

Exensys Software Solutions Ltd.		AA/B/CCDD V x.y
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**Best Practice**  
**eXensys – Subcontracting Stock Maintenance**

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## Introduction

Objective of this document is to explain the maintenance of subcontracting stock. It discusses the maintenance of stock at vendor place during subcontracting out and details of maintaining customer stock during subcontracting in processes. The logical locations and default stock type maintained during subcontracting out and subcontracting in are explained.

## Overview

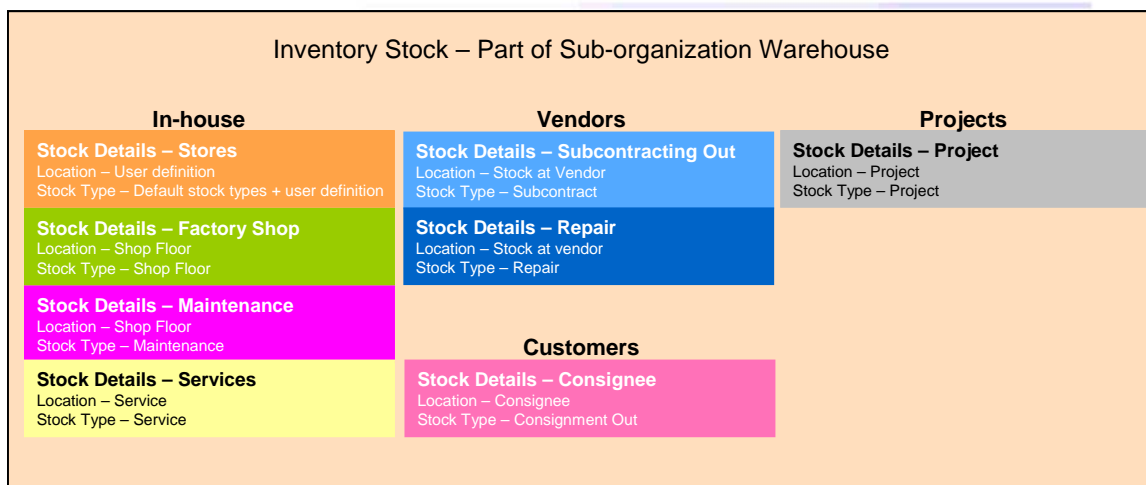
### 1.0 Subcontracting Out

#### Step1 – Basic data setup for manufacturing

Assume we are going to manufacture a compressor. It involves a subcontracting operation. To understand further, the product structure of a compressor is explained below:

Operation	Type of Operation	BOM Items
Crankcase Assembly	In-house	1. Crank case – 1 No. 2. Crank shaft – 1 No. 3. End cover – 1 No.
Piston - Connecting rod Assembly	Subcontracting	4. Piston Sub assembly – 1 No. 5. Connecting rod – 1 No. 6. Bolt – 1 No.
Valve Plate Assembly	In-house	7. Valve Plate – 1 No. 8. Cylinder head – 1 No. 9. Sump cover – 1 No.

#### Step2 – Understanding Inventory Stock maintenance for Sub-contracting Out



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1. There are two types of sub-contracting; operation sub-contracting and inventory sub-contracting
2. Operation subcontracting is done with reference to production orders
3. Items are requested from production orders to inventory
4. During production order issues, inventory stock (**Unrestricted**) will be reduced and shop floor stock (**Shop floor**) will be increased
5. Items are issued to Subcontracting vendors with reference to production orders
6. Items are populated automatically from bill of materials along with the issue quantity, expected item quantity will also be arrived automatically based on production order quantity
7. During sub-contracting issues, shop floor stock will be reduced (**Shop floor**) and subcontracting vendor stock (**Subcontract**) will be increased
8. After the completion of production from subcontracting vendor, the expected items are received through subcontracting receipt transaction
9. At that time, expected item is received as shop floor stock (**Shop floor**)
10. If any additional items are received, it is also considered as shop floor stock (**Shop floor**)
11. The system consumes the raw materials automatically based on the expected item received quantity. The raw materials are consumed from subcontracting vendor stock (**Subcontract**)
12. In case of inventory subcontracting, inventory stock (**Unrestricted**) is reduced and subcontracting stock (**Subcontract**) is increased automatically. The issue items and expected item are entered by the user.
13. At the time of receipt, expected items is increased as inventory stock (**Unrestricted**) and raw materials are consumed from subcontracting stock (**Subcontract**)

**Note:** The stock type for each movement is mentioned in brackets with bold font.

### Step3 – Understanding movement types to maintain Subcontracting vendor stock ledger

Receipt Movement					Issue Movement
Transfer	Issue	–	From Inventory	to	Consumption of raw material, during receipt

Subcontracting Vendor	of expected item in sub-organization
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#### Step4 – Stock ledger of Inventory & Subcontracting vendor, shop floor with Example

Based on the example given in Step1, operation crank case assembly is completed. Shop floor personnel are requesting items for next subcontracting operation piston connecting rod assembly. From here for every action, three stock ledgers are referred. Here only one item example is given for understanding. The color codification for each ledger is given below:

Stock Ledger	Color Codification
Inventory	
Shop floor	
Subcontracting vendor	

#### Stock Ledger Positions (As on 22.09.2008)

##### 4a - Before Item request from Production

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	1000.000	0.000	0.000	1000.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	0.000	0.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	0.000	0.000	0.000

##### 4b – After production order issue from inventory & item receipt in production

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	1000.000	100.000	100.000	1000.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	0.000	100.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	0.000	0.000	0.000

#### 4c – After making subcontracting issue from inventory

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	1000.000	100.000	100.000	1000.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	0.000	100.000

#### 4d – After making subcontracting issue from inventory

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	1000.000	100.000	200.000	900.000
Piston Conrod Assembly	Nos.	0	100.000	0.000	100.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	0.000
Piston Conrod Assembly	Nos.	0	100.000	0.000	100.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	0.000

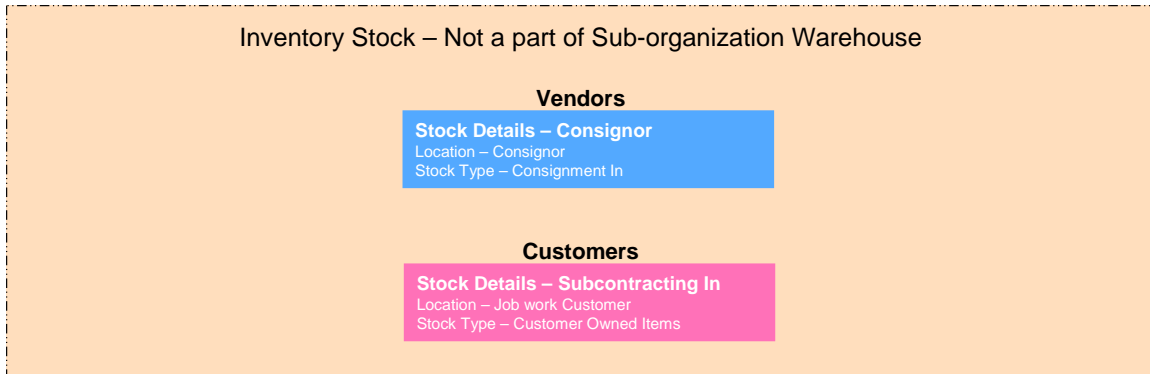
## 2.0 Subcontracting In

### Step1 – Basic data setup for manufacturing

Assume we are going to manufacture a compressor again in this case also. It involves an operation where all the items are issued by customer. To understand further, the product structure of a compressor is explained below:

Operation	Type of Operation	BOM Items
Crankcase Assembly	In-house	1. Crank case – 1 No. 2. Crank shaft – 1 No. 3. End cover – 1 No.
Piston - Connecting rod Assembly <b>(All the items are issued by customer excluding “Bolt”)</b>	In-house	4. Piston Sub assembly – 1 No. 5. Connecting rod – 1 No. 6. Bolt – 1 No.
Valve Plate Assembly	In-house	7. Valve Plate – 1 No. 8. Cylinder head – 1 No. 9. Sump cover – 1 No.

## Step2 – Understanding Inventory & Customer Stock maintenance for Sub-contracting In



1. Subcontracting In sales order is created with one expected item
2. The order also mentions the list of items that will be supplied by the customer
3. With reference to subcontracting sales order, customer items are received. It is stored as a separate inventory as shown in the diagram.
4. The subcontracting sales order is referred in master scheduling
5. From there through out the entire manufacturing cycle, the sales order reference information is carried in all manufacturing transactions
6. After completing the planning cycle, purchase requisition is raised for dependent items
7. At that time customer items are filtered and are referred in purchase requisition for procurement activities
8. In execution cycle, item are requested through item request planned & unplanned withdrawal.

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9. The information is passed to inventory for production order issue with sales order reference details.
10. At the time of production order issue, the regular inventory items are reduced from inventory and there will be no change in customer stock ledger
11. During the next step of shop floor reporting, the inventory quantity will be reduced from shop floor and customer items are reduced from customer ledger
12. During the receipt of finished items, the item is stored in customer ledger for dispatch
13. At the time of DN, customer ledger is reduced and there will be no change for inventory stock ledger

### Step3 – Understanding movement types to maintain Subcontracting customer stock ledger

Receipt Movement	Issue Movement
Customer items receipt	Consumption of customer items at shop floor

### Step4 – Stock ledger of Inventory & Subcontracting customer, shop floor with Example

Based on the example given in Step1, operation crank case assembly is completed. Shop floor personnel are requesting items for next subcontracting operation piston connecting rod assembly. From here for every action, three stock ledgers are referred. Here one customer item and one normal item is considered for understanding. The color codification for each ledger in given below:

Stock Ledger	Color Codification
Inventory	
Shop floor	
Subcontracting customer	

The customer items are shaded in “grey” color

### Stock Ledger Positions (As on 22.09.2008)

#### 4a – Before making any transaction

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance

Bolt	Nos.	5000.000	0.000	0.000	5000.000
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Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	0.000	0.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	0.000	0.000	0.000

**4b – After receiving customer items with reference to sales order**

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	5000.000	0.000	0.000	5000.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	0.000	0.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	0.000	100.000

**4b – After issuing items to production order with reference to a request**

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	5000.000	100.000	100.000	5000.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	100.000	0.000	100.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	0.000	100.000

**4b – During consumption of items at the time of Shop floor reporting**

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
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Bolt	Nos.	5000.000	100.000	200.000	4900.000
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Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	100.000	100.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	100.000

**4b – During receipt of finished items through production order receipts**

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	5000.000	100.000	200.000	4900.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	100.000	100.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	100.000
Compressor	Nos.	0.000	25.000	0.000	25.000

**4b – During dispatching finished items to customer**

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	5000.000	100.000	200.000	4900.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Bolt	Nos.	0.000	100.000	100.000	0.000

Item Name	UOM	Opening Balance	Receipts	Issues	Closing Balance
Piston SA	Nos.	0.000	100.000	100.000	100.000
Compressor	Nos.	0.000	25.000	15.000	10.000

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### Benefits:

1. Faster decisions
2. Utilize the work centers to the fullest capacity
3. Accurate maintenance of subcontracting vendor & customer stock.
4. Possibility of knowing production operation status along with stock details
5. Effective Consumption Reporting.
6. Improved Customer Satisfaction.

### Conclusion:

This document is prepared to understand the stock maintenance for subcontracting in & subcontracting out. The steps involved in the entire cycle of subcontracting in & out are explained in the document. The movement types involved for in & out cycle which controls the stock ledger are also explained in the document in detail. An example of stock ledger is taken and its details in each and every movement is explained for better understanding <sup>®</sup>

