

Variant Configuration User Manual

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Purpose

User manual provides the configuration guide and application of variant configuration in Production Planning.

Scenario

Scenario demonstrates the MTO variant configuration with characteristic parameter entry in the sales order, transfer of requirements from the sales order to MRP, conversion of planned orders to production orders and selection of appropriate materials and operations from the super BOMs and super routings and finally creating deliveries to the finished product.

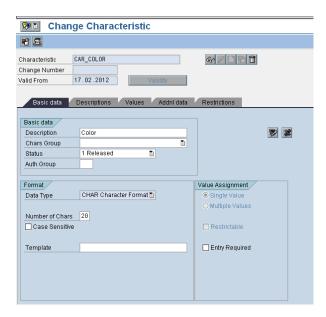
Certain configurable material characteristics and its values are displayed in the sales order based on the preceding characteristics values.



Configuration

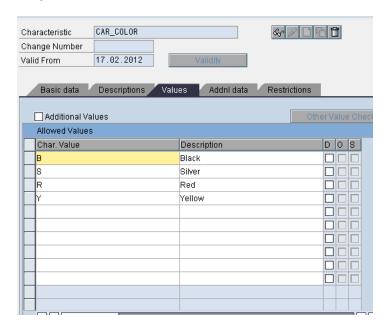
Create Characteristics

Create the characteristics for the selection parameters of the variant with Data Type CHAR or NUM for calculations





Assign Values



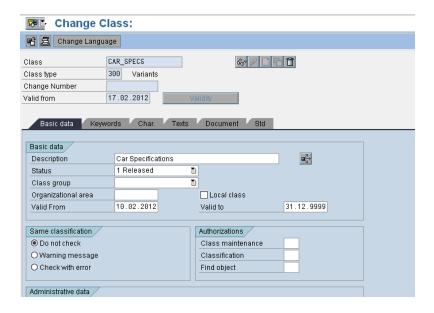
Create Class

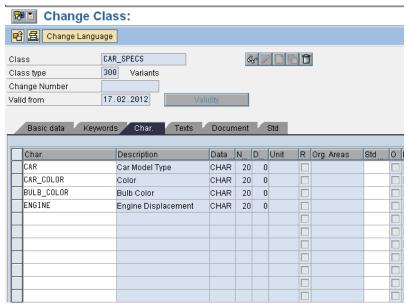
Class Type 300 and 200

Class Type 300

Create class type 300 for variant entry



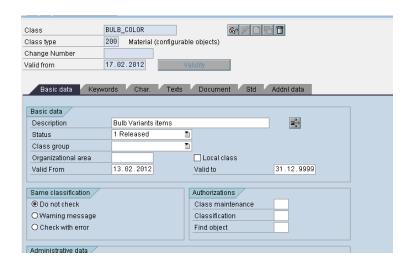


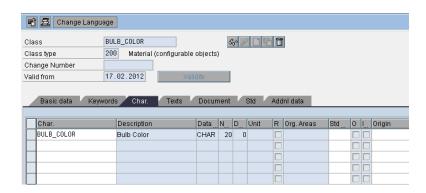


Class Type 200

Create Class Type 200 for mentioning parameters for configurable materials







Select 'Allowed in BOMs indicator', enter Base Unit of measure and Resultant item Category 'L'



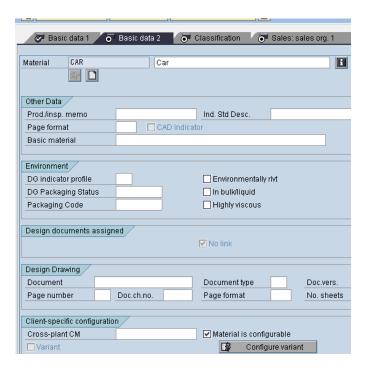


Creating a configurable material

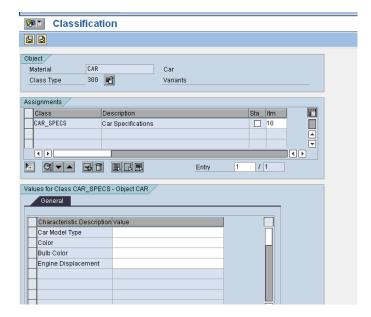
Configurable material can be created in following ways

- a) Mark configurable indicator in BASIC DATA 2 for material types FERT or HALB
- b) Create a material with material type KMAT

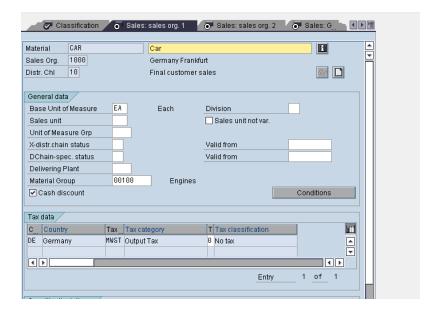




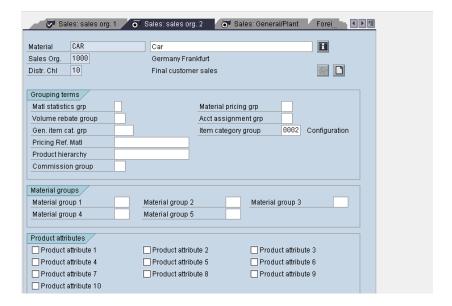
Assign class type 300 for finished and semi-finished materials



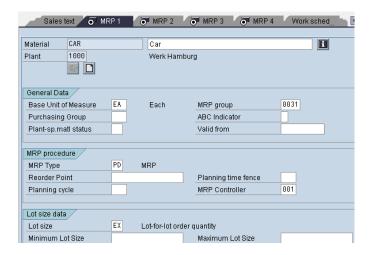


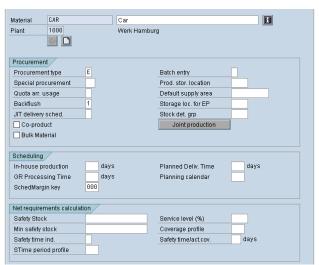


Set item category grp as '0002'





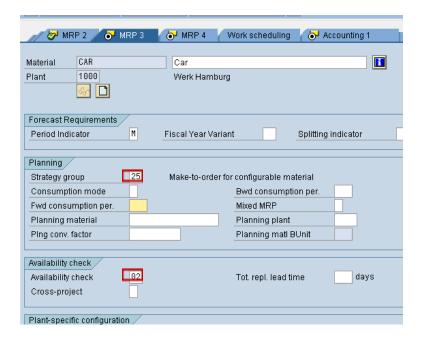




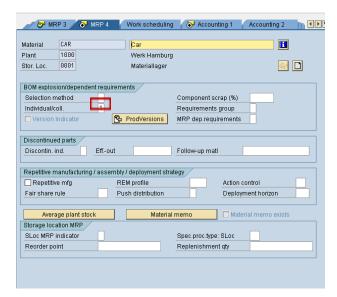


Set Strategy Group as '25' Make to Order for configurable material

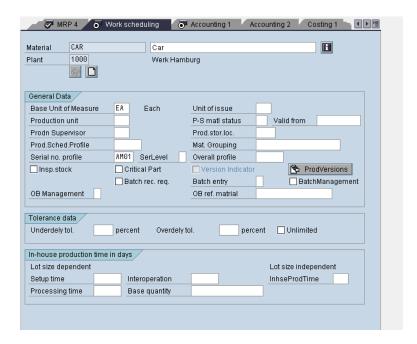
Set Availability Check to '02' Individual Requirements

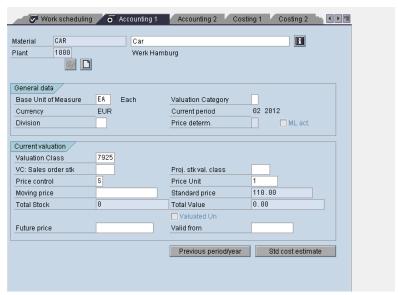


Set BOM explosion/dependent requirements to '1'





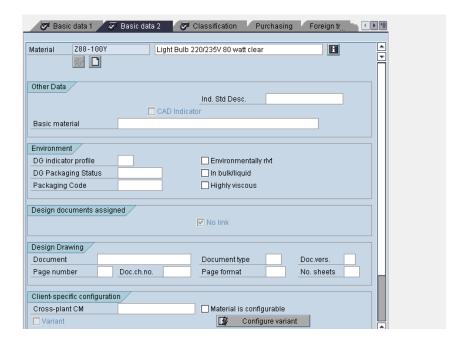




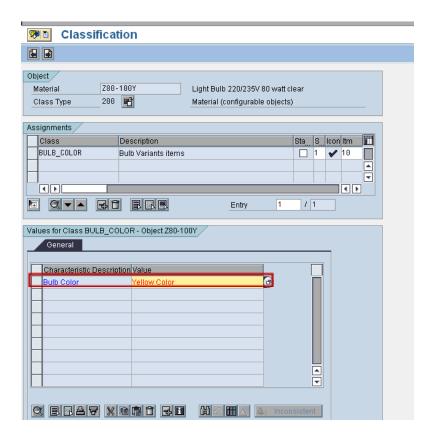


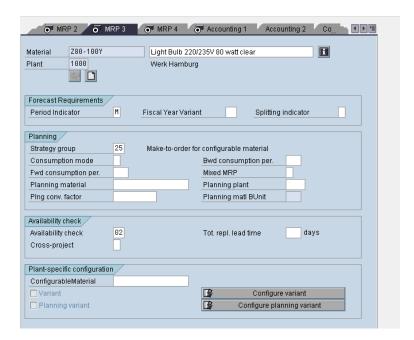
Material with Class Type 200

Class Type is assigned directly to raw materials with mentioning the variant parameters in the material master and this class will be used as selection condition







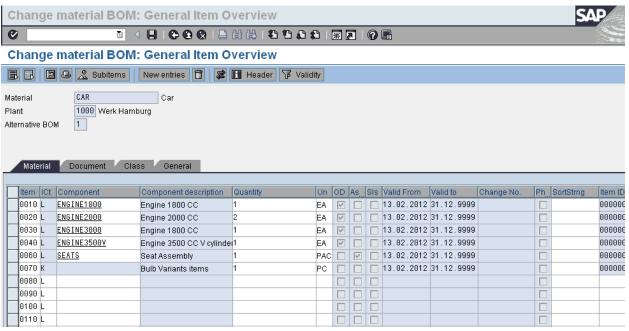


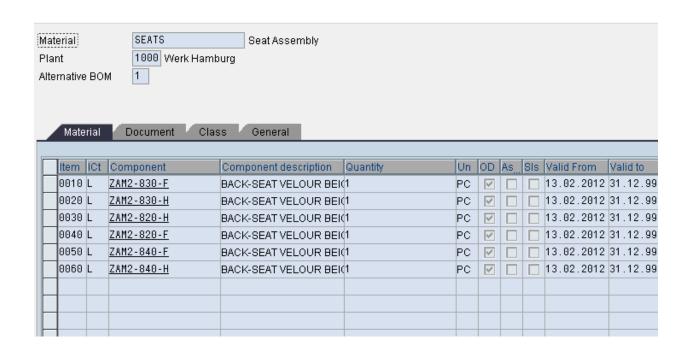


Create a Super BOM

Create a BOM with all possible materials present in variant materials

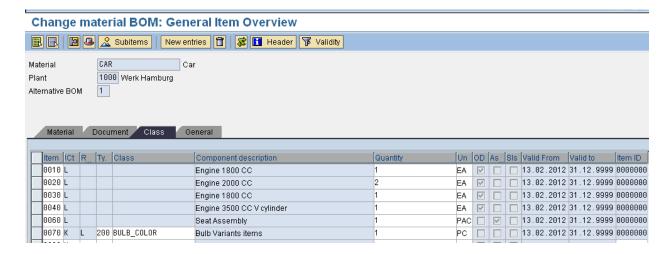








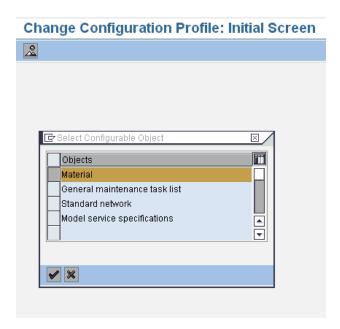
Assign Class Type 200 for selection of variant materials





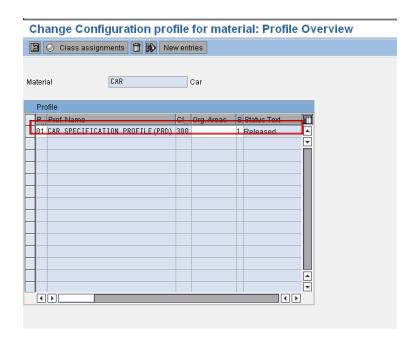
Create Configuration Profile

Create configuration profile for the materials using CU41 Transaction



Enter Profile Priority, Profile name and class type 300 and set to 'released' status

Double click on Profile for detailed data entry





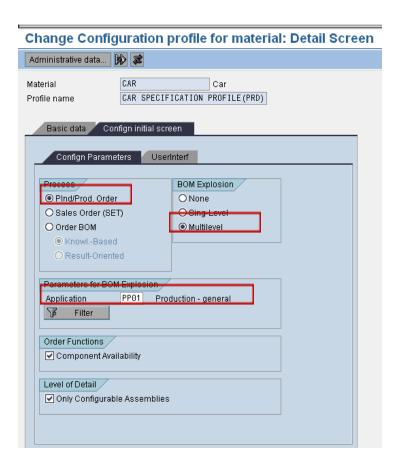


Go to Confign initial screen

Set Configuration Parameters to Plnd/Prod Order BOM Explosion to Multilevel

Application to **PP01 Production General**

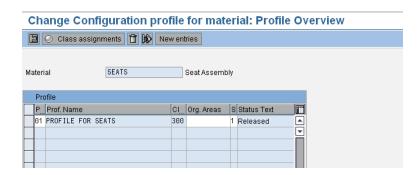




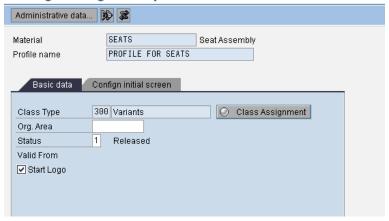
Similarly a configuration profile for material seats is created



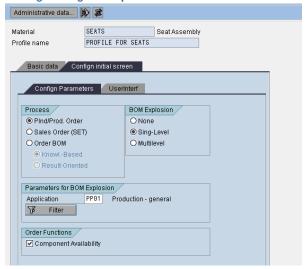




Change Configuration profile for material: Detail Screen



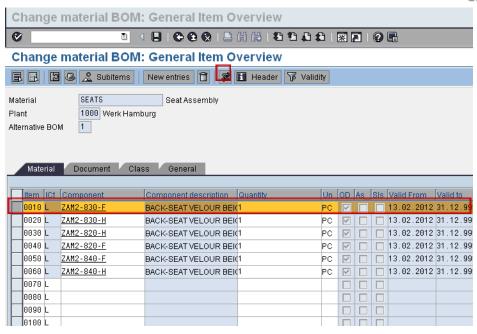
Change Configuration profile for material: Detail Screen

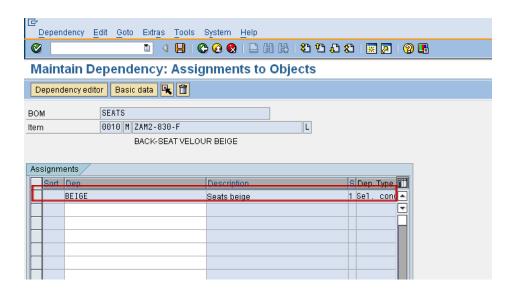




Select the material and Click on dependency indicator



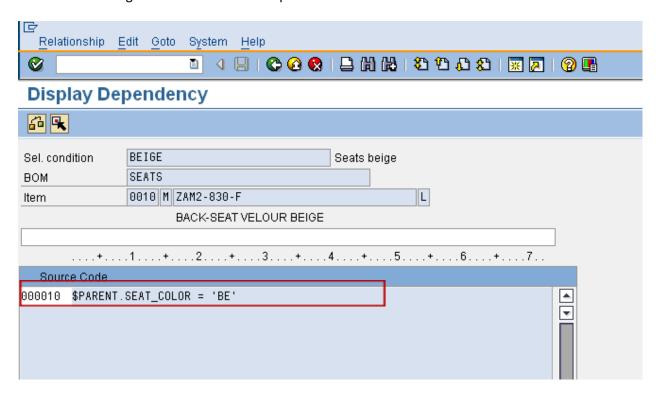




Enter the dependency characteristic value

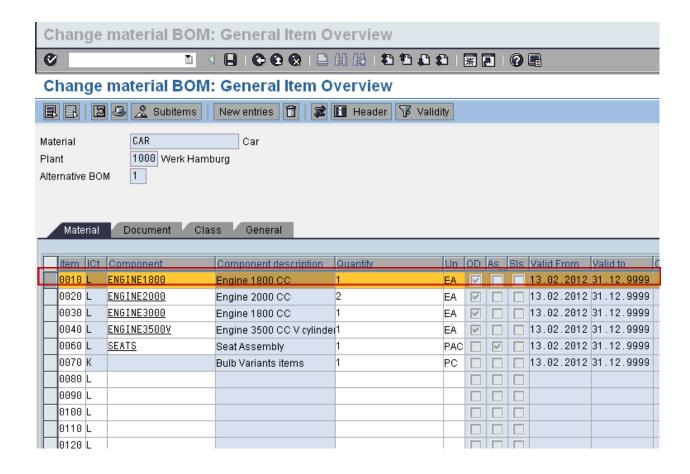


Here the characteristic is SEAT_COLOR with value BE and \$PARENT refers final parent material of multilevel BOM in general but not material specific.



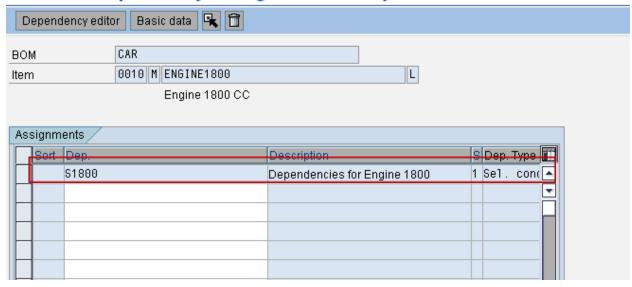


Select the parent material BOM and select the items and assign the object dependencies

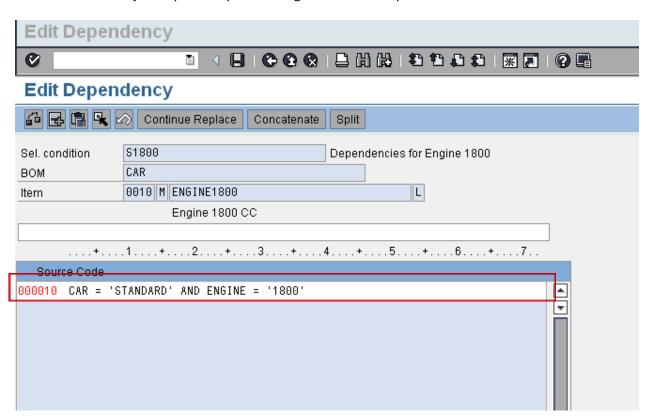




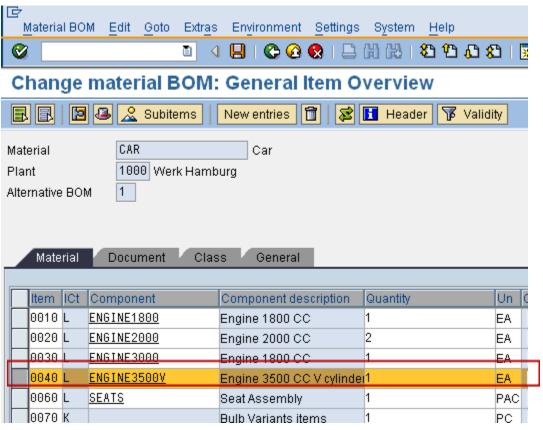
Maintain Dependency: Assignments to Objects

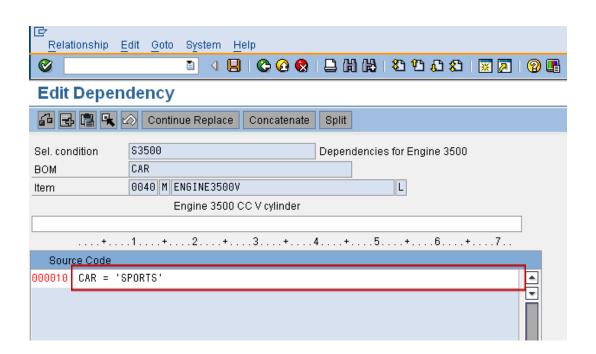


The condition for object dependency for the engine selection requires two conditions











The Characteristic ENGINE has to be displayed only when the CAR model is selected to STANDARD to give options for choosing 1800CC or 2000CC displacement capacity.

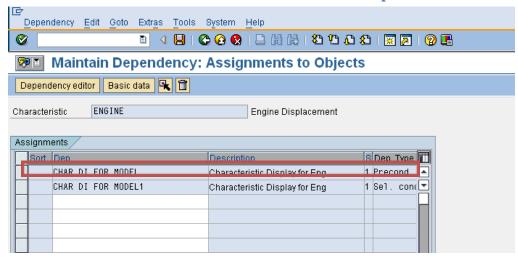
The 2000CC displacement capacity engine has to be chosen only when the STANDARD model color is BLACK

Select the object dependency indicator in the Basic Data Tab

Change Characteristic ~ 5 Characteristic ENGINE Change Number Valid From 17.02.2012 Basic data Descriptions Values Addnl data Restrictions Basic data / Description Engine Displacement Chars Group BIKE bike Status 1 Released Auth.Group Format / Value Assignment / CHAR Character Format Single Value Data Type Multiple Values 20 Number of Chars Case Sensitive Restrictable Template Entry Required

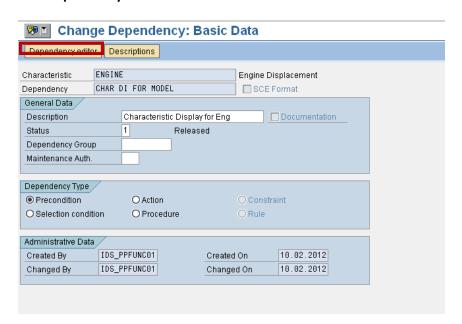


Create Precondition and Selection Condition dependencies



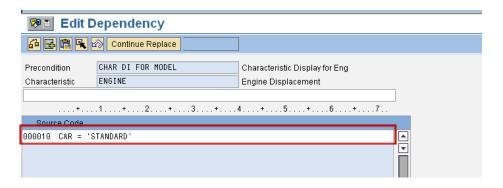
For precondition dependency select PRECONDITION option and the Status is initially set to **2 'In Preparation'**

Click **Dependency Editor**.



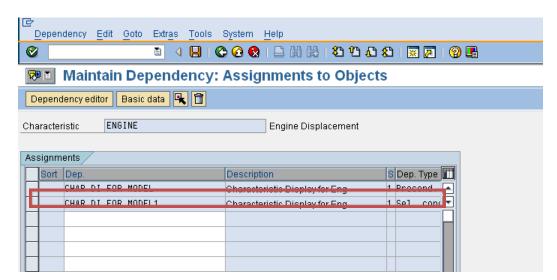


Enter Dependency condition



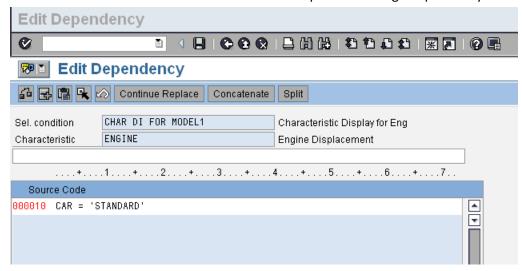
Go to Basic Data for and set the status to 1 Released

Create selection condition dependency





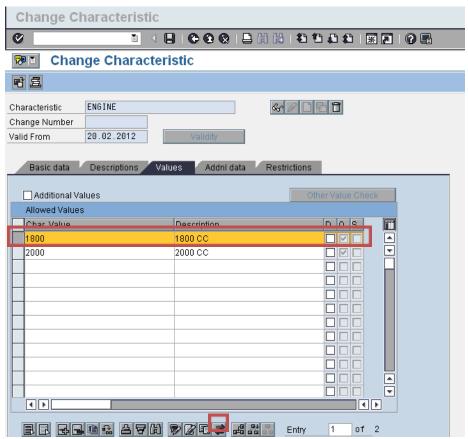
Go to Basic Data and choose Selection Condition option and assign dependency values



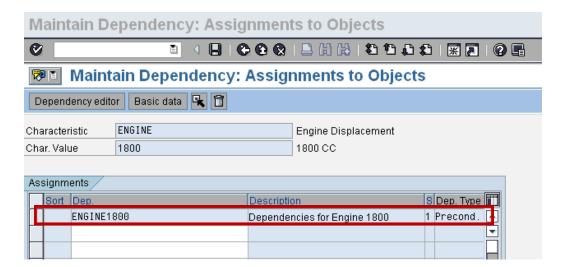
Assigning Preconditions to ENGINE characteristic values to display the values based on the model and color characteristics

Select a value

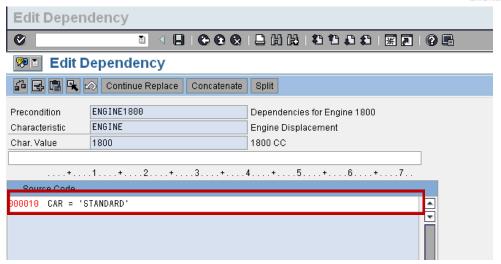


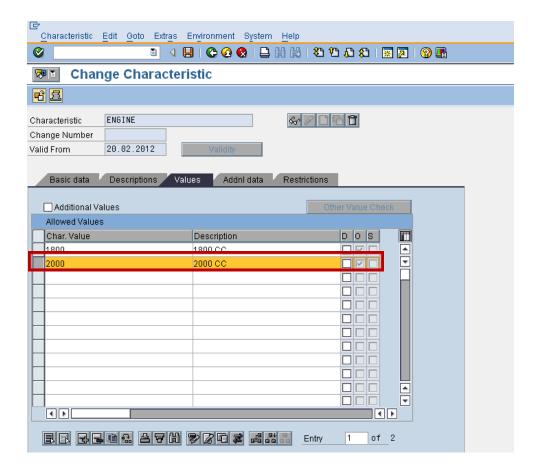


Maintain Precondition dependency for the characteristic value 1800CC



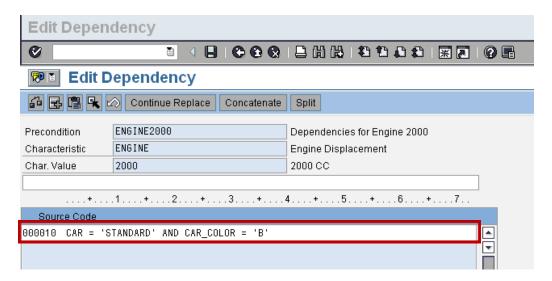








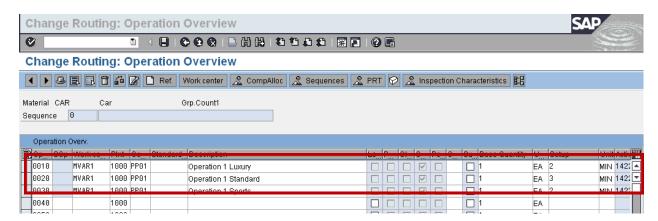
In order to display the characteristic value 2000CC the user must select first STANDARD model and COLOR as Black

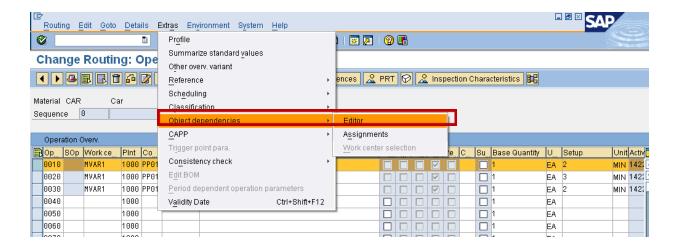




Super Routing

All the operations required for making different possible configurations and object dependencies for appropriate operation is entered

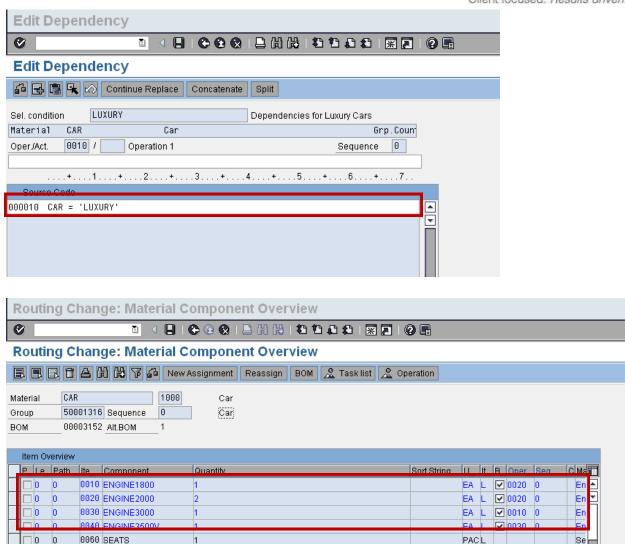






PC K

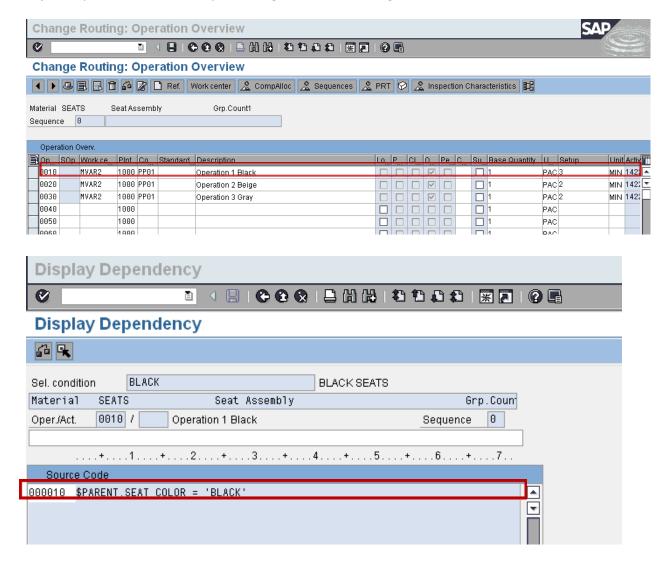
BlBu



0070 BULB_COLOR

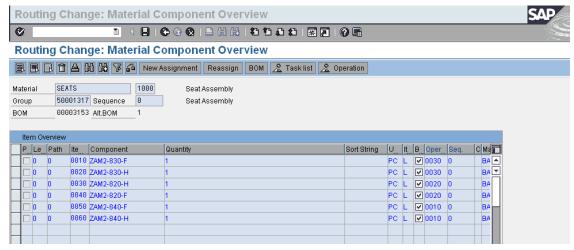


Object Dependencies for the super routing for sub-item configurable material



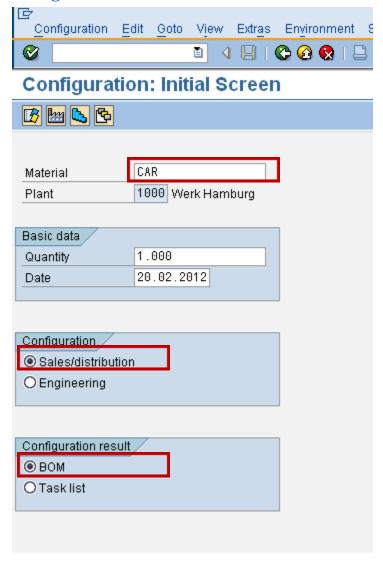
Assign components to various operations





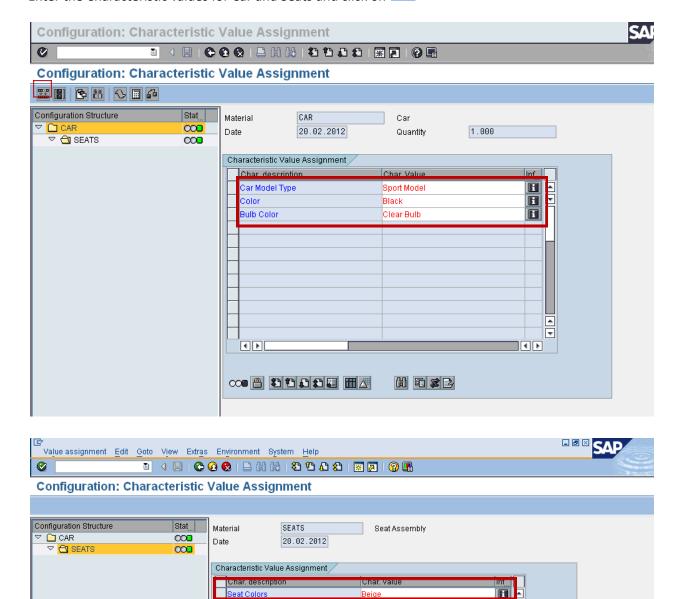


Configuration Test T-Code: CU50



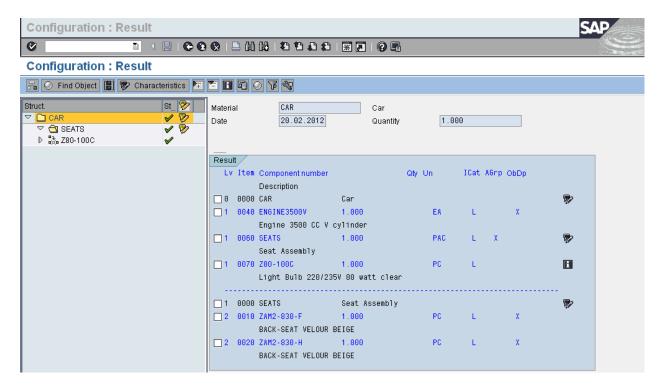


Enter the Characteristic values for Car and Seats and click on





Appropriate materials for the configured materials are been selected in all the BOM levels

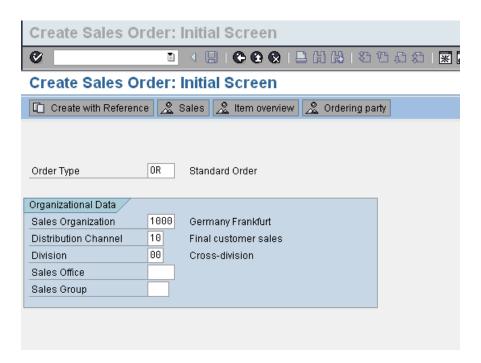




Business Process

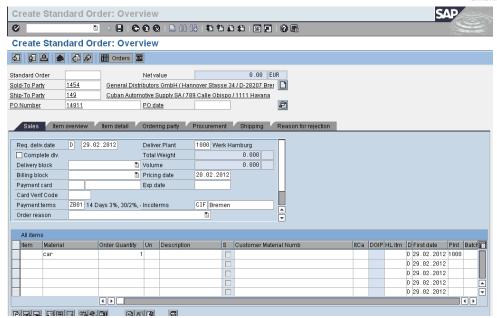
Sales Order

Create standard sales order



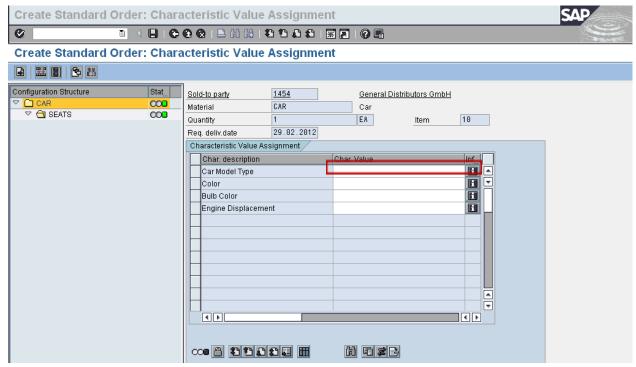
Enter the item number and quantity to enter the variant configuration

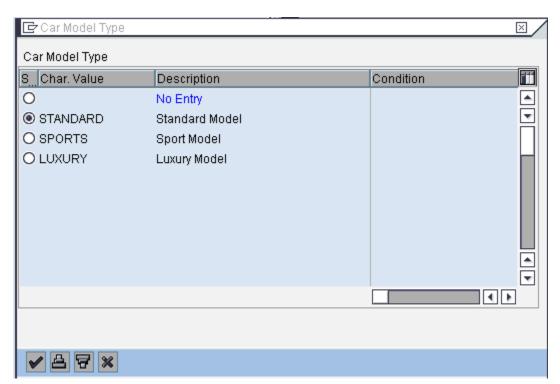




Enter the parameters for the CAR variant







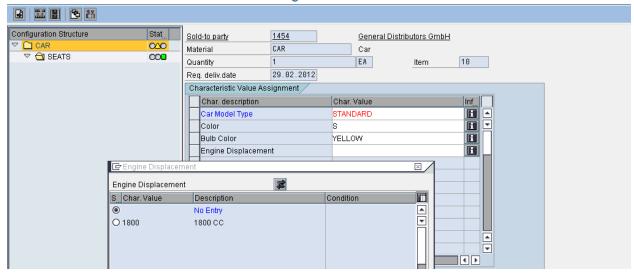
Case 1: Standard Model Selected and Color other than BLACK

Engine Displacement Parameter is displayed but only option available is 1800CC





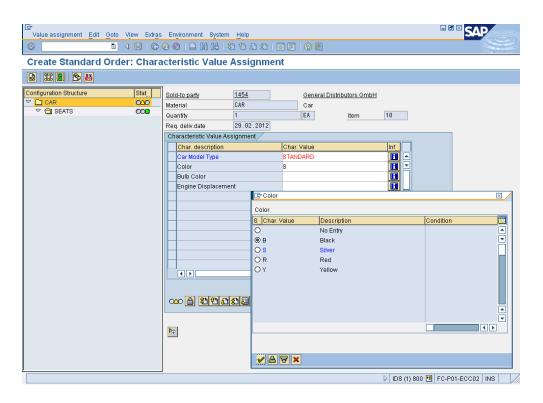
Create Standard Order: Characteristic Value Assignment

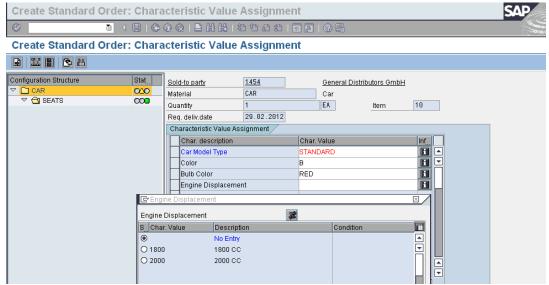




Case 2:

Car Model Type entered is STANDARD and Color is BLACK, the engine displacement option shows two values 1800CC and 2000CC

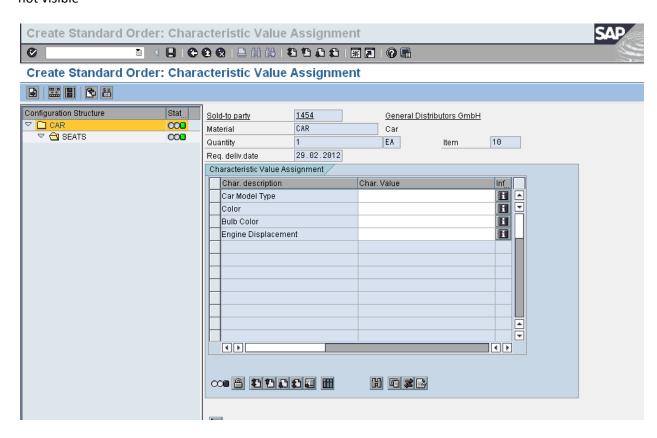




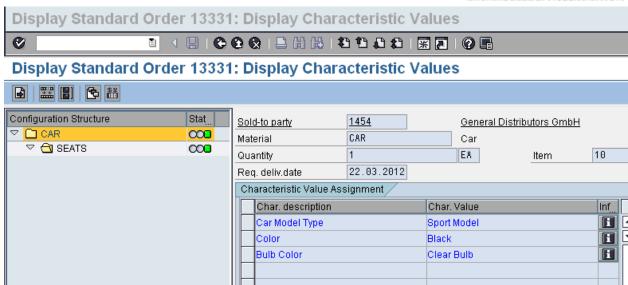


Case 3: Non STANDARD car model

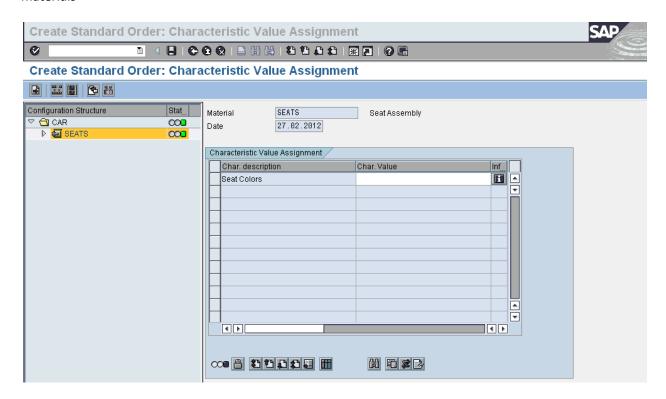
When the car model is selected with a value other than STANDARD the ENGINE displacement option is not visible





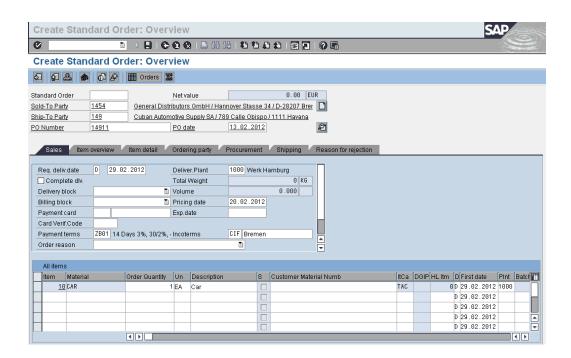


After entering the seat parameters click on the button to check for availability on the required delivery date. If the delivery date is too early then the configuration doesn't explode and select the materials

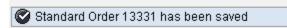












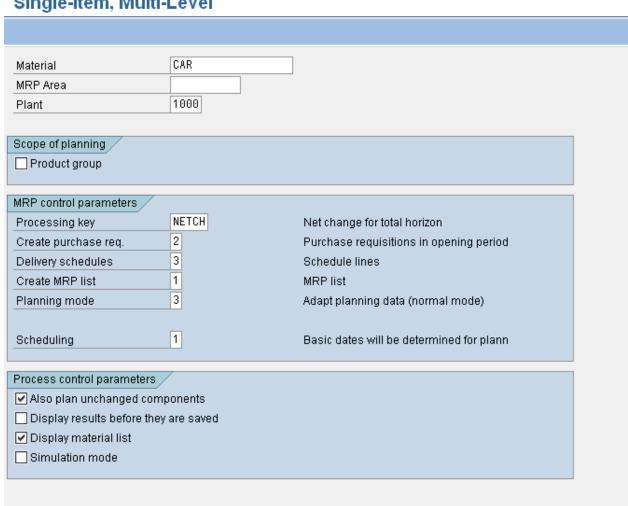
MRP Run

Perform Single Item, Multi level MRP run

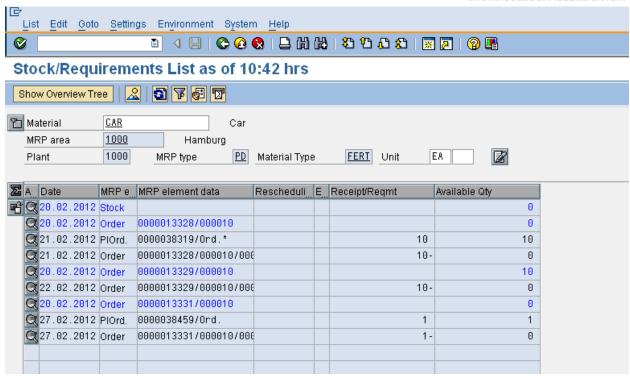




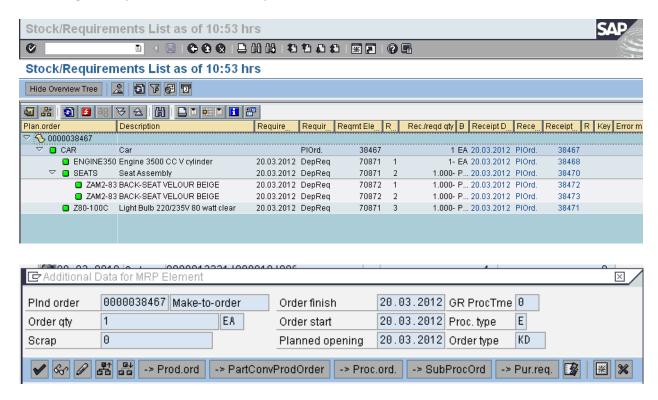
Single-Item, Multi-Level





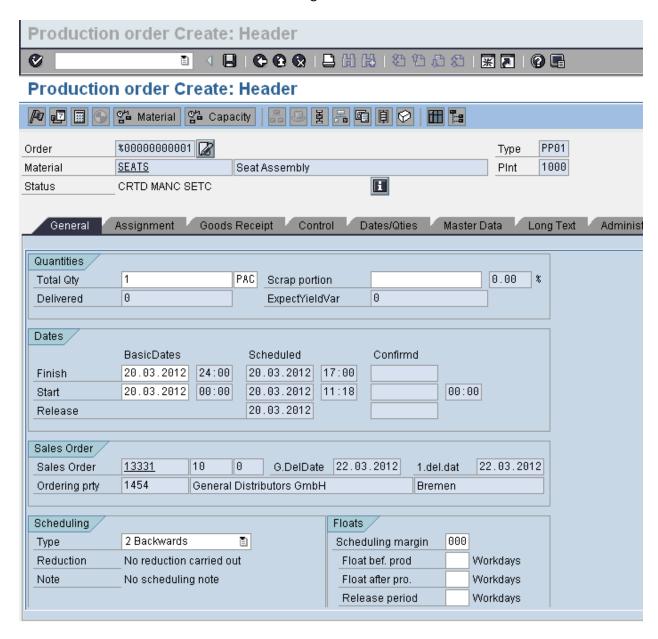


Converting all the planned orders into respective Purchase Orders and Production Orders



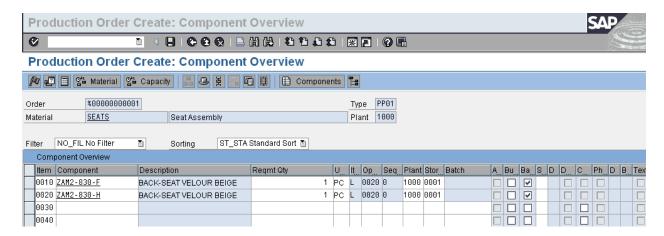


Production Order with reference to sales order is generated for material number SEATS

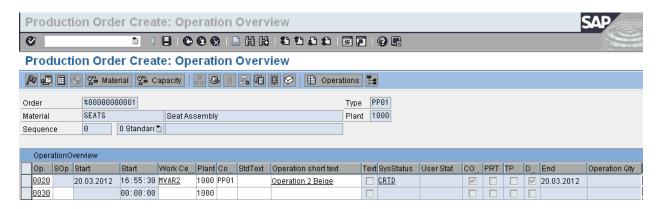




A Variant BOM with seat components with color BIEGE is selected and assigned to the production order

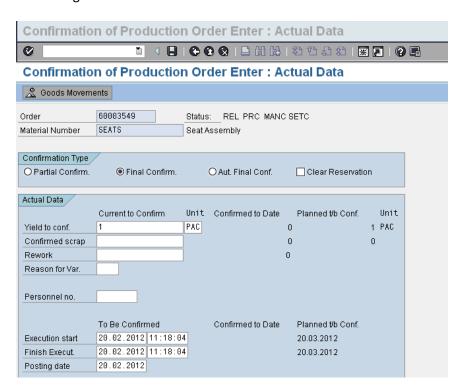


Appropriate Operation from super routing is assigned to the Production order



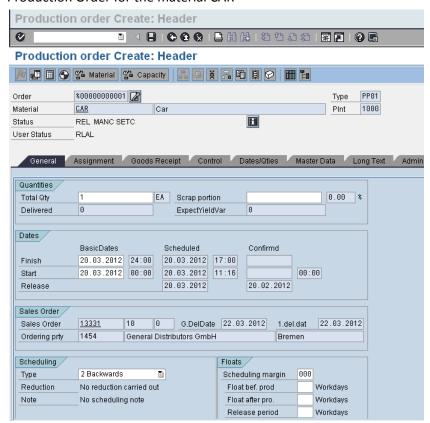


Confirming the Production order for the material SEATS



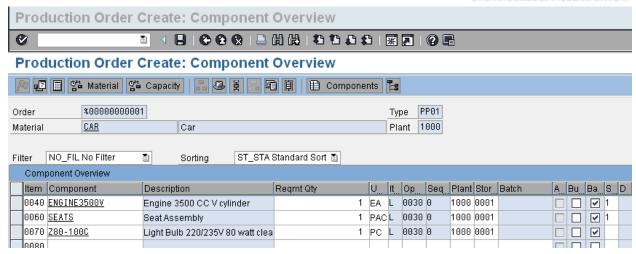


Production Order for the material CAR

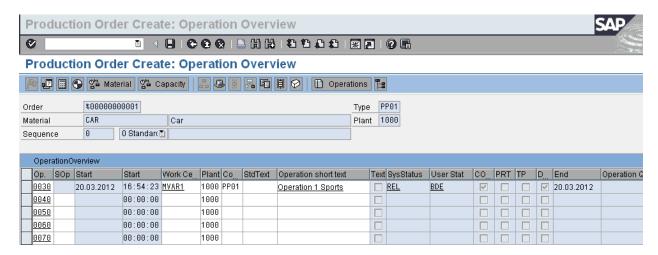


Components for Variant Specific Production Order





Variant specific operation for the CAR assigned to Production Order



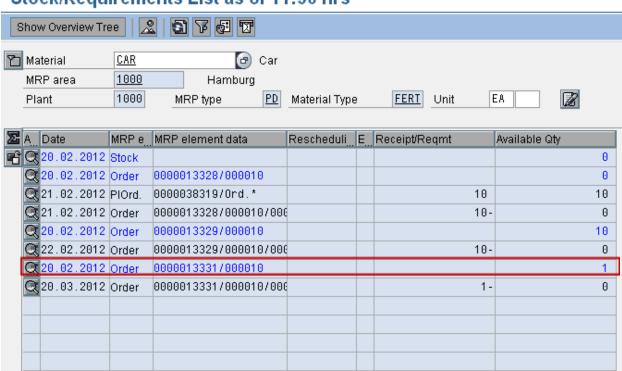


After confirming all the production orders the Stock specific to calculate and a is available for delivery	
After confirming all the production orders the Stock specific to sales order is available for delivery	



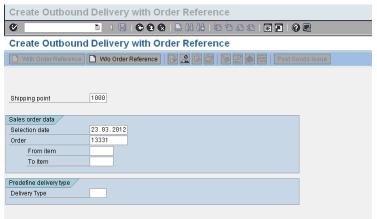


Stock/Requirements List as of 11:50 hrs

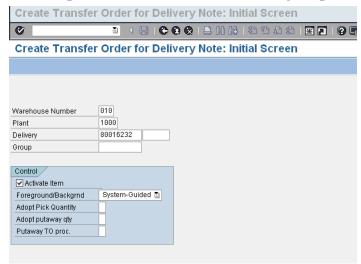




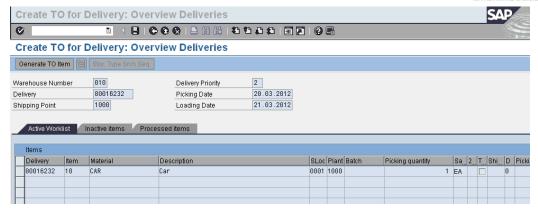
Creating Outbound Delivery



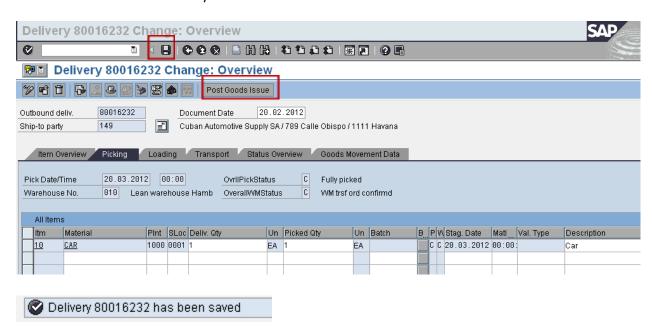
Creating Transfer Order for Delivery to pick the material







Post Goods Issue for the delivery and save the document



Stock Requirements List After Delivery



