Discrete Manufacturing - The Made To Order Cycle and Make TO Stock Cycle

In sap there is specific transaction flow for a particular Manufacturing Process. It all depends upon the requirement of client and process.

Here is the basic flow of transactions which is req. for creating master data, planning and order processing...

The Made TO Order Cycle:

The sale department passes on the Made to order-Sales Order to the Material department so that material requirement is analyzed. This is done in SAP by carrying on an MRP Run for all the levels of the product BOM. This MRP Run would create Planned Orders for the shortages. Here the planned orders for fert sub assemblies, Components etc, are created. This planned orders for materials produced in house are converted in to Production order and planned orders for materials procured from outside are converted in to Purchase order. The creation of Production order through the planned orders will convert all the dependant requirements in to dependant reservations.

The dates of production or purchase are decided through the total replenishment time mentioned in the material master, If it is, in-house production, then the Route times precede over the total replenishment time entered in the material master. And the availability of all the components is ruled by the availability checking rules and by availability checking scopes. Thus whenever the system declares a product to be ready or available by a date it implies that the system has checked the availability of the material with respect to the Ware house stock, in coming stock (Receipts) and all other planned orders already existing for the product or material.

In the Made to order production, sales order produced for Fert and Sub assemblies are converted in to production order during MRP run. The production orders created have a specific quantity, specific Basic start date and a specific Basic Finish Date, a set of operations and a set of component attached from the BOM. In course of production the quantities produced in the operation for an order should be confirmed so that the current status of work is available in real time situation. The components required for production are issued to the production order through goods issue by a movement type 261 and the issue is always made to the reservations or to the order, thereby clearing the reservations. Issues of unplanned components are made as new items issue and not as order issue. The quantities, for an order which are produced completely are the put in to stock i.e. a Goods Receipt is done.

Thus the made to order cycle starts with the sales orders and converting them to Production Orders through MRP Run and there off confirming produced quantities for an order and finally putting the order in to stock.

The Cycle of Made to order: Steps: MTO Scenario
1. Material Creation (Made To order Material with major changes of: Item Category: 0004-make to order/assemble.,or 0001-make to order)
2. Routing Creation
3. Creation of BOM
4. Sales order
5. Production order Scheduling, Costing, Release and Save
6. Production order Quantity confirmations for operations, Parallel task of material issue to order or to reservations (261)
7. Fully Produced Production Quantities will be put into stock (GR)
8. Delivery against sales order
9. Invoicing.

The Made To Stock Cycle

The Made to stock scenario will start from Demand Management here we can create Planed independent requirements manually or by using data from SOP. After MRP run system will create planned orders which we can convert to Production order As the Stocks produced there off are not customer stock or the stock is not attached to any specific customer. Further confirmations are done and issues of material are carried out to the production order. Finally the production is put in to stock (GR).

Here at any point of time a sales order might come in and delivery to the customer is done from the existing stock.

Production Master Data

The Production Master Data consists of Material Master, Bill of Material, Work Center, Route, and Production Line Design.

The Material Master is created first for all components involved in making the Final product. Then these components are put in a product relationship i.e. a list of materials required to make the final product are put in a hierarchy, this is called a Bill of Material.

The next task is to identify the work centers required to produce the product; if the work centers are already created then they can be readily put in a sequence, which would be a sequence of work centers required to produce the product. This sequence of work centers one after the other (in the sequence of work to be done) is called a Route

The Cycle of Made to stock: Steps: MTS Scenario
1. Material Creation (Made To Stock Material with major changes of: Item Category: NORM )
2. Creation of BOM
3. Route Creation
4. Demand requirements
5. MRP Run
6. Creation/conversion of Production order (Made To stock), Scheduling, Costing, Release and Save
7. Production order Quantity confirmations for operations, Parallel task of material Issue to order or to reservations (261)
8. Fully Produced Production Quantities will be put into stock (GR)
9. Sales order Creation
10. Delivery against sales order
11. Invoicing.

Example:-

MTO: Make to Order.

The production and Procurement will only happen with reference to Sales Orders. Until unless there is no Sales Order there will not be any Procurement/production.

Planning strategy used is 20. with little variation in the Business requirement Planning Strategy 50 can also termed as MTO.
In material master in MRP3 view maintain the MTO Strategy group like 20,50 etc
MTO: Make to Stock.
With this Business Process, the main aim is to supply to the customer immediately there is a demand and this can be done by supplying from the Stock.

You will keep the products as stock.

Planning Strategy : 10 and 11.
Both these strategies will not consider Sales Orders.
But strategy 40 can also be termed as MTS, here with this Sales Orders will also be taken into account to smoothen the production.

For details also refer this useful link,