Production order and process order

Purpose

The Purpose of this document is to get an overview of production and process orders and its process

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ORDER CREATION

A: Methods

There are two methods of creating an order in SAP

1) Manual creation of the order that is with reference to a material or to a sales order

2) Planned order conversion

B: Transaction codes

The following are the transaction codes to create a process order

1) Direct creation of process order using T-code COR1

2) Direct creation of production order using T-code CO01

3) From planned order conversion using T-code MD04

C: Order Parameters

There are many parameters in manual order creation that needs to be considered. These include the following:

1) Scheduling types
Forward Scheduling: If Order Start date is entered, the Order Finish Date is derived by the system.

Backward Scheduling: If Order Finish date is entered, the order Start Date is derived by the system.

Current Date Scheduling: The System plans the order on today’s date, both start and finish date are today’s date.

Only Capacity Requirement Scheduling: This option allows you to enter the start and finish dates as you wish.

2) Schedule Margin Keys

The Schedule Margin Keys holds the Floats before and after production, the release period given to the users to release the order from the order start date and the opening period given to the users to convert the planned order to production order.

3) Planning plant

The production plant and the planning plant is brought in from the selection screen

4) Production version

When the BOM and the routing are selected in the order from a valid production version then that production version is entered here

5) Planned order

When you are using Material Requirement planning to plan the header material and a planned order is created to cover the demand and subsequently converted to an order; this planned order which is used to convert to this order is populated here.

The planned order once converted to production order is deleted from the system and also removed from the tables.
6) Stock Type

This field mentions about the stock to which the material will be posted to. If there is data maintained for quality management in the material master for this order then the proposed stock type would be “Quality inspection”, else the default would be set as “unrestricted stock type” which is the free for use stock.

7) GR processing time

This value is taken from the material master, MRP views

8) Batch

The batches at the header level are created using the code CORW, where you can set your ‘batch creation’ and ‘classification value’ types. If batch is created for the material then it is always that the goods are received in batches
9) Control tab

The values in this field are flowing from the settings made for the order type and the order dependent requirement, from the code COR4, and also from production scheduler using code CORU.

10) Master data tab

This tab contains field such as BOM and routing which is linked to respective master data to create the order. The routing tab denotes the key values that are taken from the production version of the order. Bill of Material header contains the data from the BOM for the order.

![Production order Create: Header]

11) Operation overview

This screen contains the set of operations that are to be performed by the order where these operations are linked together with work center. Any number of operations can be added and there are options to add (+) and delete (-) operation, but an order should contain at least one operation at a time. There are three important conditions that an operation should satisfy in order to get transferred to APO for planning. They are:

- Control key for the operation should be scheduling relevant
- Work center assigned to the operation should be present in APO, i.e., an active integration model should be present
- The operation should have at least one activity with a value greater than 1

The above points are detailed in the note 367658.
12) Component overview

The component overview screen contains the list of component that is used extracted from the BOM of the material. The values like the component number, component description, and the unit of measure are generally taken from the BOM. The quantities that correspond to the component are taken with respect to the order quantity. The component storage location corresponds either to the material master issue storage location or the BOM issue storage location at the component level. There are three item categories:

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>CHOCOLATE</td>
<td>Chocolate</td>
<td>20</td>
<td>KG</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>COCOA</td>
<td>Cocoa powder</td>
<td>10</td>
<td>KG</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>MILK</td>
<td>Milk powder</td>
<td>10</td>
<td>KG</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>SUGAR</td>
<td>Sugar</td>
<td>10</td>
<td>KG</td>
<td></td>
</tr>
<tr>
<td>005</td>
<td>BUTTER</td>
<td>Butter</td>
<td>10</td>
<td>KG</td>
<td></td>
</tr>
</tbody>
</table>

L for Stock item

N for Non stock item

C for class item used in variant configuration

Backflush indicator is set for the component manually or from the material master or workcenter. If this indicator is set then the component would be issued automatically during the order or operation confirmation. If the component is not assigned to an operation in the routing then by default the system will assign it to the first operation.

When an order is created, every component that is present in the order becomes a part of the reservation list, which in turn contains their own reservation number. And again creating reservation depends on the setting from the order dependent parameter settings for the order type.
13) Release an order

The order can be release once it is when it is created. The green flag that appears in the production order header, over the top left is used to release the order. Before the order is release the system will check the following:

1) Material availability check
2) Capacity availability check

When the release process is carried out the system will trigger the following:

1) Change the status of the order from CRTD to REL
2) Allow goods issue to the order
3) Allow goods receipt from the order
4) Allow order confirmations
Once the order is created and saved, system gives a number to the order

GOODS ISSUE

A: Overview
In order to produce any production or process order quantity, it is mandatory that the component quantity of the output product is issued, this can happen anywhere from the component warehouse or its storage location. The lists of the component are taken from the component list in the order which is as same as the reservation list. Reservation list cannot be created instead it is taken from the order or just be viewed in the code MB23.

### B: Steps in Goods issue

1) Go to the transaction MB1A or alternatively MIGO for the movement type 261. Even when the movement type is not given the default type taken is 261

2) Entering the storage location is optional

3) Then press the option “To order” or “To reservation”. Once this is done the system will propose us to the component details
4) In the next screen the order number for which the goods issue is done is given

5) Pressing the adopt option takes to the component detail in order to check the components to be issued
6) After saving, the components are issued to the order

CONFIRMATION

A: Purpose of confirmation

Order confirmations are about:

1) Declaring the quantity that is produced, the quantity that is scrapped and the quantity that requires reworking.

2) It is also about confirming the total activity hours put in to producing the sub-assembly or assembly thereby deriving the order costs through activity based costing procedures.

3) And it is also about recording the personnel data responsible in producing the stock.

There are 3 ways to create confirmation:

1) Operational level time ticket confirmation

2) Order level time ticket confirmation

3) Operational level milestone confirmation

GOODS RECEIPT

A: Overview

Goods receipt stocks the produced quantities to the storage locations. When the goods are received here they are process according to the material master for individual materials as per costing method from the account views in the material master. Goods receipt is an credit to an order whereas goods issue is an debit to the order. Generally in order to perform goods receipt, it is done based on the order status which should be set to allow the goods receipt. The order status TECO allows goods receipt whereas the status CLSD doesn’t allow.

Goods receipt can be done in two possible ways, partial quantity or complete quantity. If partial quantity is done for goods receipt then the status PDLV is set on the order header, if it is for complete quantity then the status DLV is set for the order header

B: Steps for goods receipt

1) GR, the Order number (optional) and the storage location (optional), the correct Posting date and the document date (date on which you are posting the document)

2) Then Press the "To-Order” Button on the selection screen if you have not entered the order number on the selection screen. Here you should enter the order number and optionally you can also enter the storage location.

Press Enter on the pop-up screen to enter in to the goods receipt main screen.

3) In the GR main screen, the system proposes the order number, the quantity, the storage location (if data already entered/exits in order header), and the batch number (if the batch number already was entered at order header level).

You can also enter the quantities in an alternate unit of measure if an alternate unit of measure is set in the material master

During the Goods Receipt from an order, you can also enter the Batch characteristics values if the batch classification is allowed in the foreground.

4) Then press the Save Button to Save the Goods receipt. Once you save the GR, a material document is created by the system.

The material document would contain an accounting document.

CUSTOMIZING

There are different configurations required to create an order and to work on it. They are the following

1) Order type definition settings

Here we define the order type for the production orders. For normal production the standard type is PP01, this can also be changed to create our own order type with the name like ZP01.
The transaction for this setting is CORN.

2) Order type dependent parameter settings

The transaction for this setting is COR4, here we can set various options like selection of production version and about the order planning and implementation
3) Scheduling parameter settings

SAP offers Production scheduling profile as a standard profile to configure order controls. Such controls are material specific. The Profile is assigned to an header material for which you are creating an order, the transaction for this is CORY
4) Confirmation parameters setting

Confirmations parameters are to be set for orders types so as to allow confirmations as per the clients’ requirements.
## TRANSACTIONS

- **MD04** - Display Stock/Requirements Situation
- **MD02** - MRP - Single-item, Multi-level
- **MD11** - Create planned order
- **MD12** – Change planned order
- **MD13** - Display planned order
- **CO41** – Coll. Conversion of Planned Orders
- **MD16** - Collective Display of planned orders
- **OPPE** - Conversion Planned Order -> Production Order
- **OPU5** - Parameter long term planning PlannedOrder
- **CO01** – Create production order
- **CO02** – Change production order
- **CO03** – Display production order
- **OPU3** – Production order control parameters

![Change View “Parameters for Order Confirmation”: Details](image_url)
COR1 - Create Process Order
COR4 - Customizing Process Order
OPPE - Conversion Planned Order -> Production Order
MD61 - Create planned Independent Requirements
MD01 - MRP Run
MD03 - MRP-Individual Planning-Single Level