MRP

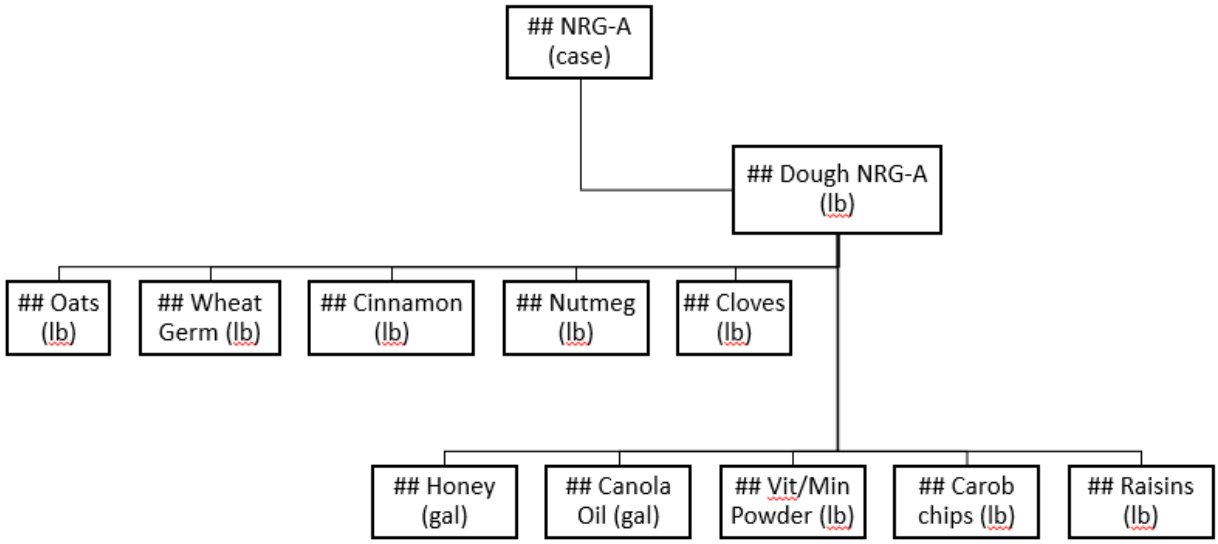
Exercise Introduction

Material resource planning is intended for 3 objectives:

- Ensure materials are available for production and products are available for delivery to customers.
- Maintain the lowest possible material and product levels in store to achieve LEAN processes.
- Plan manufacturing activities, delivery schedules and purchasing activities.

Bill of Material (BOM)

A critical input to the MRP process is the bill of material (BOM), which shows how components and semi-finished products are combined to produce the final product. A graphical representation of the BOM for the NRG-A bar is shown below:

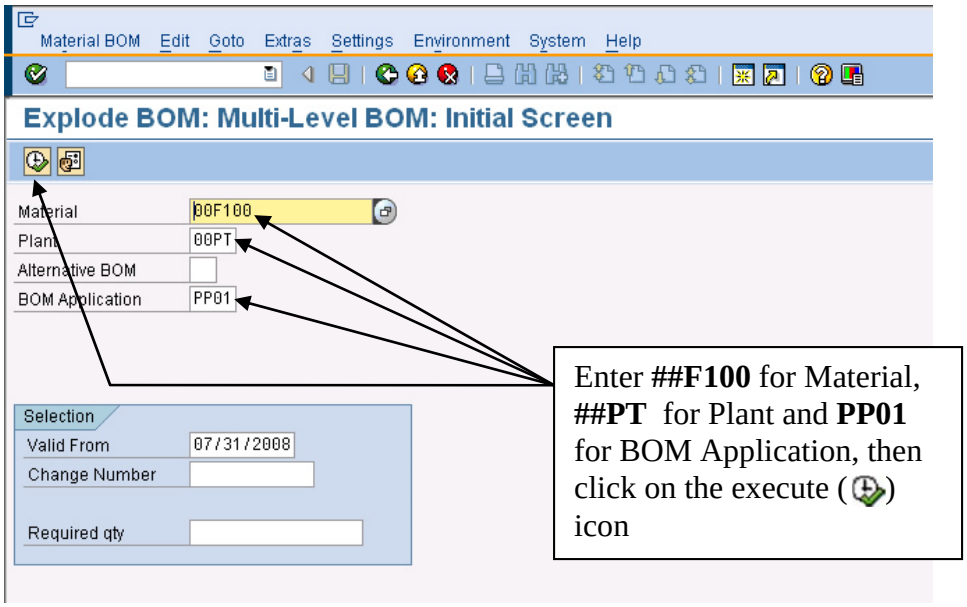


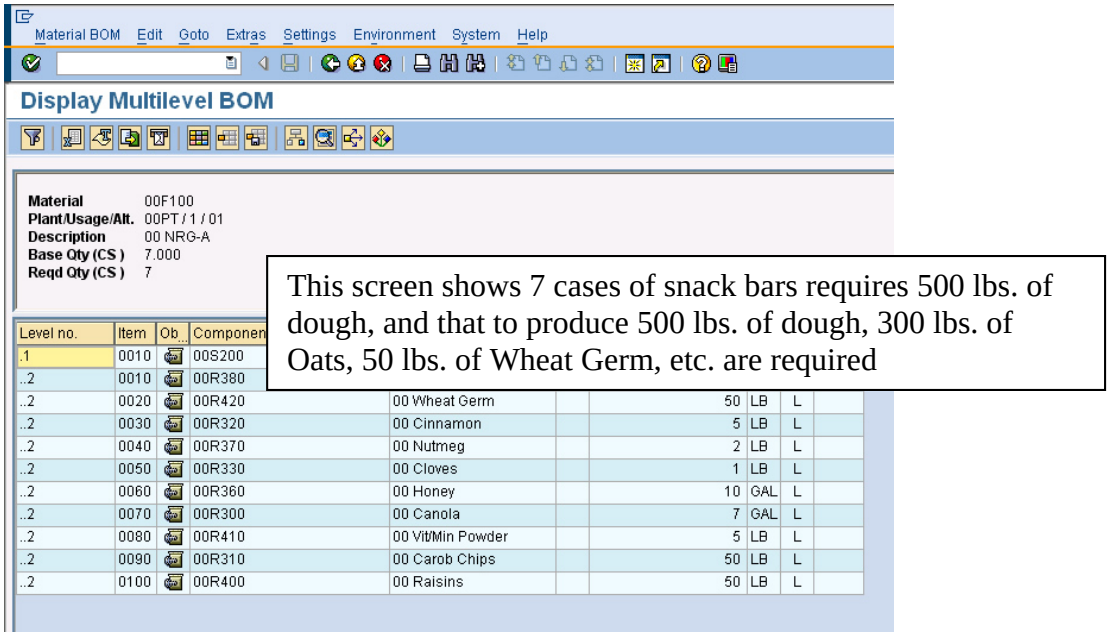
The raw materials (Oats, Wheat Germ, etc.) are combined in a mixer to produce a 500 lb. batch of dough. The dough is then transferred to the baking line, where it is formed into bars, baked and packaged. For simplicity, we have ignored the wrappers, boxes and cases that are needed to produce a complete case of Fitter Snacker bars.

To view the BOMs for Fitter Snacker, follow the menu path:

> **Logistics ▷Production ▷Master Data ▷Bills of Material ▷Reporting ▷BOM Explosion ▷Material BOM ▷Multilevel BOM**

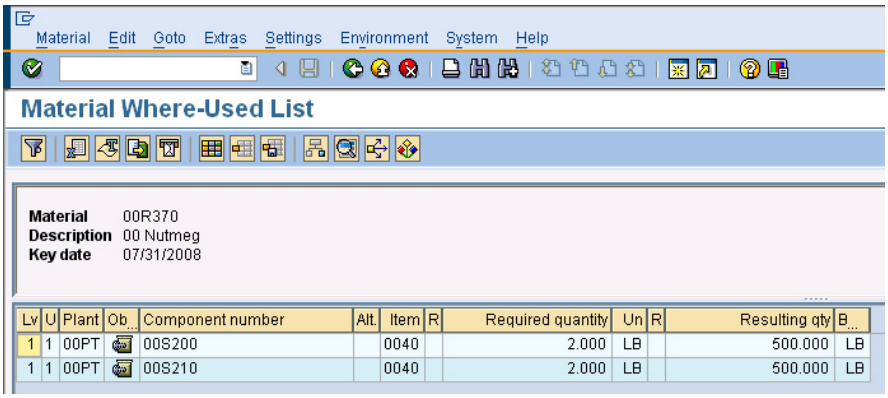
MRP





This screen shows the recipe required for seven cases of dough. To learn more about any of the materials required to make an NRG-A bar, select the item and click on the detail icon.

With the nutmeg selected, click on the where-used icon ( ), which will call up the following screen:



This screen shows that Nutmeg is used in two products—the dough for NRG-A and NRG-B bars. (You can double click on each line to view the products.) According to help.sap.com, the where-used list can be used to:

- Determine requirements for a specific material
- Select products that are affected by a change to an individual part
- Find assemblies that will be delayed if, for example, there is a delay in the delivery of a raw material
- Calculate the effect on the cost of a product if the price of a raw material rises

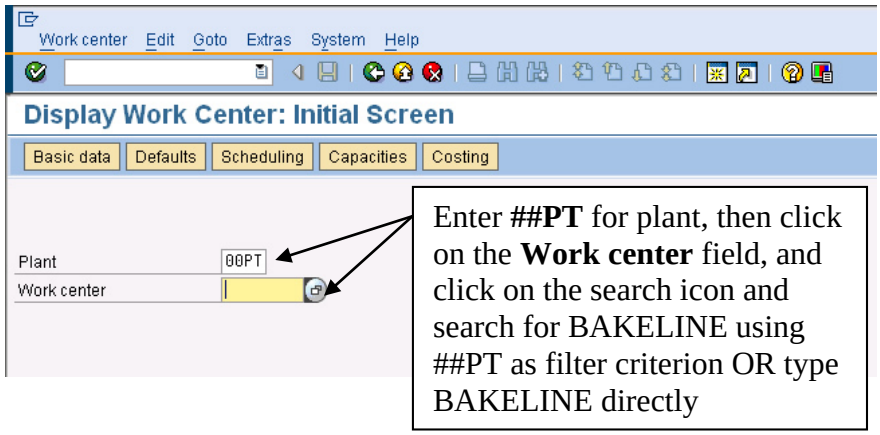
Click on the exit icon ( ) until you return to the SAP Easy Access screen.

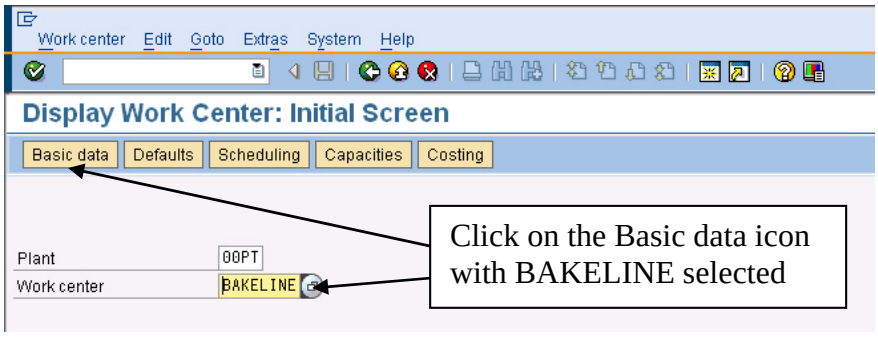
Display Workcenters

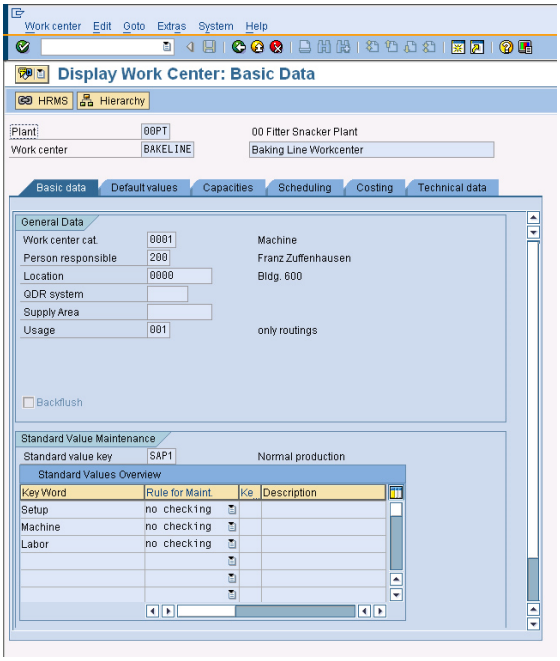
Production is carried out at workcenters. In the SAP ERP system, workcenters can represent machines or groups of machines, production lines, assembly lines, employees or groups of employees.

To display the workcenters used for Fitter Snacker's snack bar production, follow the menu path:

Logistics ▷Production ▷Master Data ▷Work Centers ▷Work Center ▷Display







This multi-tabbed screen contains all relevant data for the workcenter.
Click on the exit icon ( ) until you return to the SAP Easy Access screen.

Routings

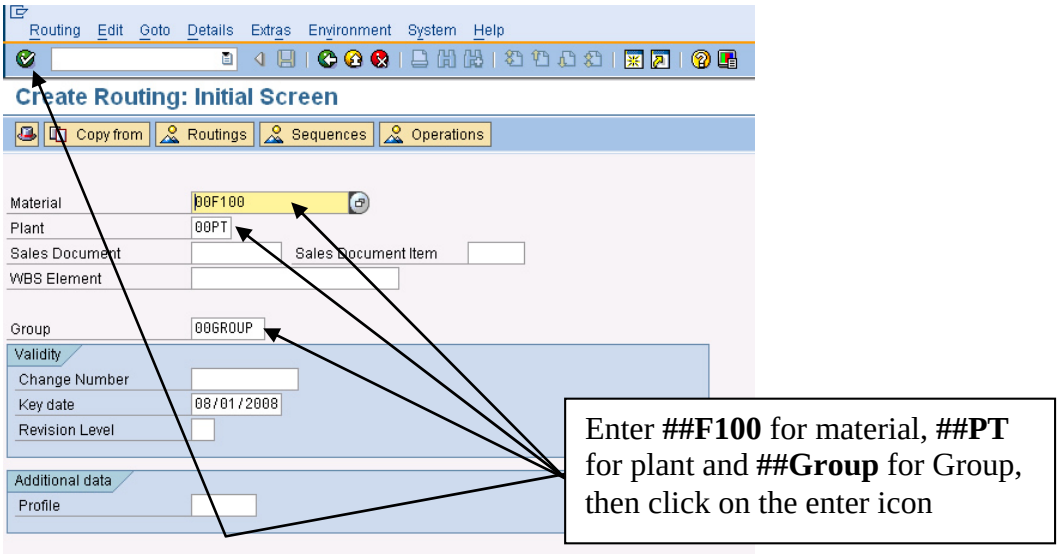
Routings define the work centers that a product must visit in the production process. Routings also define the operations that must be performed at each workcenter and the components that are needed for each operation.

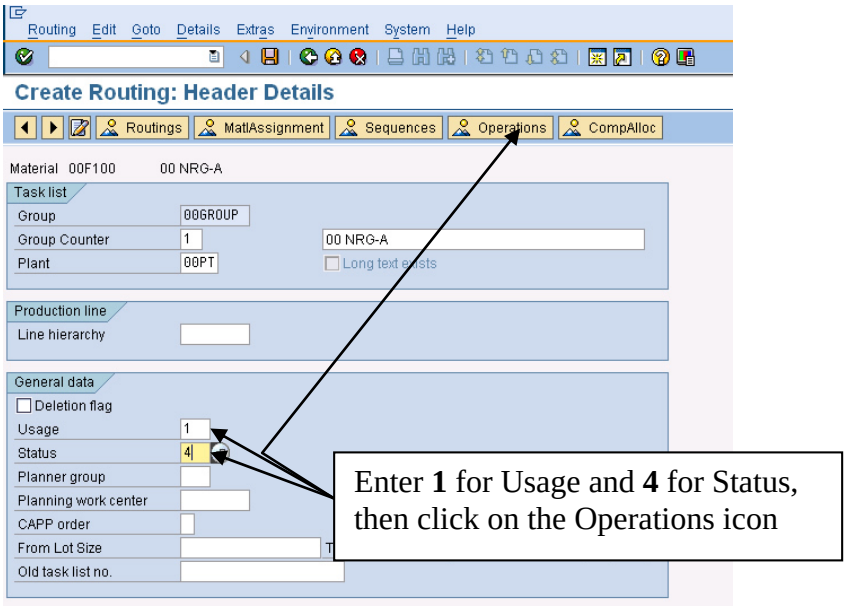
1. Create ##F100 (NRG-A bar) and ##F110 (NRG-B bar) Routings

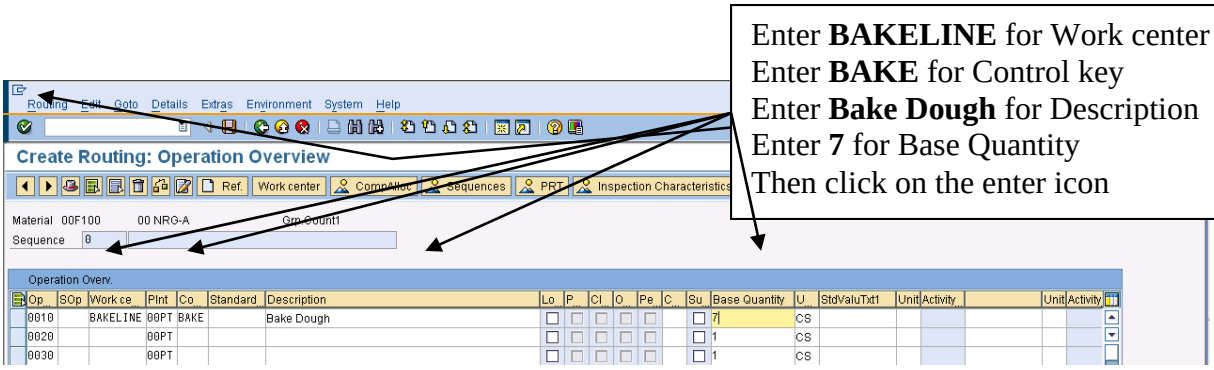
To create a routing for the NRG-A bars, follow the menu path:

MRP

Logistics ▷Production ▷Master Data ▷Routings ▷Routings ▷Standard Routings ▷Create







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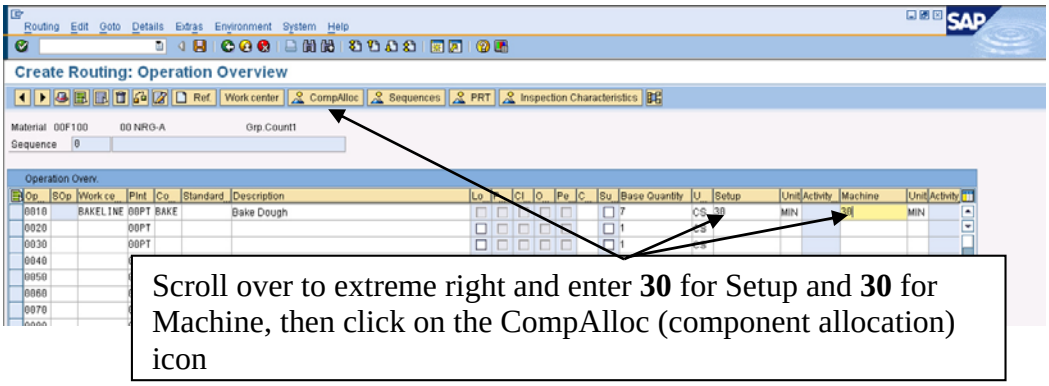
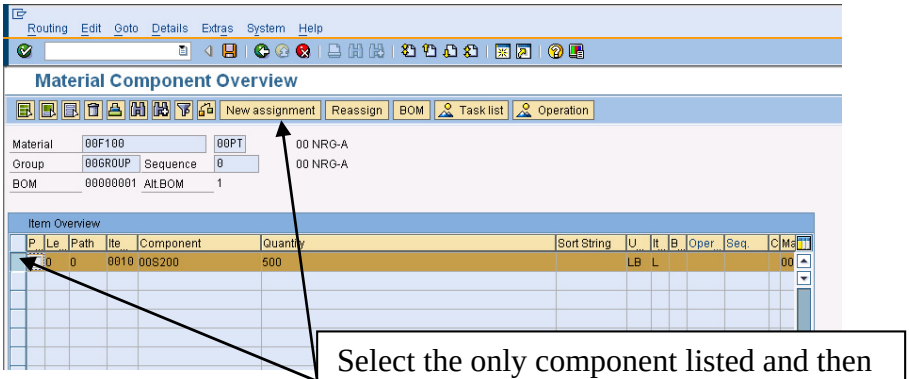
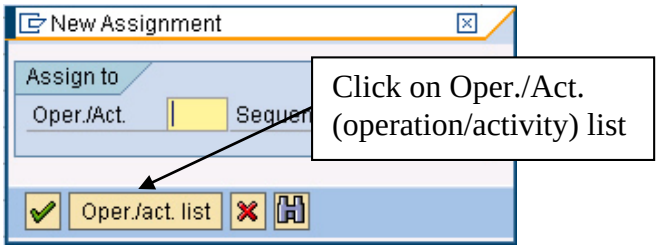
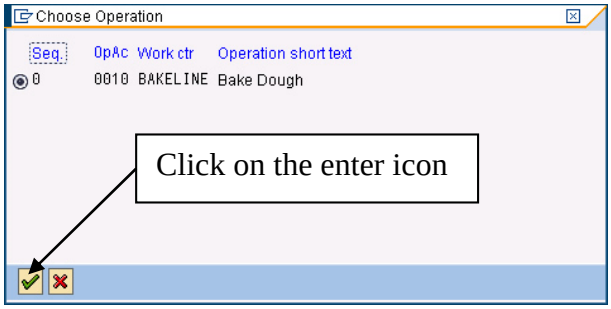
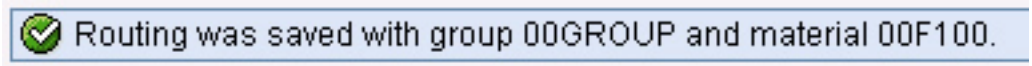








Click on the save icon ( ) to save the routing. You will get a message like the following:

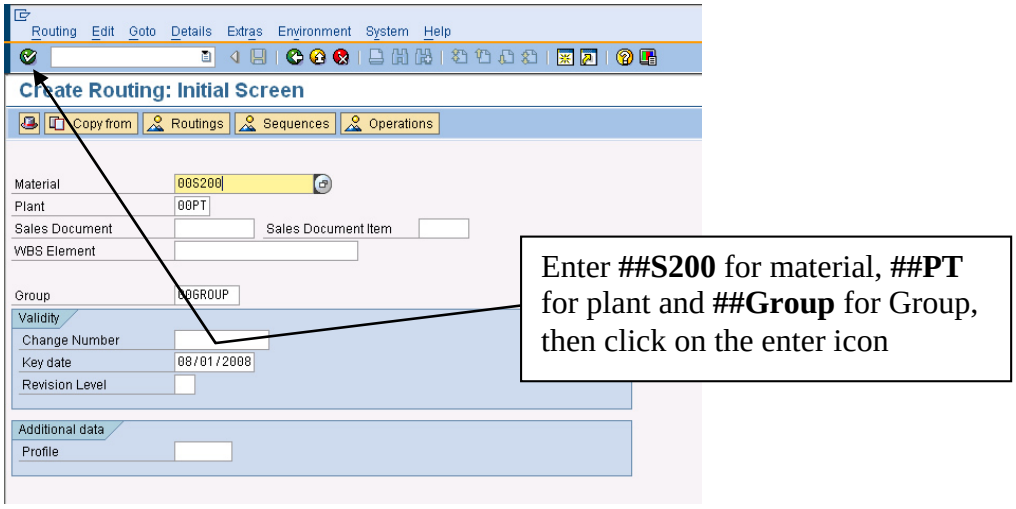


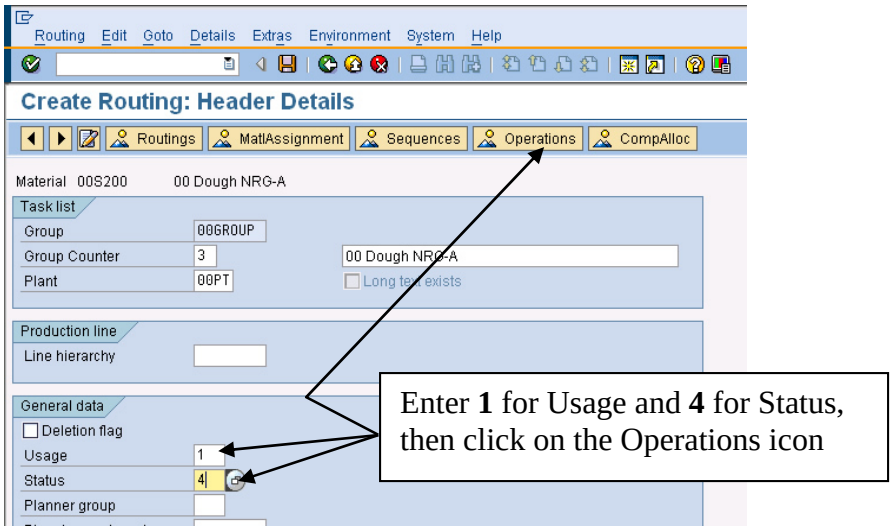
Return to the beginning of section 1 and
repeat the process to create a routing for material **##F110** (NRG-B bars).
All entries are the same as for the **##F100** (NRG-A bars).

2. Create Routings for material ##S200 (dough for NRG-A bars) and ##S210 (dough for NRG-B bars)

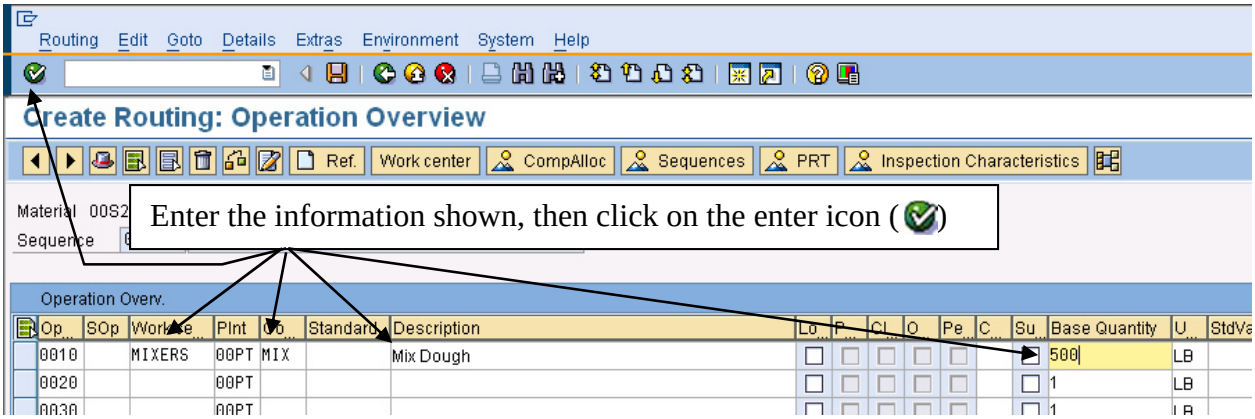
To create a routing for ##S200 (dough for NRG-A bars), again follow the menu path:

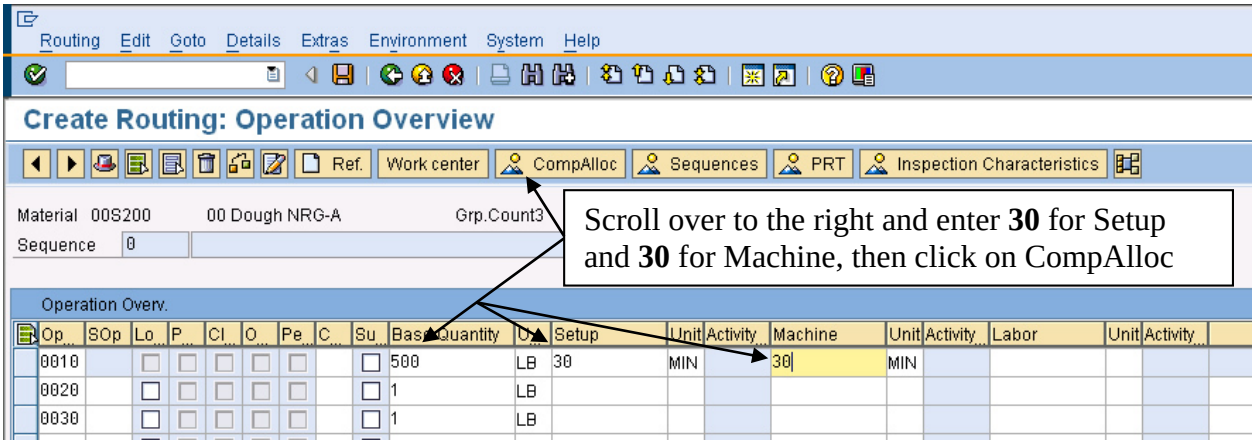
Logistics ▷Production ▷Master Data ▷Routings ▷Routings ▷Standard Routings ▷Create

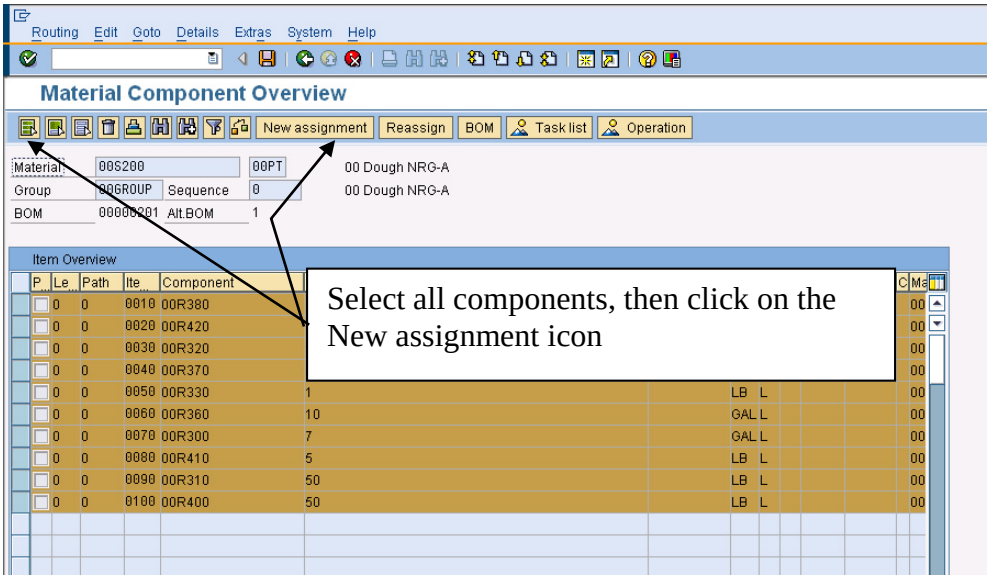




MRP


Routing Edit Goto Details Extras Environment System Help
Create Routing: Operation Overview
Ref. Work center CompAlloc Sequences PRT Inspection Characteristics
Material 00S2
Sequence
Enter the information shown, then click on the enter icon ( )
Operation Overv.
Op SOp Work... Plnt Co... Standard... Description Lo... P... Cl... O... Pe... C... Su... Base Quantity U... StdVa...
0010 MIXERS 00PT MIX Mix Dough 500 LB
0020 00PT 1 LB
0030 00PT 1 LB


Routing Edit Goto Details Extras Environment System Help
Create Routing: Operation Overview
Ref. Work center CompAlloc Sequences PRT Inspection Characteristics
Material 00S200 00 Dough NRG-A Grp.Count3
Sequence 0
Scroll over to the right and enter 30 for Setup and 30 for Machine, then click on CompAlloc
Operation Overv.
Op SOp Lo... P... Cl... O... Pe... C... Su... Base Quantity U... Setup Unit Activity... Machine Unit Activity... Labor Unit Activity...
0010 500 LB 30 MIN 30 MIN
0020 1 LB
0030 1 LB


Routing Edit Goto Details Extras System Help
Material Component Overview
New assignment Reassign BOM Task list Operation
Material 00S200 00PT 00 Dough NRG-A
Group 00GROUP Sequence 0 00 Dough NRG-A
BOM 00000201 Alt.BOM 1
Item Overview
P... Le... Path Ite... Component C... Ma...
0 0 0010 00R380 00
0 0 0020 00R420 00
0 0 0030 00R320 00
0 0 0040 00R370 00
0 0 0050 00R330 1 LB L 00
0 0 0060 00R360 10 GAL L 00
0 0 0070 00R300 7 GAL L 00
0 0 0080 00R410 5 LB L 00
0 0 0090 00R310 50 LB L 00
0 0 0100 00R400 50 LB L 00
Select all components, then click on the New assignment icon