 | SEMI25,PD,ExternalProcurement |  |
| Material | SG124 | SEMI124,PD,Subassembly |  |
| Material | RM20 | RAW20,PD |  |
| Material | RM27 | RAW27,PD,PackagingBox |  |
| Material | SG224 | SEMI224,MTO,PD,Subassembly |  |
| Material | FG29 | FIN29,MTS-PI,PD,Batch-ExpirationDate |  |
| Material | RM15 | RAW15,PD |  |
| Material | SG24 | SEMI24,PD,Batch-Fifo |  |

You can also use a FG126 Manufacturing BOM (BOM Usage: 1) created in Basic Handover of Bill of Material (1ZI) and Make-to-Stock Production - Discrete Manufacturing (BJ5) for testing the replace material functionality for manufacturing BOM.

You can find general information on how to create master data objects in the following [Master Data Scripts (MDS)](https://support.sap.com/content/dam/SAAP/Sol_Pack/BP_OP_ENTPR/BP_OP_ENTPR_S4HANA2020_7_Master_Data_EN_XX.htm) :

Table 1: Master Data Script Reference

|  |  |
| --- | --- |
| MDS | Description |
| BNR | Create Product Master of Type "Raw Material" (“ROH”) |
| BNS | Create Product Master of Type "Semi-Finished Good" (“HALB”) |
| BNT | Create Product Master of Type "Finished Good" (“FERT”) |

## Business Conditions

Before this scope item can be tested, the following business conditions must be met.

|  |  |
| --- | --- |
| Scope Item ID | Business Condition |
| 1NR – Engineering Bill of Material - Versions Management | EBOM created in 1NR can be used as a reference. |
| 1R3 – Engineering Bill of Material - Change Master Management | EBOM created in 1R3 can be used as a reference. |
| 1ZI – Basic Handover of Bill of Material | MBOM created in 1ZI can be used as a reference. |

Since the purpose of this test script is to describe the replacement of a component used in multiple Bill of Materials, from a business process point of view, the following preconditions must be met:

* Parts / components and documents are released by the engineering department, and therefore are usable.
* Replacement of components is allowed.

# Overview Table

This scope item consists of several process steps, provided in the table below.

If your system administrator has enabled spaces and pages on the SAP Fiori launchpad, the homepage will only contain the essential apps for performing the typical tasks of a business role.

You can find all other apps not included on the homepage using the search bar.

If you want to personalize the homepage and include the hidden apps, navigate to your user profile and choose Settings > App Finder .

|  |  |  |  |
| --- | --- | --- | --- |
| Process Step | Business Role | App / Transaction | Expected Results |
| [Create Change Master](#unique_8) [page ] 8 | BOM Engineer / Production Engineer - Discrete Manufacturing | Create Change Master (CC01) | A new Change Master is created |
| [Display Where-Used List](#unique_9) [page ] 9 | BOM Engineer / Production Engineer - Discrete Manufacturing | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A where-used list is displayed for selected component |
| [Replace Material](#unique_10) [page ] 11 | BOM Engineer / Production Engineer - Discrete Manufacturing | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A component is replaced in the Bill of Materials |
| [Set Change Master Status to Inactive](#unique_11) [page ] 12 | BOM Engineer / Production Engineer - Discrete Manufacturing | Change Change Master (CC02) | Change Master Status is set to Inactive |
| [Display Where-Used List](#unique_12) [page ] 14 (for versioned EBOM) | BOM Engineer | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A where-used list is displayed for selected component |
| [Replace Material](#unique_13) [page ] 15 (for versioned EBOM) | BOM Engineer | Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) | A component is replaced in the Bill of Materials |

# Test Procedures

This section describes test procedures for each process step that belongs to this scope item.

## Mass Change of Change Master-Controlled BOMs

This section describes mass replacement of materials in change master-controlled engineering and manufacturing BOMs.

### Create Change Master

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you create the change master that is used in the [Replace Material](#unique_10) [page ] 11 test procedure.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer or as Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Create Change Master (CC01) app. | The Create Change Master: Initial Screen screen displays. |  |
| 3 | Enter change master data | 1. In the Change Number field, enter a change number, for example, CN003, and press Enter.
2. On the Create Change Master: Change Header screen, make entries similar to the following example, and press Enter.
	* Change number (Field 2): Change master for component replacement
	* Valid From: <Current date + 1 week>
	* Change no. status: 01 (Active)
 | The Create Change Master: Object Types screen displays. |  |
| 4 | Select object types | In the Object types section, Bill of Material row, select the following check boxes:* Actv.
* Object
* MgtRec
 |  |  |
| 5 | Save the change master | Choose Save. | The change master is created. |  |

### Display Where-Used List

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you check the where-used information of a material across multiple bill of materials.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer or as Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) app. | The Material Where-Used screen displays. |  |
| 3 | Search a material | Make entries similar to the following example, and choose Go.* Component: RM27
* BOM Usage: Engineering/Design
 | All bill of materials that use the searched material as a component are listed in the search results.Note To customize the view settings of the search results, choose the Settings icon displayed on the top-right of the list. On the View Settings dialog box, make the desired settings, and choose OK. |  |
| 4 | View hierarchy | Choose View Hierarchy. | The hierarchical view of the bill of materials displays. You can select a node and then:* Choose the Expand/Collapse icon in the hierarchical view to collapse or expand the node.
* Choose the Node Details icon to view the details of the node.
 |  |

### Replace Material

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you change multiple bill of materials to replace a component material with another material.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer or as Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) app. | The Material Where-Used screen displays. |  |
| 3 | Search a material | Make entries similar to the following example, and choose Go.* Component: RM27
* BOM Usage: Engineering/Design
 | The list of bill of materials that use the searched material as a component displays.Note To customize the view settings, choose the Settings icon displayed on the top right corner of the list. On the View Settings dialog box, customize the settings, and choose OK. |  |
| 4 | Replace the material with another material | 1. In the list, select the bill of materials for which you want to replace the component material. For example, FG29 and SG224.
2. Choose Replace Material.
3. In the Replace Material dialog box, make the entries similar to the following example, and choose OK.
	* Replacement Material: RM20
	* Quantity and Unit of Measure 100 PC
	* Change Number: CN003

Tip Use the change number created in [Create Change Master](#unique_8) [page ] 8. | For the selected bill of materials, the Change Status changes to Replaced and the Item Change Number column displays the specified change number (for example, CN003). |  |
| 5 | Confirm the material replacement | 1. Select the bill of materials with the change status Replaced. For example, FG29 and SG224.
2. Choose Confirm Replacement Material.
 | The material is replaced and a confirmation message displays. |  |

### Set Change Master Status to Inactive

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you set the change master status to inactive, so that the change master cannot be used for further changes.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer or as Production Engineer - Discrete Manufacturing. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Change Change Master (CC02) app. | The Change Master: Initial Screen screen displays. |  |
| 3 | Update the change master status | 1. In the Change Number field, enter a change number, for example, CN003, and press Enter.

Tip Use the change number created in [Create Change Master](#unique_8) [page ] 8.1. On the Create Change Master: Change Header screen, set the Change no. status field to 02 (Inactive).
 |  |  |
| 4 | Save the change master | Choose Save. | The change master status is set to inactive. |  |

## Mass Change of Versioned Engineering BOMs

This section describes mass replacement of materials in versioned engineering BOMs.

### Display Where-Used List

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you check the where-used information of a material across multiple bill of materials.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) app. | The Material Where-Used screen displays. |  |
| 3 | Search a material | Make entries similar to the following example, and choose Go.* Component: SG21
* BOM Usage: Engineering/Design
 | All bill of materials that use the searched material as a component are listed in the search results.Note To customize the view settings of the search results, choose the Settings icon displayed on the top-right of the list. On the View Settings dialog box, make the desired settings, and choose OK. |  |
| 4 | View hierarchy | Choose View Hierarchy. | The hierarchical view of the bill of materials displays. You can select a node and then:* Choose the Expand/Collapse icon in the hierarchical view to collapse or expand the node.
* Choose the Node Details icon to view the details of the node.
 |  |

### Replace Material

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | Duration | Enter a duration. |

Purpose

In this process step, you change multiple bill of materials (BOMs) to replace a component material with another material.

Procedure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instructions | Expected Result | Comments |
| 1 | Log on | Log on to the SAP Fiori launchpad as BOM Engineer. | The SAP Fiori launchpad displays. |  |
| 2 | Access the app | Open the Material where used list in BOMs - where used list, hierarchy and replace Materials in BOMs (F2214) app. | The Material Where-Used screen displays. |  |
| 3 | Search a material | Make entries similar to the following example, and choose Go.* Component: SG21
* BOM Usage: Engineering/Design
 | The list of BOMs that use the searched material as a component displays.Note To customize the view settings, choose the Settings icon displayed on the top right corner of the list. On the View Settings dialog box, customize the settings, and choose OK. |  |
| 4 | Replace the material with another material | 1. In the list, select the BOMs for which you want to replace the component material. For example, FG126, SG224, and FG326.
2. Choose Replace Material.

If the BOM version status of the selected BOMs is Released, then the Warning dialog box with the notification For the released versions selected a new version will be created displays.Caution If you select BOMs with different BOM Version Status, then Replace Material becomes unavailable.1. (Conditional) If the Warning dialog box is displayed, then:
	1. Choose OK.

New versions of the selected BOMs (with the BOM version status In Process) are created.* 1. Select the newly created BOMs.
	2. Choose Replace Material.
1. In the Replace Material dialog box, make the entries similar to the following example, and choose OK.
	* Replacement Material: RM20
	* Quantity and Unit of Measure 100 PC
 | For the selected bill of materials, the Change Status changes to Replaced. |  |
| 5 | Confirm the material replacement | 1. Select the bill of materials with the change status Replaced. For example, FG126, SG224, and FG326.
2. Choose Confirm Replacement Material.
 | The material is replaced and a confirmation message displays. |  |

# Appendix

## Process Integration

The process to be tested in this test script is part of a chain of integrated processes.

### Preceding Processes

You may first have completed the following processes and conditions before you start with the test steps:

|  |  |
| --- | --- |
| Process | Business Condition |
| 1NR | Engineering Bill of Material - Versions Management(Bill of Material data created in 1NR are relevant only for analytics part in chapter Display Where-Used List of this test script) |
| 1R3 | Engineering Bill of Material - Change Master Management |

### Succeeding Processes

After completing the activities in this test script, you can continue testing the following business processes:

|  |  |
| --- | --- |
| Process | Business Condition |
| n.a. | n.a. |

Typographic Conventions

|  |  |
| --- | --- |
| Type Style | Description |
| Example | Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.Textual cross-references to other documents. |
| Example | Emphasized words or expressions. |
| EXAMPLE | Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| Example | Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools. |
| Example | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| <Example> | Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system. |
| EXAMPLE | Keys on the keyboard, for example, F2 or ENTER. |

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