## Production Cycle

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## Overview

Production is the process of combining raw materials or components and labor in order to manufacture, assemble or otherwise produce a finished product. The key here is that whole is greater than the sum of its parts, meaning that the end result is a new product. If you are boxing pieces together, more akin to a picking process, then you should consider using Kits items instead of Assembly items.


A bill of materials (BoM) represents the steps and components necessary to build one unit of finished goods. Components could be comprised of different item types including service items (e.g. Labor) and other assemblies (i.e. sub-assemblies or WIP). Steps are used to break up large BoMs into smaller units for easier management and work assignment.

A work order is the document that uses the BoM and represents the record of a production run, job or assembly. Work Orders can be created directly from a Sales Order in a make-to-order scenario or independently (make-to-stock). The BoM is copied to the work order but it could be modified on a work order by work order basis. For example replacing, removing or adding components. By default, the quantity that you intend to produce is multiplied by the components quantity per to derive Required (Quantity Ordered x Quantity Per).

To complete work orders, you allocate the components in proportion to it BoM, set the quantity produced of the assembled item and change the Status to finished. This is quick and easy method
of finishing a work order without modifying the proportion of the components to its finished goods. Of course you can create additional statuses and use them in conjunction with Steps to customize your work flow.

The work order also allows you to record what was actually produced and/or consumed thus enabling you to measure yield. For example, given an amount of components you anticipate producing 100 lbs . of finished product but you only produce 98 lbs . resulting in a yield of $98 \%$. In Order Time you would set the Quantity Ordered to 100 and the Quantity (produced) to 98. Likewise. there may be situation where you need to add additional components so that the Quantity (used) can be different than the quantity Required.

Notification between statuses can be automated using Alerts and you can use Events to schedule production.

More about Manufacturing with Order Time Inventory

