

Material Issues

How to report the production goods issues

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1. INTRODUCTION

Production goods issues, productions goods receipt and time receipt transactions are the transactions that can be reported on a work order. These transactions impact the cost of the work order.

This tutorial explains how to report the production goods issues, demonstrating the different method Beas offers to report this stock transaction.

2. PROCESS INTERACTIONS

The Beas production goods issues function interacts with the following processes:

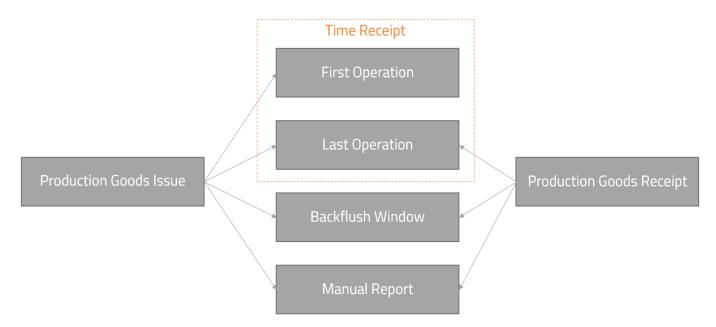
Process	Function
Production	Work order bill of material
Production	Reservation and allocation system
Production	Post-calculation: Actual cost

Availability of some options in the menu and right-click menu depend on the settings in the Configuration Wizard.

3. PROCESS

The various transactions, that can be reported on a work order, like the production goods issues, goods receipt and the time receipt, can be reported all together or separately from each other.

Depending on the business process, a user can report the goods issues, goods receipts and time receipt using one window or separate transactions. For example, the production goods receipts can be reported at different times, by different personnel, as shown in the following figure.



- The production goods issues report material consumption from the planned bill of material of the work order.
- The time receipt reports the actual time spent in each operation.

• The production goods receipt reports the actual produced quantities.

Production goods issue and receipt setting parameters can be modified in Beas general setting. It is possible to report production goods issues and receipts on the time receipt window, on the backflush window or manually. Manual transactions allow issuing individual transactions or reporting more than one material in the same document.

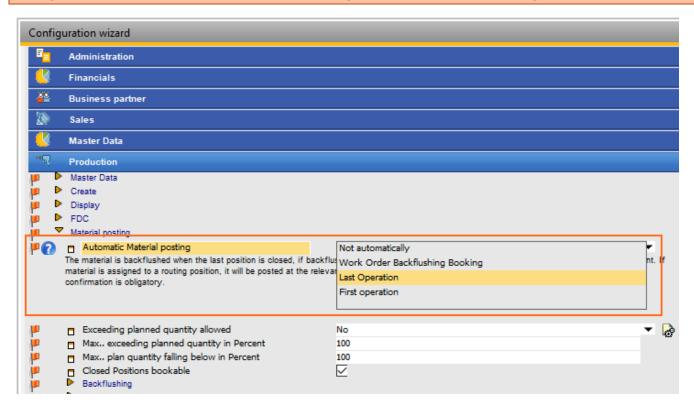
TIP: If production goods issues and production goods receipts are set up to be reported on the time receipt, the user can report all transactions in a single window (the time receipt window).

3.1. Material Issue Methods

The general Automatic material posting parameter defines how the material will be issued.

To set or change the material issue method parameter go to:

Configuration Wizard → Production → Material Posting → Automatic material posting

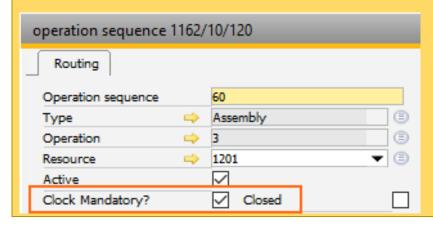


The options for this parameter are:

- **Not automatically**: The system does not issue the raw material automatically. The user can do the material issue manually.
- Work Order Backflushing Booking: Allows material issue automatically, using the backflush screen. This option allows reporting the total produced quantity (considering yield and scrap quantity). The user reports the produced quantity in the backflush window and all raw material that has the backflushing issue method set in its item master data is automatically issued, taking into consideration the related quantity in the bill of material (planned material quantity). Time receipt is reported separately from material issues.

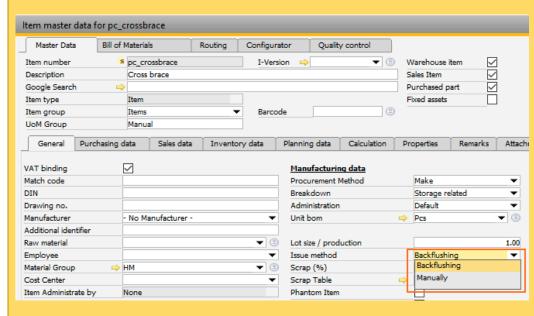
• Last operation: The goods issues is on the time receipt window. Automatic issue happens during the time receipt reporting of the last operation. Applies only to materials that have issues method set to backflushing in their item master data.

Materials issue takes place when the last operation has *Clock Mandatory* activated. The system understands the last operation is the last operation with the *Clock Mandatory* activated. *Clock Mandatory* allows classification of the operation as a sequence. A list of operation without sequence means that the operator can do any of the operations any time and the system would not be able to determine what the last operation was.



• *First operation*: Automatic goods issue happens during the time receipt reporting of the first operation. It only applies to materials with the backflushing issue method set in their item master data. Material is issued when the first operation is reported. This is separate from the goods receipt, which can happen at the last operation or manually, during other processes.

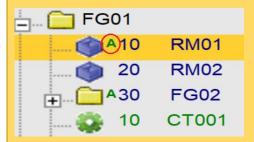
The automatic raw material issue takes into consideration the issue method selected in the item master data. The item master data setting overrides the *Automatic material posting* setting of the configuration wizard for the specific item.



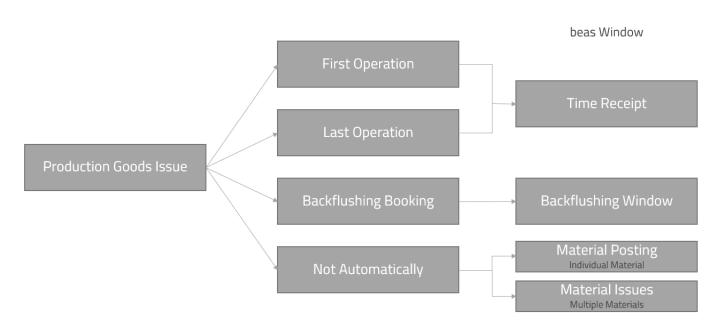
The *Backflushing* option allows the item to be issued automatically.

The *Manually* option means that the issue is always manual, regardless of the production issue method setting. Even if the production issue method is set to automatic (backflush screen, last operation or first operation), the material issue needs to be manual for the item.

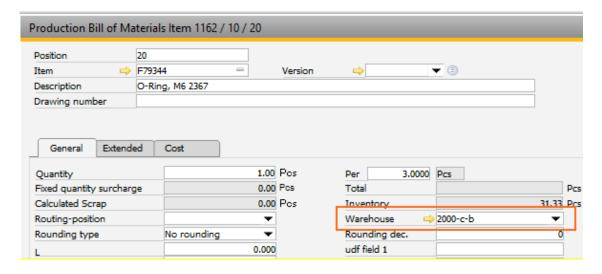
The issue method setting of a raw material can be identified easily in structure of the bill of material, because the letter **A** appears next to the raw material icon if the issue method is **Backflushing**.



In the previous figure, the RMo1 issue method is set to **Backflushin**g and RMo2 issue method is set to **Manually**. If we report issuing automatically, only RMo1 and FGo1 will be considered for the automatic issue.



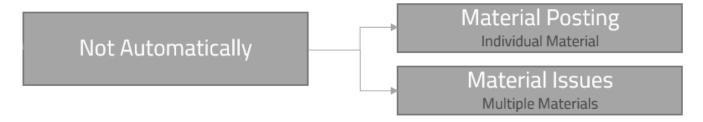
When the system issues a raw material automatically, it uses the warehouse defined at the bill of materials. If the goods issue is not set to automatic, the suggested warehouse is the same.



3.2. Material Issue Method - Not automatically

With this option, the user can report material issue, time report and goods receipt separately. For example, personnel working on the machine submits a time report, another person reports the material issue and another person issues the goods receipts at different times during the production process.

There are two ways to manually report a material issue:



- Individually, using the issue option on the material
- Multiple raw materials at the same time, using the Material issues option on the work order

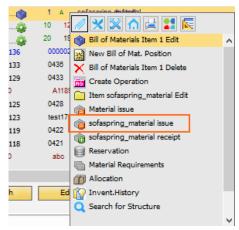
To see these options, make sure they are enabled in the system. See the Material Issue Window Settings on the Work Order section.

Manual reporting can also be used when other methods were selected in the material issue method (backflushing, last operation or first operation) and the issue method in the item master data of the raw material is set to *Manually*. This method can also be used to report additional, non-planned material consumption.

3.2.1. Using the Individual Material Window

To access the individual material issue window:

• Right-click on the material line and click the *<itemcode> issue* option. The window opens for the selected material and work order.



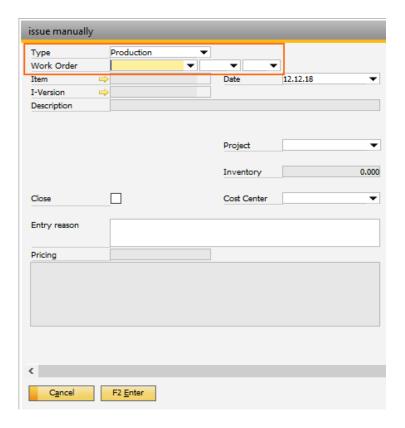
• Select Modules \rightarrow Inventory \rightarrow Inventory Transactions \rightarrow Issue manually (single event) from the menu.

This option is also used for manual postings or adjustments not related to a work order and for this reason the transaction type must be identified.

Types of transactions:

- o **Production**: The goods issues is assigned to a work order. When this option is selected, additional fields appear on the form.
- Correction: Used to report adjustment of remaining stock (evaporation, scrap, and so on). This
 option uses the accounts set in Beas general parameters.
- o **Manually**: Used to report a manual good issue. This option uses the accounts set in Beas general parameters. These accounts can be different from the correction option.
- o **Inventory**: Uses the same accounts as the Manually option, but the *inventory* αdjustment posting type is entered in the comment field in the goods issues document.

For this tutorial we are dealing the **Production** type transaction only.

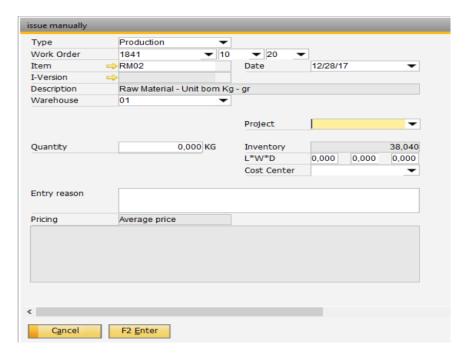


For the production type transaction, provide the work order number, position and material position manually. As a shortcut, instead of manually providing values for all three fields, the following bar codes can be scanned:

- o The work order position bar code: work order and position are automatically filled
- BOM bar code: work order number, the work order position and the material position are automatically filled

For an example, see Example Manual Issue Options to Provide a Work Order Number.

When the material position is selected in the drop-down menu, the fields are filled with the information. It is mandatory to add a quantity; an entry reason is optional. For the detailed description of all fields, see the Manual Issue Field Guide.



Click the *Enter* button to create the SAP goods issue document or *Cancel* to close the window without creating the document.

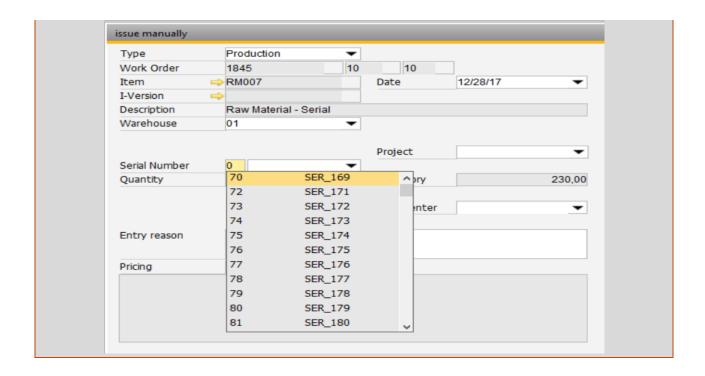
Raw material with unit BOM

If the raw material to be issued has a unit BOM that is different than the inventory unit, an additional field is available to enter the quantity according to the unit BOM. The user can provide the quantity in any unit, and the other unit is calculated according to the conversion formula. For an example, see Example Manual Issue of Item with Unit BOM.

Batch or serial number item

If the item is managed by batch or serial number, and additional drop-down menu shows the available batches or serial numbers.

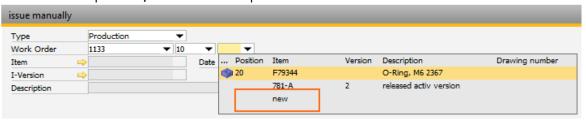
Drop-down menu showing the available serial numbers:



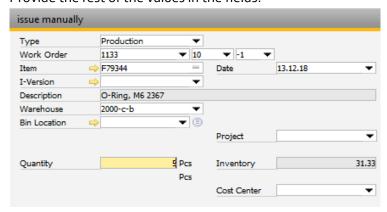
Reporting a production goods issue of a non-planned material

To report any additional consumptions of a material that was not planned for the work order:

- 1. Open the *Issue manually* window from Modules \rightarrow Inventory \rightarrow Inventory Transactions \rightarrow Issue manually (single event), choose *Production* type and select the work order and position.
- 2. At the material position, select the New option.



- 3. Select the Item code and I-version if applicable.
- 4. Provide the rest of the values in the fields.



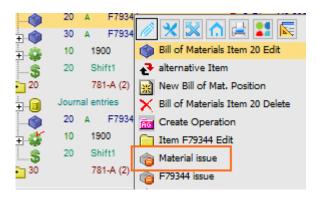
5. Click the *Enter* button to create the production goods issues.

A new BOM position is created with a planned quantity, and the goods issue is created for the new position.

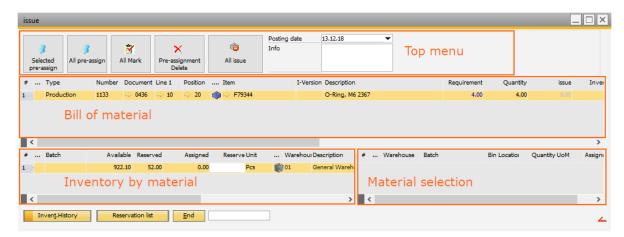


3.2.2. Using the Material Issue Window

1. Right-click over the work order position and choose the *Material issue* option to access the material issue window.



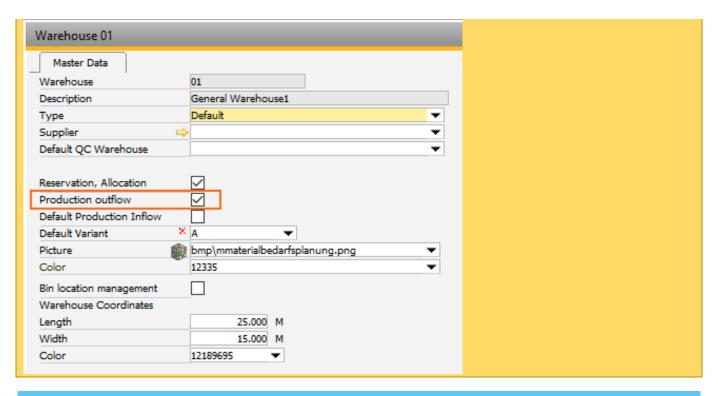
The material issue window displays all raw materials that are a part of the work order BOM. For a detailed description of all fields, see the Material Issue Field Guide.



- 2. Select the required quantity manually or use the *Pre-assign* button.
- 3. Click the All issue button to create the goods issue document.

The visible warehouses in the material issues window depend on a parameter setting at the extended information on the warehouse master data in Inventory → Warehouse Management → Master Data.

To make a warehouse visible for material issues, select the warehouse, then click the *Production outflow* checkbox. Only warehouses with Production outflow are be visible.



3.3. Material Issue for Batches or Serial Numbers

The issue method of any item managed by batch or serial number is manual in SAP.

When the backflushing or time receipt (first operation or last operation) method is set in Beas, it is possible to enable the system to automatically request batches or serial number during the process.

To activate the option for batches, go to Configuration wizard → Production → Material posting → Backflushing → Also post batches

To activate the option for serial numbers, go to Configuration wizard \rightarrow Production \rightarrow Material posting \rightarrow Backflushing \rightarrow Also post serial numbers

The possible values are the same for both batches and serial numbers:

Yes: Batches or serial numbers are pre-allocated and backflushed

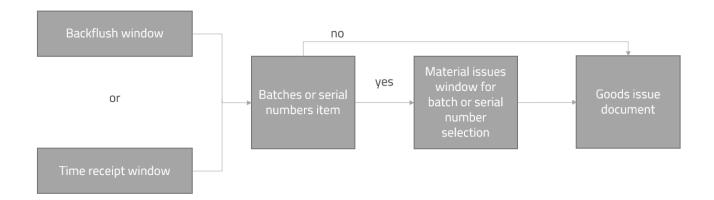
Manually: Select batches or serial number manually for backflushing

No: Batches or serial numbers are not made available for backflushing, only manual issue is possible

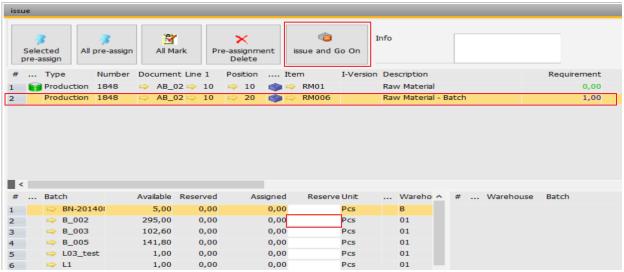
In the Configuration Wizard \rightarrow Production \rightarrow Material posting \rightarrow Backflushing \rightarrow Automatic batch issue by option, the next issued batch can be defined by batch number, date or certain attributes. This option helps, if there are previous reservation and we do not want to select the batches again. The system considers the number reserved a priority.

Also post batches Automatic batch issue by Issue blocked Batches Batches Balance issue Also post serial numbers Posting from allocation warehouse Material posting with Scanner? Required quantity 0 display	No Batch number Date of Permission Manufacturing Date Expir. date Batch attribute 2 Batch attribute 1	
---	---	--

When the *Also post batches* or *Also post serial numbers* option is set to *Yes*, a material issue screen is displayed to allow batch or serial number selection.



The material issue window has the same behavior as the manual material issue but, in this case, only the quantity coming from the time receipt or backflush screen is issued, and materials with the *automatically* issue method are already selected.

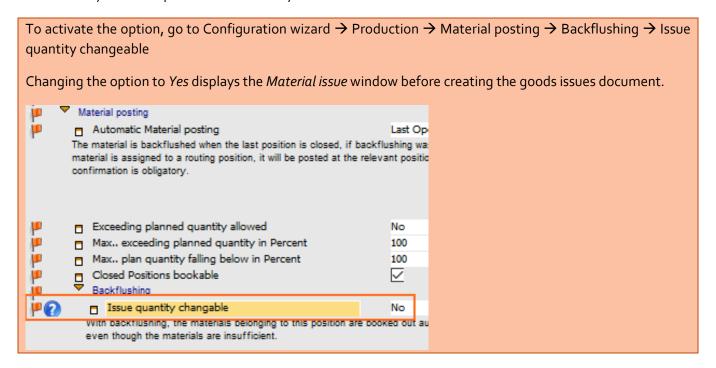


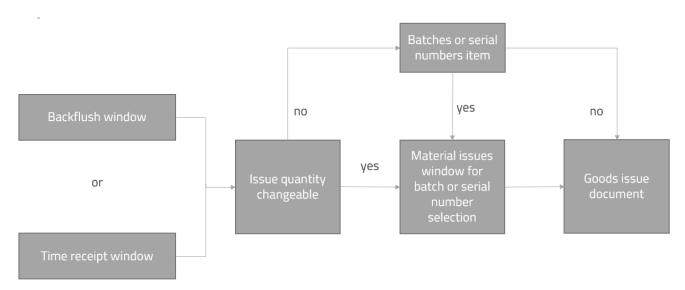
A quantity can be selected from a warehouse inventory and the batch or serial number by double-clicking on the line or entering the quantity on the *Reserve* field. Double-clicking selects the full requirement depending on the available quantity at the warehouse.

To continues with the goods issues process, click on the *Issue and Go On* button.

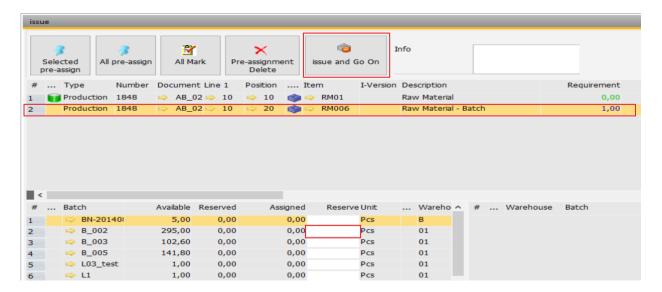
3.4. Calling Quantity Confirmation During Automatic Issue

When the backflushing or time receipt (first operation or last operation) method is set in Beas, it is possible to set an option to always show the material issue screen. Using this option quantities can be added on top of automatically selected quantities or manually issued items.





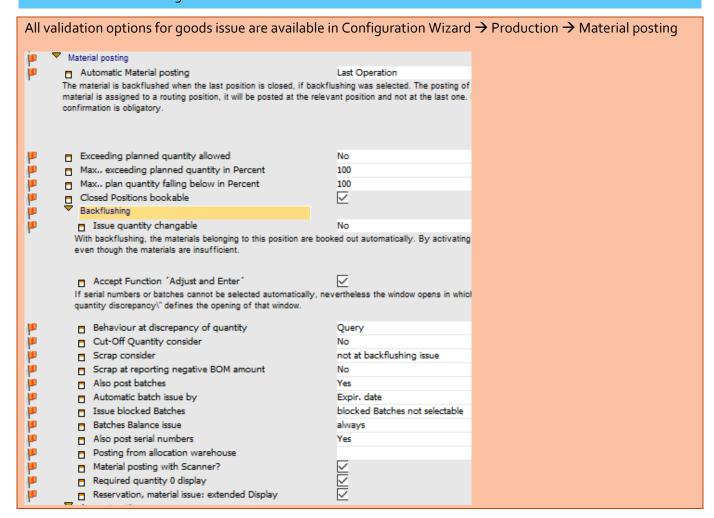
The material issue window has the same behavior as the manual material issue but, in this case, only the quantity coming from the time receipt or backflush screen is issued and materials with the automatically issue method are already selected.



A quantity can be selected from a warehouse inventory and the batch or serial number can be chosen by double-clicking on the line or entering the quantity on the *Reserve* field. Double-clicking on the line selects the full requirement depending on the available quantity at the warehouse.

To continues with the goods issues process, click on the *Issue and Go On* button.

3.5. Validations During the Goods Issued Process



Validation options:

• **Exceeding planned quantity allowed:** Determines whether different value than the planned quantity may be issued. When this option is set to *yes* and additional field for maximum percentage is displayed.

Value	Description
Yes (default)	Allowed, without check.
Yes, with protocol (I)	Allowed. Errors are saved in the protocol table and the work order is marked red in that case.
No	Not allowed. Issue process is cancelled.
Query	Show a security question before continuing.
Query with protocol	Show a security question before continuing. If material is issued, a protocol entry is created for the work order and it is marked as red.

Planned quantity is provided in work order +/- percentage based on the following setting:

o *Maximum exceeding of planned quantity in percent*: Enter percentage by which planned quantity may be exceeded.

Value range: o - 99%. No check in case 100% is set.

Option is only visible, if *Exceeding of planned quantity allowed* was not set to *Yes*.

- o *Maximum shortfall of planned quantity in percent*: Enter percentage by which planned quantity may fall short. Option is only visible, if *Exceeding of planned quantity allowed* was not set to *Yes*.
- Closed positions bookable: If this option is enabled, you can issue closed material positions. Only affects the *Material issue manually* screen for production type if the position was selected by direct input or by using a barcode, and the user is a superuser or has the respective access rights.
- **Behavior at discrepancy of quantity:** Defines behavior in case material backflushing has a different quantity than planned. The option is visible regardless of the *quantity changeable* option settings, since this window opens for more operations, for example, when batches or serial numbers cannot be withdrawn automatically.

Options:

Query	Display a prompt whether backflushing is to be performed with the indicated
	quantity.
Allow	Book immediately with the available quantity, no prompt is displayed.
Block	Selected quantity and default quantity must match, otherwise the procedure
	cannot be completed. The goods issue is cancelled.

- Accept Function 'Adjust and Enter': At shortfall of stock allows posting with adjusted quantity. This setting is only visible if *Issue quantity changeable* is set to *No*.
- Issue blocked batches: Determines the behavior of blocked batches during backflushing.
 - o Blocked batches not selectable: Blocked batches are not available to select.
 - o Manually: Blocked batches can be selected after a warning message.
 - o Allowed: Blocked batches can be selected without query.
- **Material posting with scanner**: The active field is always the entry field in the lowest line. This can be used to register by scanner. There are two options:
 - o *Active*: A matching batch or serial number is searched. If an entry is found, it is used, and the required quantity is accepted. If no entry is found, the a no entry found error message is issued. If the entry is blocked, (batch status, blocked bin location) the entry is not accepted, and a message is issued.
 - o *Inactive*: Beas searches for the following entries:

- Batch number: field is selected, the cursor is set to quantity field
- Serial number: quantity is accepted immediately
- Item: entry selected, the cursor is set to quantity field

If no matching entry is found and the entry is numeric, the current entry is accepted, including the quantity.

Error messages are not displayed in any of these cases.

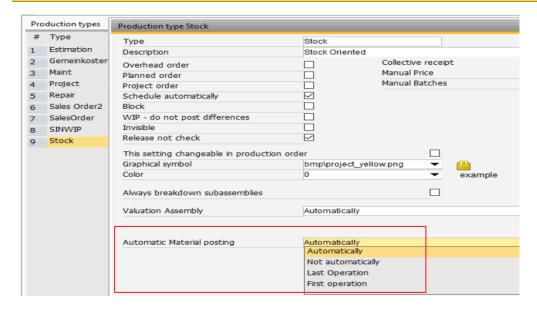
- Required quantity to display: Enables displaying BOM items with zero or less requirement. Setting affects
 Material issues window and *Reservation* window, *Allocation* window and *External Provision* window, as well as
 the material requirement list.
- Reservation, material issue: extended Display: Determines whether to show information from inventory history. If active, the extended view is used. This extended view is computationally expensive and large date calculations take a long time. By default, this option is disabled.

3.6. Production Goods Issues Parameter Depending on Work Order Type

When the material posting method is not set to backflushing, it is possible determine the material goods issues depending on the production type. This way the operator can have one work order where the goods issues is created manually, and another work order where the goods issues is created automatically, for example at the last operation.

The rest of the options are available except the backflushing.

When the backflushing method is selected, this parameter is not visible at production type.

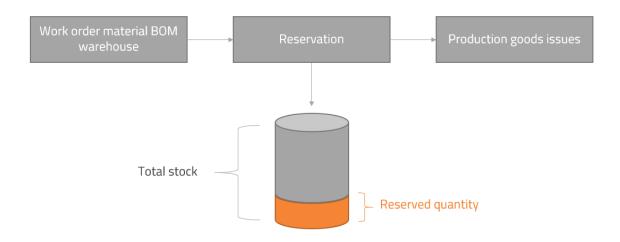


3.7. Production Goods Issues with Reservations or Allocations

Reservation and allocation are processes that can complement the production goods issues. The production goods issues take quantities from the warehouse defined at the work order BOM, however these quantities can be reserved in advance to be used for the work order. If items are managed by batch or serial number, these

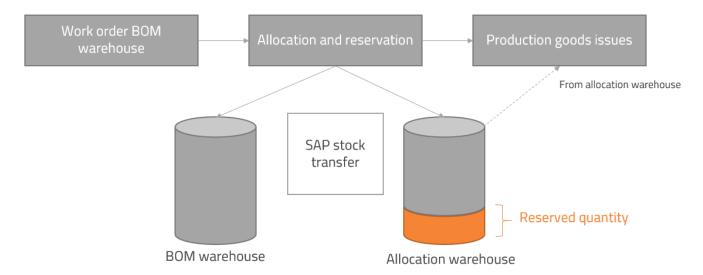
numbers can also be selected for the reservation. During the goods issues process, reserved quantities are prioritized at the selection.

3.7.1. Reservation



3.7.2. Allocation

In the case of the allocation an additional step is involved, since the material is transferred from the BOM warehouse to the allocation warehouse. At the time of the goods issue, the system uses the quantity transferred to the allocation warehouse as a priority.



4. EXAMPLES

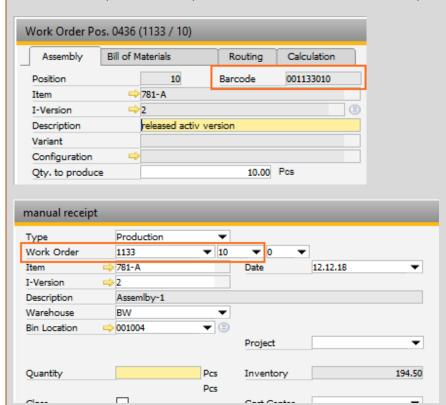
4.1. Example Manual Issue Options to Provide a Work Order Number

Example:

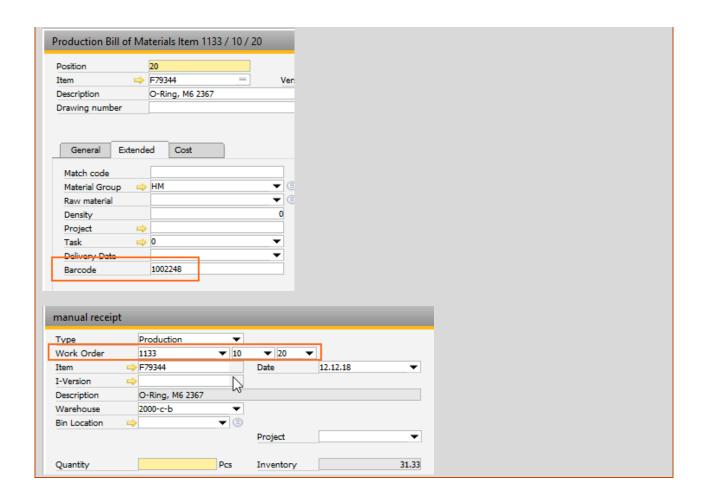


If you manually enter the work order number 1133, then the position 10 and material position 20 must be entered manually.

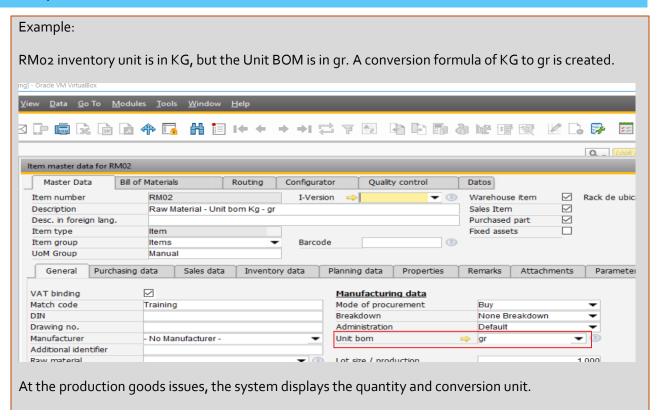
If you scan the work order position barcode oo1133010, then the work order and work order position are filled in and only the material position needs to be entered manually.

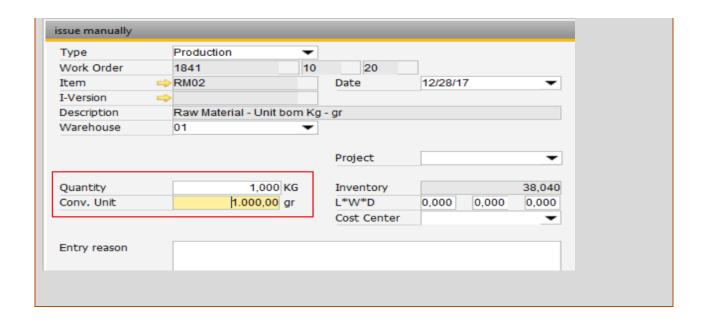


If you scan the BOM barcode 1004605, then the work order, work order position and material position is also automatically detected.



4.2. Example Manual Issue of Item with Unit BOM





5. FIELD GUIDE

5.1. Manual Issue Field Guide

The following fields are available at the manual goods issues screen:

- Itemcode: Code of the item.
- Warehouse: Code of the warehouse where the item is issued.
- Date: Posting date of the document. The default value is the today variable.
- *Quantity*: The quantity issued. The inventory label shows the current inventory at the selected warehouse, therefore the quantity cannot be more than the inventory quantity.
- **Project**: SAP Project code. The default value comes from the project linked to the work order. If continued stock is active in the database, the project code is included in the journal entry.
- L*W*D (Length, width, and diameter): The dimensions of the raw material, that can be used for a custom formula to calculate the quantity.
- *Cost center:* Cost center allocated to the transaction. The value is determined automatically depending on a Beas general parameter and this value appears on the journal entry for the goods issue.

To set the cost center:

Configuration Wizard→ Production→ Material posting→ Account determination→ cost center determined by:

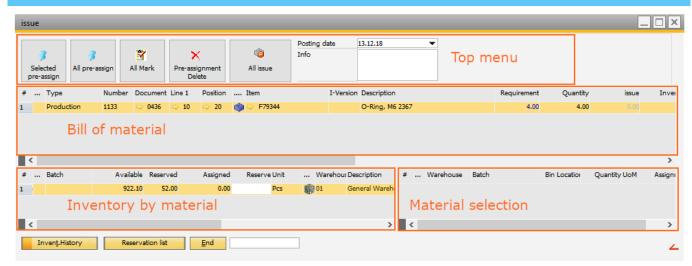
No: The cost center is empty by default.

Assembly: Use the cost center defined in the master data of the produced item.

Material: Use the cost center defined in the master data of the raw material.

- *Entry reason:* Free text to add any additional information.
- *Pricing*: Shows the method determining the price.

5.2. Material Issue Field Guide



The window has four areas:

- 1. **Top menu**: Buttons to interact with the selection:
 - <u>Selected pre-assign</u>: Quantity of all entries marked in the bill of material area are selected automatically. This is only valid for raw material where the issue method is set to *Backflush*. The following priorities are applied for quantity selection:
 - Inventory previously reserved for this order line
 - o Inventory at the allocation warehouse
 - Default warehouse as per BOM, standard warehouse of the item, or default warehouse for backflushing as set in the Configuration Wizard > Backflushing > Posting from allocation warehouse
 - All pre-assign: Quantity of all entries in the bill of material area are selected automatically.
 - All Mark: Selects all lines of the bill of material area.
 - <u>Pre-assignment delete</u>: Delete all assigned quantities from the material selection area for the items selected in the bill of material area.
 - <u>All issue</u>: Create the goods issue document with all the assigned quantities in the material selection area for each item on the bill of material area.
 - Posting date: Posting date of the goods issue document.
 - Info: Free text for any additional information for the goods issue document.
- 2. **Bill of material**: List of materials that are required on the selected work order. In this area information is available on the required quantity and stock information. The displayed columns can be customized. Some of the column descriptions are as follows:

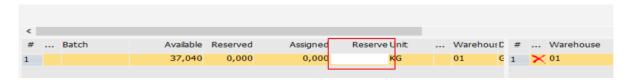
Column	Description
	Status of the row indicated by an icon
	These icons are the same in the reservation screen, allocation screen, provision screen and material issue screen.
	Icon Description

	1				
		A barrel is displayed when material is selected.			
		Grey: less than the planned quantity of the material is reserved			
		Green: required quantity reserved			
		Red barrel overflown: more than the required quantity is reserved			
Number	Work	order number			
Document	Docun	nent number			
Line	Work	order position			
Item	ltem n	umber			
I-Version	ltem v	ersion			
Description	Item d	escription (from BOM or Sales Order)			
Allocation	-	on allocation warehouse			
Warehouse					
Requirement	Planne	ed quantity remaining =			
	Planne	ed assembly quantity* BOM requirement - already posted material +			
	cancel	ed material			
	The column is color coded:				
	red: required amount not available				
	blue: required amount available				
	green:	no requirement or enough goods selected (value = 0)			
Quantity	Requir	red total quantity not considering the reserved quantity.			
Reserved	Displa	ys the currently selected quantity to be issued.			
	The co	lumn is color coded:			
	gray: r	required amount selected			
	blue: p	part of the required amount selected			
	green	total quantity selected			
	red: m	ore than the required quantity selected			
Order related	Total o	quantity of open purchase orders and purchase requests for this row in			
purchased	wareh	ouse units.			
Alloc.	Stock	on allocation warehouse.			
warehouse					
Inventory	Curren	nt free stock.			
	Stock	of pre-allocated warehouse.			
		s order or Production - BOM position a warehouse is stored. The stock of			
		arehouse is displayed.			
	CI II S W	archoose is displayed.			
Total Inventory	Δyaila	ble total quantity.			
Total inventory		• •			
		llue depends on the extended display settings. If the Configuration wizard → ction → Material posting → Backflushing → Reservation, material issue:			
	1.	led Display option is enabled, then the stock of all non-blocked warehouses			
		layed. For batch related items only released batches are considered.			
	is aish	layed. For patentierated items only released patenes are considered.			

	If the option is disabled, then the stock of all non-blocked warehouses is displayed.
Goods receipt	Total quantity of open purchase orders in warehouse units.
from PO	
Release	Check mark displayed, if the check mark approved was set in the sales order
	window logistics tab.
Warehouse,	Warehouse that is stored in the pegging.
primary	
warehouse	Production BOM position: always the warehouse which is entered in the BOM
Picklist Release	Check mark displayed, if the <i>print picking sheet</i> check mark is set in the sales order
	window logistics.
Blocked stock	Stock of blocked warehouse.
Res. Total	Total reservation (all orders, customer and work orders).
Purchase inflow	Planned inflow from purchase.
Sales order	Requirement of sales orders.
Res. sales order	Reserved quantity of all sales orders.

3. **Inventory list by material**: Inventory information by warehouse depending on the selected line in the bill of material area. The quantity to be issued can be manually selected here. In case of batch or serial items, the batch or serial number information is displayed by warehouse.

A quantity from a warehouse inventory can be selected by double-clicking on the line or entering the quantity in the *Reserve* field. The selected quantity is then displayed in the material selection area. Double-clicking selects the full requirement depending on the available quantity at the warehouse.

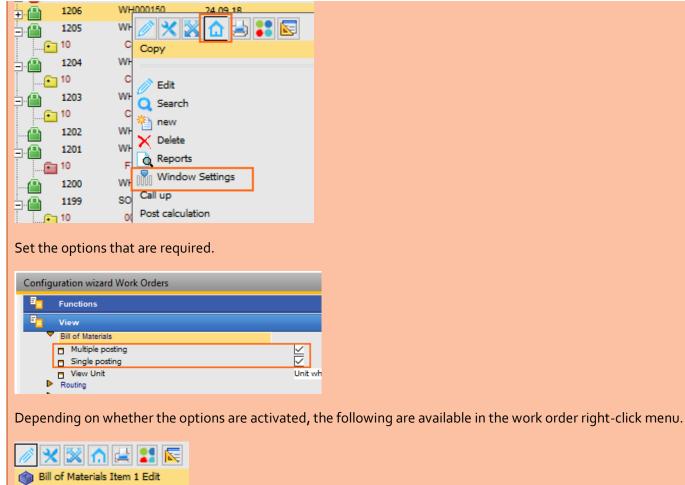


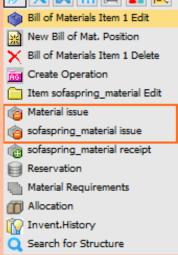
4. **Material selection**: Selected quantities are collected in this area and are displayed according to the selection in the bill of material area.

6. CONFIGURATION WIZARD

6.1. Material Issue Window Settings on the Work Order

To set the menu options available from the work order go to the *Work Orders* window and access the right-click menu → Home icon→ Windows Settings





6.2. Account Definition for Manual and Correction Type Material Issue

For manual and correction type material issues started from the Modules → Inventory → Inventory Transactions → Issue manually (single event) menu, the transaction accounts can be defined at Configuration Wizard → Material Management → Manual Entries → Account Settings:

Manual outflow: Manual goods issues with Manual reference. G/L account for material debit. Default: Inventory offset - Decrease

Correction outflow: Manual goods issues with Correction reference. G/L account for material debit. Default: Inventory offset - Decrease

For production postings, the WIP account is used.