Material Planning & Production Management

For Sage 100 2016

457 Palm Drive
Glendale, CA 91202
818-956-3744
818-956-3746
sales@iigservices.com

www.iigservices.com

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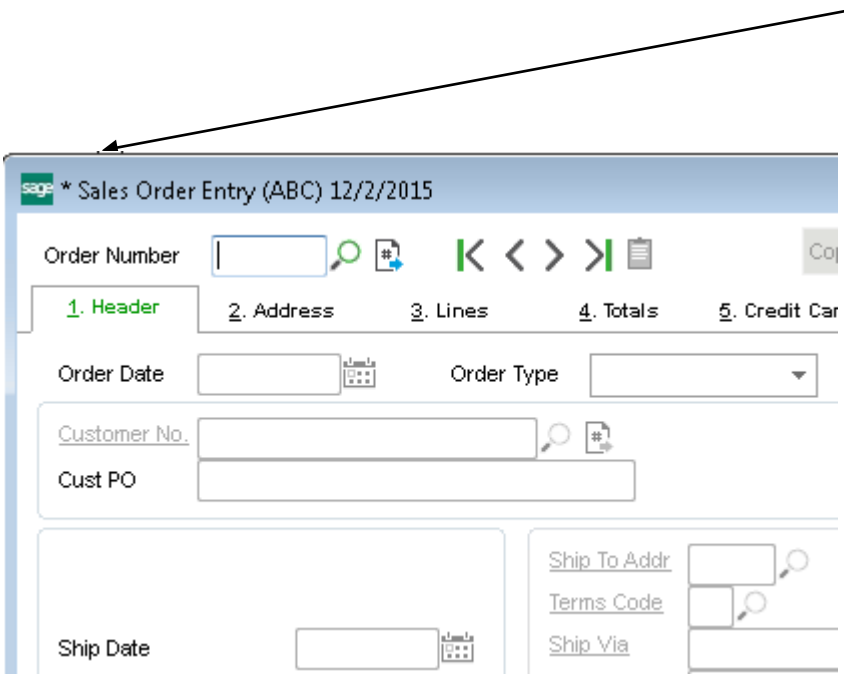
Installation Instructions and Cautions

PLEASE NOTE: SAGE 100 *must already be installed on your system before installing any IIG enhancement. If not already done, perform your SAGE 100 installation and setup now; then allow any updating to be accomplished automatically.*
Once SAGE 100 installation and file updating is complete, you may install your IIG enhancement product by following the procedure below.

Wait! Before You Install – Do You Use CUSTOM OFFICE?

THIS IS AN IMPORTANT CAUTION: *If you have Custom Office installed,* ***and*** *if you have modified any SAGE 100 screens, you must run* ***Customizer Update*** *after you do an enhancement installation.*

But wait! BEFORE *you run* ***Customizer Update****, it is* ***very important*** *that you* ***print all of your tab lists.*** *Running* ***Customizer Update*** *will clear all Tab settings; your printed tab list will help you to reset your Tabs in Customizer Update.* ***Custom Office*** *is installed on your system if there is an asterisk in the title bar of some of the screens. The asterisk indicates that the screen has been changed.*



An ***asterisk*** *in a window's title bar indicates that the screen has been modified. This means that* **Custom Office** *is installed.*

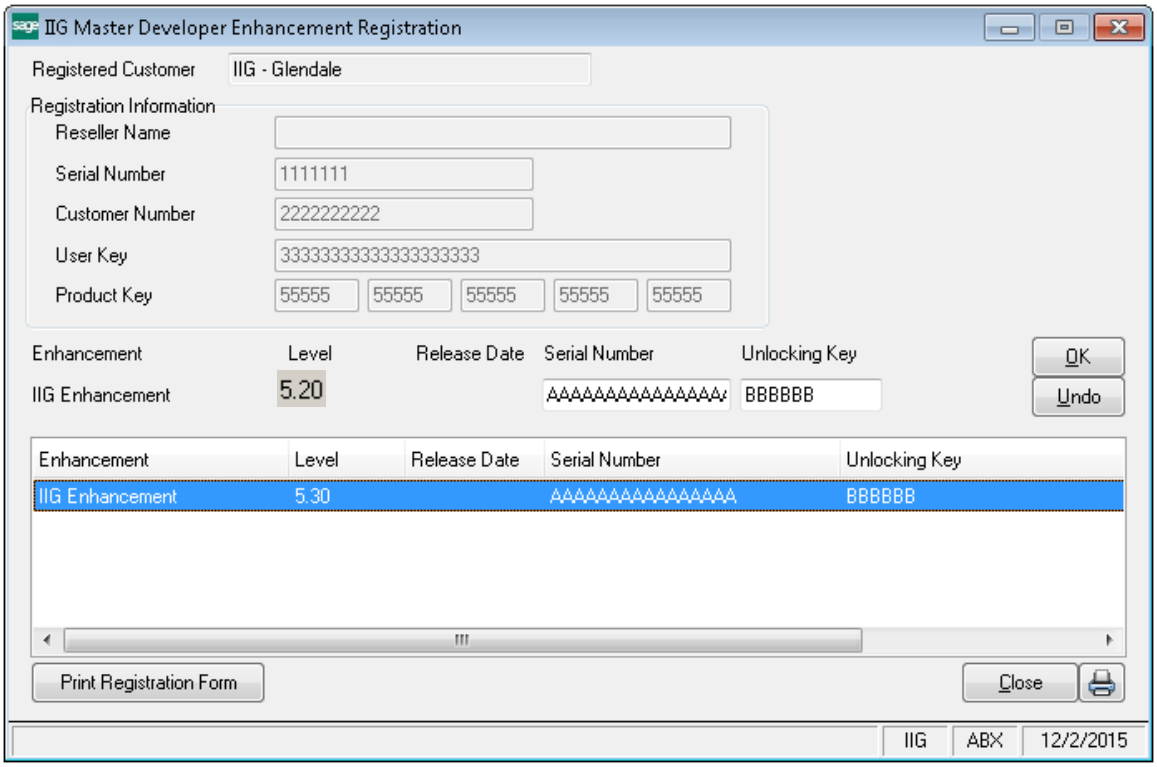
Follow all the instructions on this page before you run **Customizer Update***!*

Registering IIG products

IIG Enhancement should be registered to be able to use it. If registration is not performed, the enhancement will work in a demo mode for a limited time period. The registration can be still done during the demo period.

Select the **IIG Product Registration** program under the **Library Master Setup** menu of the SAGE 100.

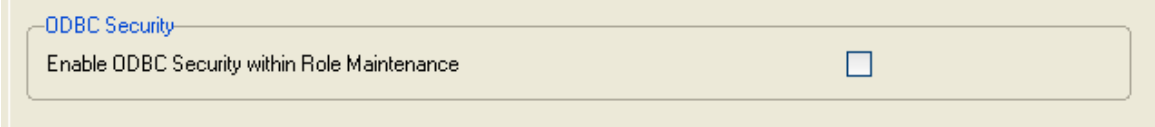
If this option is not listed under the Library Master Setup menu, go to the main menu, and select **Run** from the **File** menu. Type in SVIIGR and click **OK**.



Enter **Serial Number** and **Unlocking Key** provided by IIG, and click **OK**.
If multiple IIG Enhancements are installed, Serial Numbers and Unlocking Keys should be entered for each enhancement.
Use the Print Registration Form button to print IIG Registration Form.

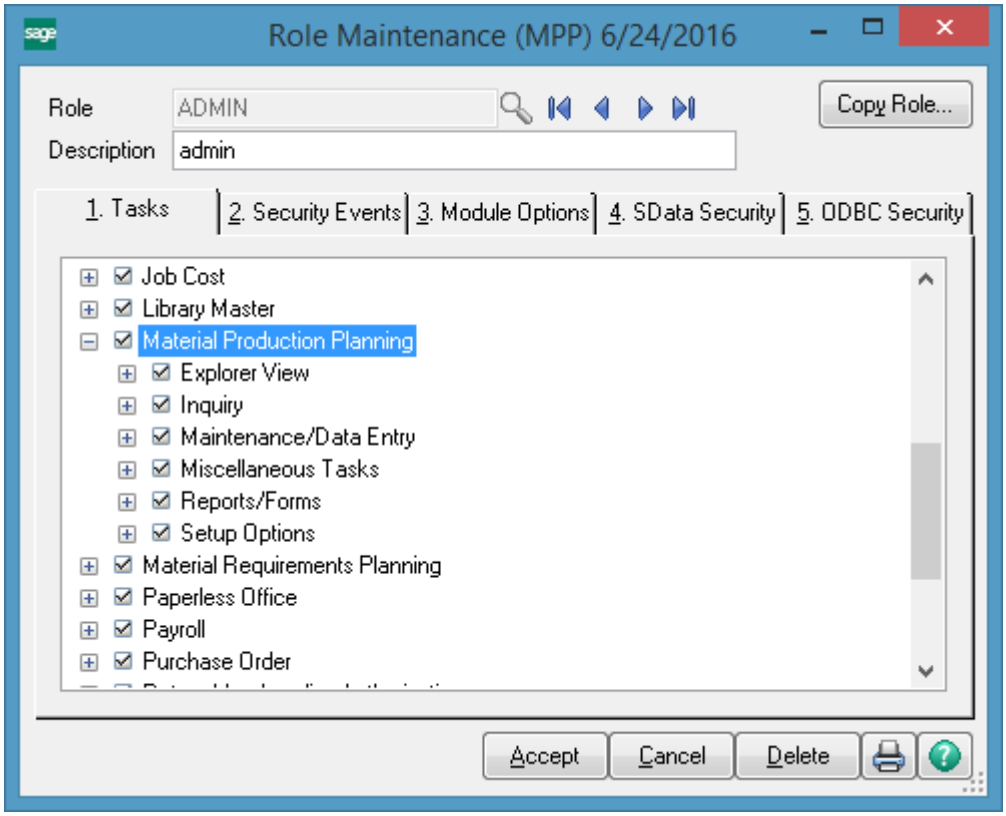
ODBC Security

After installing an **IIG Enhancement**; it is **very important to verify** whether or not the **Enable ODBC Security within Role Maintenance** check box is selected in the **System Configuration** window of your system. If it is selected you must assign ODBC security permissions and allow access to custom data tables/fields for the Roles defined in your system.



Role Maintenance

After installing an **IIG Enhancement**, permissions must be configured for newly created Tasks and Security Events.



Introduction

Note: It is not recommended to have both the Material Production Planning and W/O Modules activated in the same company in order to avoid problems with I/M quantities committed.

The **Material Planning & Production Management** enhancement helps you to coordinate production to deliver what customers want accurately, efficiently and on a timely basis. Process takes into account BUF MAX values for items (stocking levels); and items that are produced to meet demand for existing sales orders

It also gives you full visibility into the process, with the ability to quickly adjust production as requirements change.

This enhancement provides the user with the following options:

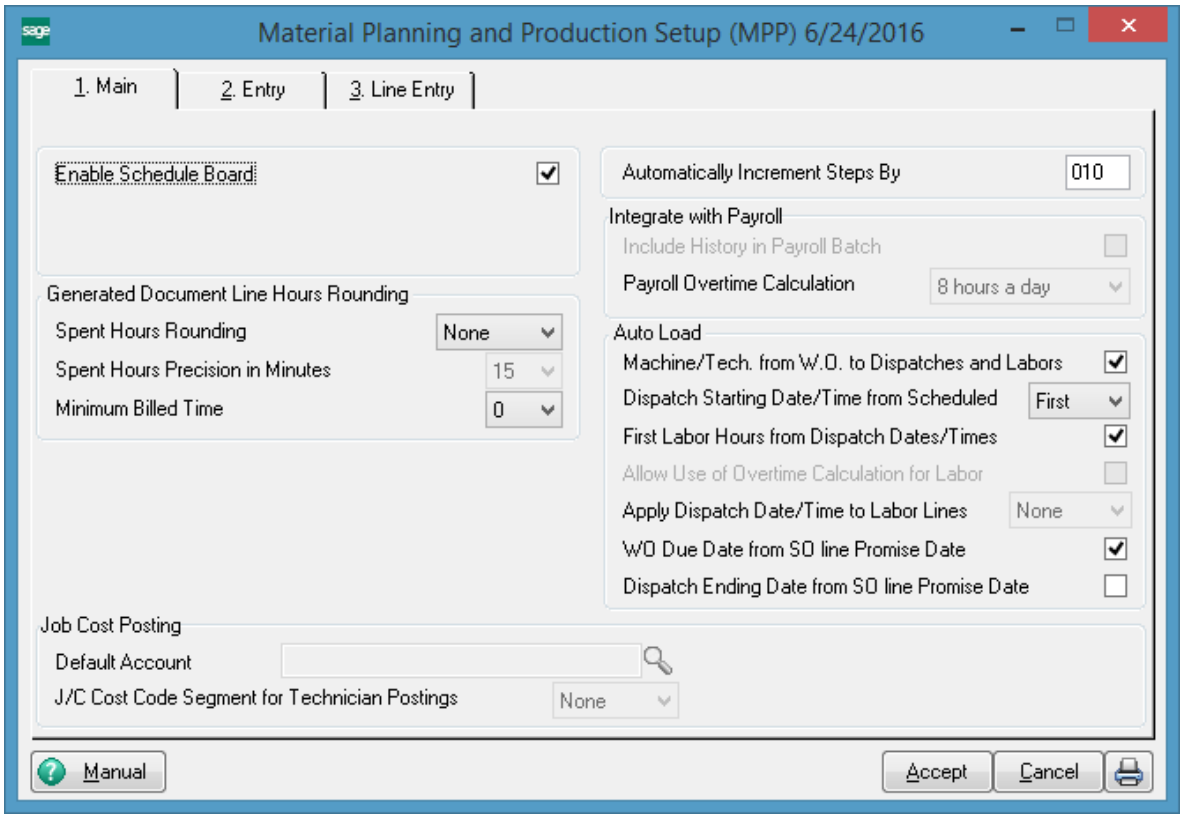
- Calculation of requirements for finished goods, WIP and purchased products based on:
  - Material requirements to fulfill sales orders for an entered ship date
  - Material requirements based on stocking levels entered (min/max)
  - Showing the raw material requirements for all BOM levels
  - Taking into account existing SO, PO and WO transactions
- Ability to manage production and purchasing functions by:
  - Ability to analyze calculated demand by drilling down to:
    - Item Inquiry
    - Bill of Material Inquiry
    - Where Used Inquiry
    - Vendor / Purchasing Activity
  - Ability to maintain the calculated quantity requirements for each item
  - Auto creation of work orders to manufacture products from:
    - Material Requirements Planning dashboard
    - Sales Order Entry program for MTO items
    - Scheduling Board based on MRP run's calculated requirements
- Auto creation of purchase orders for products based on:
  - Demand based on existing transactions and inventory positions for purchased products
  - Demand calculated for components (all BOM component levels)
- Auto scheduling of work orders based on item's priority code and machine/mold preference entered
- Creation of production Work Orders (Work Order) based on routings linked to items
- Material requirement check based on work orders scheduled for the next x days

Setup Activity

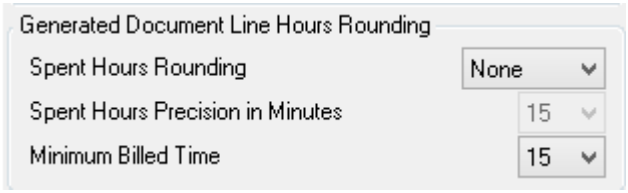
Material Planning and Production Setup

Main tab

Enable Schedule Board – Select this checkbox to be able to run the **Scheduling Board.**



Generated Document Line Hours Rounding – this group provides settings for rounding of dispatch labor lines' hours during the Labor Charge line entry.



Spent Hours Rounding- the available options are: Up, Down, Closest, None.

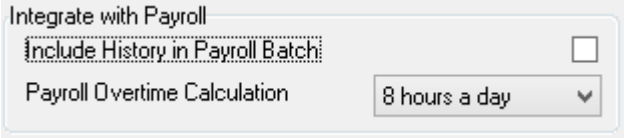
Spent Hours Precision in Minutes- allows for setting the precision in Minutes to be used while rounding the hours.

Minimum Billed Time- dropdown menu is also intended for setting time in minutes. You may select the minimum time to be always billed even if the actual spent time rounded is less than this setting.

Automatically Increment Steps By- this option is used as increment step for Routing. Available values are 10; 20; 30; 40; 50… 100.

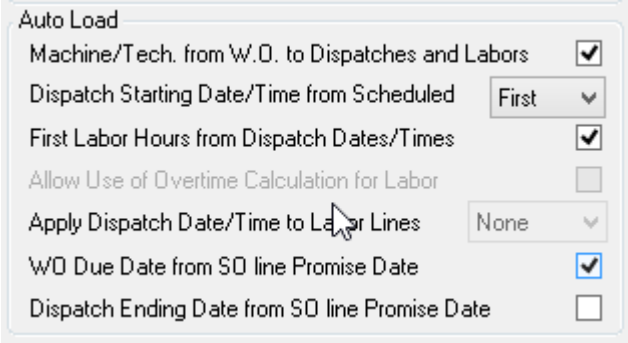
Integrate with Payroll:

Include History in Payroll Batch – check this box to have the program search for labor records during the given period in the history as well. This setting is the default setting for all Payroll Batch Entries, and can be changed on each separate Payroll Batch Entry.



Payroll Overtime Calculation- available options are: 8 hours a day or 40 hours a week. This determines how the hours over time are calculated: on the daily or weekly basis.

Auto Load:



Machine/Tech. from W.O. to Dispatches and Labors- check this box to automatically load the Work Order's machine and technician (if any) into the generated dispatches header as well as to the Labor lines.
Dispatch Starting Date/Time from Scheduled- allows loading the Scheduled Date/Time from the WO into the generated dispatches. The following options are available: None, First, All.
None – in this case the Work Order's Scheduled Date/Time will not be loaded into any of the generated dispatches. In this case the Dispatch Date and dispatch Starting/Ending Dates are defaulted to S/M module current Accounting Date.
First- the Work Order's Scheduled Date/Time will be loaded only into the first dispatch generated.

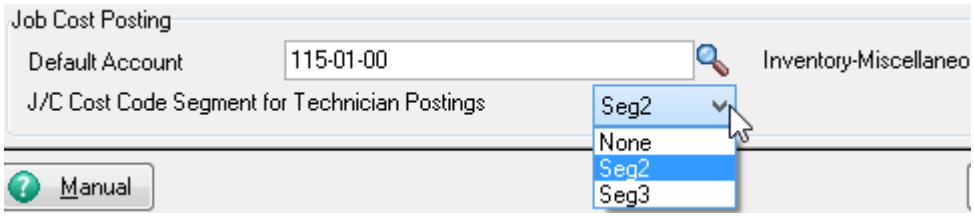
All- the Work Order's Scheduled Date/Time will be loaded into all dispatches being generated.
System- the Dispatch Starting Date/Time will be populated with curent system date/time.
First Labor Hours from Dispatch Dates/Times- allows automatically calculating the Hours Spent based on the dispatch Staring and Ending Date/Time and loading it to the first labor line entered in the dispatch.
Allow Use of Overtime Calculation for Labor - enables special calculation of Labor with Overtime Factor, based on the working hours and Coverage Code. (Refer to Labor Charge Data Entry for more details)
Apply Dispatch Date/Time to Labor Lines- enables automatically applying the Dispatch Date/Time to the Labor lines being entered. Three options are available:

None - the Dispatch Date/Time will not be applied to any of the Labor lines.

First- the Dispatch Date/Time will be applied only to the first Labor line entered.

All- the Dispatch Date/Time will be applied to all Labor lines being entered.
The Manual button allows for viewing MPP enhancement document in a PDF format.

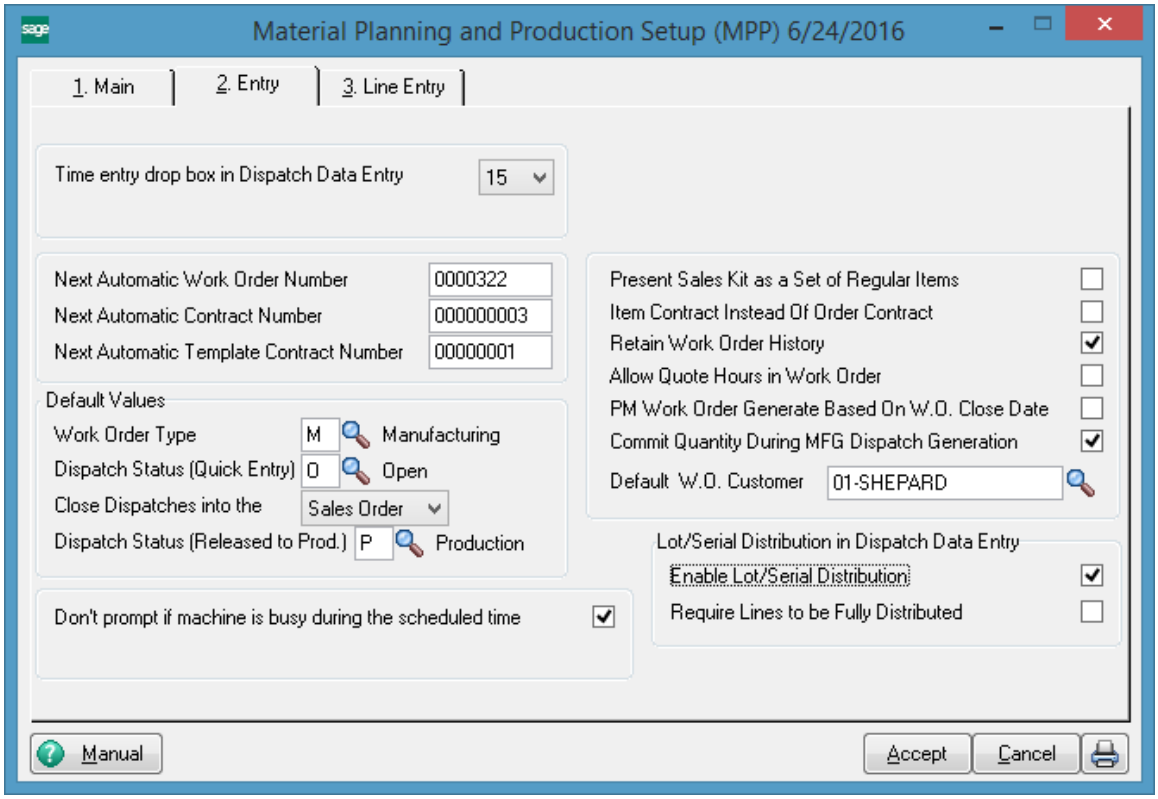
The **Job Cost Posting** options are available only if the **Job Cost** module is setup in current company.



Default Account –select the G/L Account to be used as the default G/L Account during the import into the Job Posting Entry. It is used if the Post to G/L for Work in Process option is selected in the Job Cost Options, otherwise there is no G/L Account specified for the Material Cost Type of the selected Cost Code.

J/C Cost Code Seg. for Tech Posting- is used for specifying the segment of Cost Code that should be substituted with Cost Code Segment Value entered in the Technician Code Maintenance (if any), during the import into the Job Posting Entry.

Entry tab



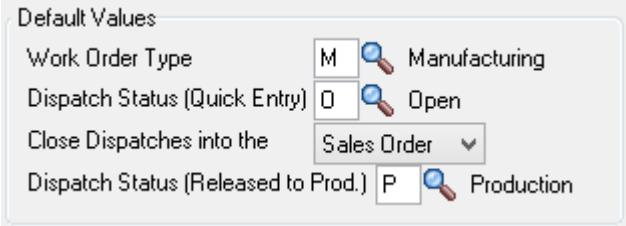
Time entry drop box in Dispatch Data Entry- select a value (in minutes) from the drop down to be used for populating drop-down lists of the starting and ending time selection in the Dispatch Data Entry program.

Next Automatic Work Order Number- enter the next work order number to assign when using the next Work Order Number feature in the Work Order Data Entry.
Next Automatic Contract Number- enter the next contract number to assign when using the next Contract Number feature in the Contract Data Entry.

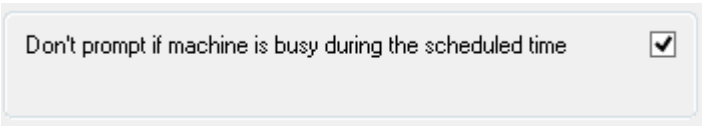
Next Automatic Template Contract Number- enter the next template contract number to assign when using the Next Template Contract Number feature NTC in the Contract Data Entry. A template contract is used to generate a regular contract (such as a standard service contract) whenever a particular item is sold. If you enter a template contract once and then assign it to an item in **Inventory Maintenance,** the system will automatically set up a contract adhering to the rules of the template for any customer who purchases that item.

Default Values

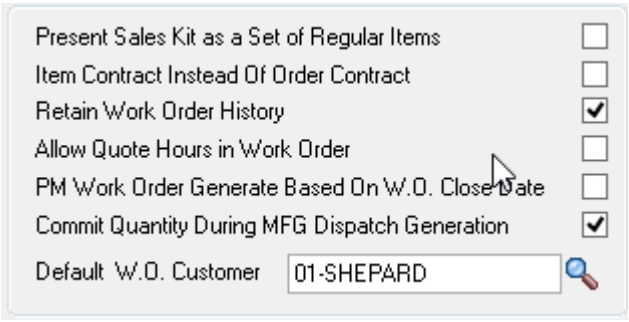
This group of options allows for setting default values to be used when entering new Work Orders, Dispatches and generating a sales document upon closing the Dispatch.



Work Order Type- select the default WO type to be assigned when entering a new Work Order.
Dispatch Status - select the status to be used by default when new Dispatch is created.
Close Dispatches into the- select Sales Order/Invoice to indicate whether charges from a closed dispatch should generate a sales order or an invoice. Select None to not generate any document when closing dispatch.
Dispatch Status (Released to Prod)- specify the status to be applied to the Dispatches released to Production.



Don't prompt if machine is busy during the scheduled time- check this box to suppress the prompt appeared upon accepting the Dispatch if the machine is busy on other active dispatches during current time period (Dispatch Starting - Ending Date/time).



Present Sales Kit as a Set of Regular Items- If this check box is selected, the Sales Kit Item number will be replaced with a comment line indicating sales kit number during Dispatch Data Entry, Sales Order Entry or Invoice Data Entry. All the components of that kit will be presented as regular line items.

Item Contract Instead of Order Contract- Check the **Item Contract Instead of Order Contract** box to attach the contract specified for the Item in the **Inventory Maintenance** program instead of the contract specified in the **Sales Order Entry** to the Work Orders generated for the item.

Retain Work Order History- Select this check box to retain Work Order history information. If this checkbox is selected the work Order will be moved to the Work Order History when it is closed. Clear this check box if you do not want to retain the history.

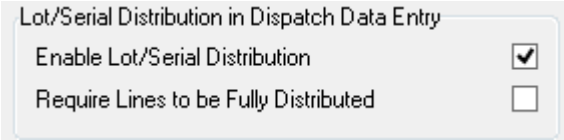
Allow Quote Hours in Work Order- Select this checkbox to have the **Quote Hours** and **Quote Amount** fields visible on the **Labor Charge Entry.**

PM Work Order Generation Based On W.O Close Date- check this box to generate the next preventive maintenance work order based on the Work Order Close Date.

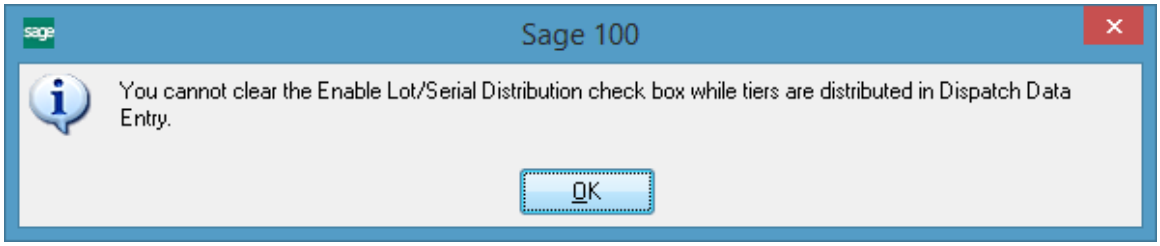
Commit Quantity During MFG Dispatch Generation- Select this checkbox to commit the Item quantity on MFG Dispatches being generated. If this checkbox is selected the On Work Order and Req for Work Order fields (in the Item Maintenance Quantities grid) are updated respectively for Bill and Component items.

Note: It is highly recommended to not enable this option if W/O module is activated in your system.

Default W.O. Customer- select the default Customer Number to be loaded as the customer number of the Work Order generated by the Calculate Quantity to Produce/Purchase program.

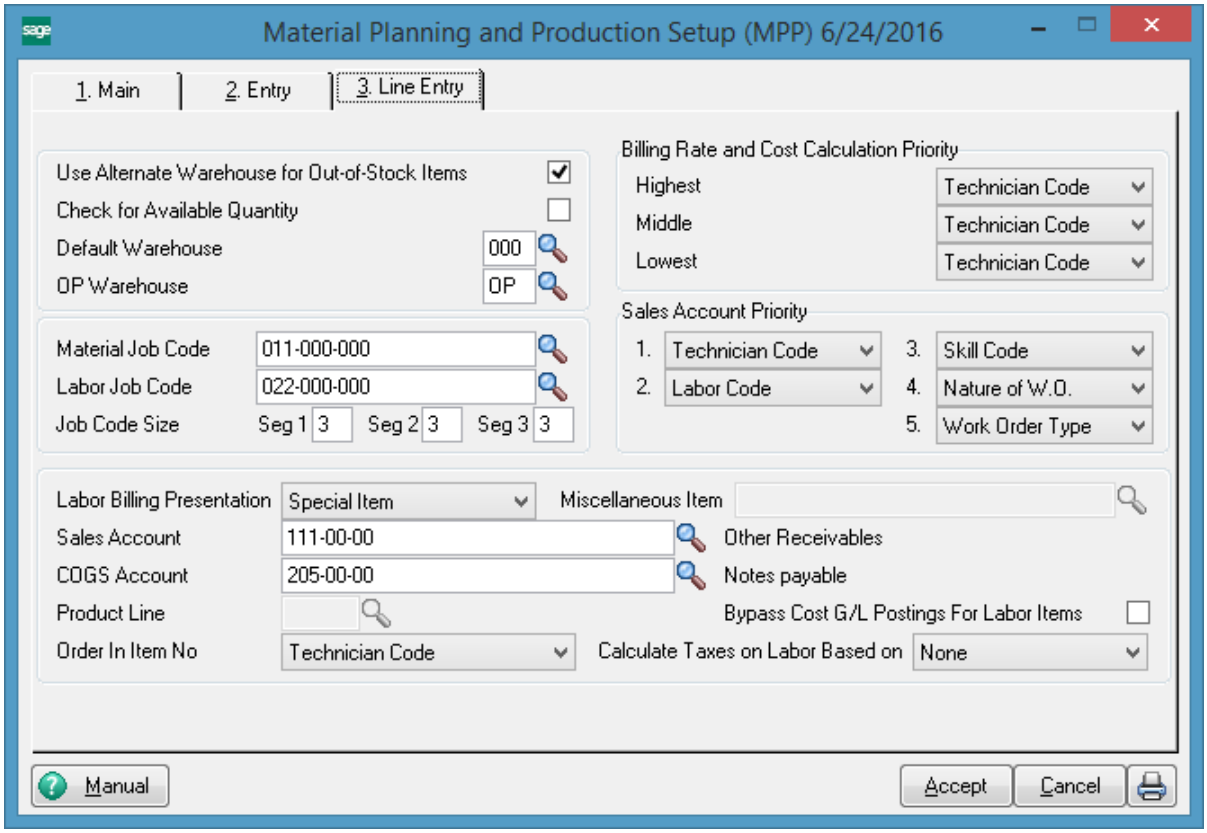


Enable Lot/Serial Distribution -Select this check box to enable the distribution of lot and serial numbers in the Dispatch Data Entry. If this check box is selected, you can distribute and commit quantities for lot or serial items using the Lot/Serial Number Distribution window.
This check box cannot be cleared if Dispatch Entry distributions already exist. The following message appears when trying to clear the checkbox:



Require Lines to be Fully Distributed - Select this check box to require the data entry lines for lot or serial items to be fully distributed in Dispatch Data Entry. Clear this check box if you do not want to require to fully distribute the data entry lines for lot or serial items in Dispatch Data Entry. If this check box is cleared, all lot or serial line items can be partially distributed. This field is available only if the **Enable Lot/Serial Distribution** check box is selected.
Refer to **Lot/Serial Distribution** section for details.

Line Entry Tab

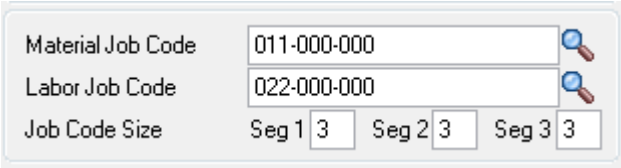


Use Alternate Warehouse for Out- of-Stock Items- Select this check box to fill dispatch lines from an alternate warehouse if the primary warehouse is out of stock for the selected item. Clear this check box if you do not want to fill dispatch lines from an alternate warehouse. This field is available only if the Require Multiple Warehouses check box is selected in the Inventory Management options.

Check for Available Quantity - Select this check box to force the **Entry Exceeds Available Quantity** message to appear in the Dispatch Data Entry when the quantity ordered is greater than the quantity available in the warehouse. Clear this check box if you do not want the message to appear.

Default Warehouse -The warehouse selected here is used as the default when entering items in the Dispatch Data Entry.

OP Warehouse – the Warehouse Code setup as outside processing (OP) warehouse is used during outside processing in Dispatch Data Entry if no outside processing warehouse is specified for the Item in the Item Maintenance.



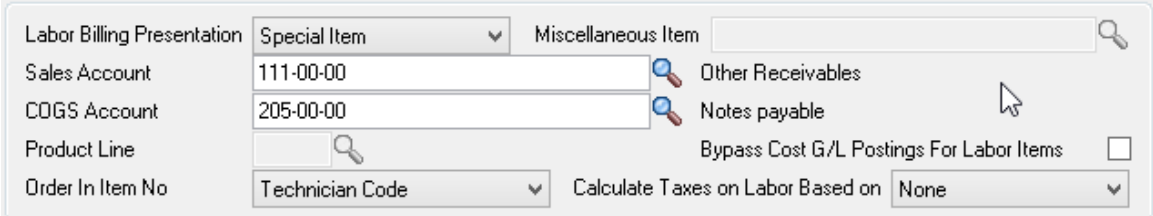
Job Codes are used to track material and labor cost and revenue in the contract file. Job Codes are entered for each inventory item, for posting of material related information and in the Technician, Labor and Skill Code Master files for labor information tracking.

You can add new codes in the **Job Codes Maintenance** program in the **Material Planning and Production Management** Main menu.

If no Job Codes are assigned to inventory items or charge codes, the default job codes specified here will be used for material or labor items.

A total of nine characters can be used for Job Codes. You can define segmentation of the Job Codes by changing the appropriate setting in the **Job Code Size** field.

Labor Billing Presentation group is a set of controls that allows the user to choose from the following options for charges or labor billing presentations.



- If **None** is selected, the system will not process labor charges.

- If **Inventory Item** is selected a regular Item will be loaded to the **Sales Order/SO Invoice** generated based on the **Dispatch Labor/Skill** line. The system will build an Inventory Item based on the Technician Code of the person who performed the job and Labor or Skill Code of the job that was performed.
    - The **Product Line** should be specified.

The **Product Line** entered here will be used to get the default information for the Inventory Item being generated upon closing the Dispatch. The **Tax Class**, **Description (Extended Description)**, **Default Warehouse**, **Price** and **Cost** fields will be populated correspondingly from MPP files. The **Material Job Code** specified on the MPP Options will be applied to the Inventory Item if no Job Code is entered for the selected **Product Line**.

- If **Miscellaneous Item** is selected in the **Labor Billing Presentation** field, the system will build a Miscellaneous Item based on the Technician Code of the

person who performed the task and Labor or Skill Code of the job that was performed.
    - The **Miscellaneous Item** should be selected to get the default information when a Misc. Item is generated upon closing the Dispatch.

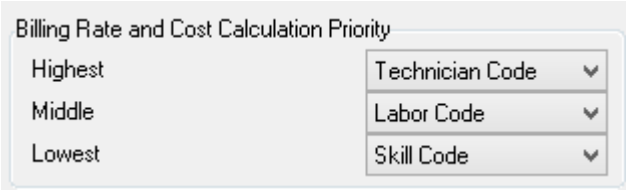
For the generated **Miscellaneous Item** the **Tax Class, Price** and **Cost** fields are populated with corresponding values from MPP files.

- If **Special Item** is selected, the system will load a Special Item line to the **Sales Order/SO Invoice** generated based on the **Dispatch Labor/Skill** line.
    - The **Sales** and **COGS Accounts** entered here will be applied to the Special Item line loaded in the Sales Order/SO Invoice if no **Sales** and **COGS Accounts** will be found for corresponding fields in the Dispatch Detail table.

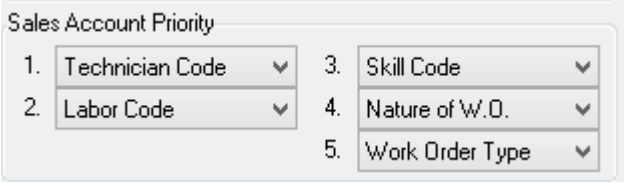
The **Calculate taxes on Labor based on** drop-down box allows the user to define how **Sales Taxes** should be calculated. The following options are available: **None**, **Dispatch Line**, **System Default**.

- **None**-means the **Tax Class** will not be shown on the **Dispatch Line** and it will be set to "NT" for the line item loaded in the Sales Order or Invoice transaction.
- **Dispatch Line**-means the **Tax Class** specified on the Dispatch Labor Line will be carried over to the corresponding line item loaded in the Sales Order or Invoice transaction.
- **System Default**-means that the **Tax Class** of corresponding Item (Inventory, Misc, Special) generated upon closing the Dispatch (based on the Labor Billing Presentation) will be applied.

The **Bypass Cost G/L Postings For Labor Items** check box allows to process items generated for labor with zero cost, that is, cost is not posted to G/L.



The **Billing Rate and Cost Calculation Priority** group of controls will define the priority by which labor billing rates and costs will be calculated. Rate and Cost can be used from **Technician Code**, **Labor Code**, or **Skill Code**.



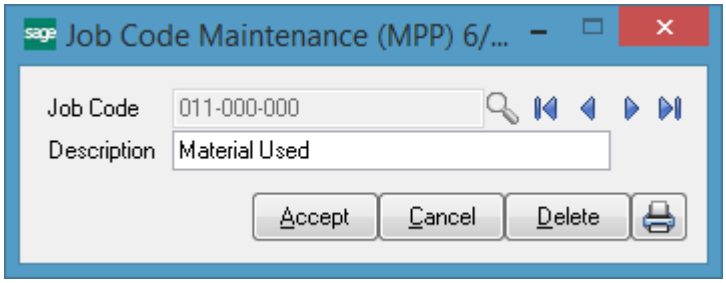
Sales Account Priority defines the priority of using the G/L accounts for sales postings.

G/L accounts are assigned in the **Technician Code Maintenance**, **Labor Code Maintenance, Skill Code Maintenance**, **Nature of W.O**. and **Work Order Type Maintenance**.
The first in the list will be used if on file, otherwise the second will be used, etc.

Job Code Maintenance

Job Codes are used to track material and labor cost and revenue in the contract file. You can assign job codes to the inventory items and charge codes in order to track their usage by service contracts.

The **Job Code Maintenance** program from the **MPP Main** menu allows you to add and remove Job Codes.



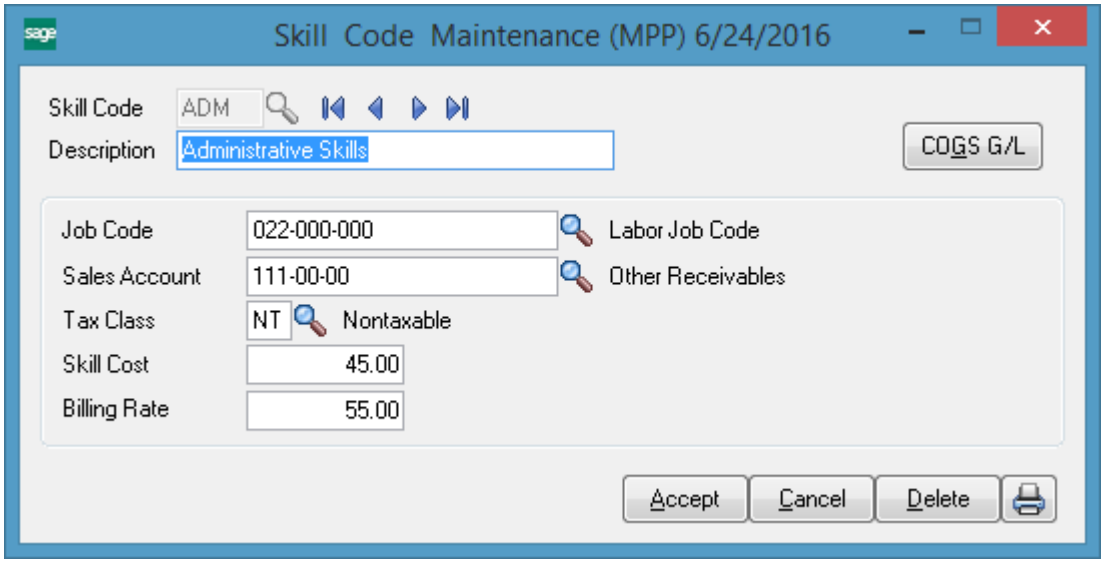
If no Job Codes are assigned to inventory items or charge codes, the default job codes specified in **Material Planning and Production Setup** will be used for material or labor items.

A total of nine characters can be used for Job Codes. You can define segmentation of the Job Codes by changing the appropriate setting on the **Line Entry** tab of **Material Planning and Production Setup.**

Skill Code Maintenance

The **Skill Codes** represents special abilities needed to perform a task. The **Skill Code Maintenance** program is used to maintain, edit and add skill codes used in **Material Planning and Production Management** Module.

Skills defined in this program are used in Technician Code Maintenance to describe different skills, at appropriate levels, for each technician. This allows you to pick the appropriate or most qualified technician during Work Order or Dispatch Data Entry.



Job Code is used when posting labor charges to the contract file.

Sales Acct is used for postings when closing dispatches with labor (based on the priority in Options).

Skill Cost is used for posting cost to contracts for transactions generated when closing dispatches with labor (based on billing rate calculation).

Billing Rate is the billing rates for labor items subject to contract settings or the billing rate calculation priority set-up in **MPP Options**.

Clicking the **COGS G/L** button opens the **Cost Of Goods Sold** screen, where you can specify account to be used for the labor items generated from the selected Skill during dispatch closing into Sales Orders or Invoices.
The COGS G/L button is available only if the Labor Billing Presentation is set to Inventory Item in the **Material Planning and Production Setup**.

Different G/L accounts may be set for different **Product Lines** and for all the Product Lines (empty Product Line) not having separate accounts specified.

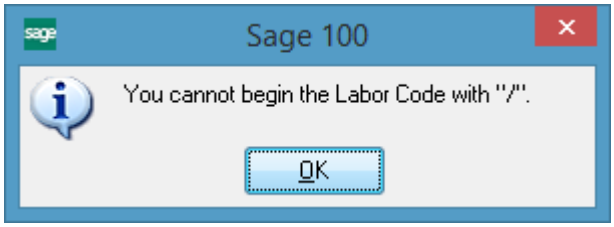
The COGS Account specified for current Product Line is used for the generated inventory items if the **Product Line** matches the one set for Inventory Item in the **Material Planning and Production Setup**.
If there is no account specified for that Product Line, the program uses the **COGS Account** specified for blank **Product Line**.

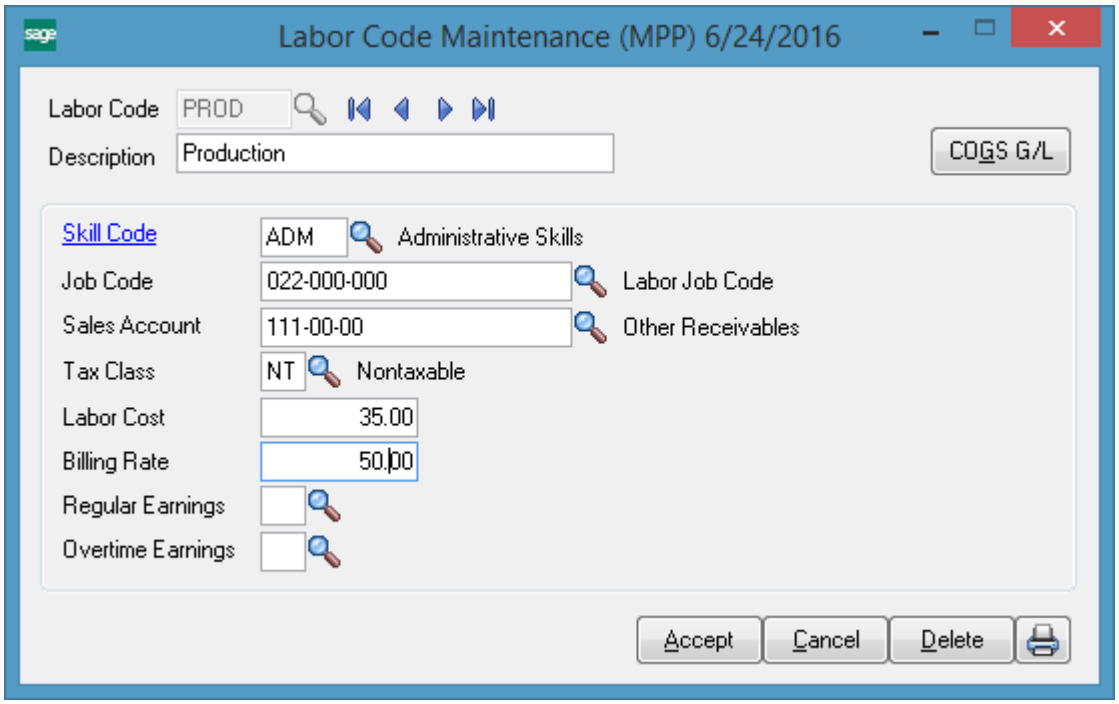
Labor Code Maintenance

Labor Code represents the type of work a technician can perform.

The **Labor Code Maintenance** program is used to maintain, edit and add labor codes used in the **MPP** Module.

The **Labor Code** cannot start with "/" symbol and the following message will popup if a labor code starting with "/" is entered:





Skill Codes are used to specify to which Skill Code group this labor code belongs. A single Skill Code can include any number of individual labor codes. Using the **Skill Code** during Dispatch Data Entry can reduce confusion and speed up your data entry.

Job Codes are used when posting labor charges to the contract file.

Sales Account is used for postings when closing dispatches with labor (based on the priority set in the **Material Planning and Production Setup**).

Tax Class will be used in the Dispatch by default, if the Work Order's **Ship To Address** has **Calculate taxes on Labor** checked and the **Calculate taxes on Labor** option is not set to **None** in the **Material Planning and Production Setup**. If new item (labor presenting) is generated during dispatch closing, this **Tax Class** will be set for it.

Labor Cost is used for posting cost to contracts for transactions generated when closing dispatches with labor (based on billing rate calculation).

Billing Rate is the billing rates for labor items subject to contract settings or the billing rate calculation priority set-up in the **Material Planning and Production Setup**.

Select the **Regular** and **Overtime Earnings Codes** from the **Earnings List**. Earnings Codes are set in the **Earnings Code Maintenance** under the **Payroll Setup** menu.

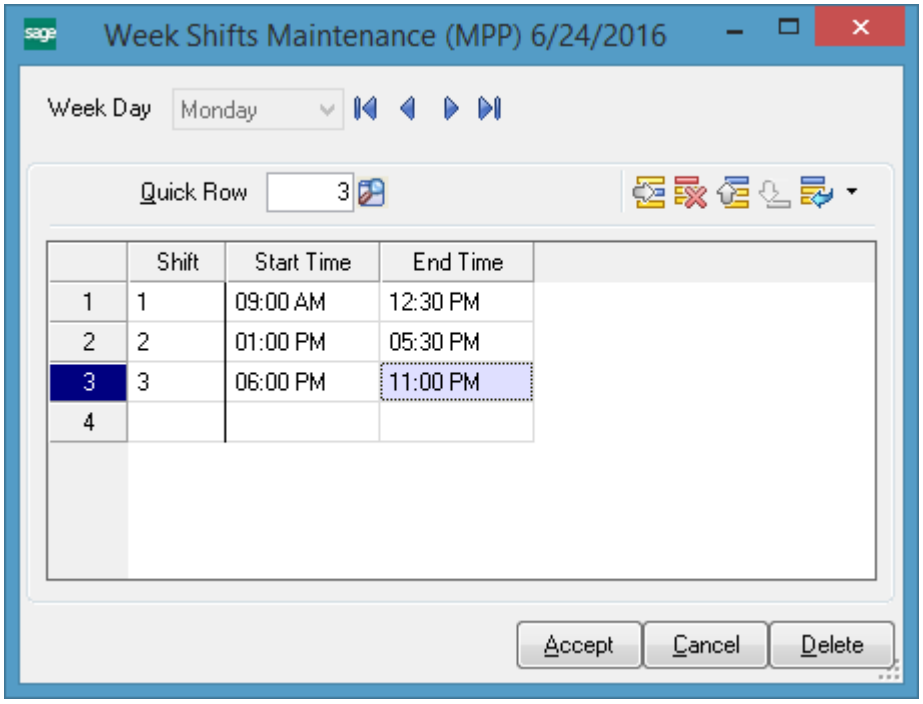
Clicking the **COGS G/L** button opens the **Cost Of Goods Sold** screen, where you can specify account to be used for the labor items generated from the selected Labor during dispatch closing into Sales Orders or Invoices.

Different G/L accounts can be set for different **Product Lines** and for all the Product Lines (empty Product Line) not having separate accounts specified.

The account specified for the **Product Line** set in the **Material Planning and Production Setup** will be used for the generated inventory items.
If there is no account set for that Product Line, the program uses the account set **without Product Line**.

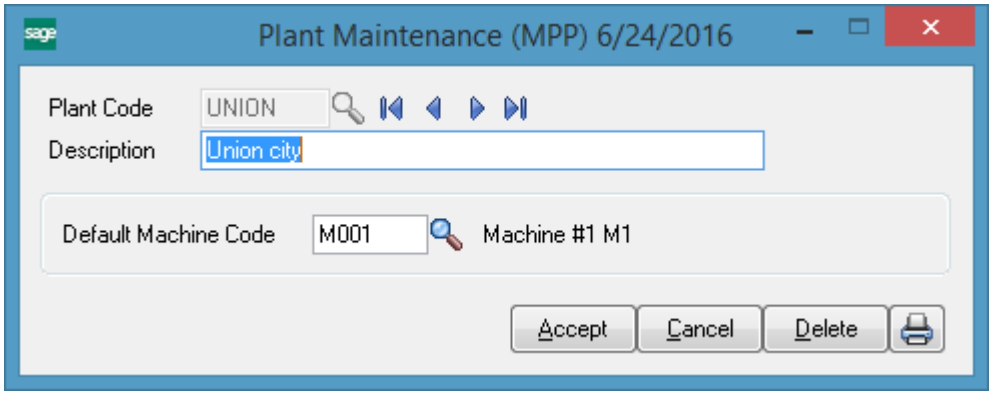
Shift Maintenance

The **Shift Maintenance** program added under the **Material Planning and Production Management** Setup menu is used to setup shift schedules by week days.

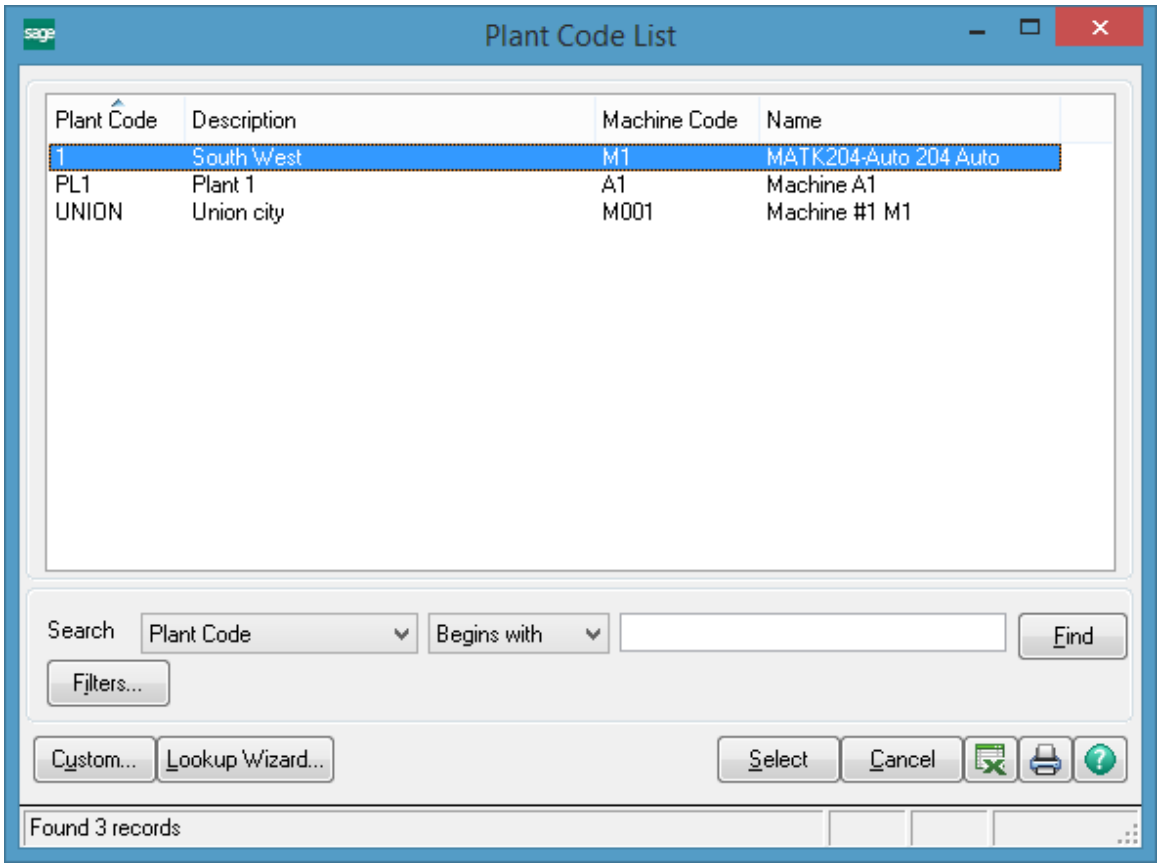


Plant Code Maintenance

The **Plant Code Maintenance** program is used to setup Plant Codes and assign the Default Machine Code to the Plant Code.

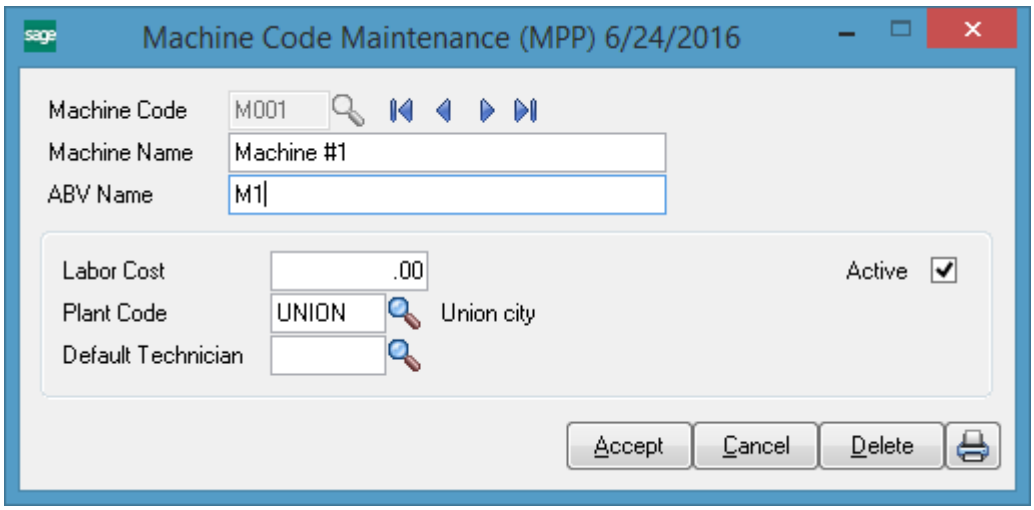


The Lookup button next to the Plant Code field lists the Plant codes setup in the system.

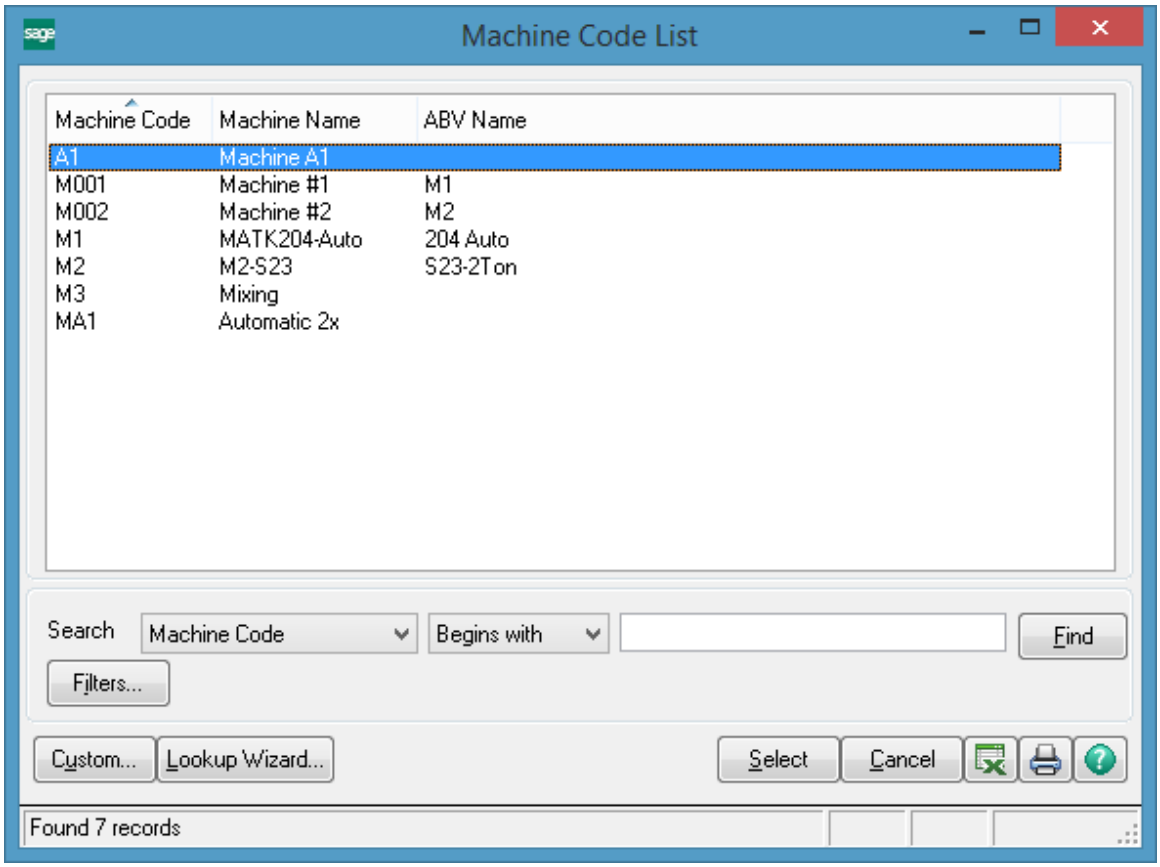


Machine Code Maintenance

The **Machine Code Maintenance** program is used to setup machines with respective Mold Numbers they can handle. The Machine Codes set up here are available in the Scheduling Board used to generate Work Orders.
During Work Order generation the program validates the Machine Code/Mold Number to match the Mold Number set on the Item.



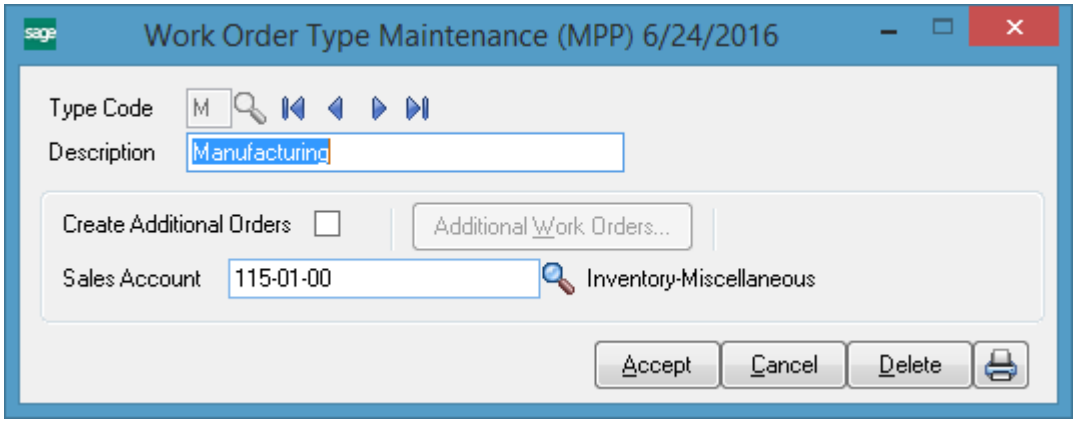
Enter new **Machine Code** to add in the system or select an existing one to make changes if necessary; e.g. change the Plant Code, Labor Cost etc.
The Lookup button lists all Machine codes setup in the system:



Here you may assign Default Technician to a Machine.

Work Order Type Maintenance

The **Work Order Type Maintenance** program is used to maintain Work Order type codes.

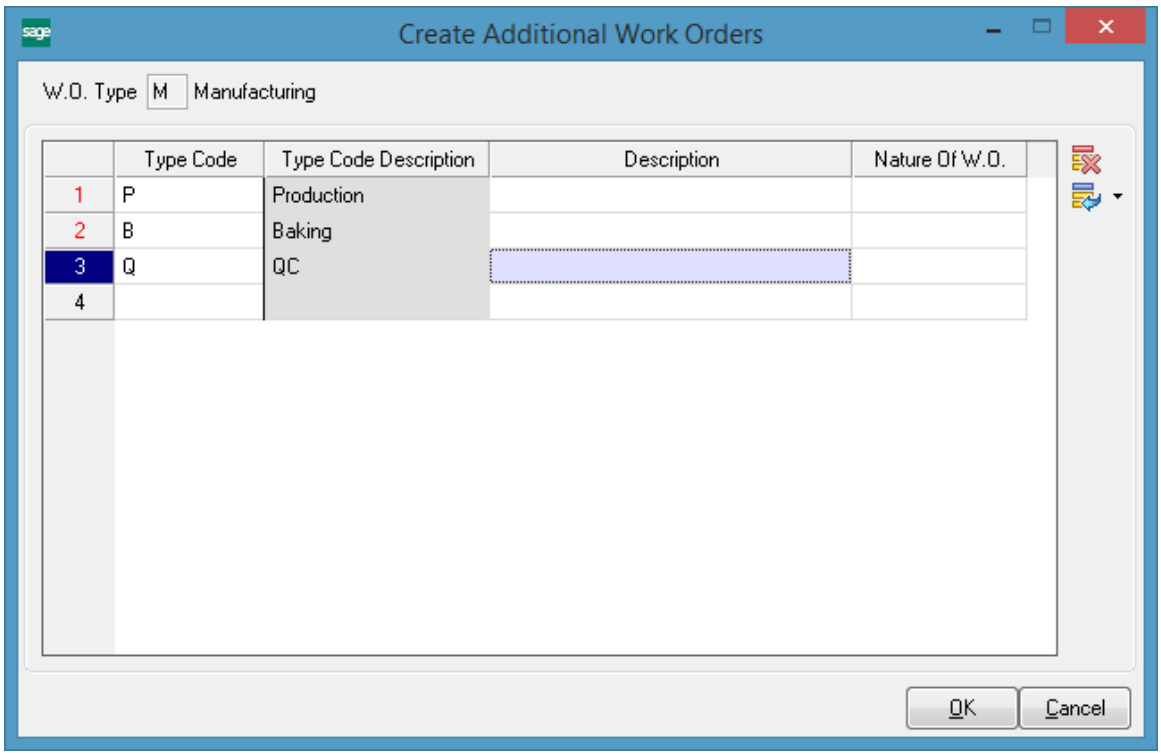


Sales Acct is used for postings when closing dispatches with labor (based on the priority in **Material Planning and Production Setup**).

Enter the **Type Code** and check the **Create Additional Orders** box to have the program create records for additional Work Orders. The WOs will be generated at the moment you're accepting a new Work Order of respective type in the **Work Order Entry**.

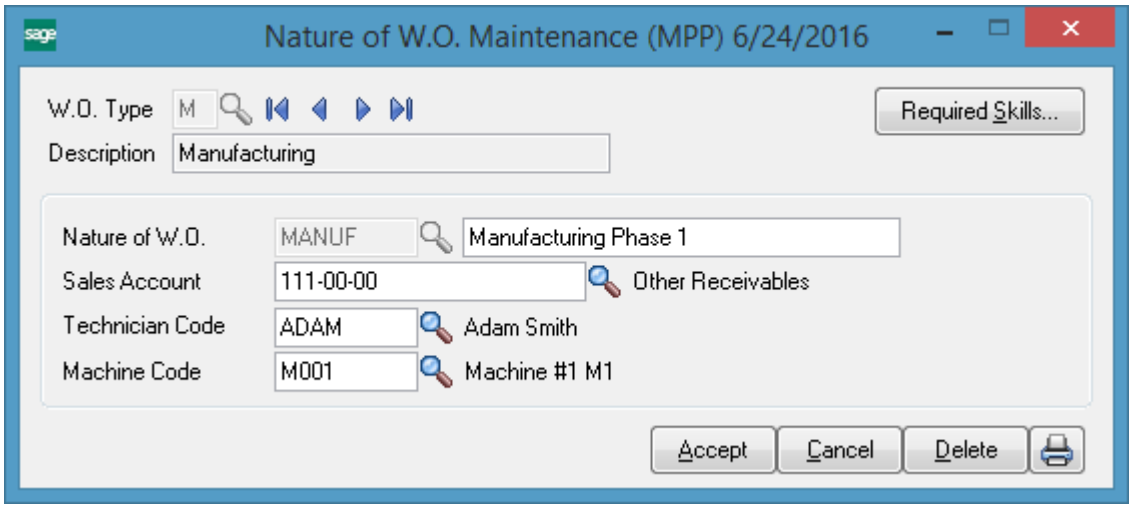
If you delete all the additional Type Codes in the list, and close the **Create Additional Work Orders** screen, the check box in the **Work Order Type Maintenance** will be automatically cleared. You must check it anew and click the button, if you want to add new Type codes after it.

Here is the **Create Additional Work Orders** screen with 3 WO types selected to be generated additionally for current Work Order type.



Nature of W.O Maintenance

The **Nature of W.O. Maintenance** program is used to maintain, edit and add Nature of WO codes used in the **Material Planning & Production Management** module. This program can also be used to list the skills required for a Work Order type.



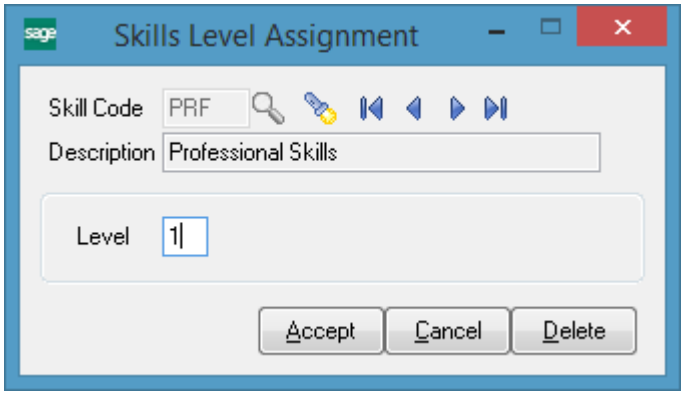
Enter **W.O. Type** or select it from the lookup for the Nature of W.O. you wish to maintain.

Enter the desired **Nature of W.O.** code to add or maintain and a **Description** for the Nature of WO

Sales Acct is used for postings when closing dispatches with labor (based on the priority in the **Material Planning and Production Setup**).

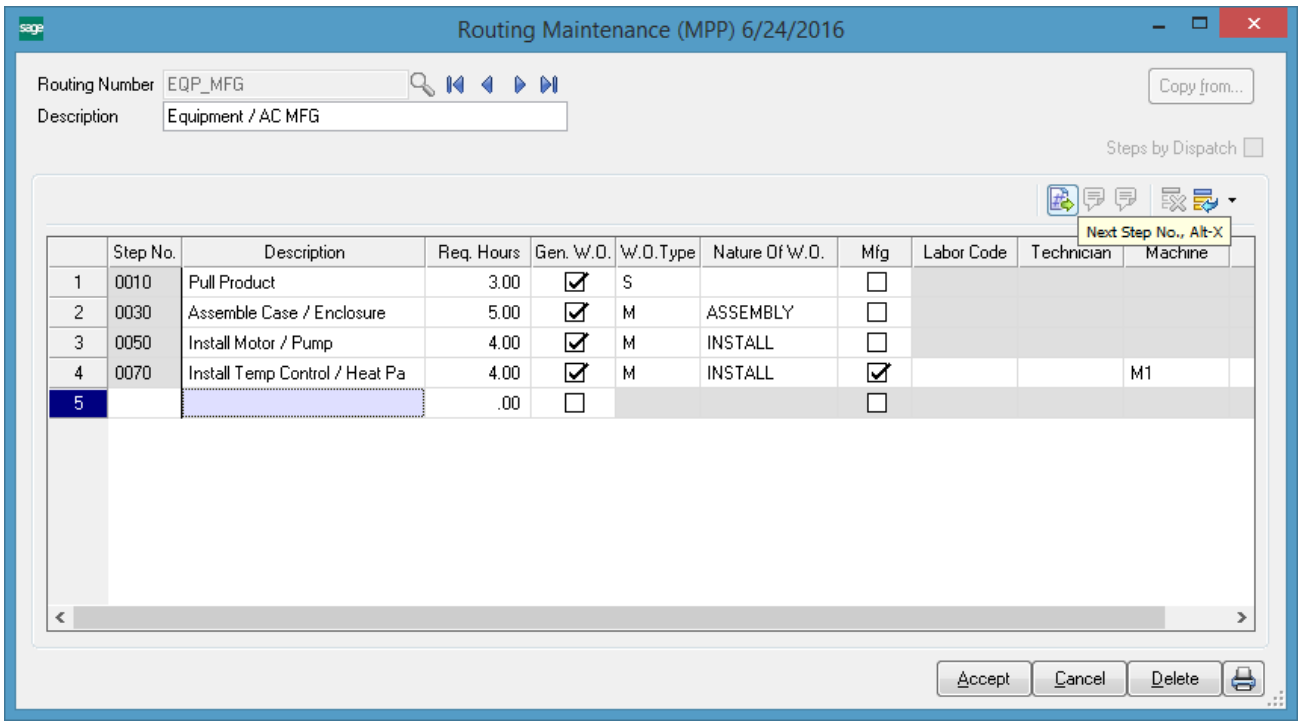
Select the **Technician Code** to be loaded by default when selecting the **Nature of WO.**

Use the **Required Skills** button on the **Nature of W.O. Maintenance** screen to open the **Skills Level Assignment** screen. Use this screen to specify the list of skills needed for the assigned Work Orders.



Routing Maintenance

Routing Maintenance is a program that allows setup of steps to be used when generating Work Orders for Bill Items.
The term “Routing” is used in this case to describe the total set of steps, of any kind, taken to complete a dispatch or Work Order.



Enter the **Routing Number** that represents the series of steps to be performed in completing a repair, installation or manufacturing.

Enter the **Description** (effectively, the name) of the routing in this field. You may use up to thirty characters for the description.

Enter the number of the step you wish to add or maintain in the **Step Number** field. Use the **Next Number** icon to accept the next automatically incremented step number.

If the **Step Number** represented by the next incremented value already exists, then the difference between the current step number and the step represented by the multiple will be divided by two.

If you are entering the first step number for a new routing, clicking the **Next Number** icon will insert **Step Number** automatically based on the **Automatically Increment Steps By option** set in the **Material Planning and Production Setup**.

Enter the **Step Description**. You may use as many characters as you wish to describe each step in the routing. The **Step Text Maintenance** window will be opened allowing the user to enter extended description. The Extended Step Description will be loaded as the Extended Description of the generated Work Order.

The **Extended Dispatch Description** button enabled for a step flagged as MFG allows for entry of extended description to be loaded as the Extended Description of the generated MFG Dispatch.

Enter the **Required Hours** planned to complete this step.

Select the **Gen. W.O** box to mark the step as a task, which can be dispatched when an item with this routing is sold or needs repairing.
If the **Generate W.O** box is checked, select a **W.O Type** describing the task. This will be transferred automatically to the generated Work order, and can be used for assigning a machine with the molds appropriate for completing the task.

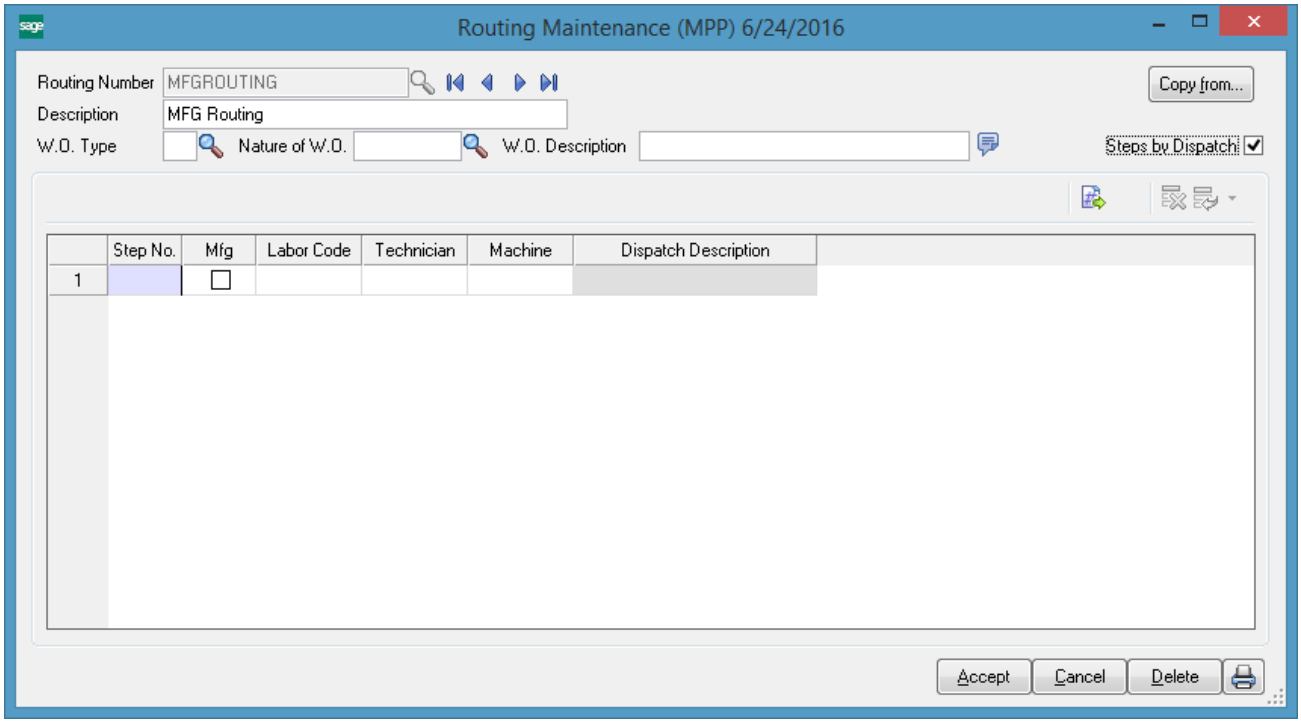
If the **Generate W.O** box is checked, enter a **Nature of W.O** describing the Work Order. This will be transferred automatically to the generated Work Order

The **Mfg** (**Manufacturing)** check box is available only for Steps with the **Generate W.O** option selected.

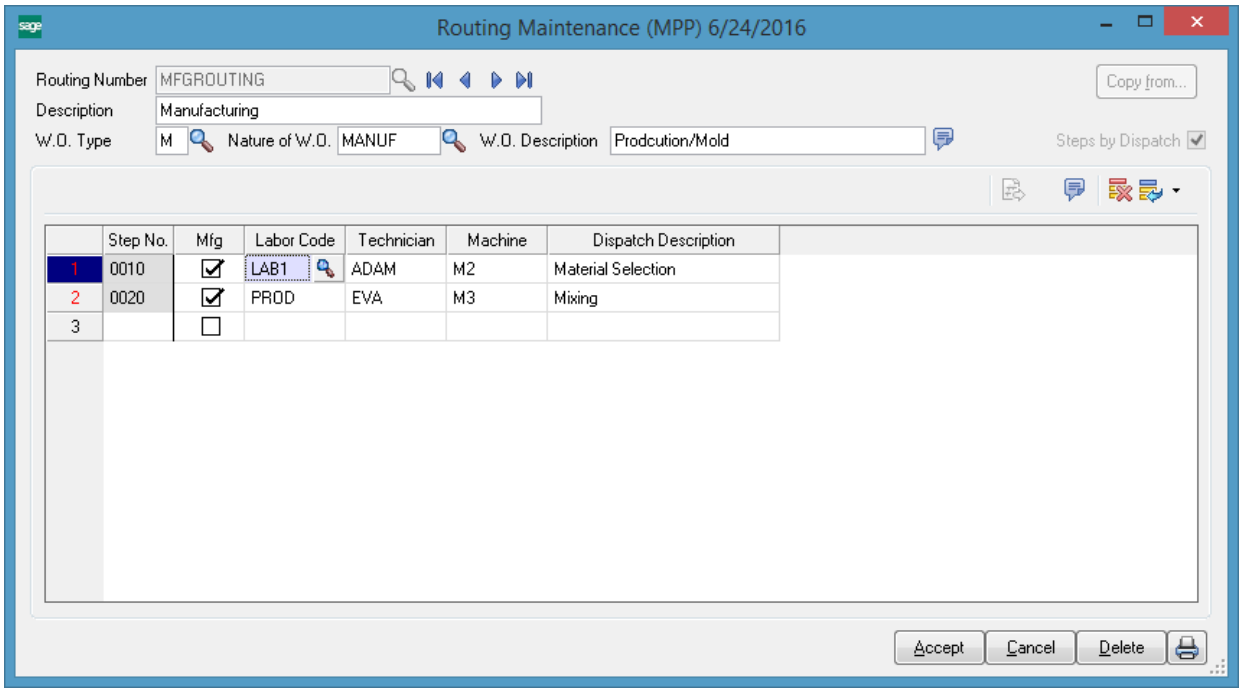
If the **Mfg** box is selected for a **Step**, the **Labor Code** and **Machine Code** fields become visible enabling selection for that Step.

For **Manufacturing** Step, Dispatch with Labor Charge line will be generated when generating **W.O** using the specified **Labor Code**, **Machine** and the **Technician** (if selected).

The **Steps by Dispatch** option allows for setup of routings for which a single Work Order will be generated with respective Dispatches for all steps of Routing. This option is available only for newly created Routing Numbers.



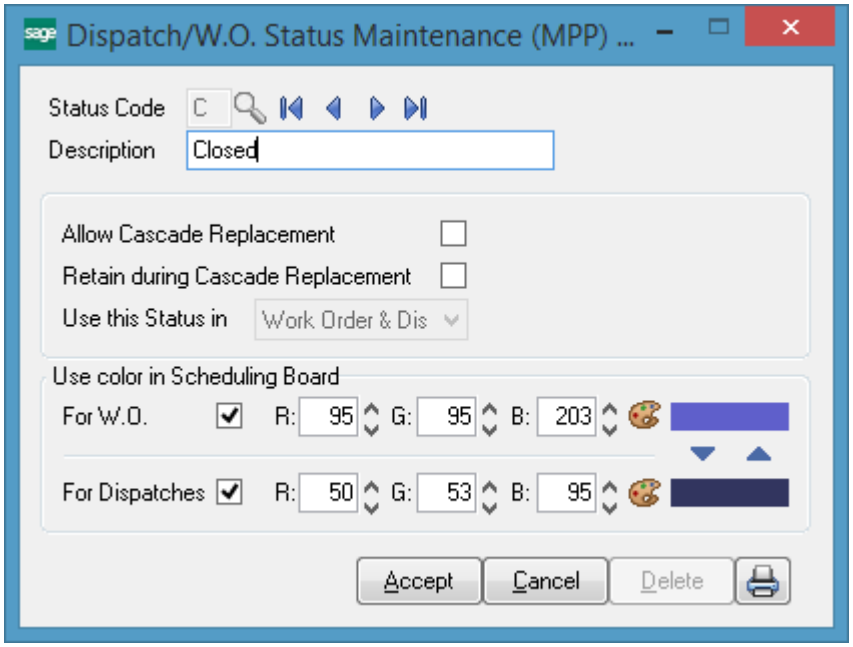
Upon selecting the **Steps by dispatch** checkbox the Routing Maintenance screen is changed allowing to setup steps for a W.O Type.



When Work order is generated for a Bill Item having such Routing Number assigned one Work Order with the specified W.O Type will be generated and for each steps having the MFG flag set, manufacturing dispatches will be generated with respective Dispatch Description/Extended Description entered. For the step not marked as MFG a Dispatch is generated only with a Labor Code loaded in the **Labor Charge Data Entry.**

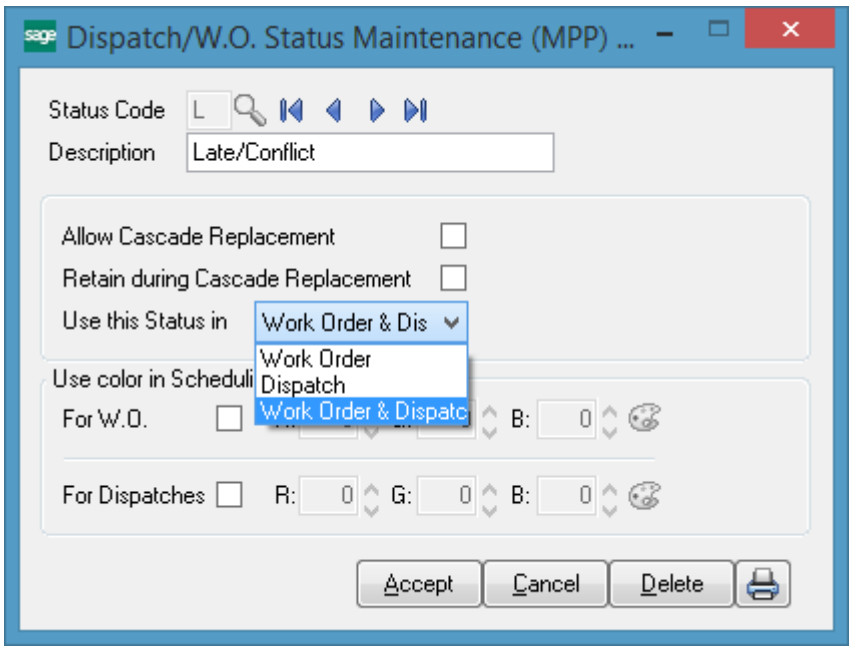
Dispatch/W.O. Status Maintenanc

The **Dispatch/W.O. Status Maintenance** program is used to maintain Work Order /Dispatch status codes, which are used to display the current status of Work Orders and dispatches. For example, Work Order can be opened or closed, entered or waiting for a receipt.

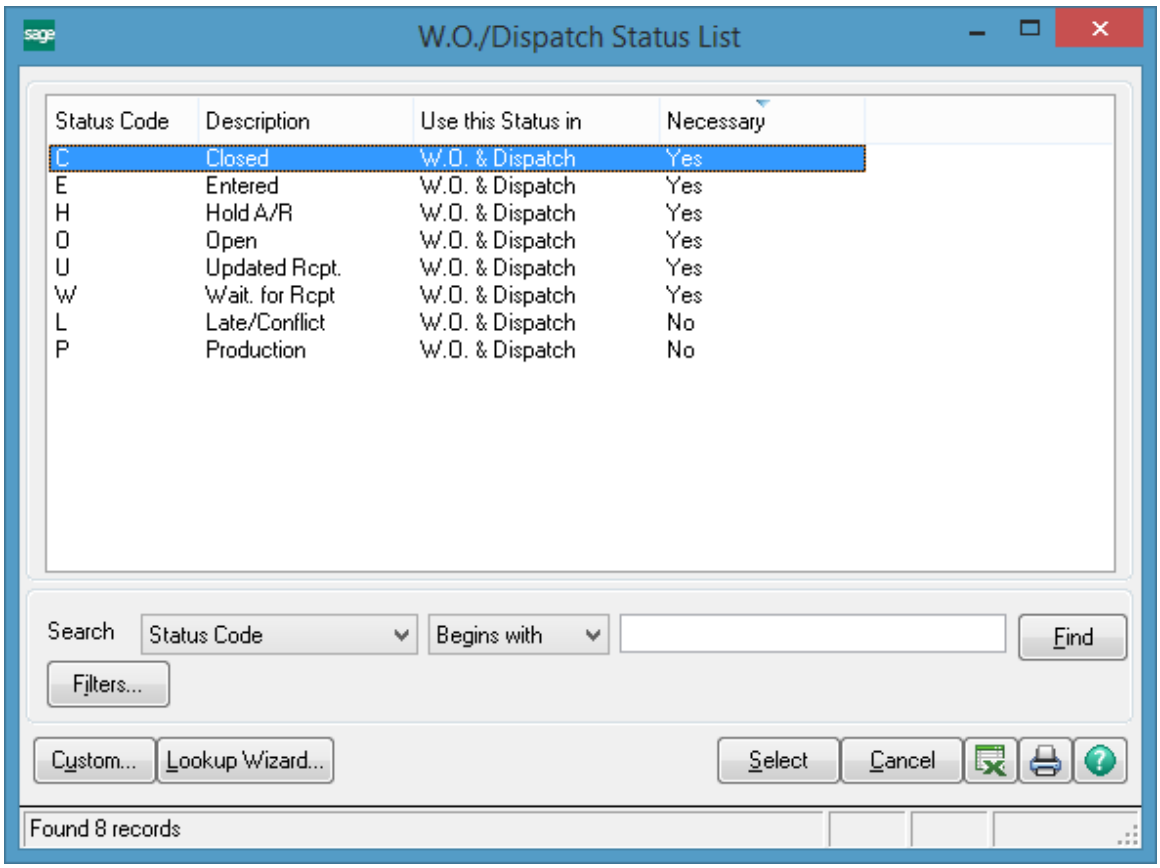


Check the **Allow Cascade Replacement** box if you want to have the selected Status applied to all Dispatches associated with the W.O. when applying it to the Work Order. This checkbox is disabled if the **Use this Status in** option is set to **Dispatch**.

Check the **Retain during Cascade Replacement** box if you want the Status to be retained for the Dispatches while applying the cascade replacement to the Work Order. This checkbox is disabled if the **Use this Status in** option is set to **Work Order**.
The user can select the status to be used only in the **Work Order**, **Dispatch** or both in **Work Order and Dispatch**.



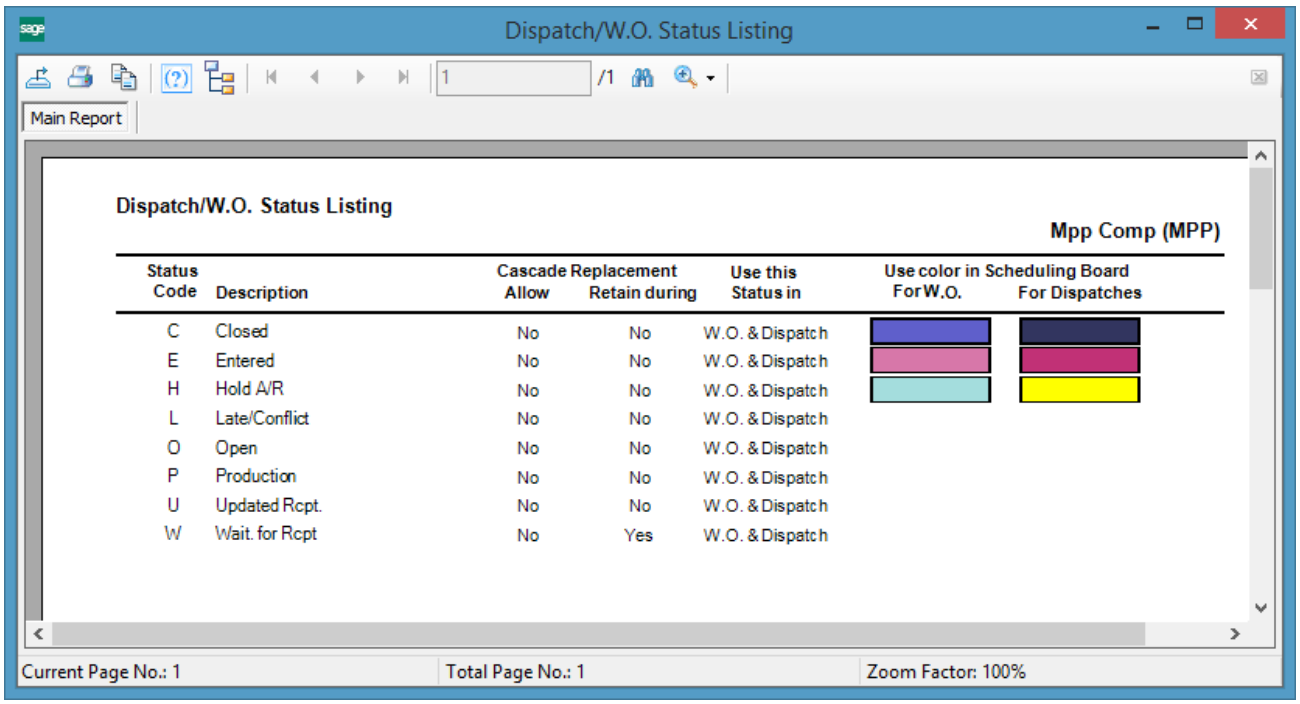
The **W.O. /Dispatch Status List** is opened through the **Status Code** Lookup button. There are several standard Status Codes that are always present in this list. Those Status Codes are set in the system upon MPP Module setup. Besides them you can add new codes for your special needs, delete them and modify their settings. However, the standard Status Codes cannot be deleted. For those codes **Yes** is displayed in the Necessary column of the **W.O./Dispatch Status List.**



Check the **Use color in [Scheduling Board]** box, to display Color Bars for statuses of Work Orders or Dispatches, correspondingly.
When the box is checked, the color selection fields become enabled. You can enter RGB of the color, or click the **Lookup Colors** icon to select color in the standard Windows **Color** dialog box.

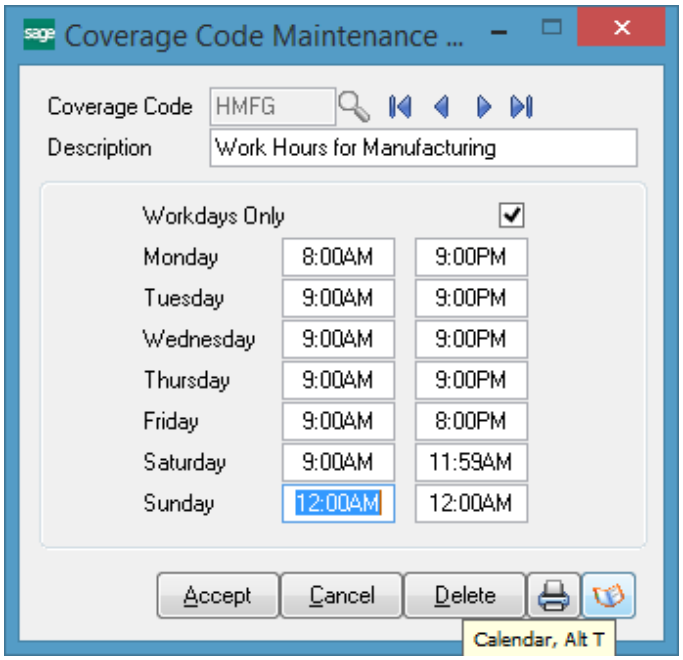
The previews display currently selected colors. You can use the arrows to easily copy one of the selected colors to the other.

The **Work Order** and **Dispatch** status colors are displayed also on the **Dispatch/W.O. Status Listing** report.

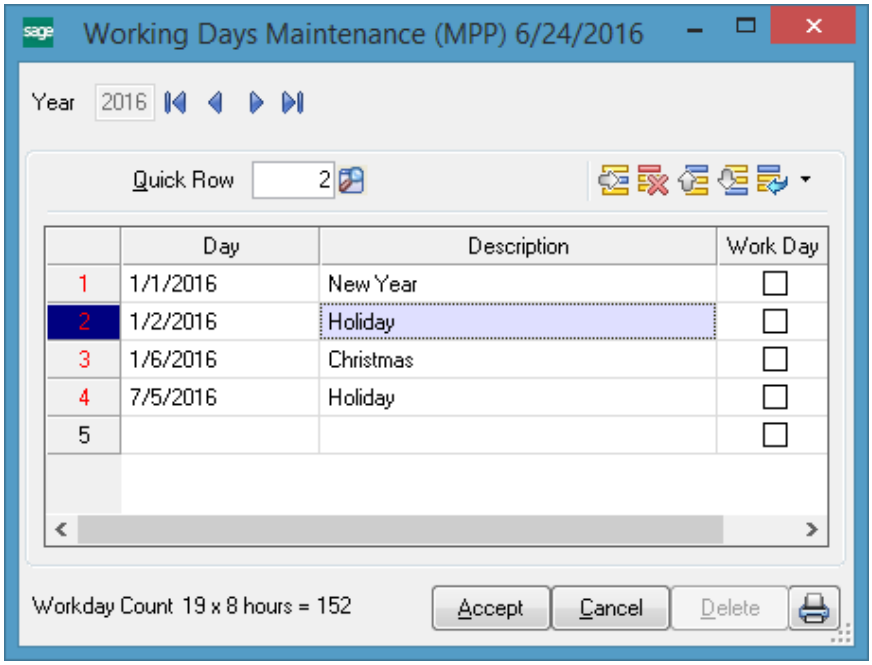

Dispatch/W.O. Status Listing
Main Report
1
/1
Dispatch/W.O. Status Listing
Mpp Comp (MPP)
Status Code
Description
Cascade Replacement
Allow
Retain during
Use this Status in
Use color in Scheduling Board
For W.O.
For Dispatches
C Closed No No W.O. & Dispatch
E Entered No No W.O. & Dispatch
H Hold A/R No No W.O. & Dispatch
L Late/Conflict No No W.O. & Dispatch
O Open No No W.O. & Dispatch
P Production No No W.O. & Dispatch
U Updated Rcpt. No No W.O. & Dispatch
W Wait. for Rcpt No Yes W.O. & Dispatch
Current Page No.: 1
Total Page No.: 1
Zoom Factor: 100%

Coverage Code Maintenance

The **Coverage Code Maintenance** allows entry of coverage hours for each day of the week. Each Coverage Code can be specified as **Workdays Only** or not.



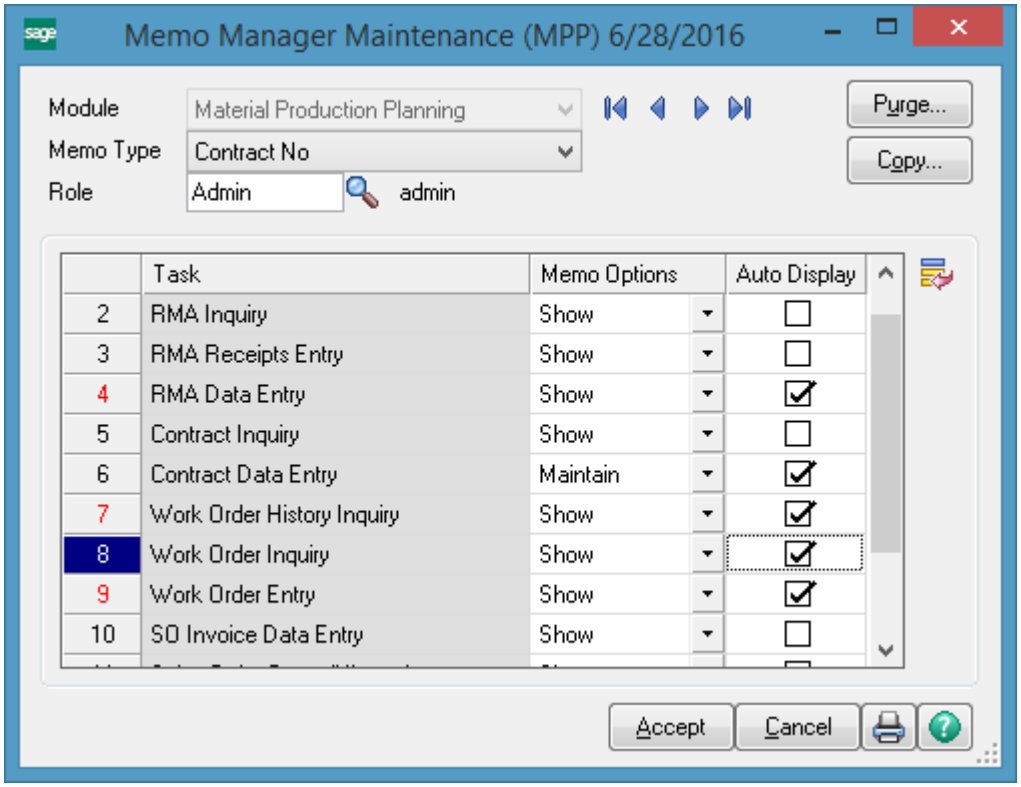
Clicking the **Calendar** button displays the **Working Days Maintenance** screen, where you can specify the Workdays and Holidays.



The **Work Days Only** option allows the user to include only workdays when calculating the Due Date/Time of the Work Order.

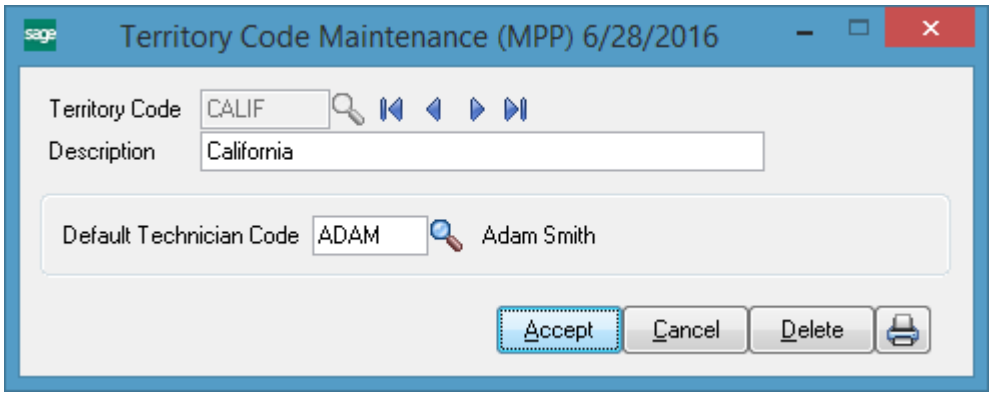
Memo Manager Maintenance

The **Memo Manager Maintenance** program allows setting Memo Options for Material Production Planning module to be shown/ maintained in the selected Tasks.



Territory Code Maintenance

The technician code specified in the **Default Technician Code** field of **Territory Code Maintenance** is the default technician for current territory.

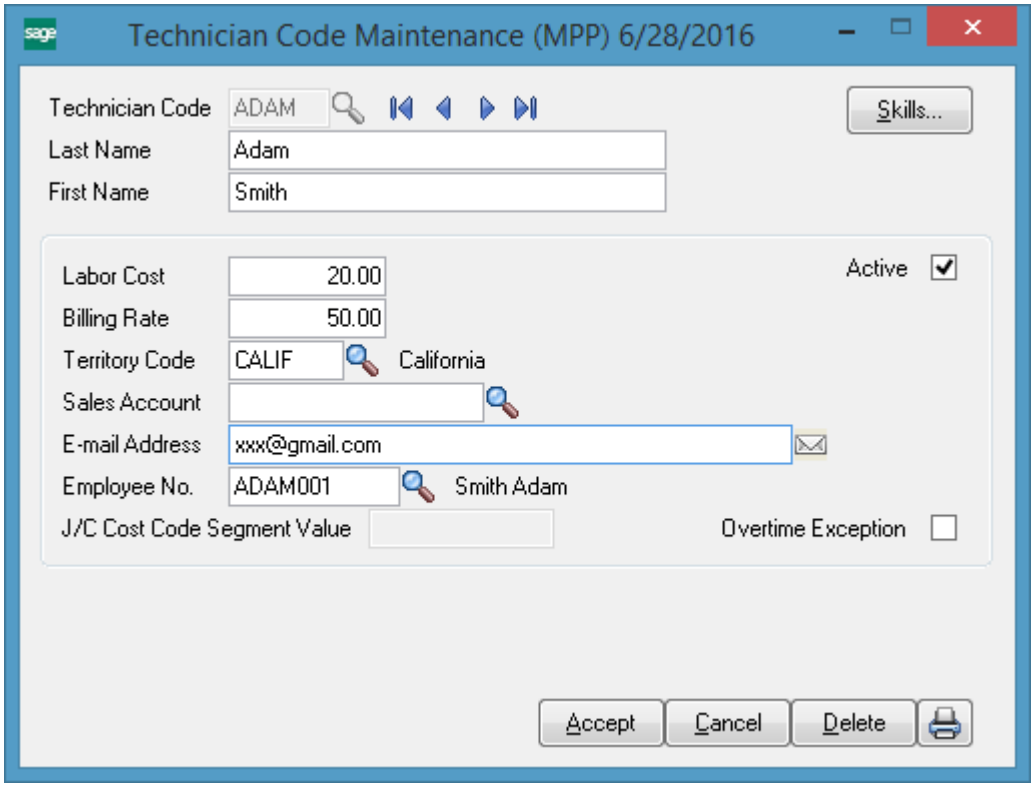


The Territory Code can then be used as a selection criterion in the Technician Maintenance, Customer Maintenance, Ship to Maintenance, Work Order Entry, Scheduling Board and some other programs in order to match technicians and Work Order job sites with the Territory Code.

Technician Code Maintenance

The **Technician Code Maintenance** program is used to setup technician codes used in the **Material Planning and Production Management** module.

The **Technician Code Maintenance** program is used to enter technicians' qualifications using a set of skill codes and a performance evaluation level (0 to 9) for each skill. **Dispatch Entry** uses skill information taken from **Technician Code Maintenance** to match skill requirements with a list of available personnel. This returns a list showing only the qualified personnel available to perform the task.



Enter new **Technician Code** to add or an existing one to modify data.

Enter the **Last** and **First Names** and **E-mail Address** of the technician in the appropriate fields.

Use the **Labor Cost** field and the **Billing Rate** field to enter hourly cost and price information for a given Technician Code.

Enter the **Territory Code** for the area covered by the technician. The code must have been previously entered in the **Territory Code Maintenance** screen. This code can be used to search for Work Orders and Dispatches elsewhere in the system.

Sales Acct is used for postings when closing dispatches with labor (based on the priority in **Material Planning & Production Management Setup**).

Employee Number sets the connection between the Technician Code and Employee Number used in the **Payroll** module.

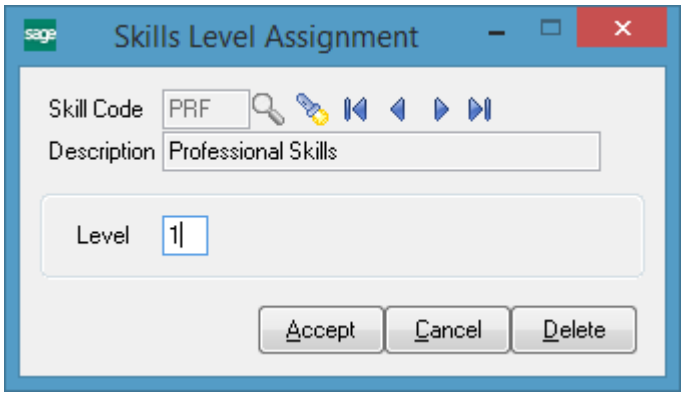
The **J/C Cost Code Segment Value** is used during the import in the **Job Posting Entry**, to substitute the **J/C Cost Code Seg. for Tech Posting** specified in the **Material Planning & Production Management Setup.** This field is enabled if the **J/C Cost Code Seg. for Tech Posting** option is not set to **None.**

Check the **Overtime Exception** box to denote that workday for this technician equals to 10 hours instead of usual 8.

Clear the **Active** check box, if the **Technician** is not available for assigning dispatches. The Technicians with the **Active** option turned off cannot be selected anywhere for new Work Orders and Dispatches. Existing Work Orders and Dispatches of the inactive technician can be still processed.

Press the **Skills** button to submit the technician qualification information using the skills defined in the **Skill Code Maintenance** program.

The following screen will appear.

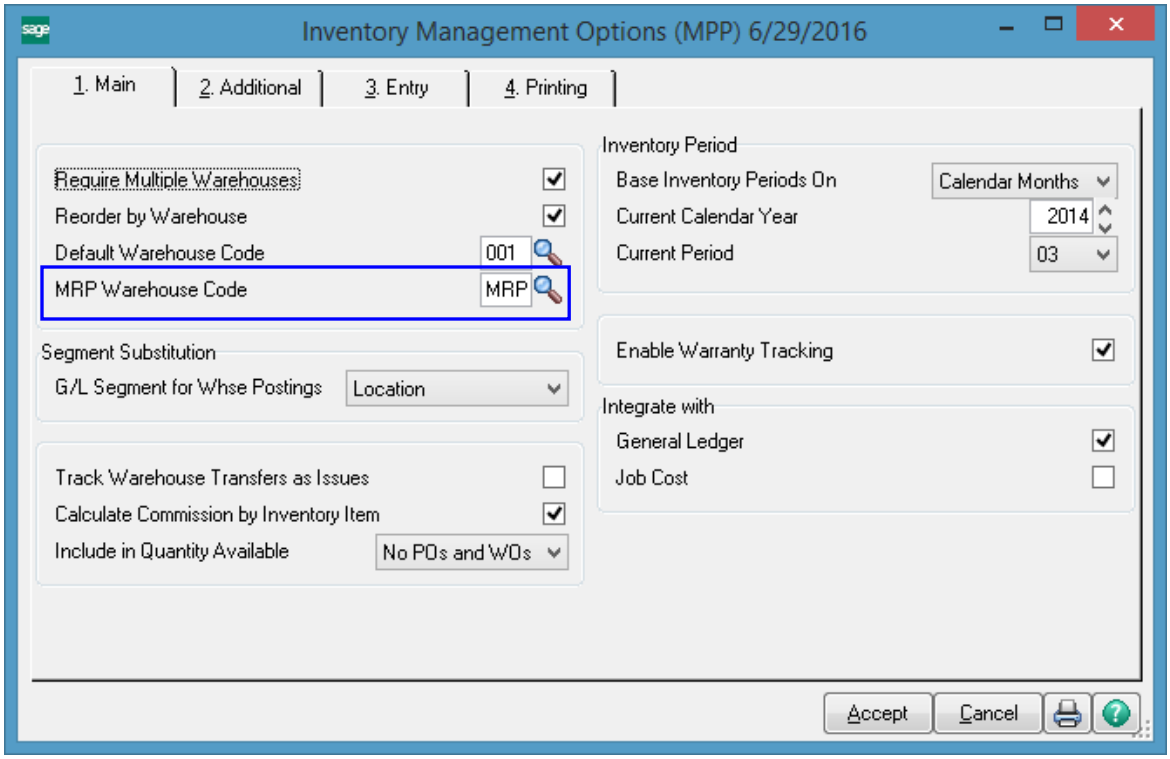


Enter the desired **Skill Code** for the technician.

Enter the **Skill Level Number** representing the technical expertise required for satisfactory task completion. Skill level can be from 0 to 9.

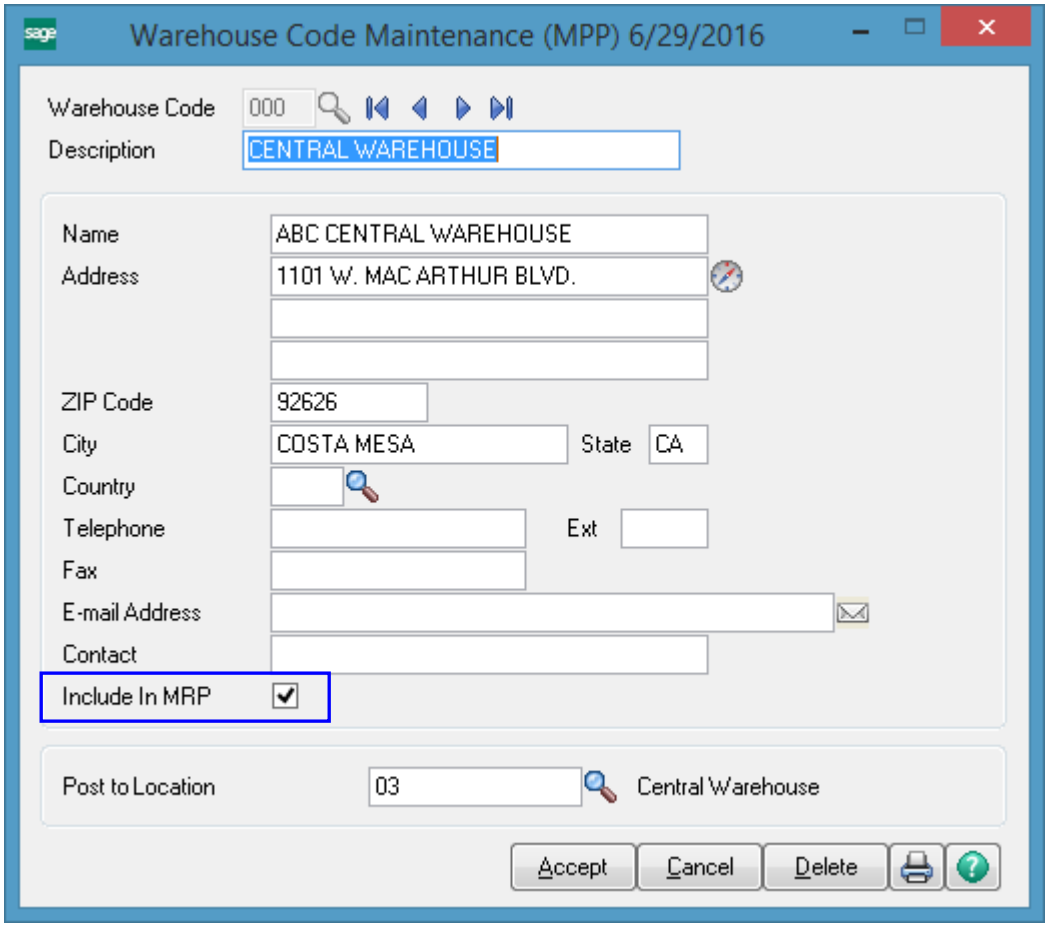
Inventory Management Options

The **MRP Warehouse Code** has been added on the Main tab of the **Inventory Management Options** to allow setting the warehouse code to be used as the warehouse for transactions generated if **Calculate Quantity to Produce/Purchase** program is processed at the item level (not at warehouse level).



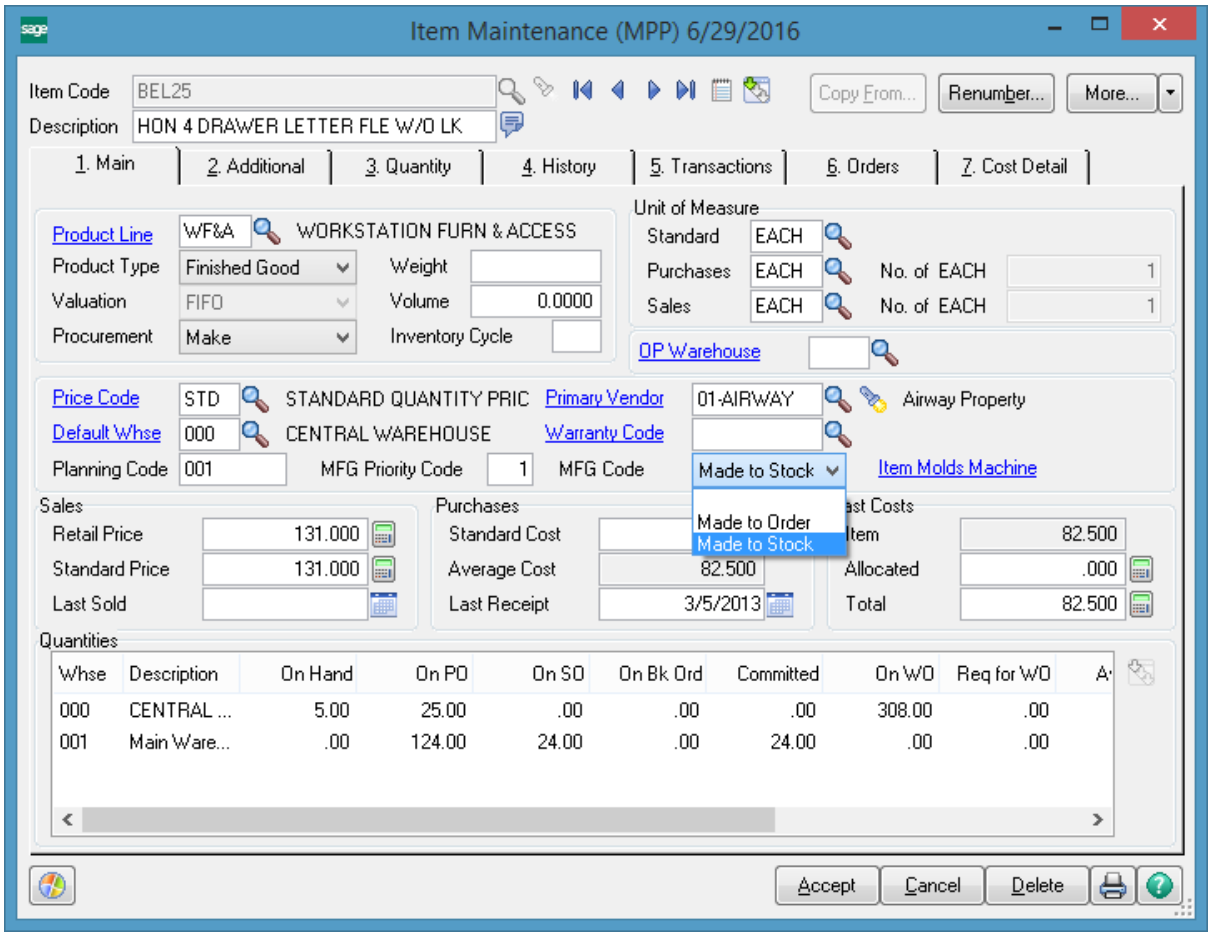
Warehouse Code Maintenance

The **Include In MRP** checkbox has been added on the **Warehouse Code Maintenance** to allow indicating the Warehouse(s) to be included in MRP run when calculating demand for items at the item level.



Item Maintenance

The **Planning Code**, **MFG Priority Code** and **MFG Code** fields have been added on the main tab of the Item Maintenance.
Planning Code field is an informational field, which supports up to 5 alphanumeric characters and is used as selection field in the Calculate **Items Quantity To Produce** program**.**

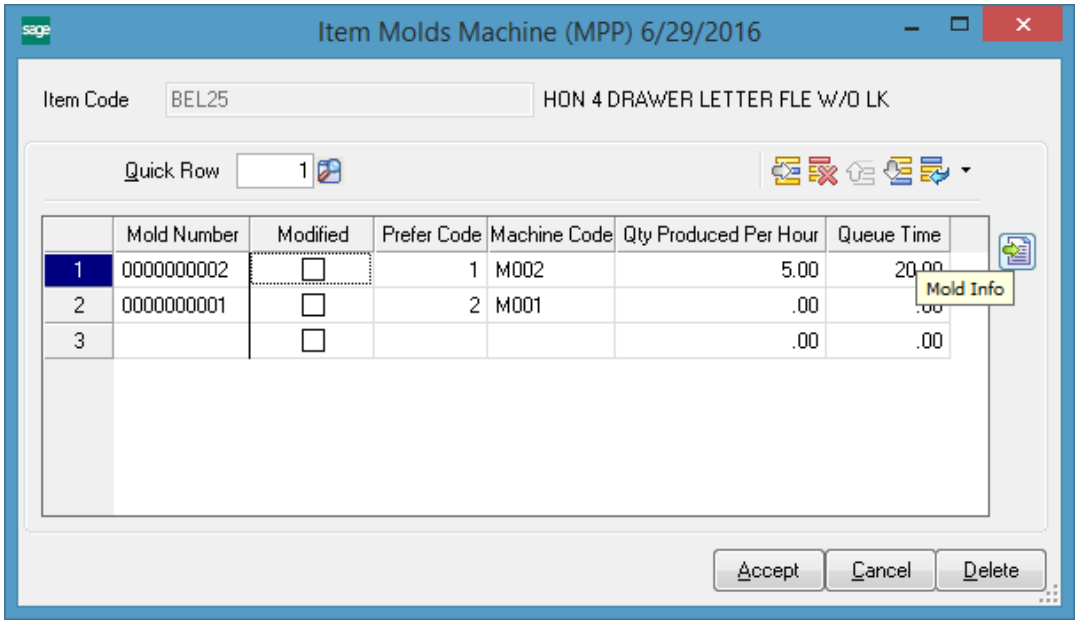


MFG Priority Code– is used to define MFG sort for the item. Items are loaded into the MRP grid sorted by the manufacturing priority code entered for each item.

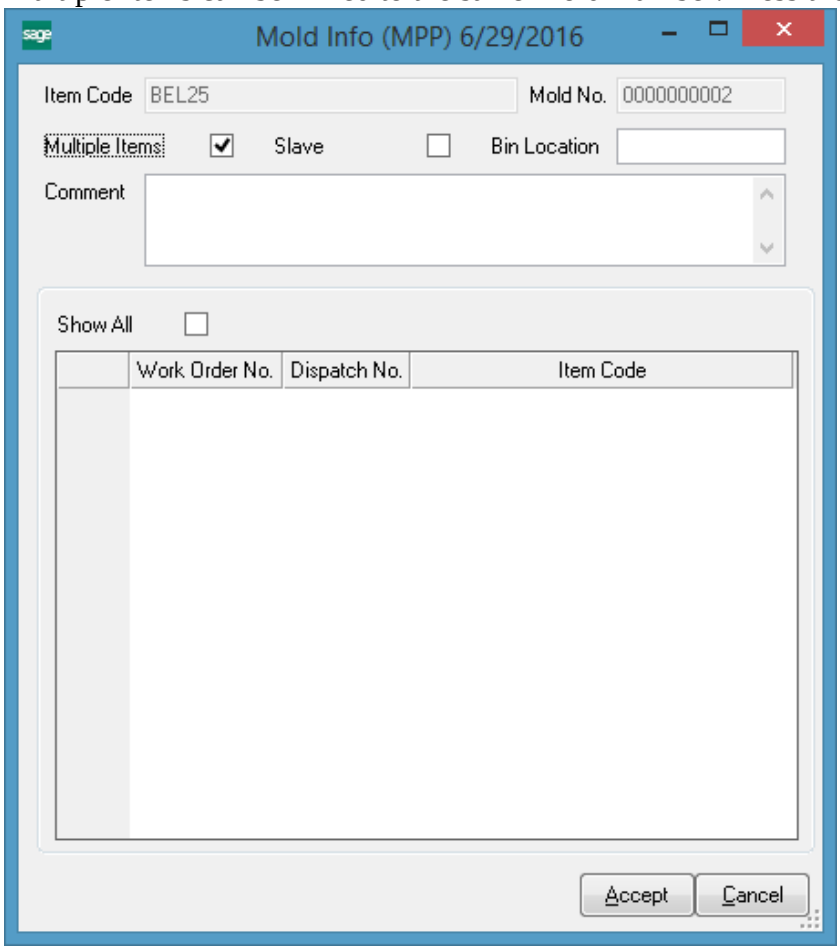
MFG Code – is used to define material planning groups to manage purchasing, production and scheduling processes. The following options are available:

- Made to Order
- Made to Stock

Mold and machine information is setup for each Item in the **Item Molds Machine** grid opened through the **Item Molds Machine** hyperlink button. The information entered here is required for work order generation and auto-scheduling functions.

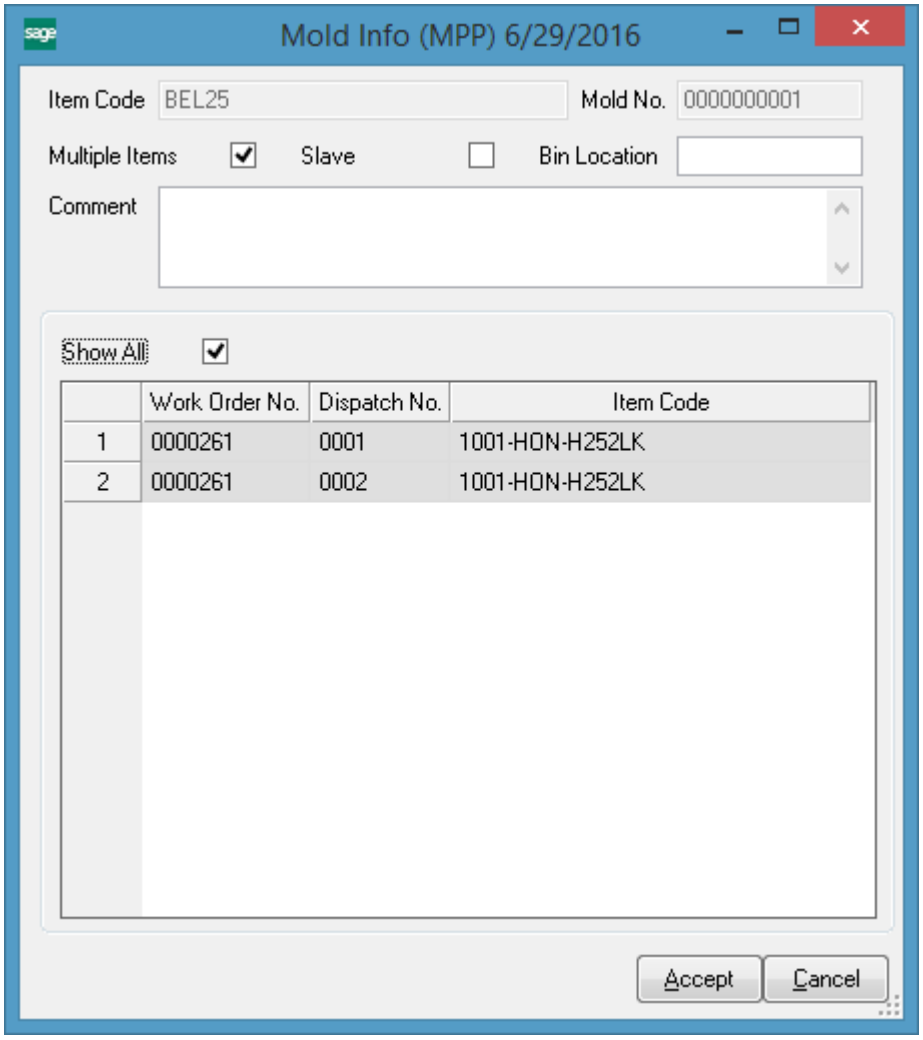


Multiple Items can be linked to the same Mold Number. Press the Mold Info button:



The **Mold Info** screen is opened with current Item and Mold number selected.

Select the **Multiple Items** checkbox to indicate multiple Items can be assigned to current Mold number. If the selected item is not flagged as **Slave** it is considered to be the master Item. In this case when assigning another Item to current Mold number the **Slave** checkbox will be automatically set upon checking the Multiple Items checkbox:



The **Show All** option allows for viewing the Work Order numbers generated for all the Items linked to current one.

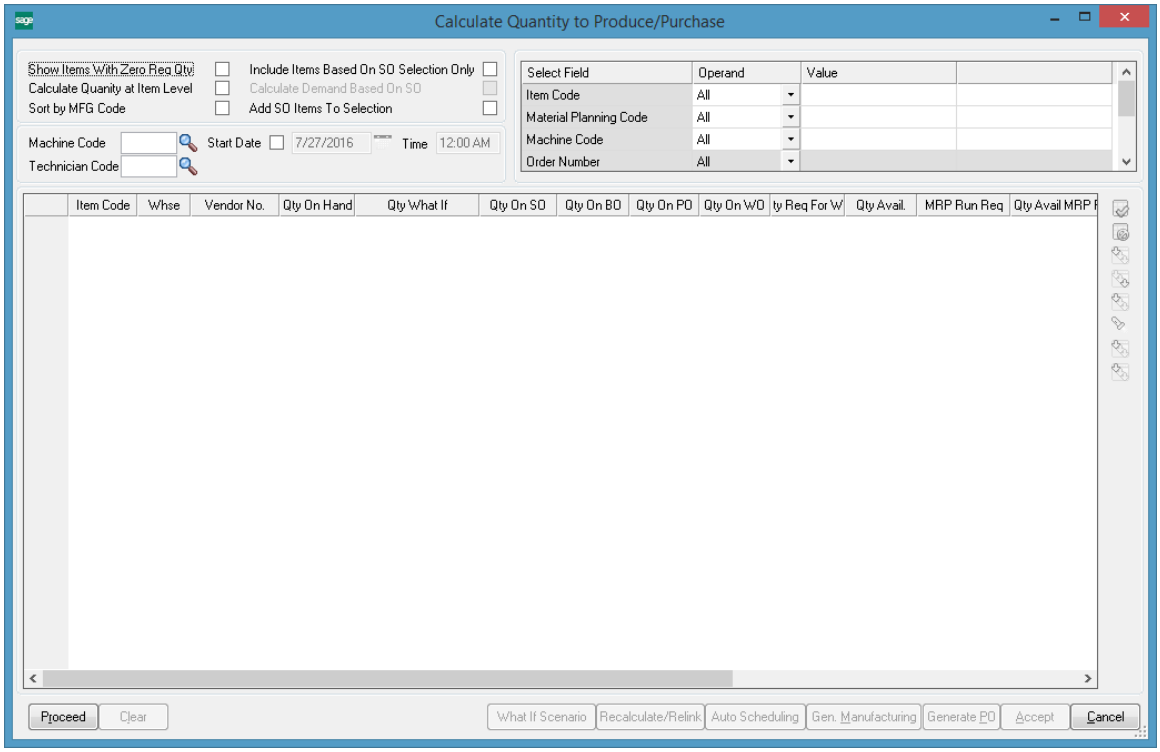
The Multiple Items flag (indicating that this mold is used by more than one item) impacts quantity calculation in the Calculate Quantity to Produce/Purchase program.
Refer to Processing Master/Slave Items for details.

Material Requirement Planning

Calculate Quantity to Produce/Purchase

The **Calculate Quantity to Produce/Purchase** program added under the **Material Production Planning Main** menu is designated to simplify and speed up the work processes of purchasing and the production managers, enabling them to plan more effectively.

This program allows for processing the selected Items and calculating quantity requirements for each Item based on the selected MRP run options. The program calculates also the component requirements for each Item by Warehouse.



MRP Run Processing Options:

Show Items With Zero Req. Qty- select this checkbox if you want to load the Items with zero quantity required (Calc. Demand) into the material production planning grid.

Calculate Quantity at Item Level – select this checkbox if you want the demand to be calculated at the Item level (instead of warehouse level). Only the warehouses

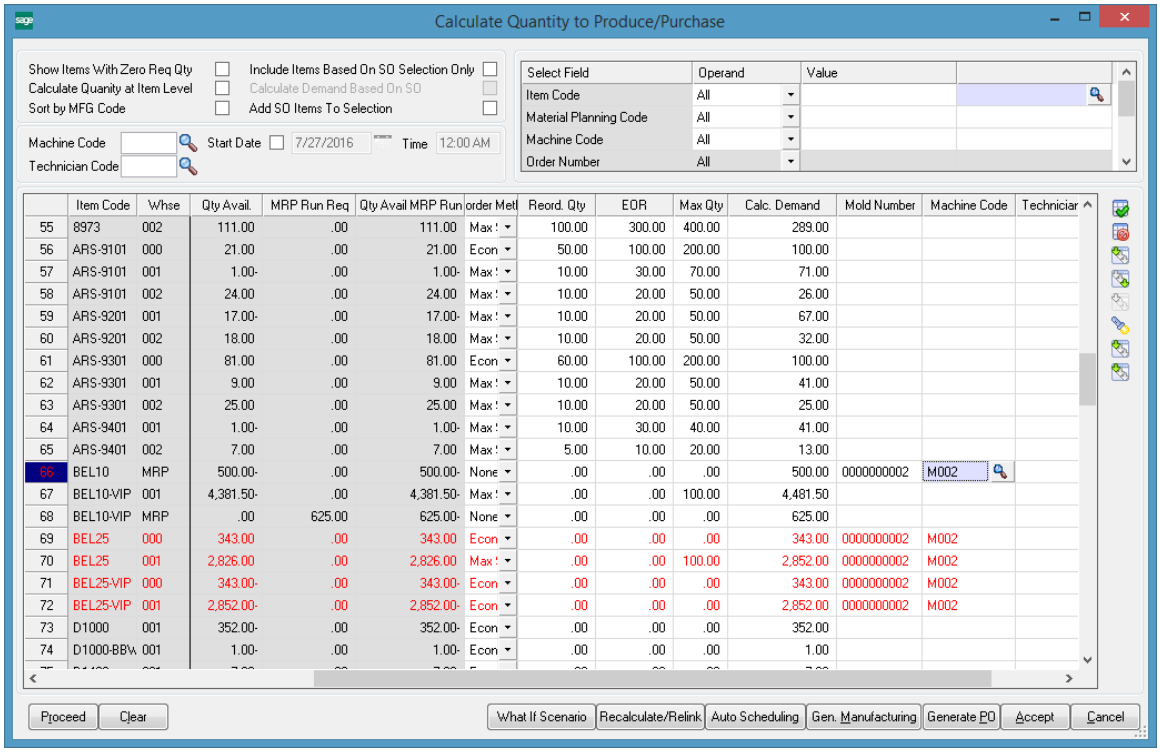
flagged as “Include in MRP” in the Warehouse Code Maintenance are included in the calculation and the calculated quantities are shown under the Warehouse code selected as **MRP Warehouse** in the **Inventory Management Options.**

Include Items Based on SO Selection Only – select this checkbox to include in the demand calculation only the items of the selected Order(s) lines. If the ordered Item is a Bill the program uses the bill of materials structure to disassemble all components into the lowest level items and loads also those items.

Calculate Demand Based on SO – this option is enabled upon selecting the **Include Items Based on SO Selection Only** checkbox. If checked the demand is determined based on the open Sales Orders for the selected Ship Date.

Add SO Items to Selection – this checkbox is enabled only if the above two options are turned off. It allows for adding also Sales Orders’ Items to the Items selected based on other selection criteria.

The **Machine Code, Technician Code** and **Start Date/Time** options are used for Manufacturing WO/Dispatch generation.



The following selection options may be applied:

- Item code
- Material Planning Code
- Machine Code
- Order Number

- Ship Date
- Warehouse

MRP columns:

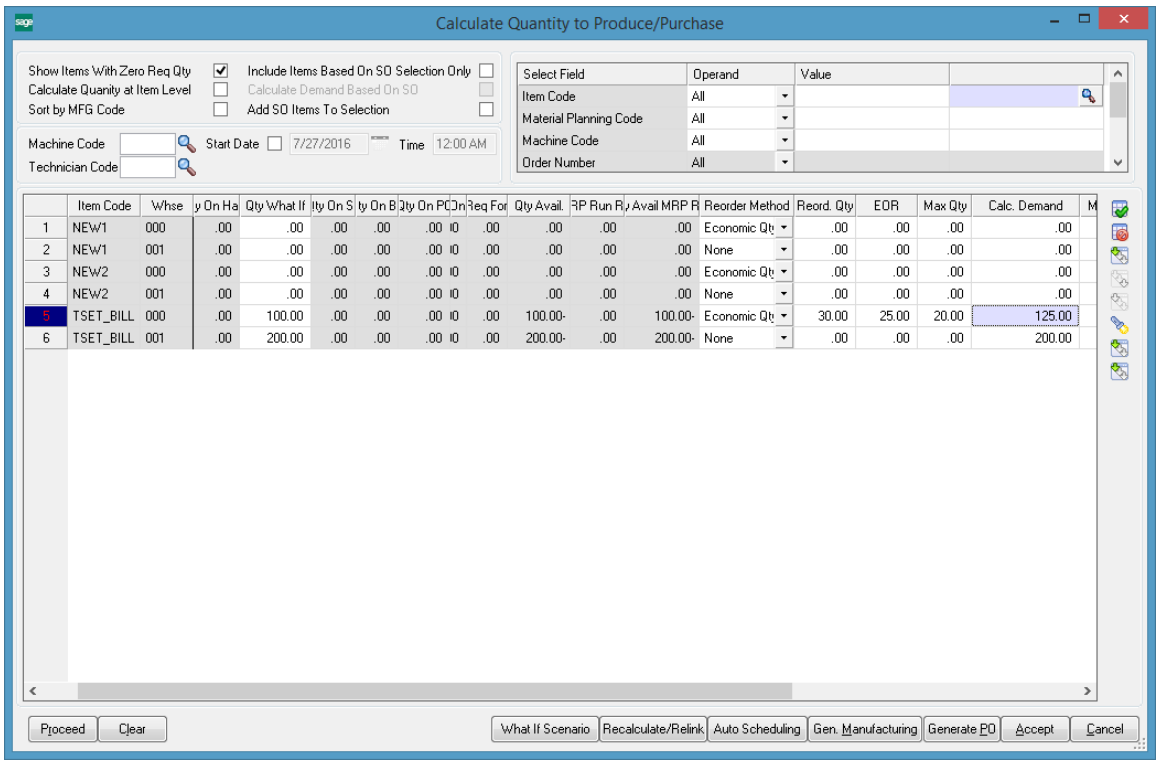
- **Item Code** – item number from inventory master file. The program lists all components (purchased or manufactured) to meet the selected items demand
- **Whse** – the warehouse code for the information or the MRP Warehouse code setup in the I/M options if MRP run is at item level
- **Vendor No** – vendor number for purchase items. The Make or Buy drop down in the inventory file is used to determine if a PO is to be generated for the item.
- **Qty On Hand (QOH**) – quantity on hand for the warehouse
- **Qty What If –** quantity representing the item's supposed demand based on which the Calc. Demand field value is recalculated upon pressing the **What If Scenario** button.
- **Qty on SO (SOQ)** – sales order quantity represents quantity on sales orders for the entered date range or item's demand based on the Bypass Sales Order Selection MRP run option
- **Qty on BO (BOQ)** – backorder quantity, quantity on back orders for the entered date range or item's demand based on the Bypass Sales Order Selection MRP run option
- **Qty on PO (POQ)** - quantity on purchase orders
- **Qty on WO (WOQ)** - quantity on existing work orders
- **Qty Req for WO (QRWO**) component quantity needed for planned work orders
- **Qty Avail (QAVL)** – is calculated using the formula below:
  QAVL=QOH-SOQ-BOQ+POQ+WOQ-QRWO
- **MRP Run Req** - this value represents the requirements on items entered on the bill of material line's tab for any BOM item with negative Qty Avail (QAVL) value. The **MRP Run Req** quantity is calculated for component Items only, it doesn't make sense for Bill parent Item. It is calculated as the Bill Recommended Qty multiplied by the component's Quantity/Bill.
- **Qty Avail MRP Run (MRPQ)**, this value is calculated as follows:
  MRPQ = QAVL - MRP Run Req
- **Reorder Method** – MAX, ROP or EOQ.
- **Reorder Qty** – is the minimum available quantity at which to reorder this item. Tis field value is defaulted from the Item Reorder Maintenance.
- **EOR** – Economic Order quantity is the quantity normally reordered when the available stock falls to or below the reorder point. This field value is defaulted from the Item Reorder Maintenance.
- **Max Qty**- If Maximum Stock Level is selected in the Reorder Method field, enter the maximum level for this item. This field value is also defaulted from the Item Reorder Maintenance.
- **Calc. Demand** – is calculated based on the Reorder method as follows:
  - For Max Stock level Reorder method, if the Qty Available is below reorder, Recommended Qty=Buf Max Quantity –MRPQ (Qty

Avail MRP Run)
    - For Reorder Point method if Available quantity is below the Reorder, Recommended Qty=Reorder Point Quantity – MRPQ (Qty Avail MRP Run)
    - For Economic Qty method, if Available is below reorder, Recommended Qty=Economic Ord. Quantity
- **Mold Number**- this field is defaulted to the Mold Number setup for an Item in the Item Mold Maintenance and can be changed here. If there are several Molds setup, the Mold Number with the highest Prefer Code (for example from 001, 003, 005 the one with 001 will be loaded). The user is not allowed entering the Mold Number manually. It is necessary to select from the lookup list.
- **Machine Code**- this field is defaulted to the Machine Code setup for an Item in the Item Mold Maintenance and can be changed here.
- **Include**- select this checkbox to include the line in the Manufacturing WO generation

The following actions are available:

- **What If Scenario**
- **Recalculate/Relink**
- **Auto Scheduling**
- **Generate Manufacturing**
- **Generate PO**

What If Scenario – this button allows for calculating the **Calc Demand** quantity taking into account the **Qty What If** field value instead of the **Qty On SO**.
The **What If Scenario** button is enabled if the **Calculate Qty at Item Level** option is turned off.
Here is an example of Calc Demand quantity calculation based on the What If Qty entered:
The Calc Demand is calculated as Reorder Qty or EOR or Max Qty (based on the Reorder Method selected) – Qty Avail MRP Run.



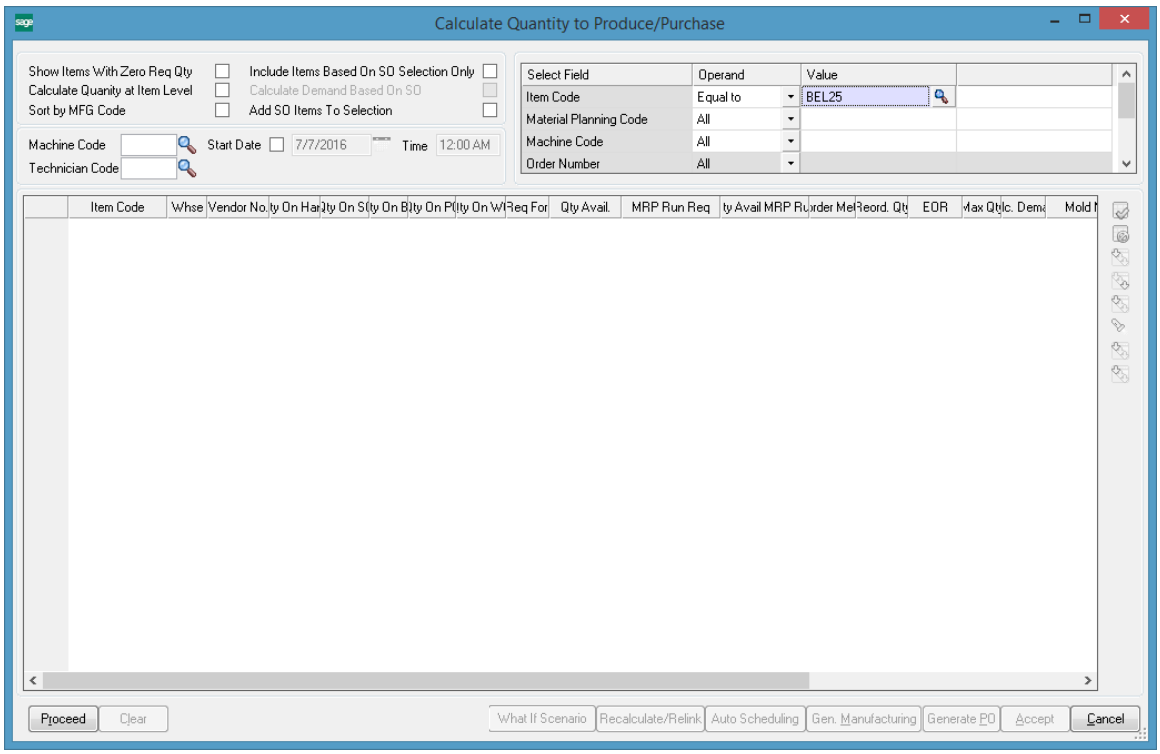
Recalculate/Relink- this button is used for linking/relinking Master/Slave Items in case Multiple Items are being produced through the same Mold.

Pressing the **Auto Scheduling** button will generate and schedule work orders based on the machine/mold information entered for an Item in the **Calculate Quantity to Produce** grid taking into account Shifts setup in the **Week Shift Maintenance.**
If the **Start Date** checkbox is selected with a Date/Time entered, the Manufacturing Dispatch Starting Date/Time fields will be defaulted to that Date/Time if the Machine specified for an Item is available for that Date/Time and the Ending Date will be calculated taking into account the shifts setup in the **Week Shift Maintenance.**

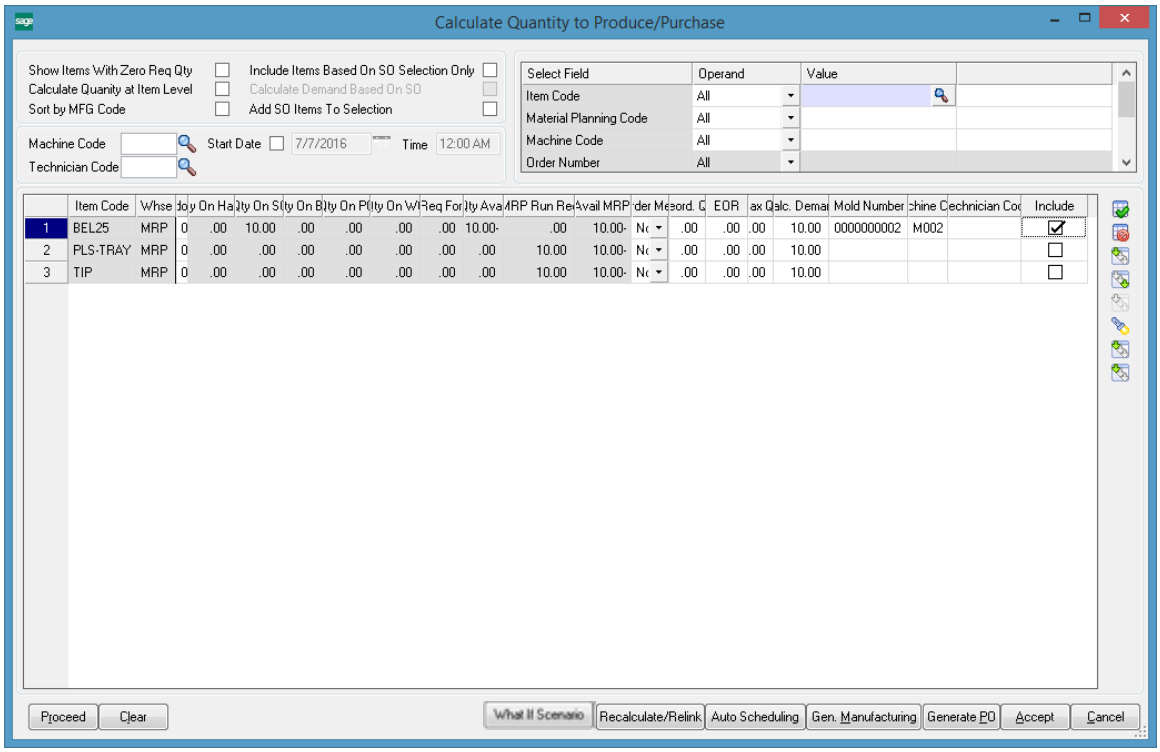
Generate Manufacturing WO- press this button to generate work orders based on the demand calculated. The user may schedule the generated work Orders using the **Schedule Board** program.

Generate PO- press this button to generate Purchase Orders for Items with Buy Procurement type. Purchase orders are generated both for components of BOM items or items sold on sales order.

Here is an example of material requirement calculation for Bill Item BEL25 for warehouse code: “MRP”.



Press **Proceed** after making the necessary selections:

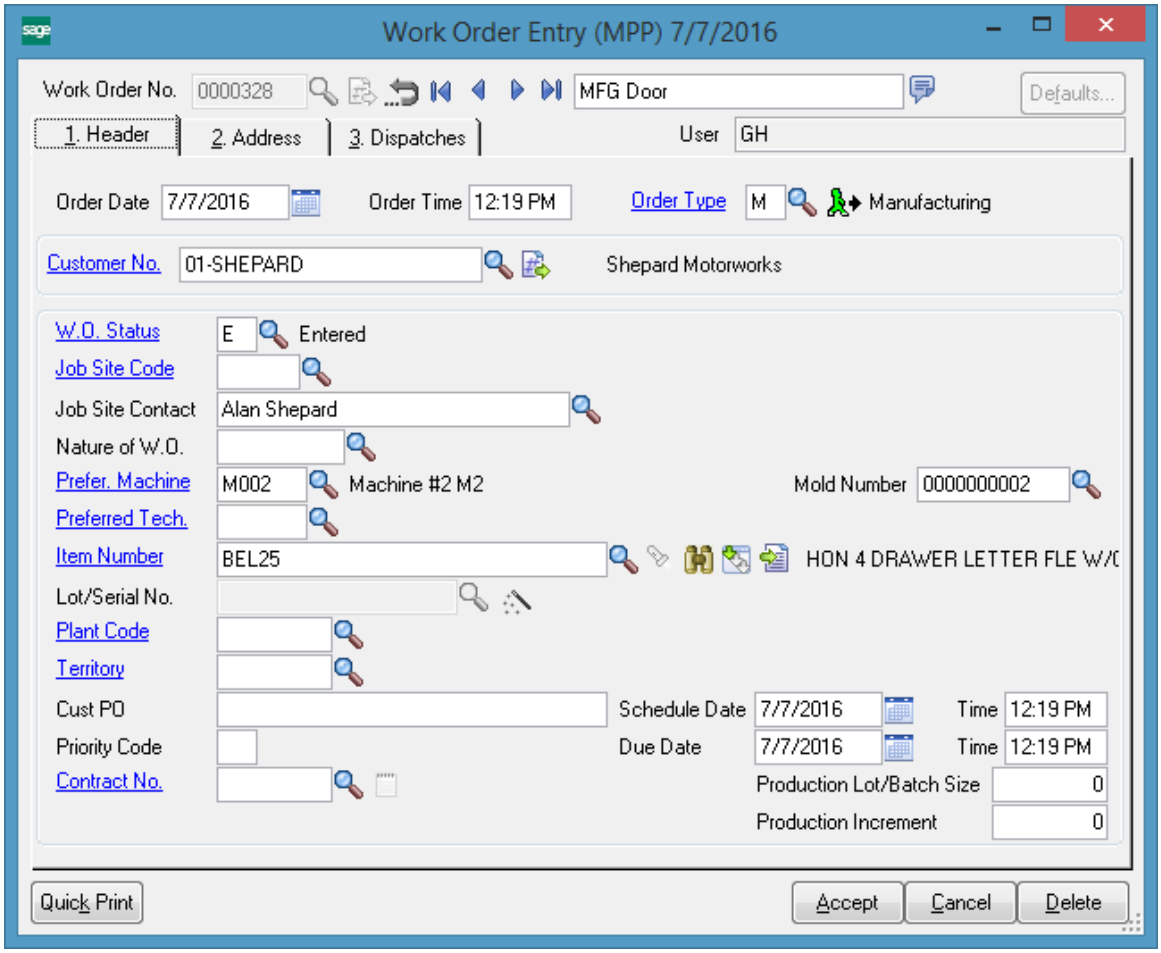


The Bill Item is loaded in the grid with its components.
The **Mold Number** and **Machine Code** with **Prefer Code 1** setup for current Item in the Item Molds Machine entry are automatically loaded in the grid.

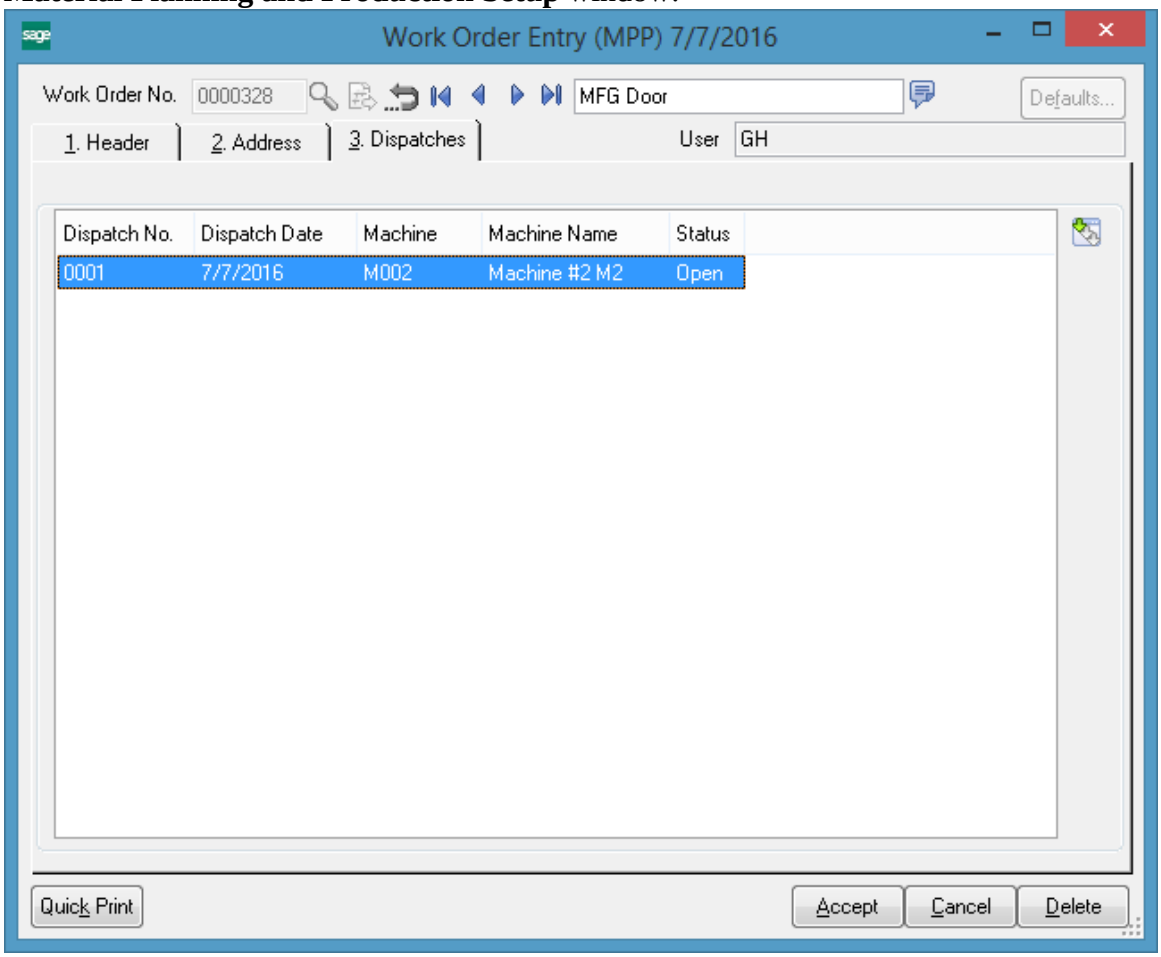
Select the **Include** checkbox. You can **Include** all lines by pressing the **Select All** button or just clicking in the box to select an individual line.
The drill down buttons on the right hand of the grid enables drill down to Item Inquiry, Bill Item Inquiry (enabled for Bill Items), Where used Inquiry (enabled for component Items), Item Vendor Maintenance, Item Molds Machine entry and MRP Inquiry.

After selecting the lines and pressing **Accept** the information is saved in a special table (SM_ItemsQtyToProduce) used for generating Work Orders from Production Scheduling Board.

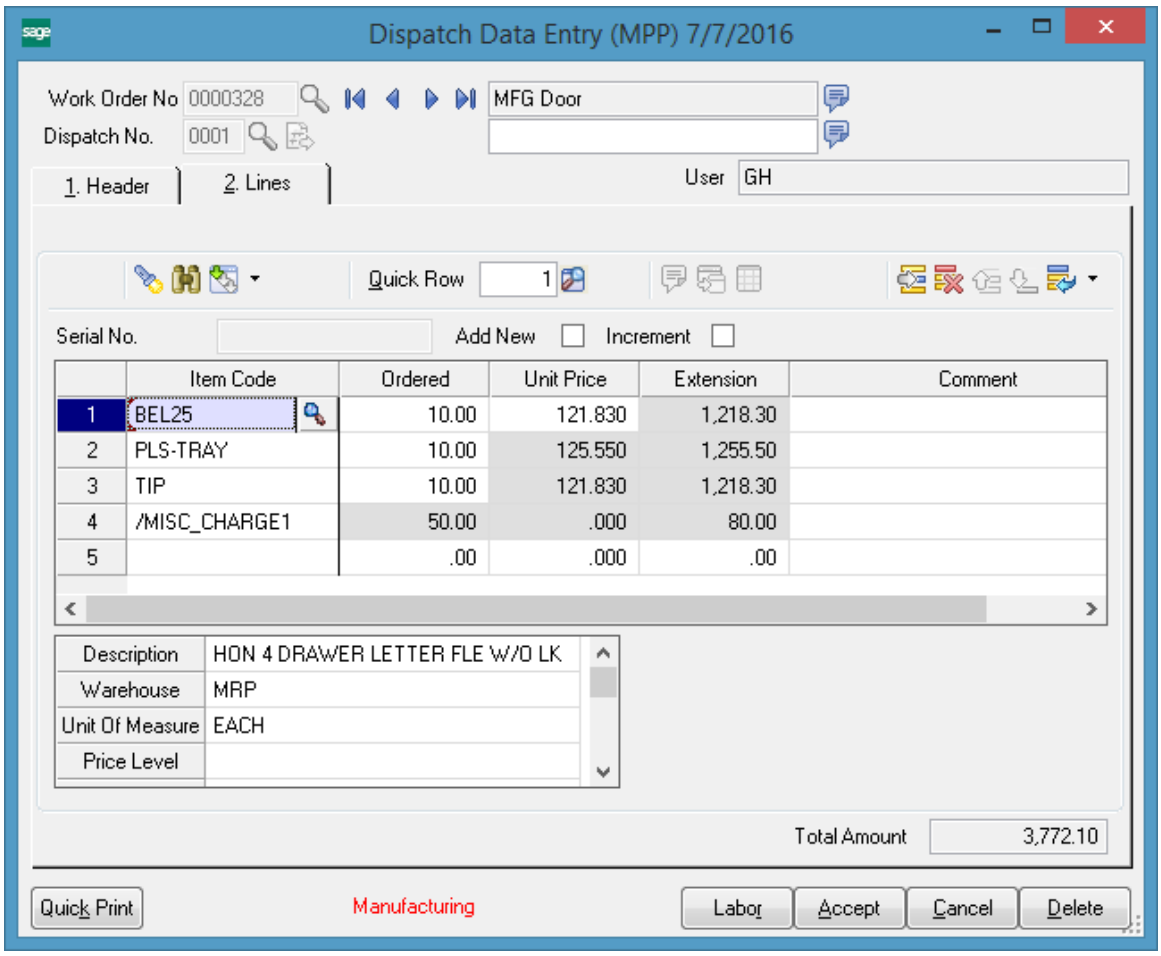
If Bill Item has options, the BOM option components' quantities will take part in this calculation.
Here is the Work Order with respective Manufacturing Dispatch generated for Make Item# BEL25 by the **Gen Manufacturing WO** button:



The **Customer No** of the generated WO is the **Default W.O Customer** entered in the **Material Planning and Production Setup** window.



BOM components are loaded into the WO Dispatch Transaction.

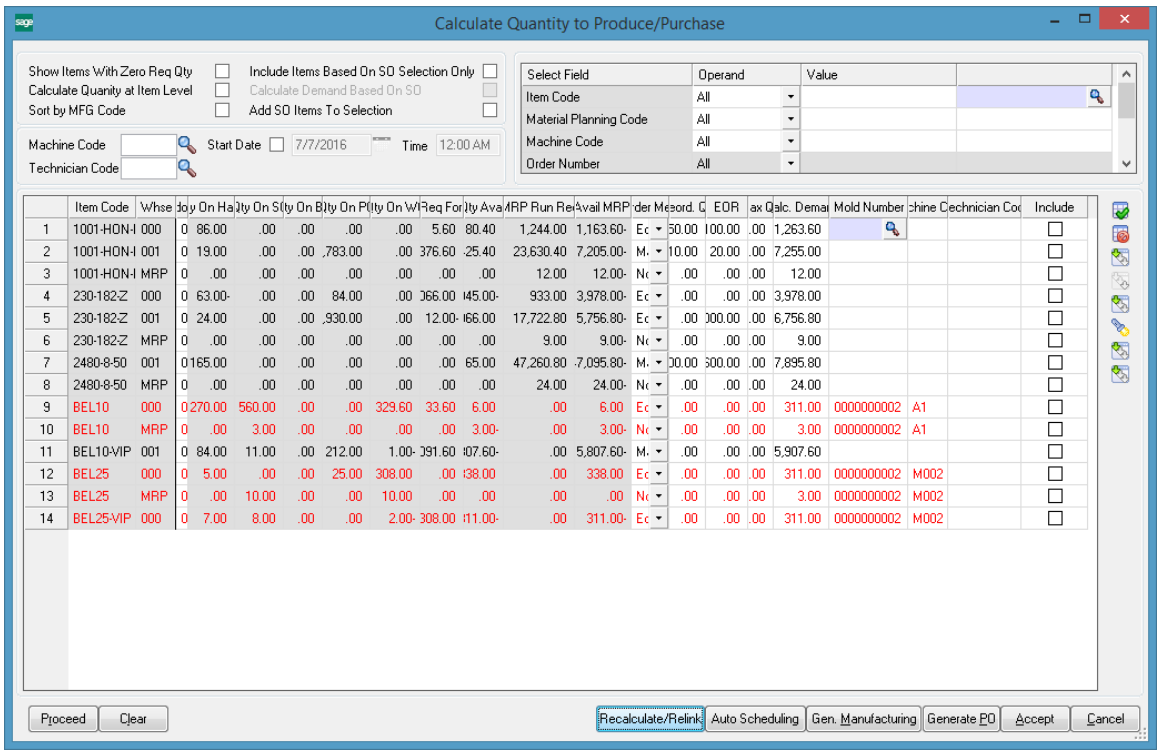


Daily Production entry transactions are created upon closing Manufacturing Dispatches.

Processing Master/Slave Items

The **Recalculate/Relink** action is intended for the Items linked to the same Mold Number.

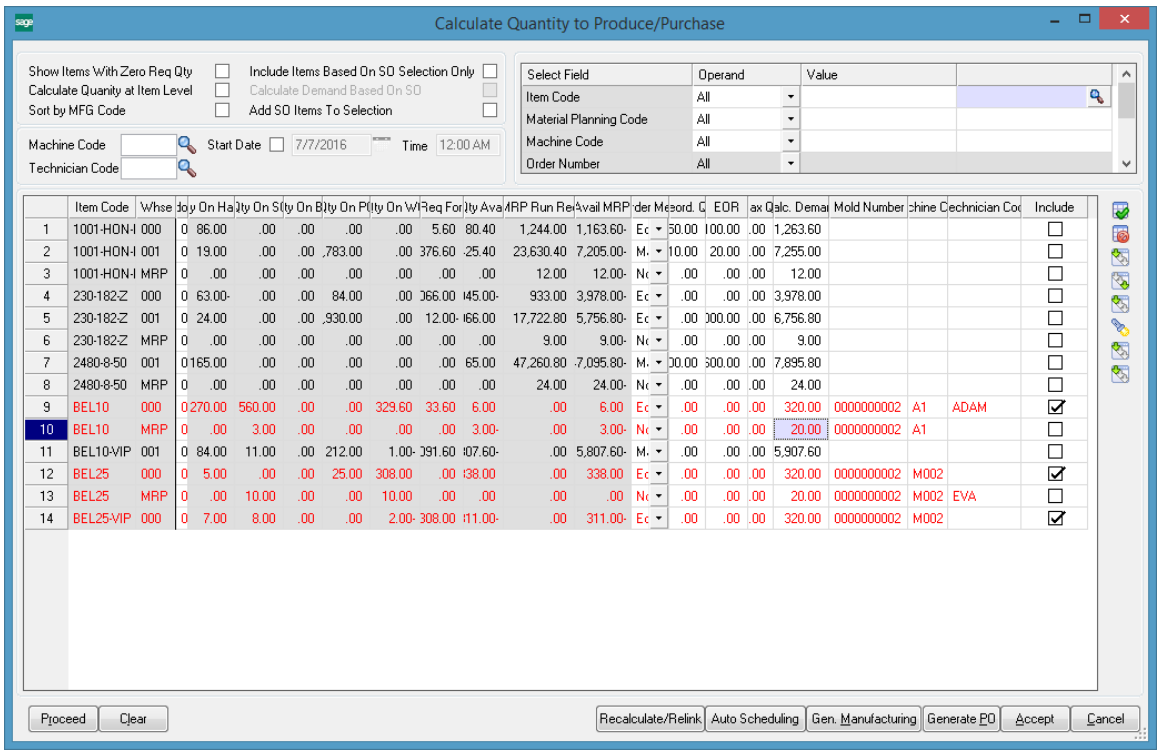
After the lines are loaded in the grid you may press the **Recalculate/Relink** button to link the Items assigned to the same Mold Number and marked as **Multiple Items** (Master/Slave) in the **Mold Info** screen launched from the **Item Mold Machine** entry.



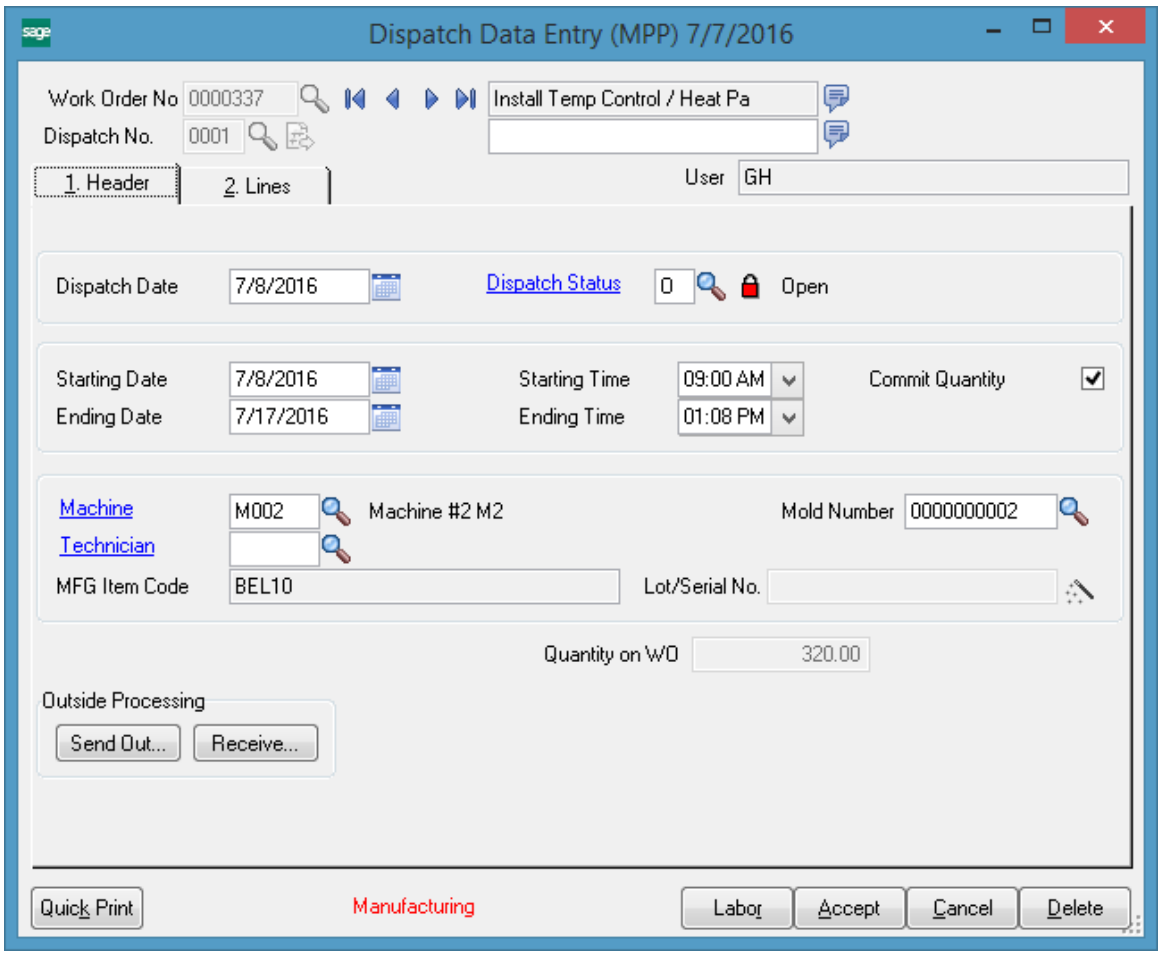
Upon pressing the **Recalculate/Relink** button the lines having the same Mold Number, Warehouse and marked as Master/Slave become highlighted in red. After making any change on one of the linked lines it is necessary to Recalculate/Relink the lines again, otherwise the following message will appear while performing other actions (e.g. Auto Scheduling).

Upon pressing Recalculate/Relink button:

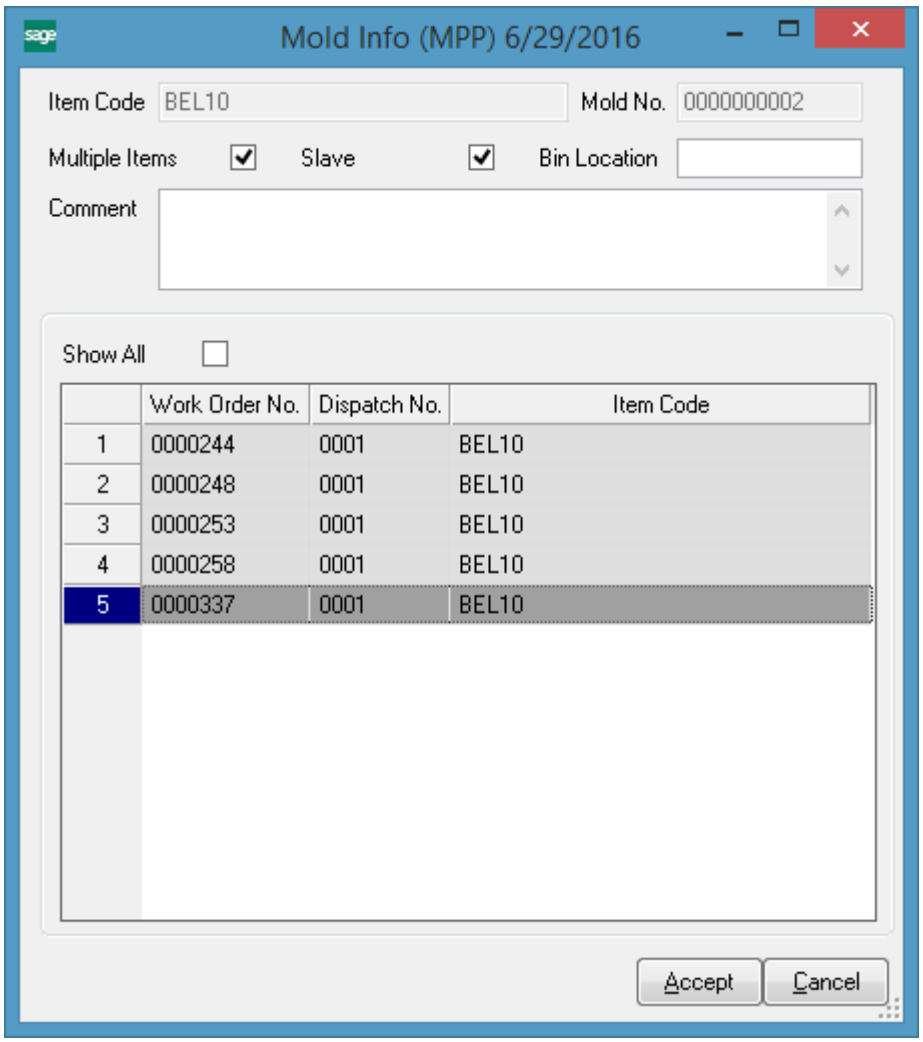
- The **Include** checkbox becomes selected for all linked lines if it is selected at least for one line.
- The **Calc. Demand Quantity** on all linked lines is updated with the greater one if it is changed on one of them so that the **Calc. Demand Quantity** becomes the same for all linked Items



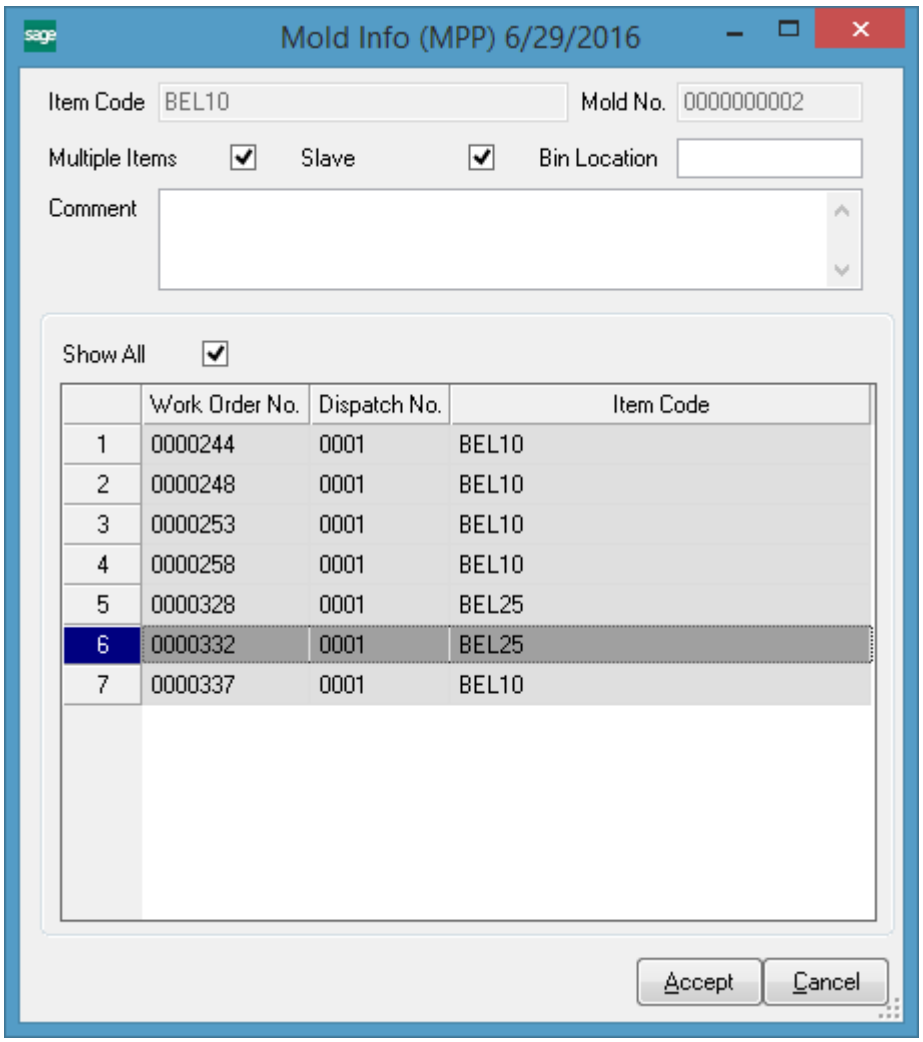
During Auto Scheduling a separate Work Order/Dispatch is generated for each linked line. The Dispatches are created with the same Starting-Ending Dates/Times as the same Mold is used for linked Items.



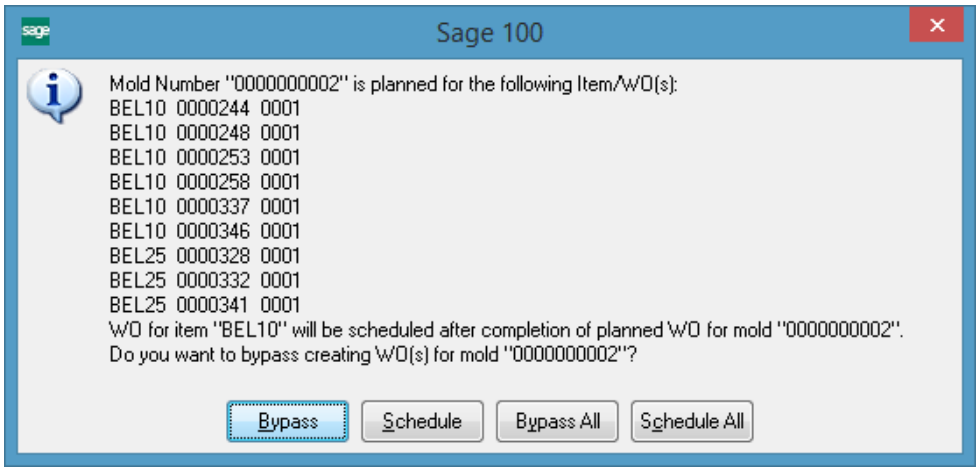
After Work Orders are generated the Work Order numbers are shown in the Mold Info screen:



The **Show All** option allows for viewing the Work Order numbers generated for all the Items linked to current one.



Once Work Orders/Dispatches have been generated with a Mold Number already assigned, the following message will appear while pressing **Proceed** button on the **Calculate Quantity to Produce/Purchase** screen:



Work Order Generation

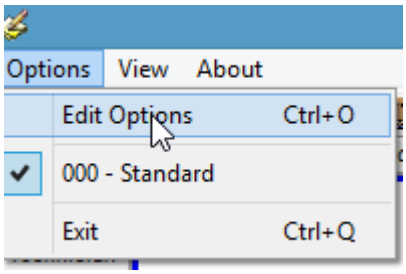
Production Scheduling Board

The **Scheduling Board** provides the following functions:

- Ability to create work orders by:
  a. Manually dragging and dropping work orders into machine and date/time specific cells for items and quantity set by the MRP program. Program will validate that the item dragged can be run produced on the machine selected
  b. Auto create and schedule work orders based on the demand set by the MRP program
- Visibility over production schedule.
  a. Work order generated can be dragged and dropped from one machine to another or from one day / shift to another
  b. Views can be setup to display certain day shift or WO by type, Mold Setup, Production, etc. using view selection grid
- Managing daily functions by right clicking on a work order

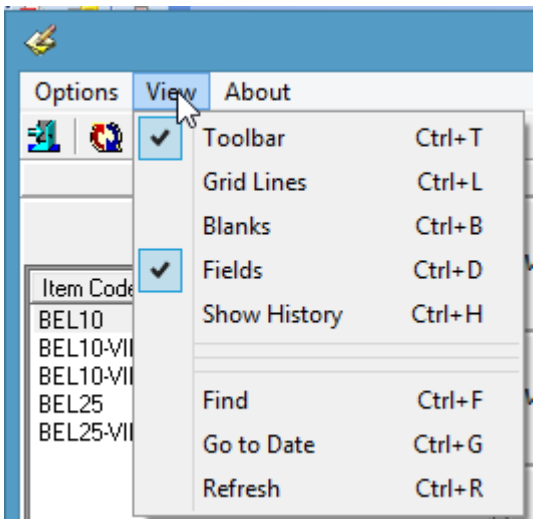
The **Dispatch Board** displays tasks in cells with task dates and technicians placed vertically on the board or horizontally across the top of the board.

The **main menu** located in the upper left corner of the Dispatch Board screen, contains the following submenus.

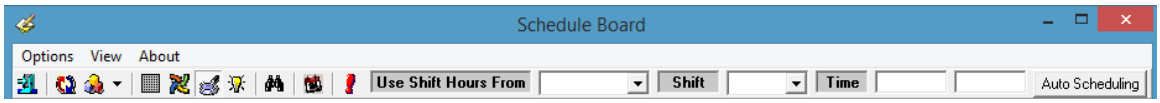


In the **Options** menu, you can select an existing **Options Type**, and **Edit Options** in the **Options for User** dialog box (described later). Current Options Type is indicated with a checkmark.

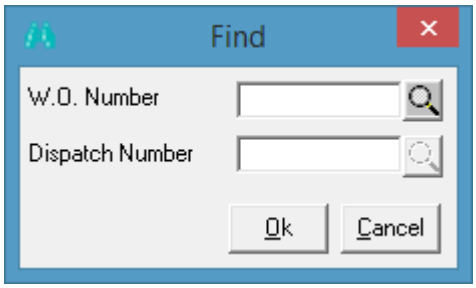
In the **View** menu, you can select to Show/Hide **Toolbar**, **Grid Lines**, **Fields**, **Blanks** (blank rows and columns), **Show History, Refresh** the Dispatch Board view, **Find** a specific WO or Dispatch and go to the preferred date on the Board.

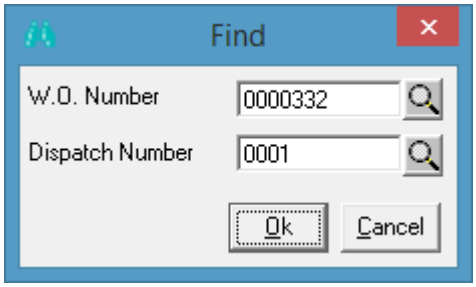


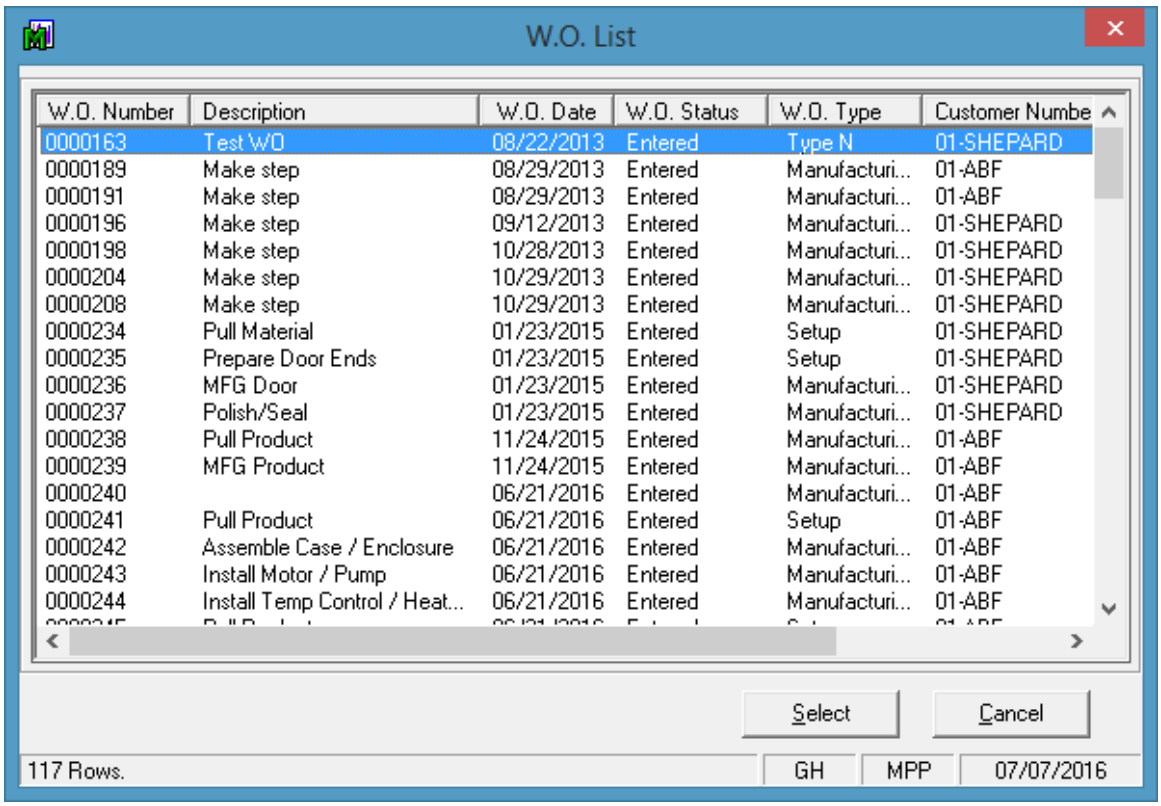
The Toolbar enables you to quickly Exit the Dispatch Board, Refresh the view, Edit Options, select Options Type, Show/Hide Grid Lines, Blanks, Fields, Show/Hide History, Find WO/Dispatch, etc.



Find allows searching a specific task/dispatch on the Board. When a task has dispatches you will be prompted to enter also the dispatch number. A Task Number cannot be found and displayed when it doesn't exist or options should be changed in order to display it.

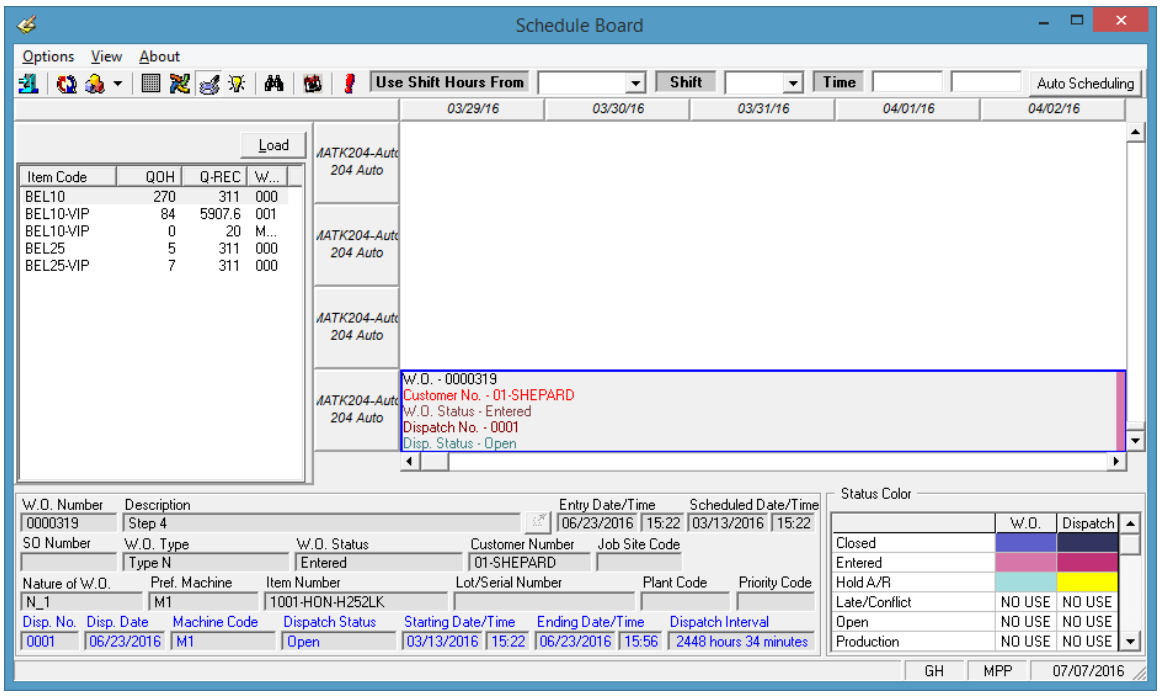






The **Go To** button allows the user to easily locate the cell with respective date on the board.
Upon clicking **Go To** button the calendar is opened with the dispatch board view starting date selected. A message will prompt the user to check the options in case the selected **Go To Date** falls out of the View Date Range specified in the Board Options.

User specified information for each Work Order or dispatch is displayed in a cell or span of cells. Each type of data in the cell (e.g., Customer, WO Number, WO Status, Dispatch Number) can be color-coded for easier visibility. Also display names of data fields can be changed (for example, shortened). Color bars for WO/Dispatch Statuses can be displayed in each cell. Displaying the cell in a color different from other dispatches can highlight an Overdue Dispatch. The user can also filter the tasks by requesting only those tasks with data falling in certain ranges.

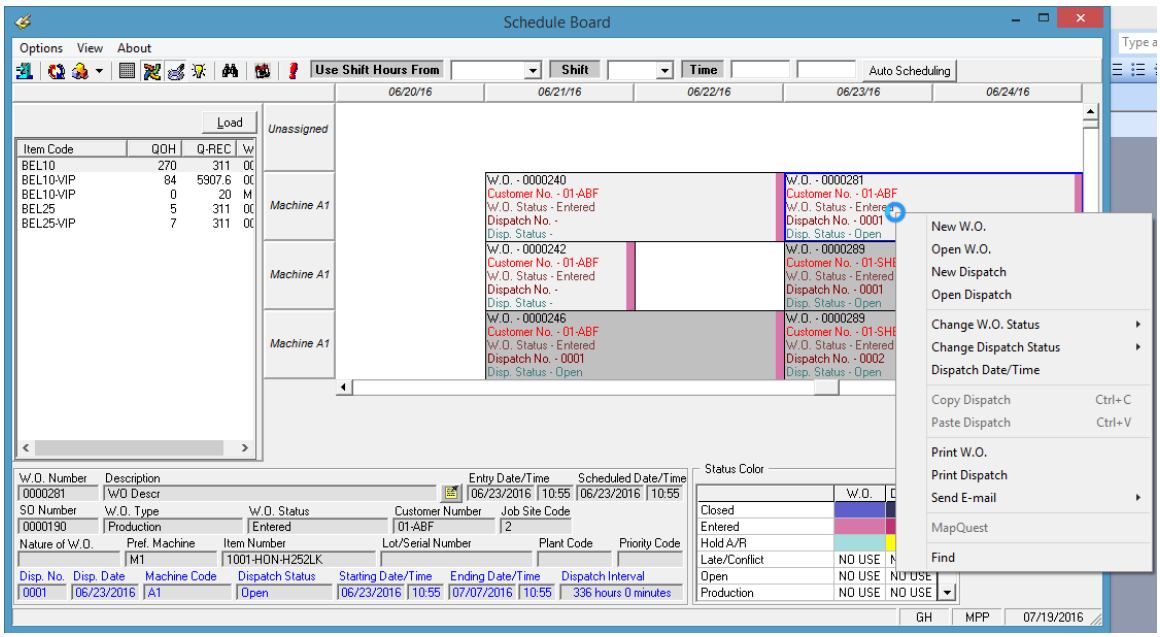


To see the details of a Work Order/Dispatch in the lower part of the screen, click on the cell containing that Work Order/Dispatch.

You can place Machine Names or Dates horizontally across the top or vertically on the board. Also you can view duplicates of technician codes or dates if several tasks/dispatches have been assigned to the same technician and should be done on the same period of time.

You can also view the duration of each WO. The span of the cells displays the Scheduled and Due Date/Time of the Work Order or the Starting and Ending Date/Time of the Dispatch.

You may change the width of the cells. Click anywhere between the names of Machines at the top of the board, and drag the mouse to the right to increase the width or to the left to decrease it. A cell can be dragged to another date or machine, and the system will update the corresponding dispatch.
Cells can be selected using keyboard Arrows, Page Up, Page Down keys.
Pressing Enter from the keyboard opens the selected WO in the **Work Order Entry** screen. Pressing Enter when an empty cell is selected displays the **Work Order Entry** screen ready for new WO entry.
Right-clicking on a cell displays popup menu, from which you can quickly run some programs.



New W.O. - opens the **Work Order Entry** screen ready for new task entry. The **Next Task Number** is selected, the Task Date is populated with current date and the **Scheduled Date/Time** is set equal to the Date/Time of the selected cell. The **Technician** of the selected cell is loaded.

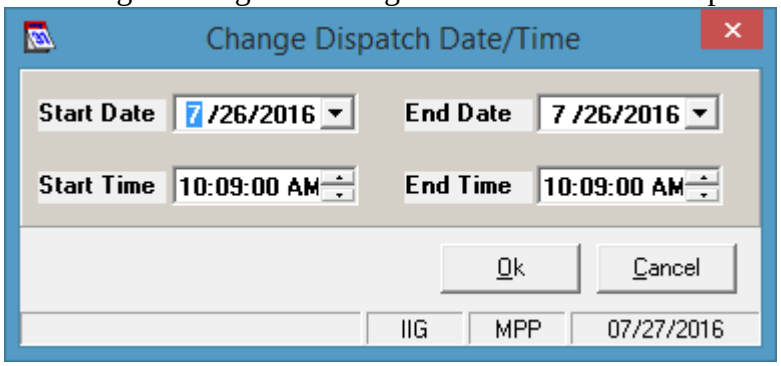
Open W.O - opens the Work Order Entry screen for selected cell. You can also open the Work Order Entry by double clicking on the cell. If there is a dispatch for current W.O. pressing the CTRL key and double clicking on the cell will open the **Dispatch Data Entry**.

New Dispatch- opens the Dispatch Data Entry screen ready for new dispatch entry for current W.O.

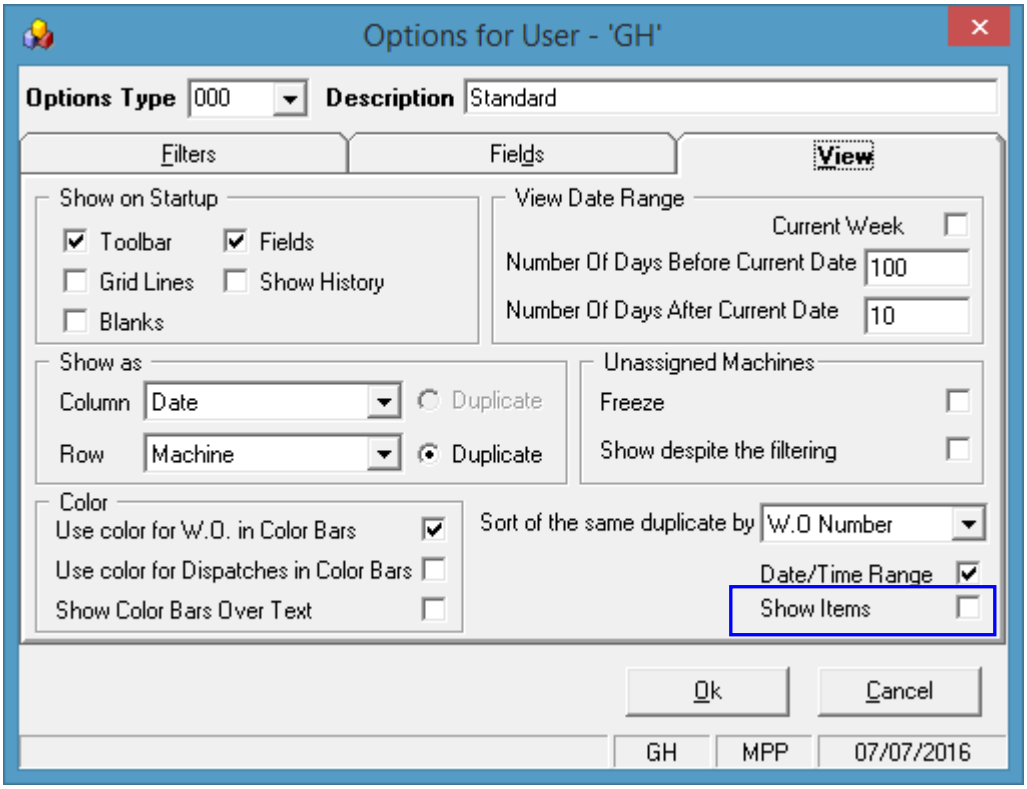
Open Dispatch displays the Dispatch Data Entry screen for the current dispatch. If the Dispatch Status is closed, the Dispatch Inquiry screen is displayed instead.

You can **Change W.O./Dispatch Status**. If the program cannot change the status, a message appears explaining the problem. (For example, you cannot close a task that has open dispatches.)

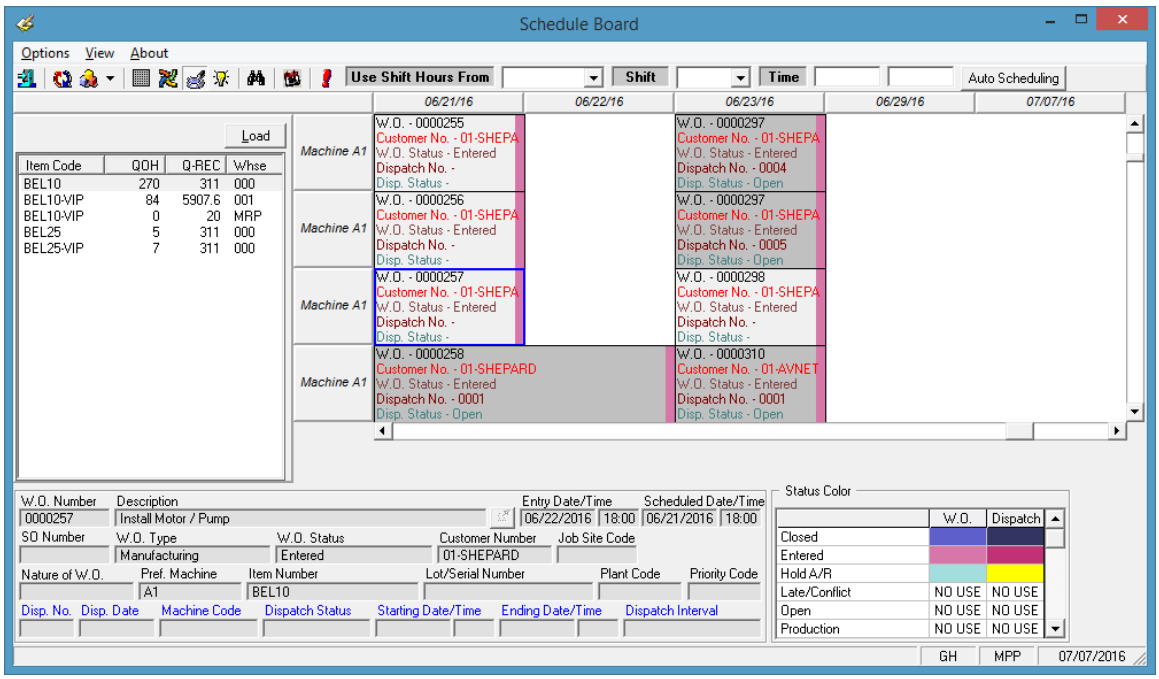
Dispatch Date/Time displays the **Change Dispatch Date/Time** dialog box where you can change starting and ending date and time of the dispatch.

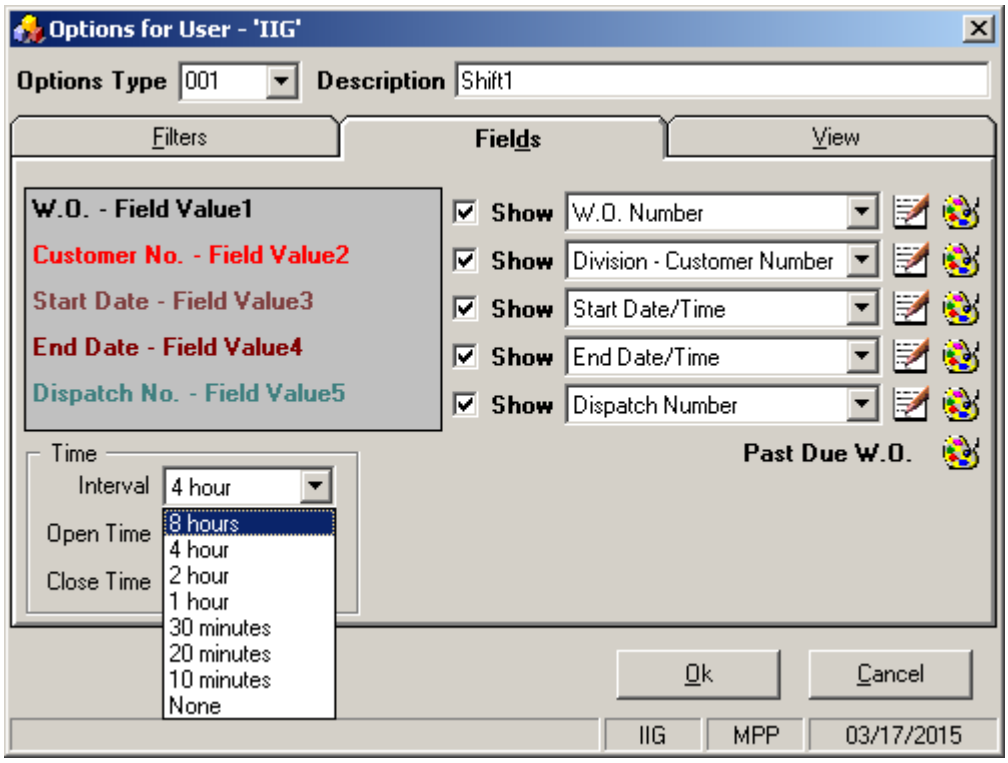


Print WO and **Print Dispatch** commands run respectively the Task and Dispatch Crystal Report Printings.
Send E-mail allows sending emails to Technician, Customer, or Both.
The **Schedule Boar**d is automatically refreshed when Accepting changes in the Work Order and Dispatch Data Entries, closing Work Orders, creating new WOs and dispatches.
To control which data fields appear in the cells (and their colors), select the **Edit Options** submenu from the **Options** menu.

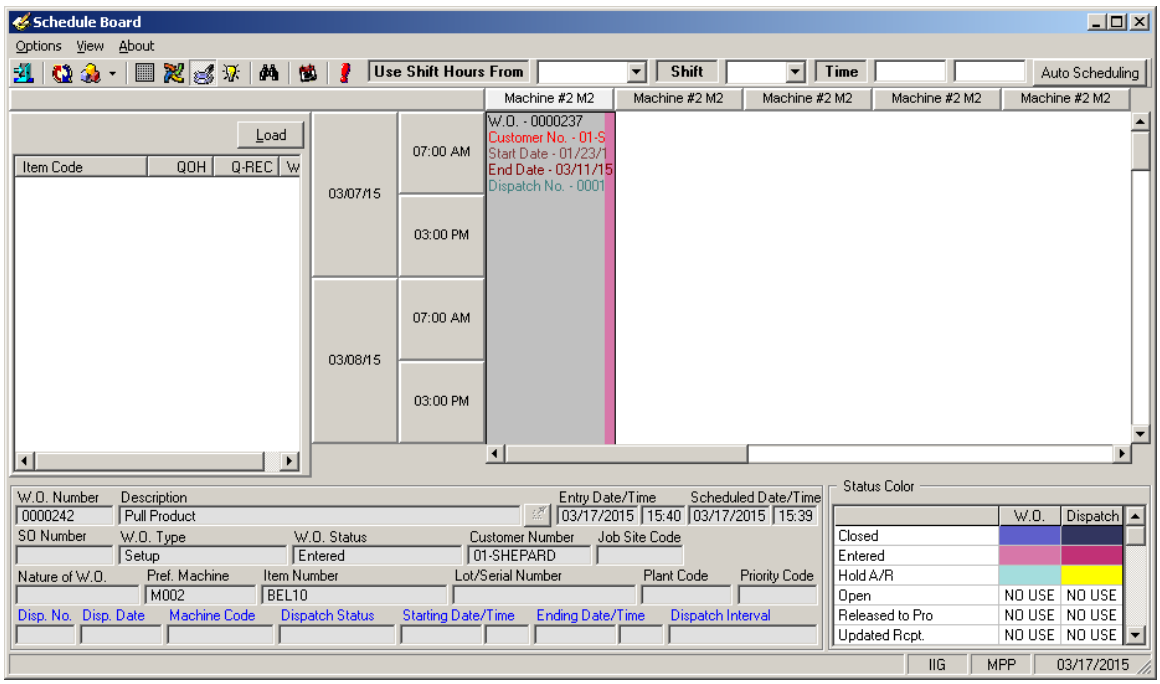


Select the **Show Items** checkbox if you want the Items selected for Manufacturing WO/Dispatch generation in the **Calculate Quantity to Produce/Purchase** program to be loaded in the Item list. Upon pressing Load button the Items with Include checkbox selected are loaded in the list:

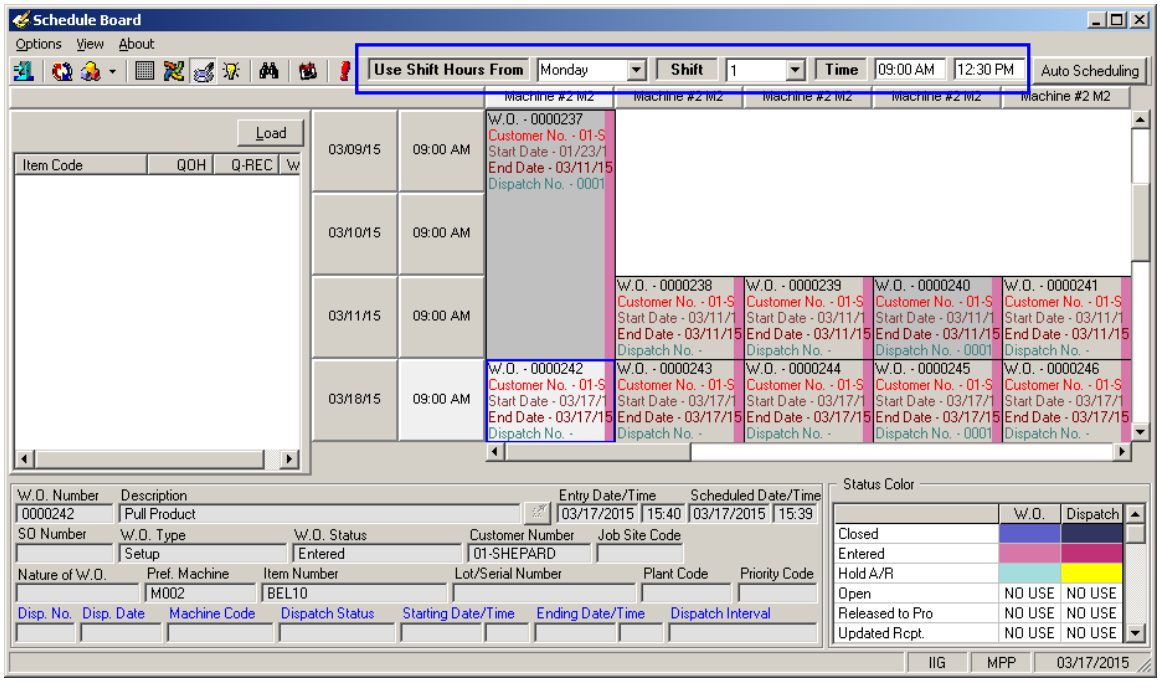




4 and 8 hours intervals added in the Interval drop down allows for showing Work Orders/Dispatches on the Board by 4/8 hours interval:

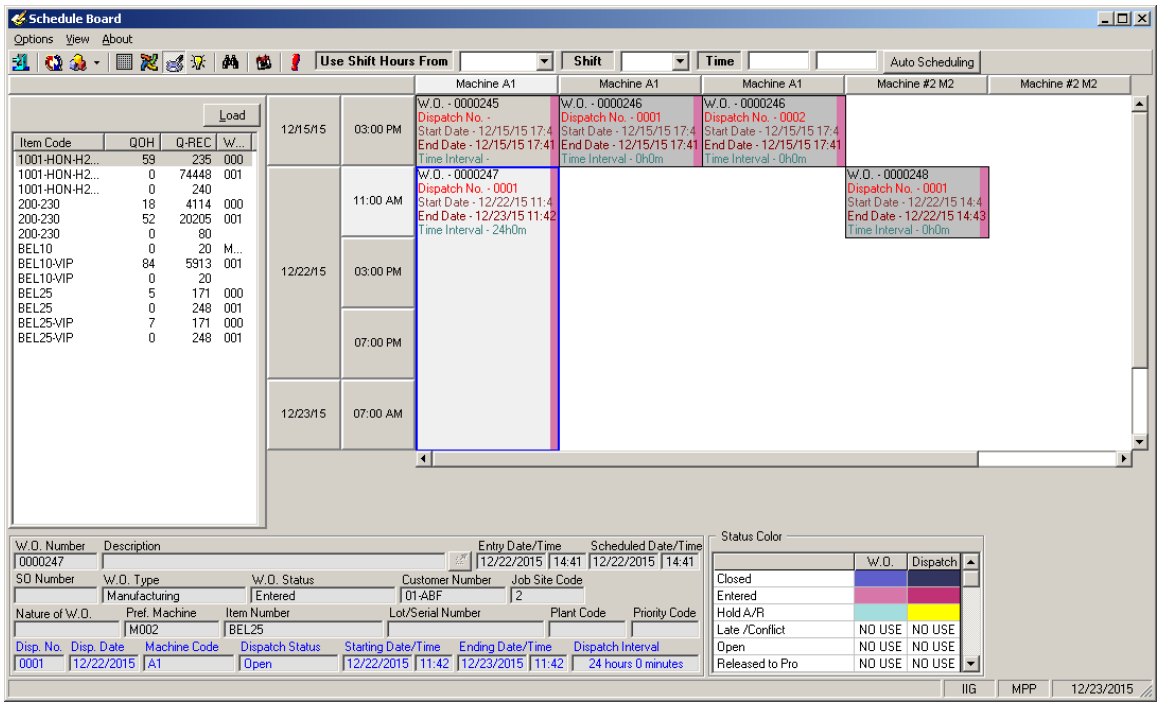


Use Shift Hours From drop down allows the user to select a day (Monday, Tuesday, etc.) and specify the Shift for that day. Upon selecting a day with respective shift the starting/ending times are automatically loaded from Shift Maintenance.
The Schedule Board is refreshed automatically to show only the W.O./Dispatches for current Shift.



If no Shift is selected the W.O./Dispatches are shown based on the Time Interval set in the Board Options:

Upon pressing **Load** button the Items processed through the **Calculate Quantity to Produce/Purchase** program and saved in the SO068_MPPItemsQtyToProduce.M4T table are loaded in the Item list at the left hand of the Board. It is necessary to have the **Include** checkbox selected for respective lines in the **Calculate Quantity to Produce/Purchase** program and accepted.

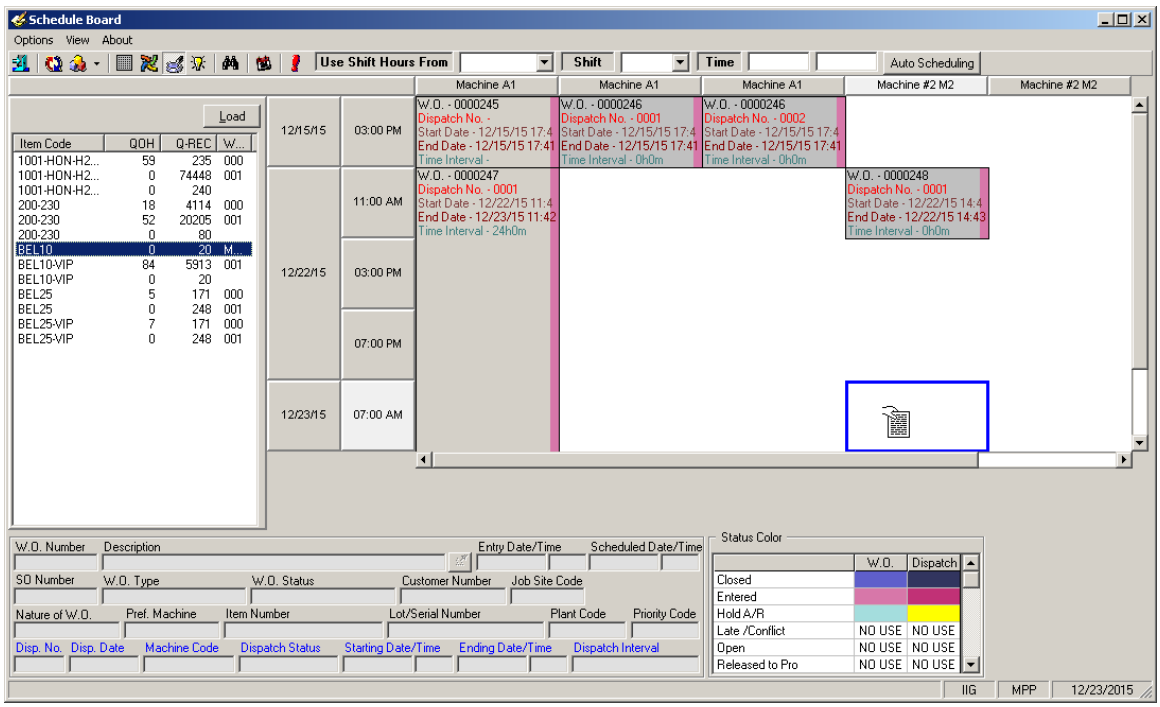


Work Order Generation can be processed also from **Schedule Board.** The Columns of the **Board** display dates and the **Rows** are Machine Codes setup in the system:

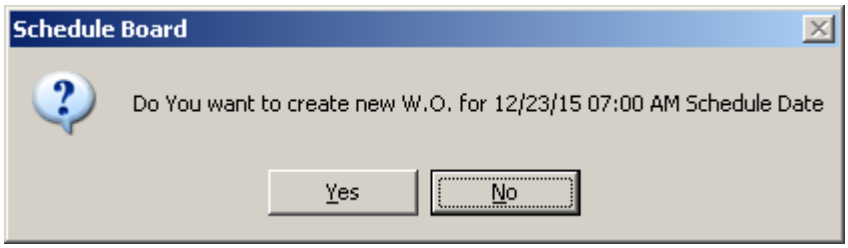
Production **Scheduling Board** can be used to manage the Production. Work Orders can be moved from one day/shift to next or from one machine to another.

Production Scheduling Board Views can be setup to display machines in a given Plan, Machine Type, or Work Orders for a specific shift. If needed a Board View can be setup to Show the hours of Operation on the Board.

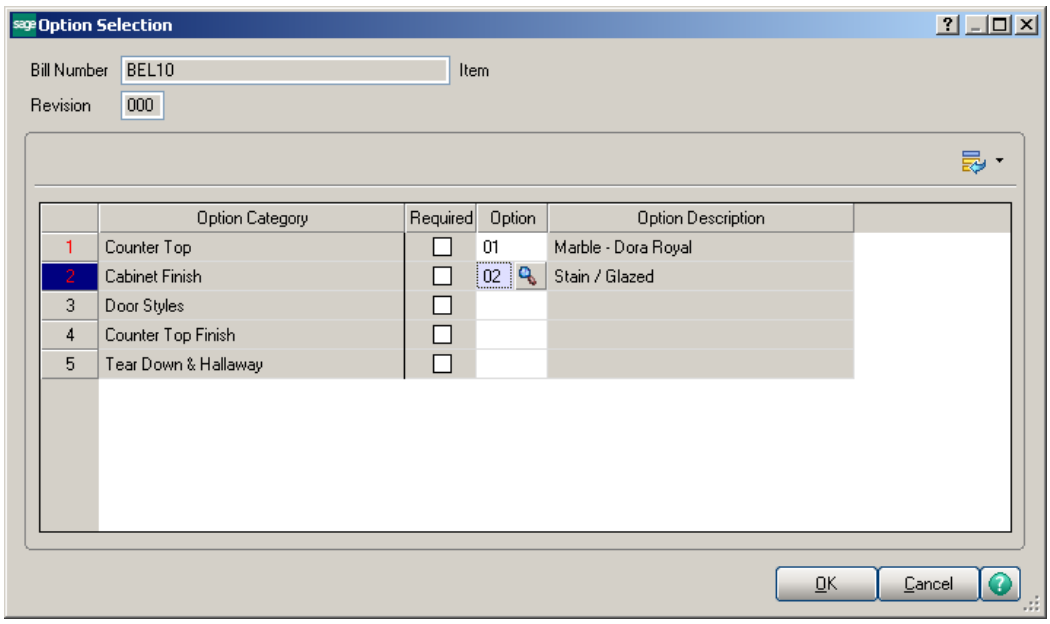
Drag the Item and drop into a cell in the Production Scheduling Board.



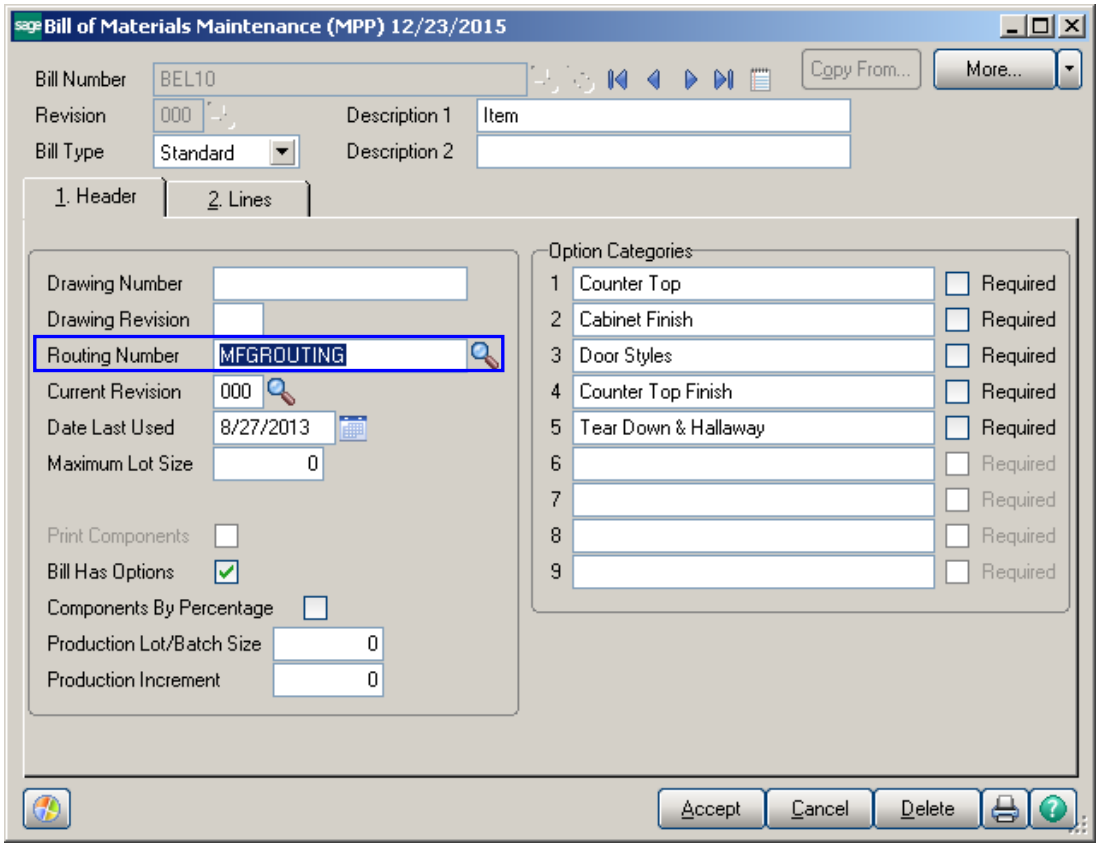
The following message appears for the user to confirm new Work Order generation for current Date and Machine code:



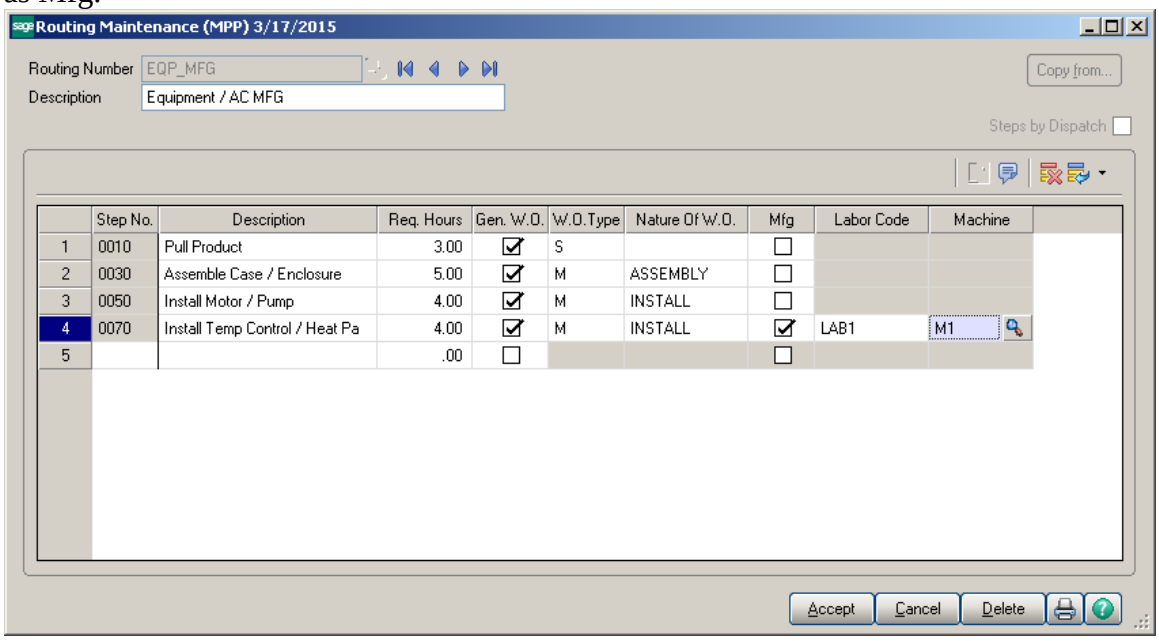
If the user selects **Yes** to generate Work Order, the Bill Options Selections screen is opened allowing the user to select Bill option.



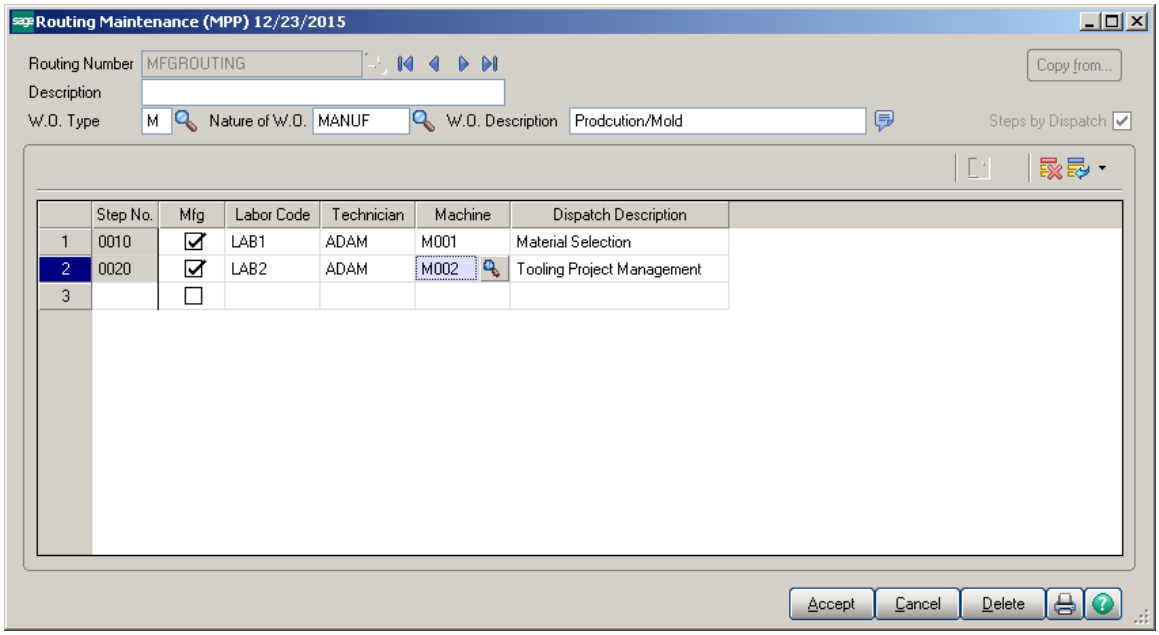
Work Order generation is done based on the Routing Number specified on the Bill Item Header.



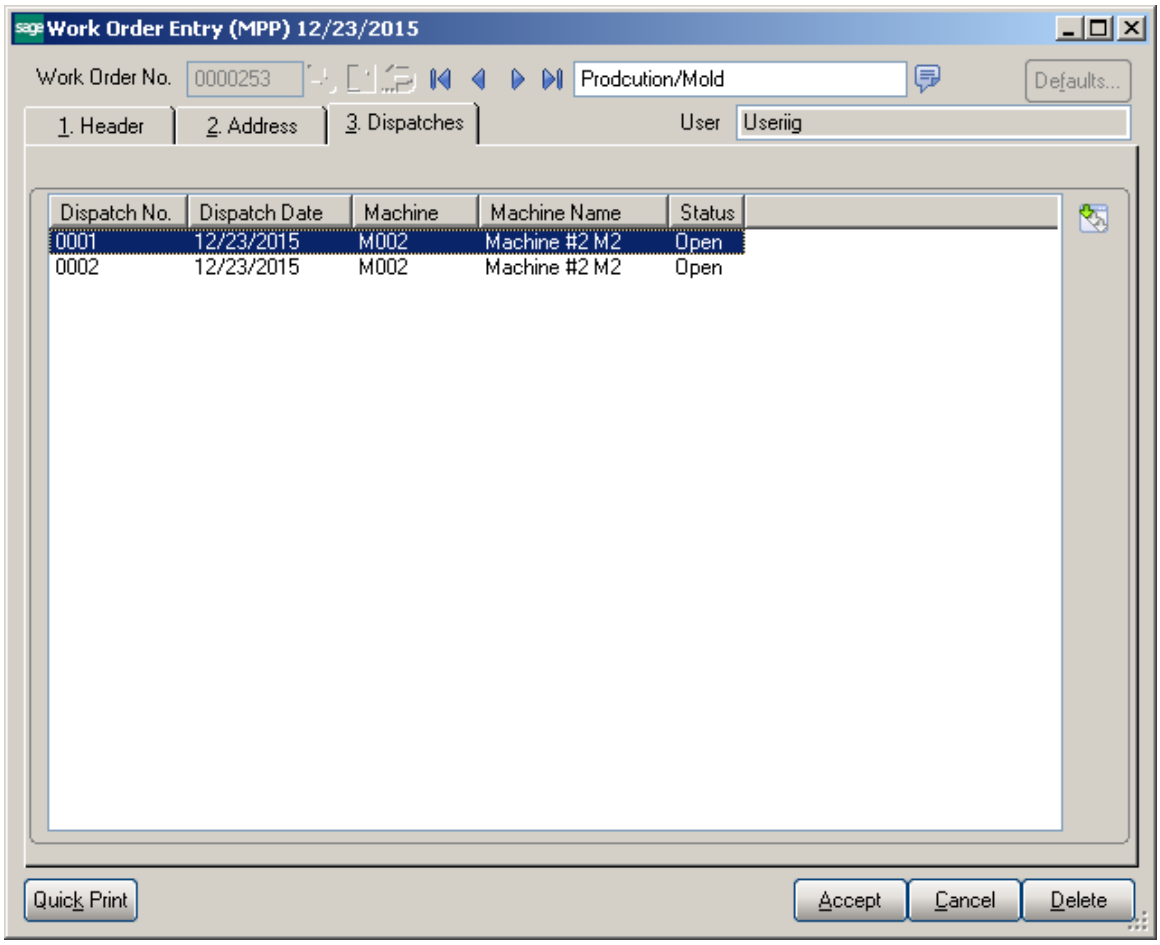
The number of Work Orders being generated is based on the Routing steps. Work Orders are generated for all the steps having the Gen. W. O. option selected. Manufacturing Dispatch is automatically created for a Work Order generated for a Routing Step flagged as Mfg.



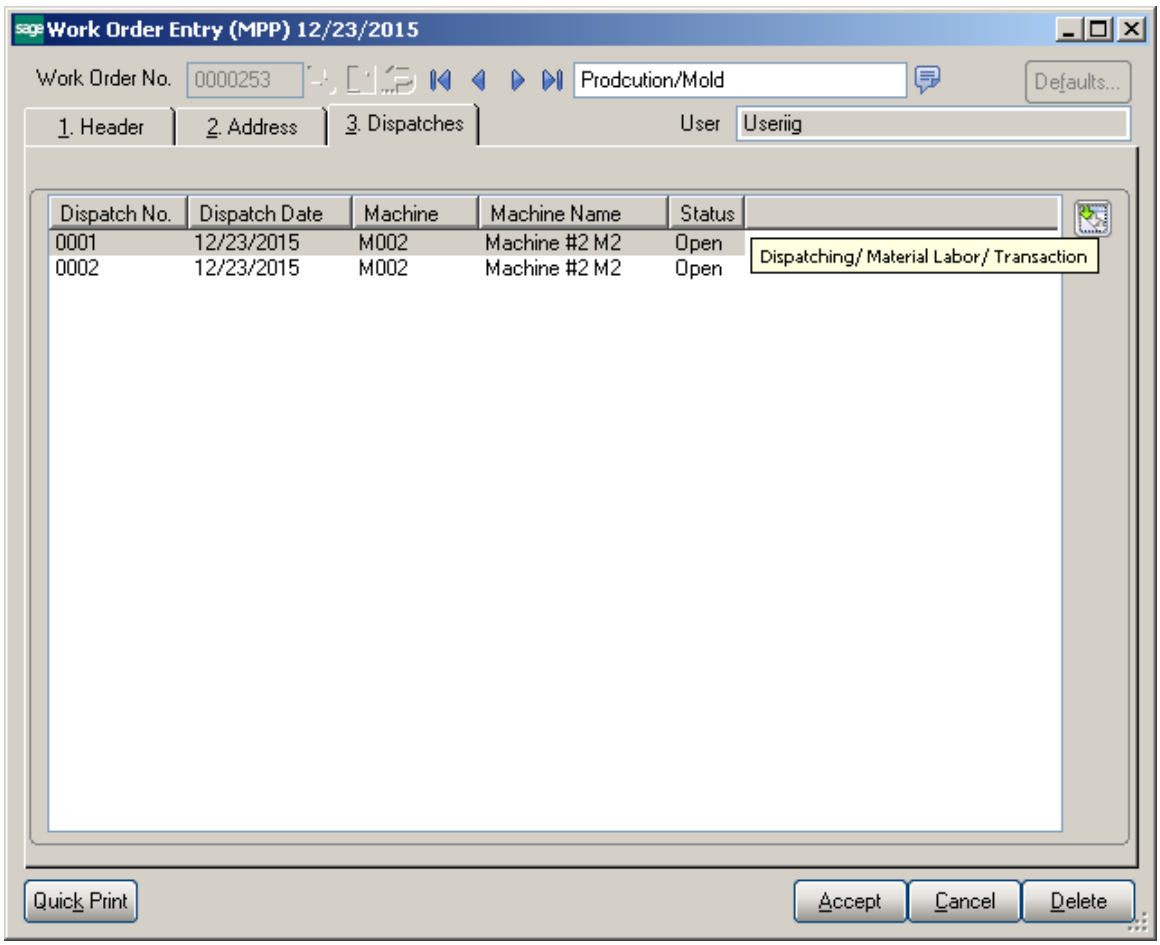
If the **Routing Number** is marked as **Steps by Dispatch,** a single Work Order is generated with respective Dispatches created for each Step of the Routing Number flagged as **Mfg**.



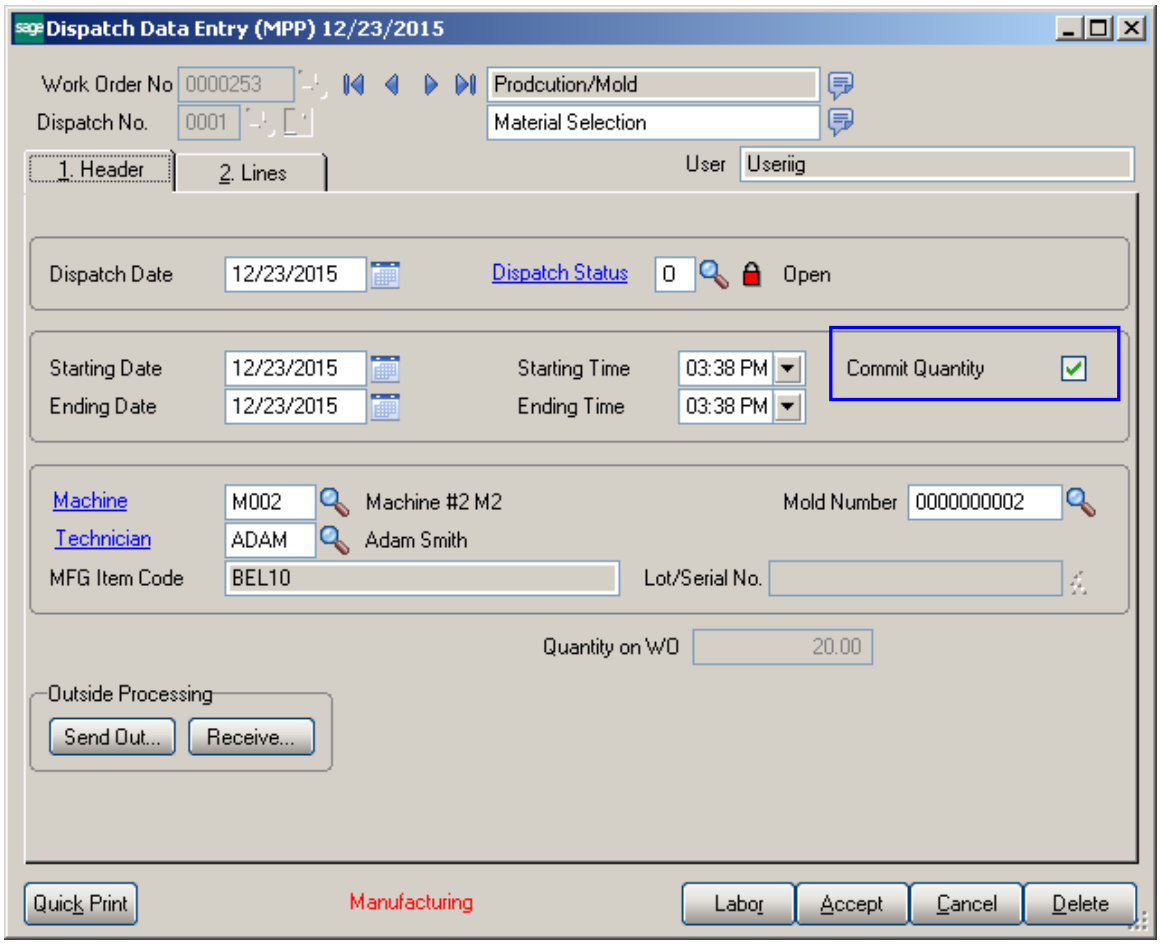
Here is a Work Order with respective Manufacturing Dispatches generated for Bill Item: BEL10:



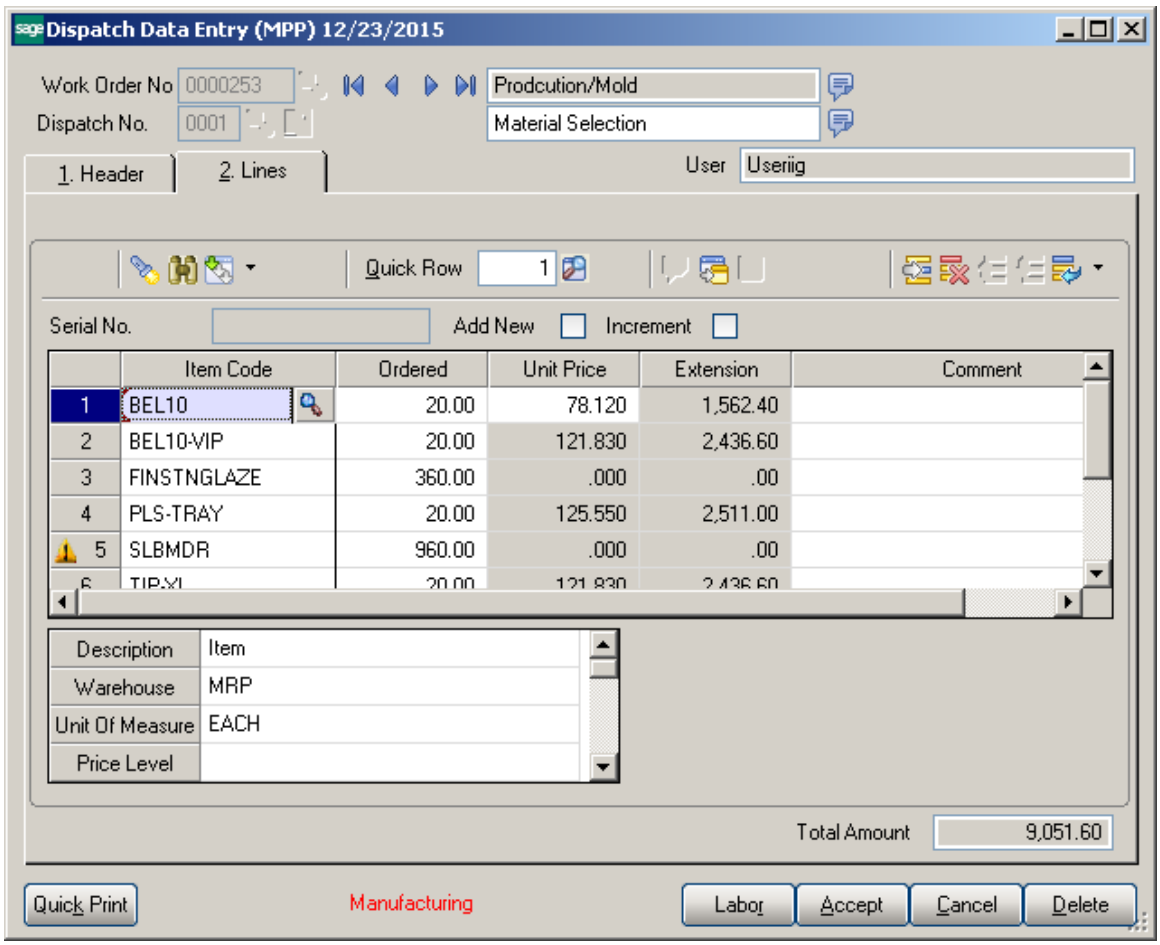
*Note: The Customer number is defaulted from **Material Planning and Production Setup** so you may have the Default WO Customer setup in the system.*



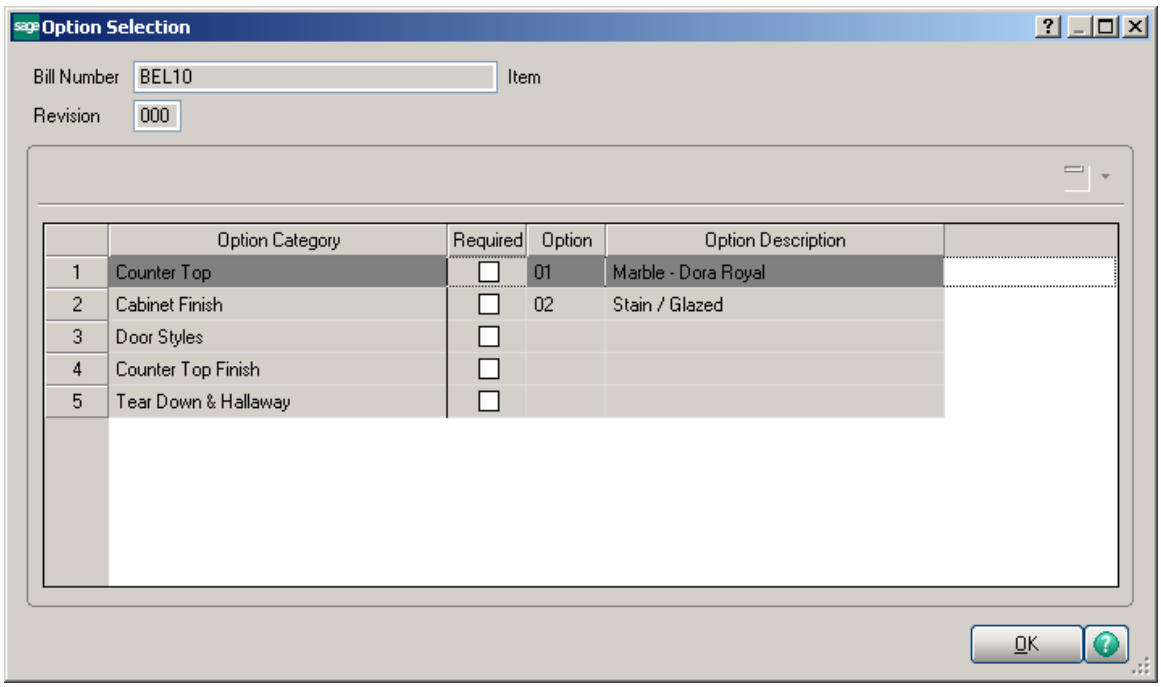
Press the Dispatching button to open the Dispatch Data Entry:



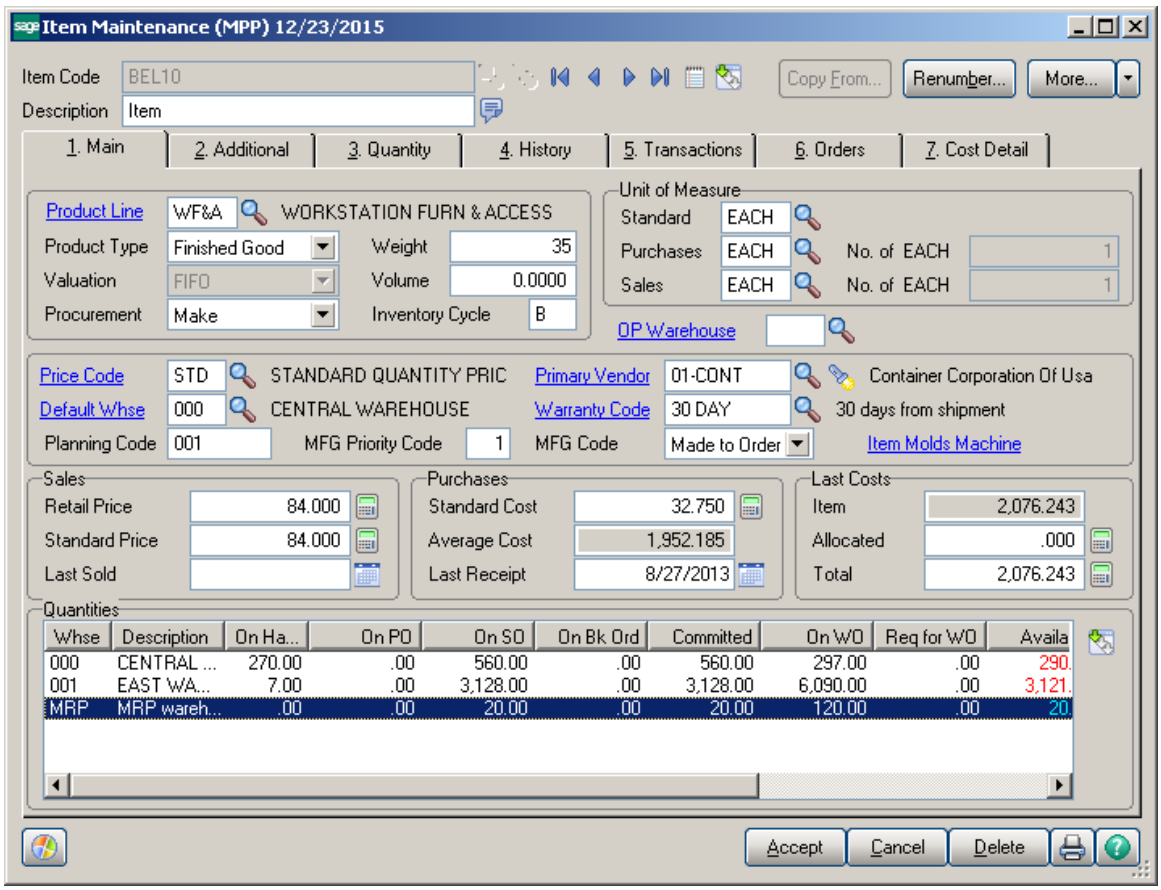
Go to the Lines tab. The Bill Item is automatically exploded in the Dispatch Data Entry with the Component Item of Option Bill added in the lines.



Bill Options button in the Dispatch Data entry allows for viewing Bill Options:



If the **Commit Quantity During MFG Dispatch Generation** flag is set on the Entry tab of the **Material Planning and Production Setup,** the **Commit Quantity** checkbox will be automatically selected on the generated manufacturing Dispatch to commit the quantities on Work Order. Press the Item Inquiry button on the Dispatch line to see the quantities updated:

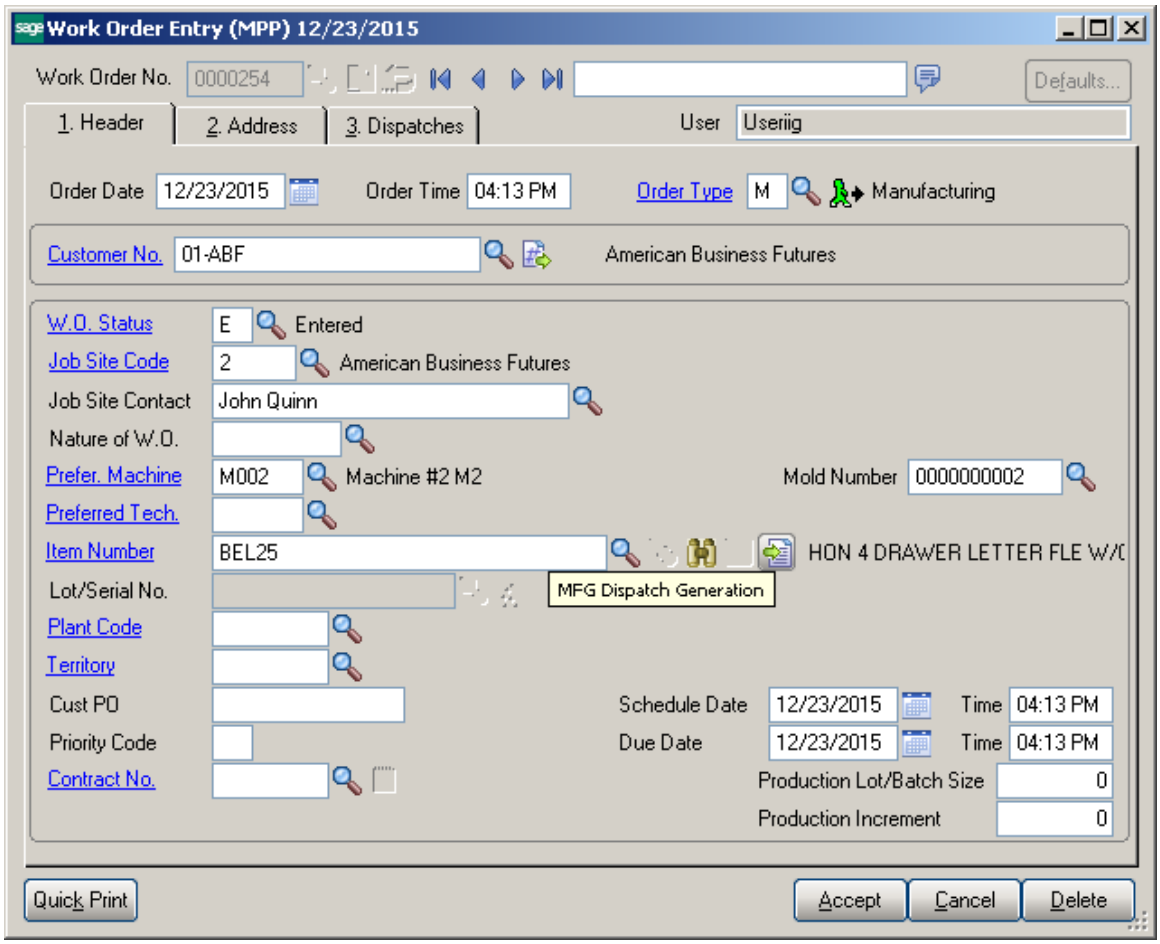


The Quantity On WO for Bill Item reflects the Quantity Ordered in the manufacturing dispatch(es).

For component Items the Req for WO field is updated with respective quantity from manufacturing dispatch Quantity Ordered:
The Components defined for the Bill Item are loaded into the created Work Order. Users can change the quantity loaded if actual quantity used is different than component quantity entered in the Bill of Material program.
The actual Labor defined for the Bill item is loaded into the Created Work Order. Users can change the labor based on actual Labor hours for the production.

Work Order Entry

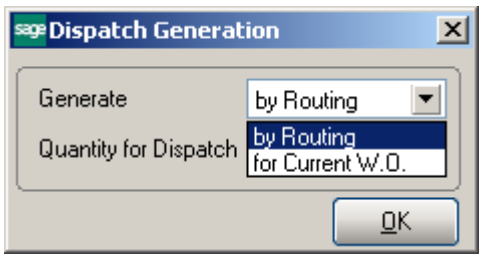
In addition to the **Production Scheduling Board**, the **Work Order Entry** program can be used for creation of Work Orders and manufacturing dispatches.



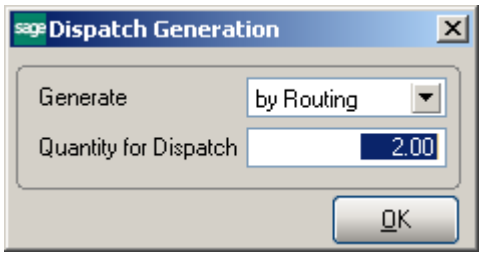
The **MFG Dispatch Generation** button added on the header tab of **Work Order Entry** allows for generating manufacturing dispatch for a Bill Item (having at least one component) directly during WO Entry.

Two options are provided for generation:

- **by Routing**
- **for Current W.O.**

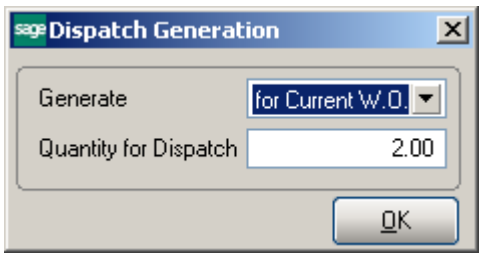


If **by Routing** is selected the Dispatch will be generated by the Routing (having a step marked as MFG) assigned to current Bill Item in the **Bill of Materials Maintenance.**



For this option the **Work Order-> MFG Dispatch** generation logic is the same as from **Calculate Quantity to Produce/Purchase** program**.**

Here is the MFG dispatch generation by the second: **for current WO** option:

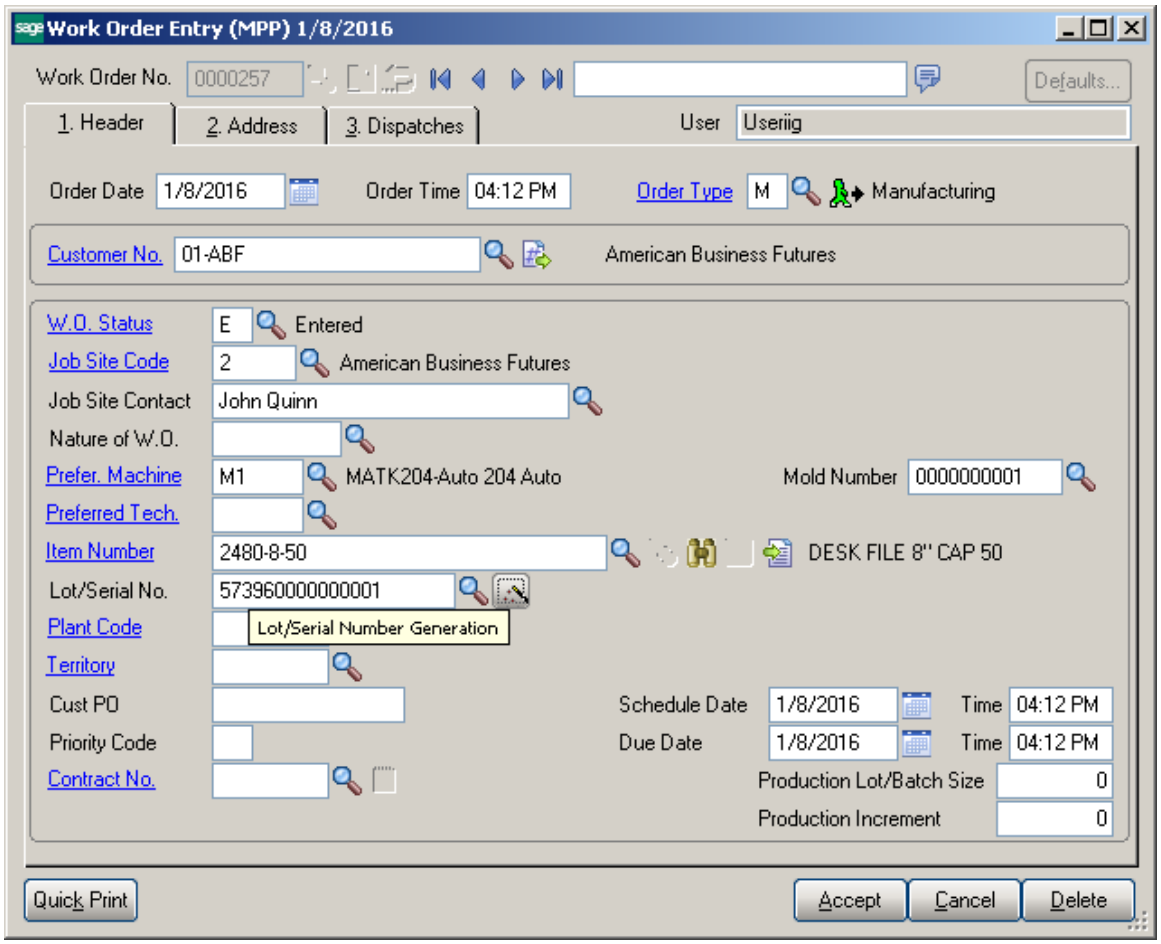


After entering the **Quantity for Dispatch** and pressing **Ok** button a manufacturing dispatch is created for current WO

Dispatch Data Entry (MPP) 12/23/2015
Work Order No 0000254
Dispatch No. 0001
Make step
1. Header
2. Lines
User Useriig
Dispatch Date 12/23/2015
Dispatch Status 0
Open
Starting Date 12/23/2015
Starting Time 04:22 PM
Commit Quantity
Ending Date 12/23/2015
Ending Time 04:22 PM
Machine M002
Machine #2 M2
Mold Number 0000000002
Technician
MFG Item Code BEL25
Lot/Serial No.
Quantity on WO 2.00
Outside Processing
Send Out...
Receive...
Quick Print
Manufacturing
Labor
Accept
Cancel
Delete

Lot Number Generation

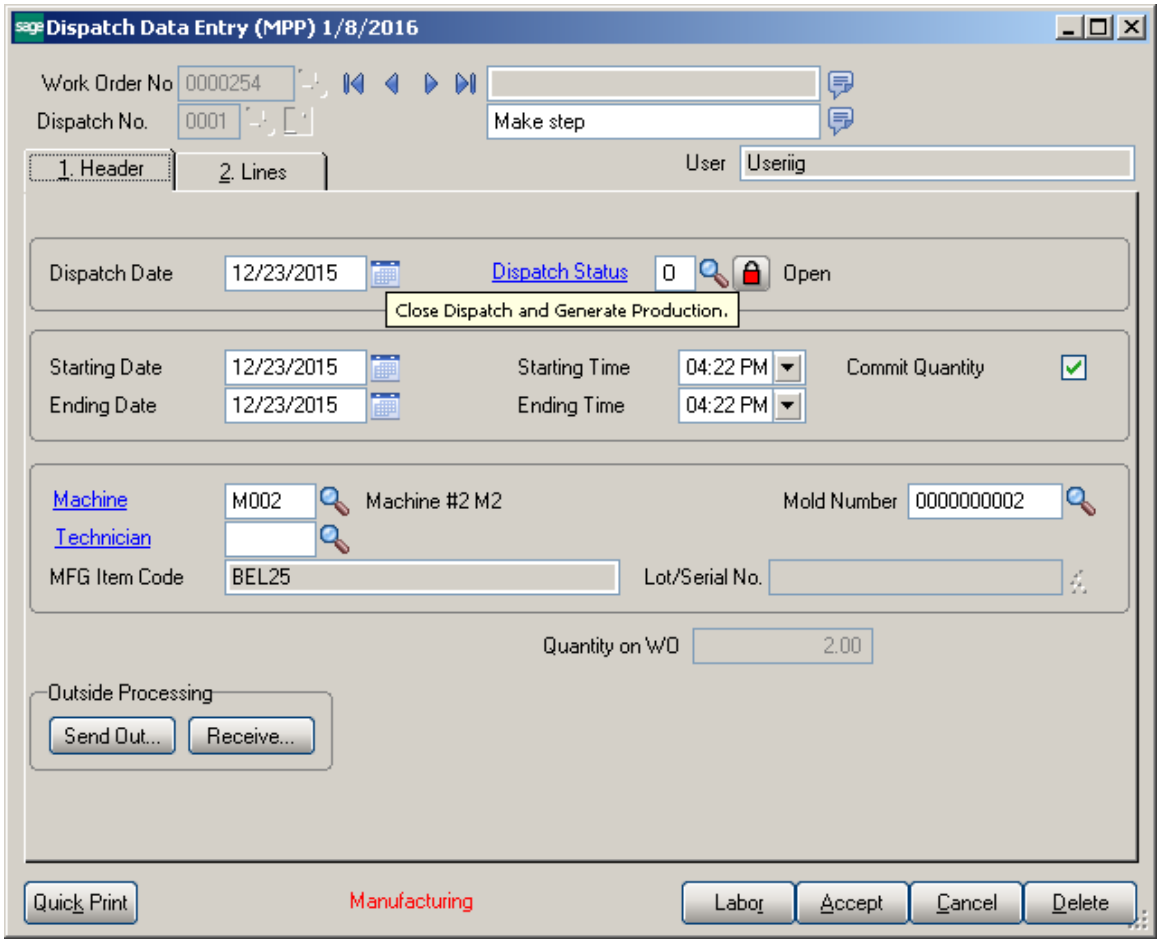
The **Mold Number** assigned to the work order is used when generating Lot/serial number for Make Item with Lot/Serial Valuation.
Pressing the **Lot/Serial Number** generation button added next to the Lot/Serial No field will generate the lot number based on the specified mold number and Julian date. If the size of the Lot/Serial No field being generated is more than 15 characters, it will be truncated from left.



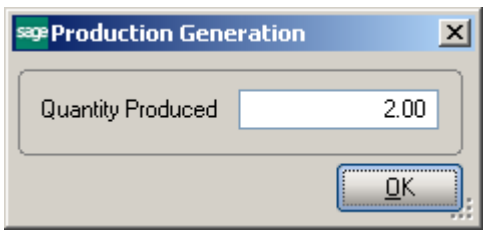
The generated lot number is saved in the work order transaction and is loaded into the Daily Production Entry transaction, created when manufacturing dispatch is closed.

Production Generation

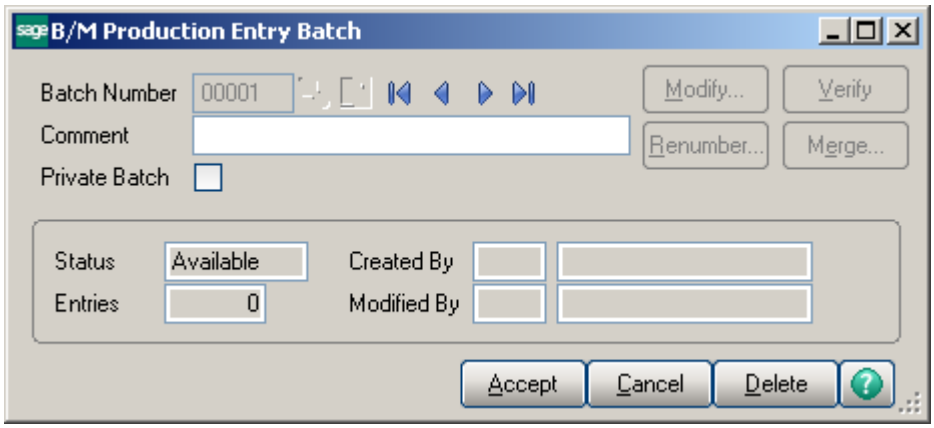
B/M Production is automatically generated upon closing a Manufacturing Dispatch.



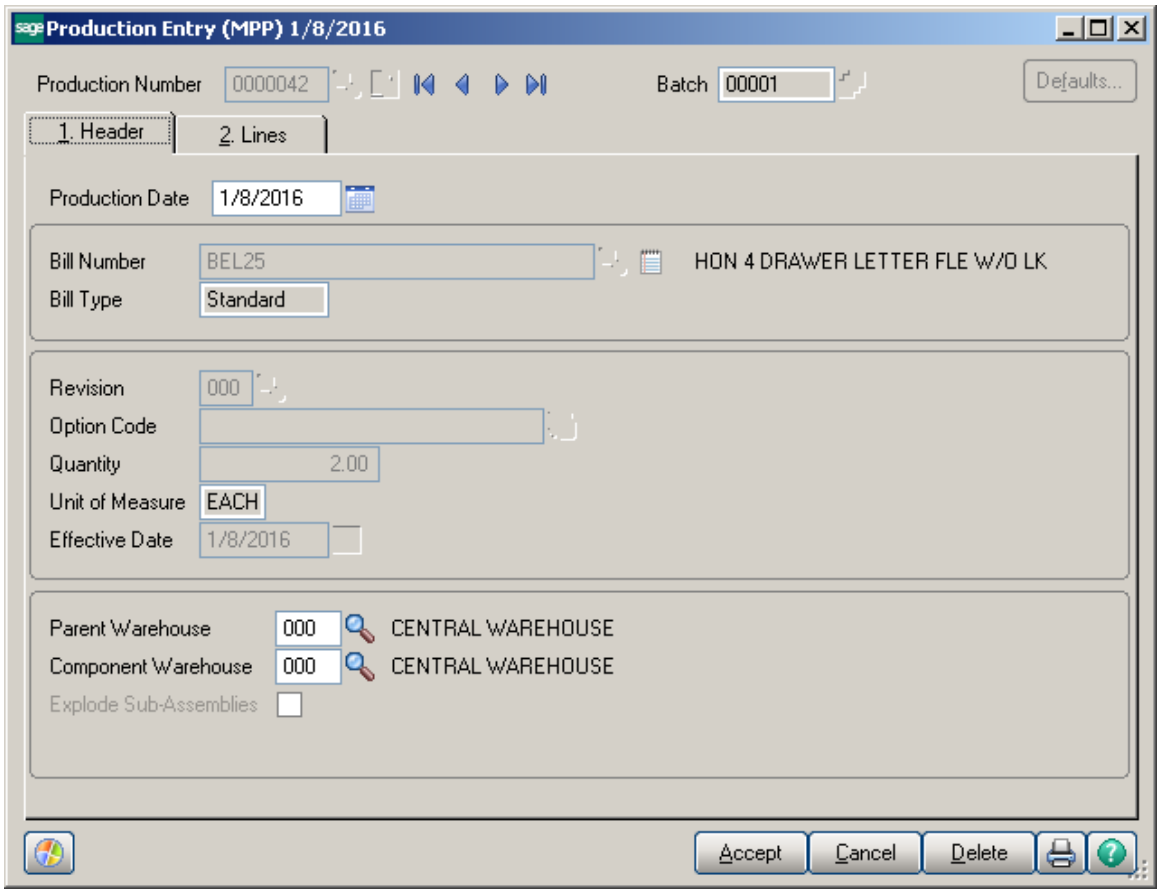
The following screen is opened with the quantity on work order defaulted to Quantity Produced. The user is allowed to change the quantity produced. If the user reduces the Quantity Produced a prompt appears about leaving the work order open for the remaining quantity. In this case after generating Production a new dispatch will be created with "Open" status with Items Ordered Quantity equal to original **Qty Ordered – Quantity Produced.**

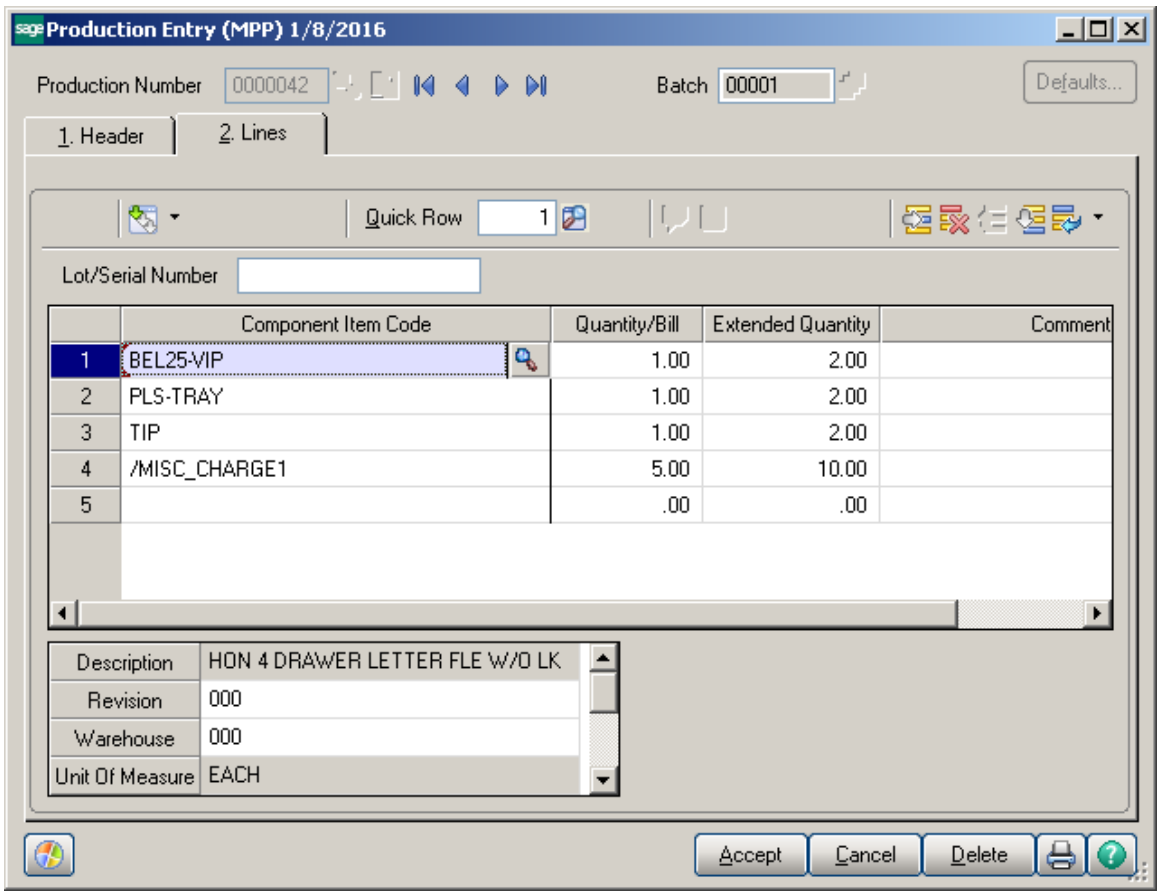


If Batch processing is enabled for Production Entry the B/M Production Entry Batch screen is opened upon pressing Ok.

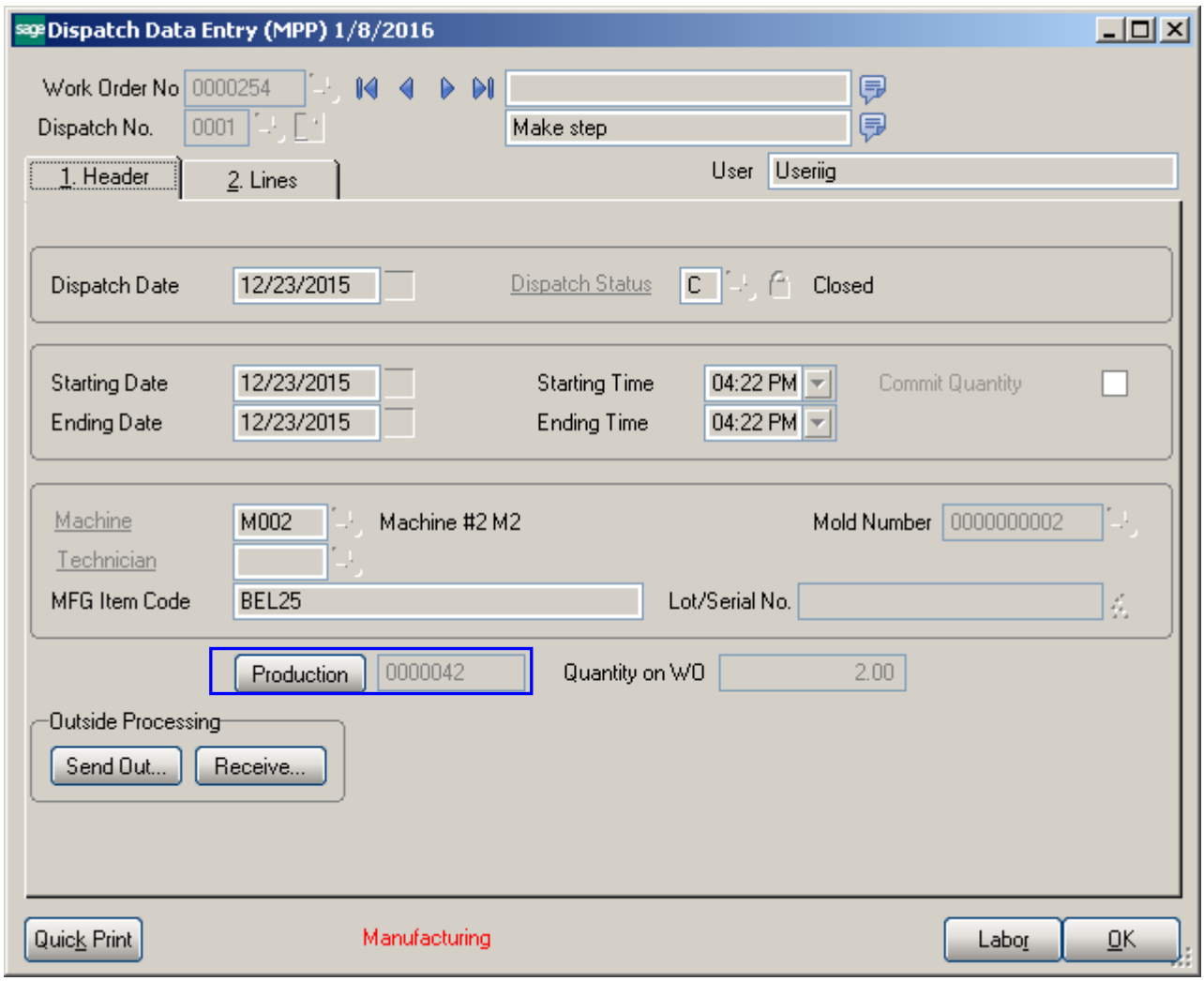


Here is the Production Entry generated after the manufacturing Dispatch is closed:

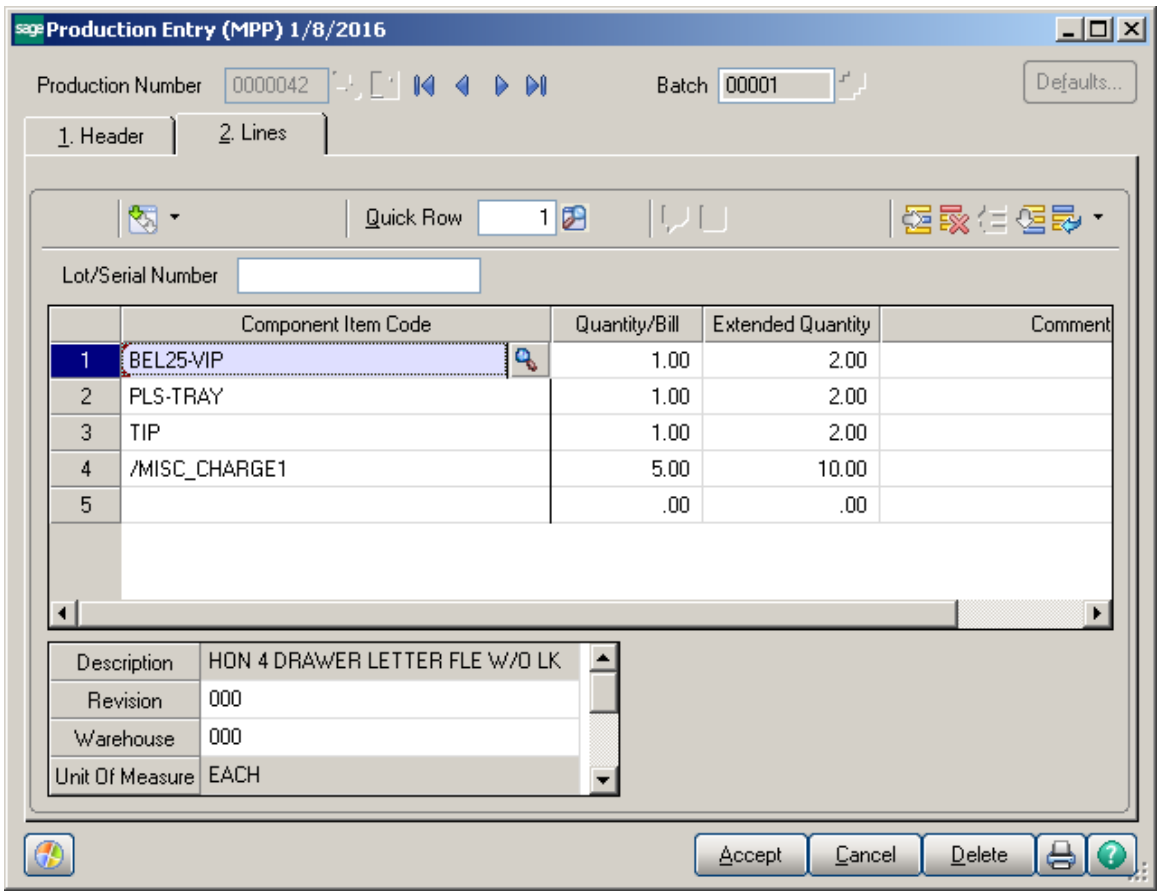




Actual Inventory and Labor information from the Work Order transaction is loaded into the Daily Production Entry transaction.
After the Production is updated the Bill Item Qty On Hand is updated with quantity produced and the **Qty On WO** and **Qty Req For WO** are released.
The generated **Production** number is displayed on the Header tab of the Dispatch Entry:
The **Production** button allows for launching respective Production Entry.



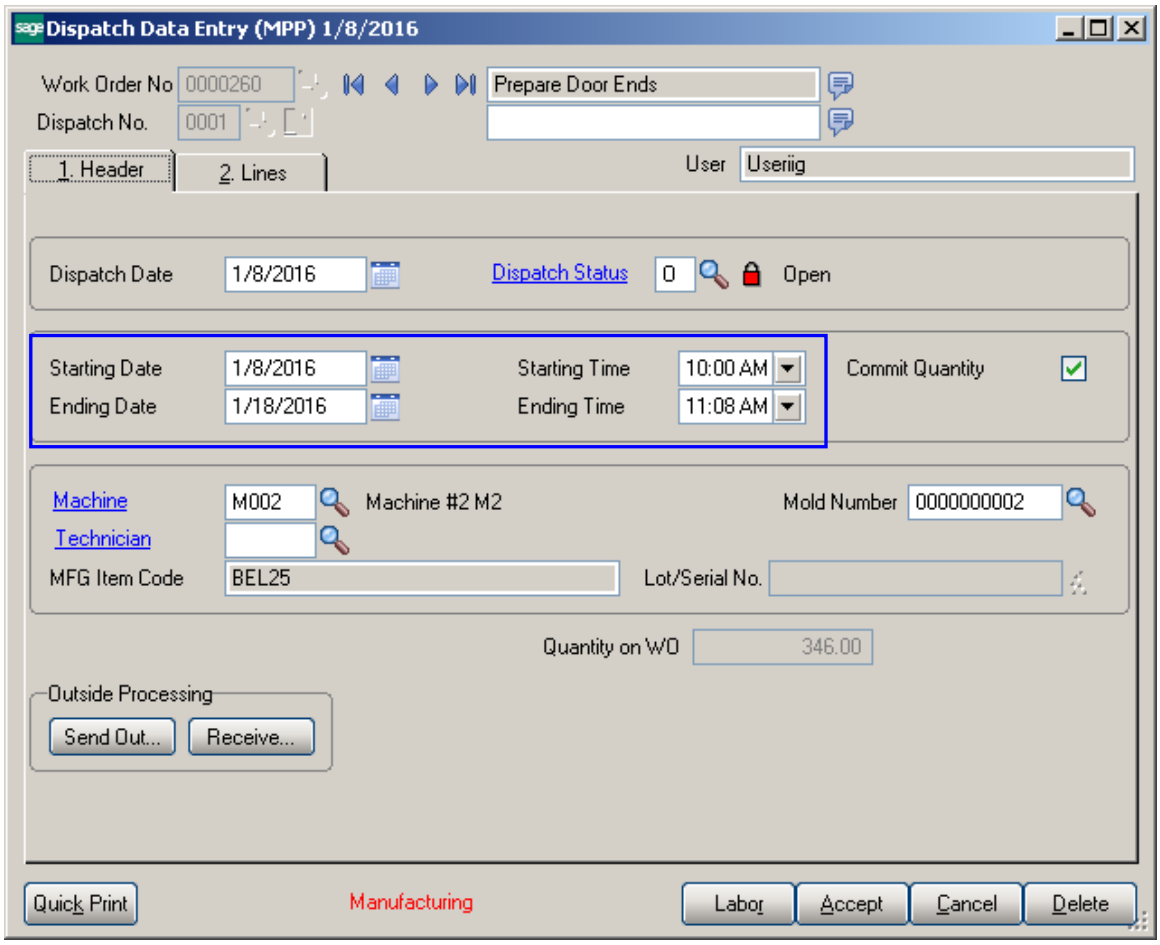
Upon pressing **Production** button the Production Entry Lines tab is opened:

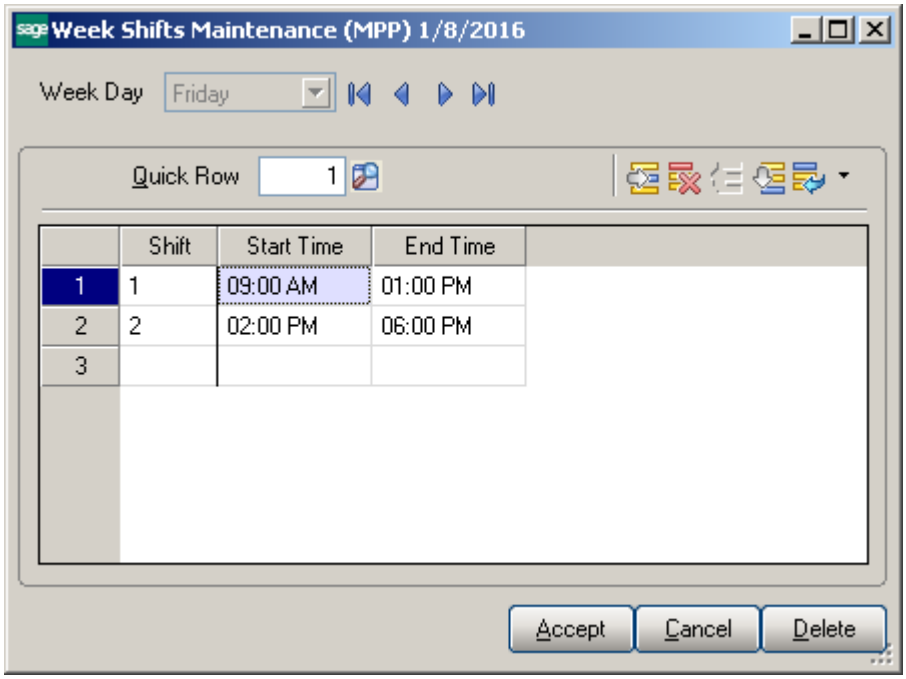


Auto Scheduling

When Work orders are generated from **Calculate Quantity To Produce** program by **Auto Scheduling** button, the work orders are auto-assigned to machine code specified on the **Calculate Quantity To Produce screen.**

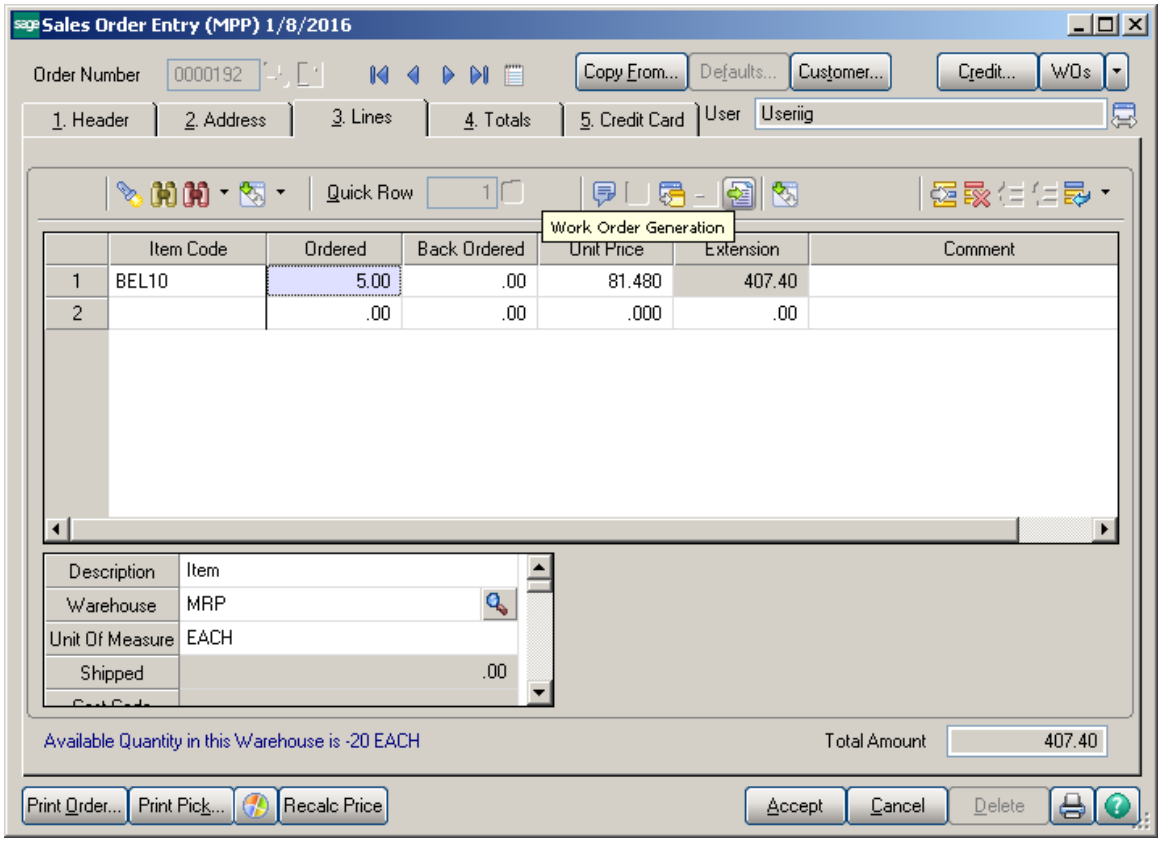
The duration of dispatch is calculated based on the information entered for each mold/machine combination **(Calc. Demand Qty/QtyProduced PerHour + Queue Time)** taking into account the Shifts setup in the Week Shift Maintenance.
If there is Start Date specified on the **Calculate Quantity To Produce** screen that Date/Time is taken into account when checking for Machine availability.


Dispatch Data Entry (MPP) 1/8/2016
Work Order No 0000260
Prepare Door Ends
Dispatch No. 0001
1. Header
2. Lines
User Useriig
Dispatch Date 1/8/2016
Dispatch Status 0
Open
Starting Date 1/8/2016
Starting Time 10:00 AM
Commit Quantity
Ending Date 1/18/2016
Ending Time 11:08 AM
Machine M002
Machine #2 M2
Mold Number 0000000002
Technician
MFG Item Code BEL25
Lot/Serial No.
Quantity on WO 346.00
Outside Processing
Send Out...
Receive...
Quick Print
Manufacturing
Labor
Accept
Cancel
Delete


Week Shifts Maintenance (MPP) 1/8/2016
Week Day Friday
Quick Row 1
Shift
Start Time
End Time
1 1 09:00 AM 01:00 PM
2 2 02:00 PM 06:00 PM
3
Accept
Cancel
Delete

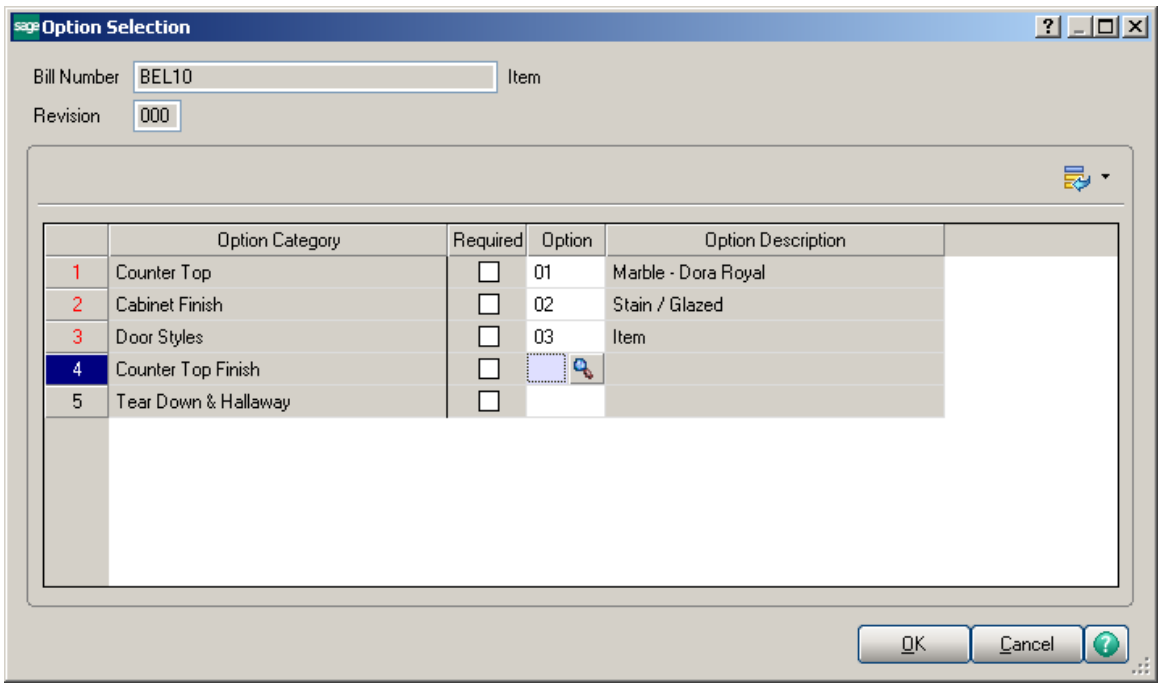
Sales Order Entry

This enhancement provides also ability of creating Work Orders from the Sales Order Entry program.



Press the **Work Order Generation** button to generate Work Order(s) for the selected Bill Item based on the Routing entered for current Bill Item in the Bill of Materials Maintenance.

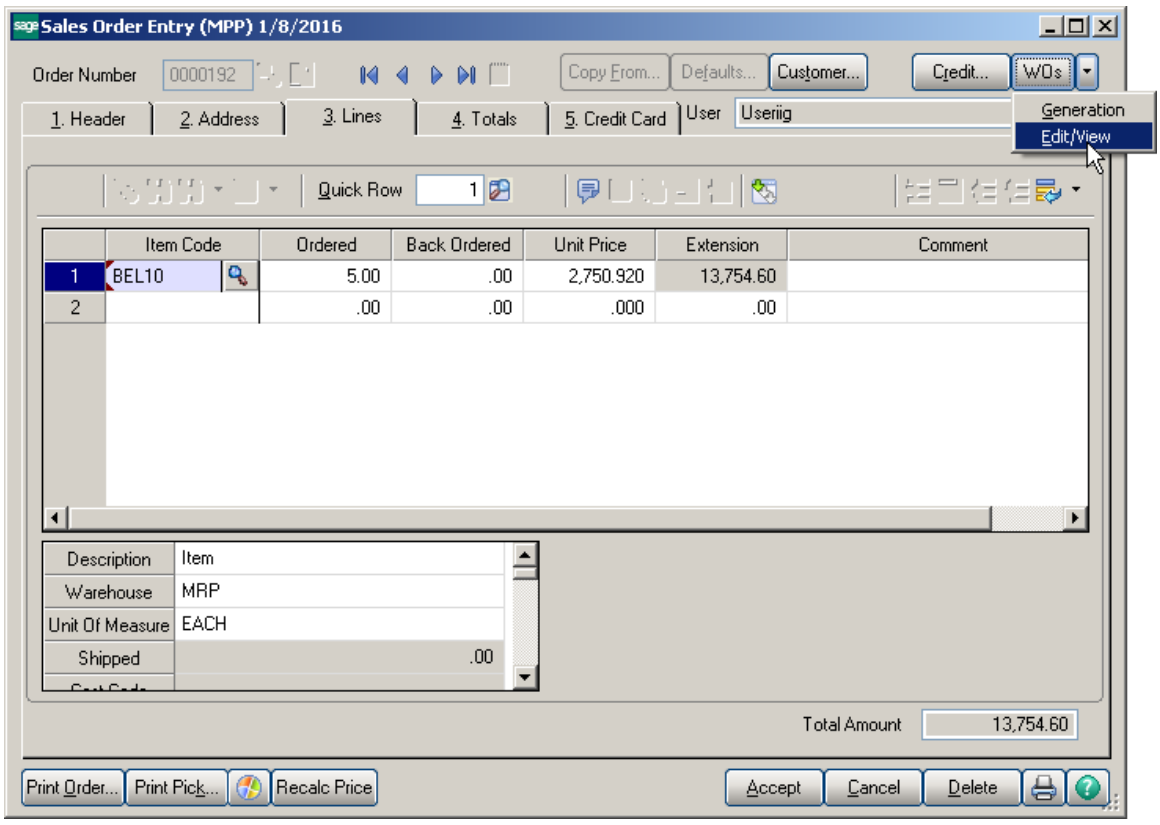
If the selected **Bill Number** has options, the Options Selection screen is displayed allowing the user to select options.

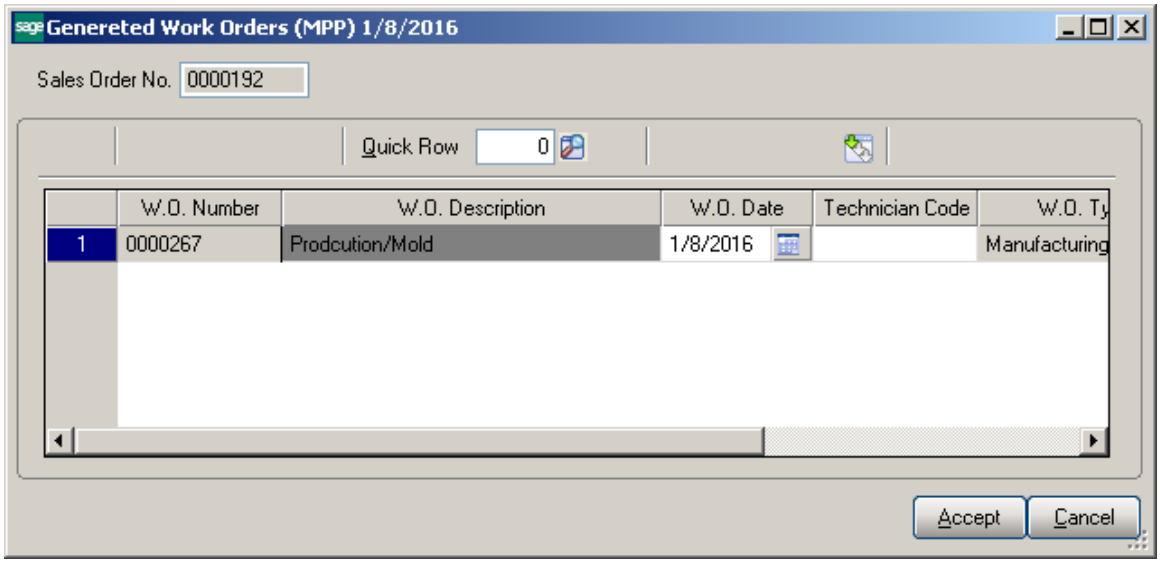


The Generate Work Orders screen is opened with the Bill number selected and disabled

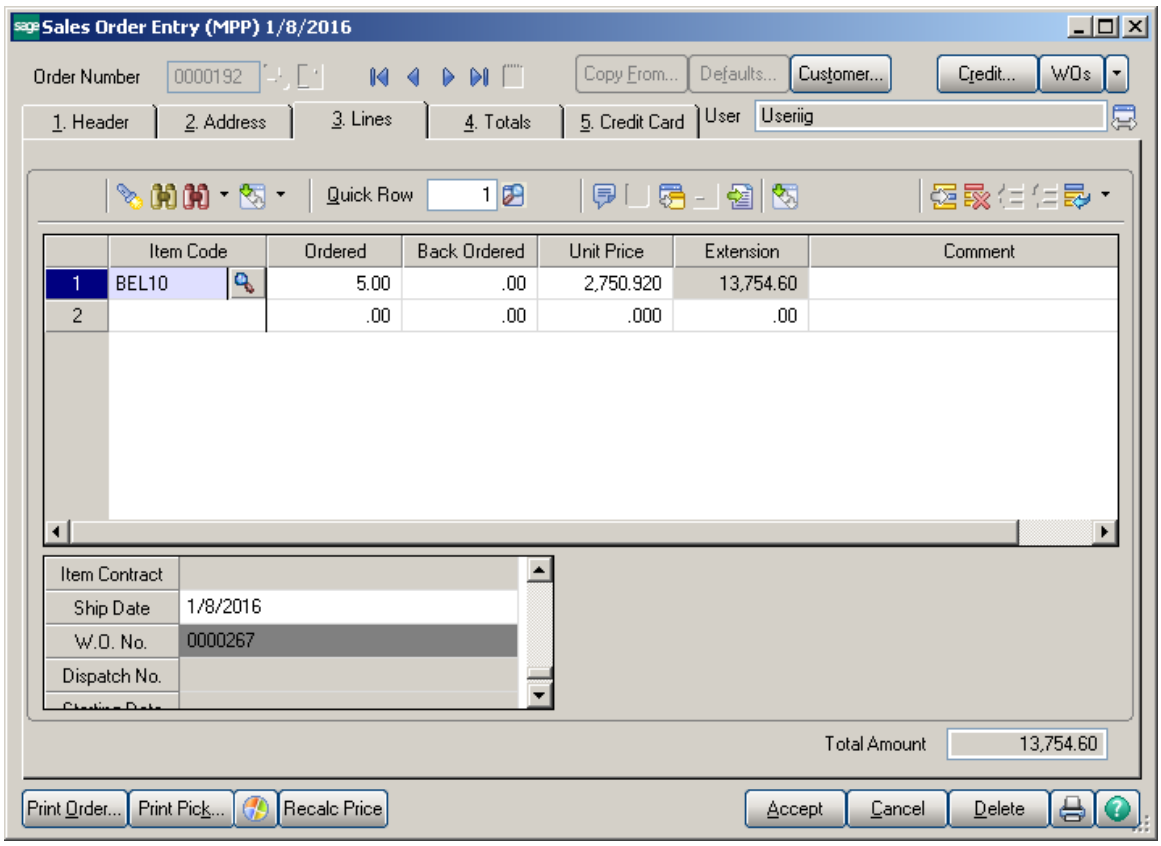
Based on the Routing assigned to current Bill Item the progrm will generate either a single Work Order with respective MFG dispatches generated for each step flagged as MFG or it will generate Work Orders for all the steps of Routing having the **Gen. W.O** flag set in the **Routing Maintenance**. For the steps having **Mfg** checkbox selected in the Routing Maintenance Dispatches are automatically created under the Work Order with a Labor Code, Technician and **Machine Code** specified for that Step of the Routing.

Press the **Edit/View** button to see the Work Order and dispatches generated for the Sales Order Bill line:

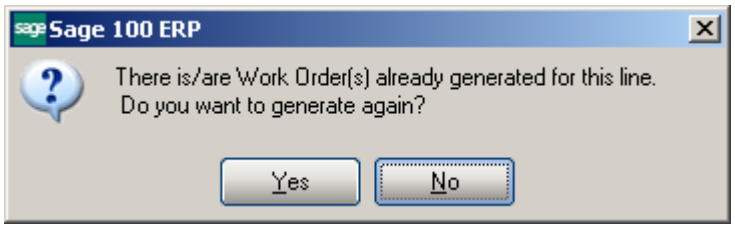




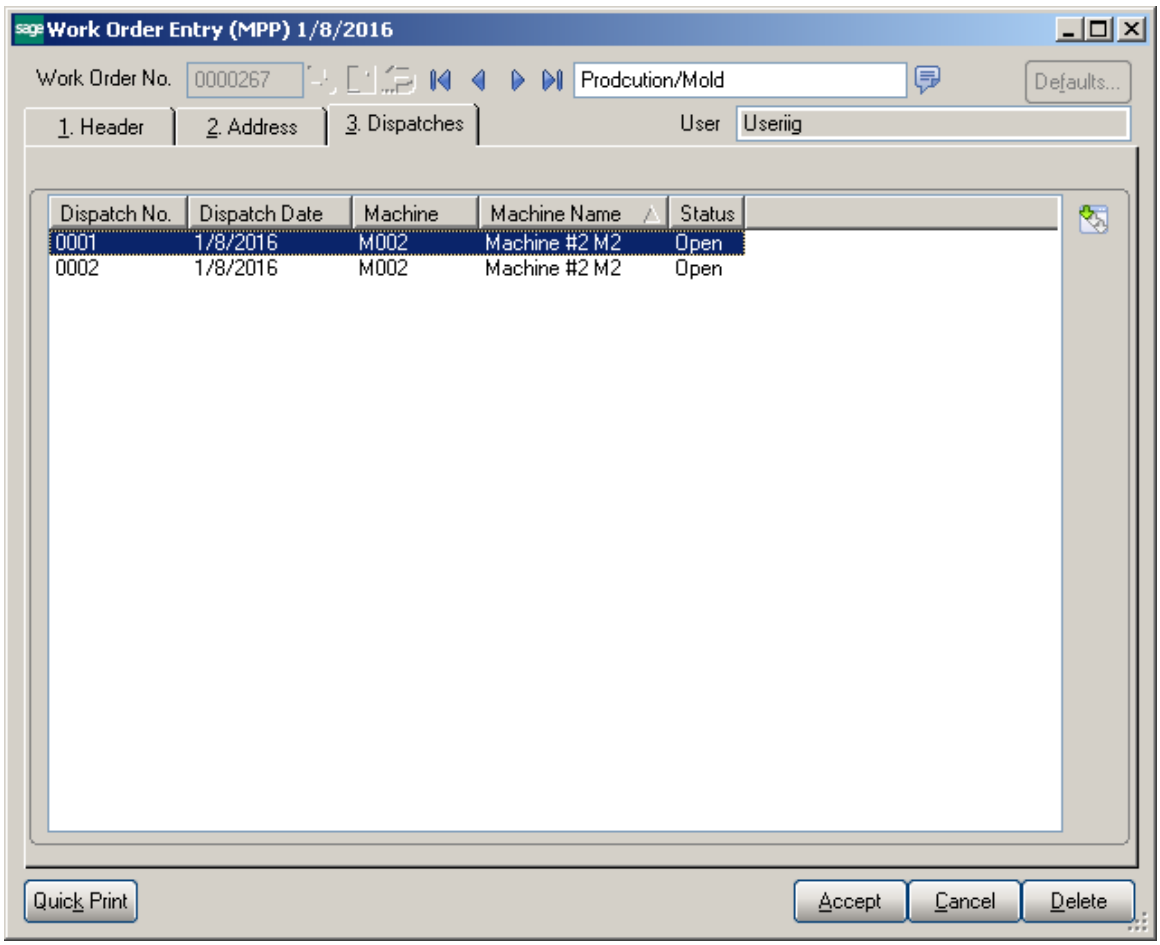
The WO Number generated from a SO line is loaded in the **W.O. No**. field in the Sales Order secondary grid.



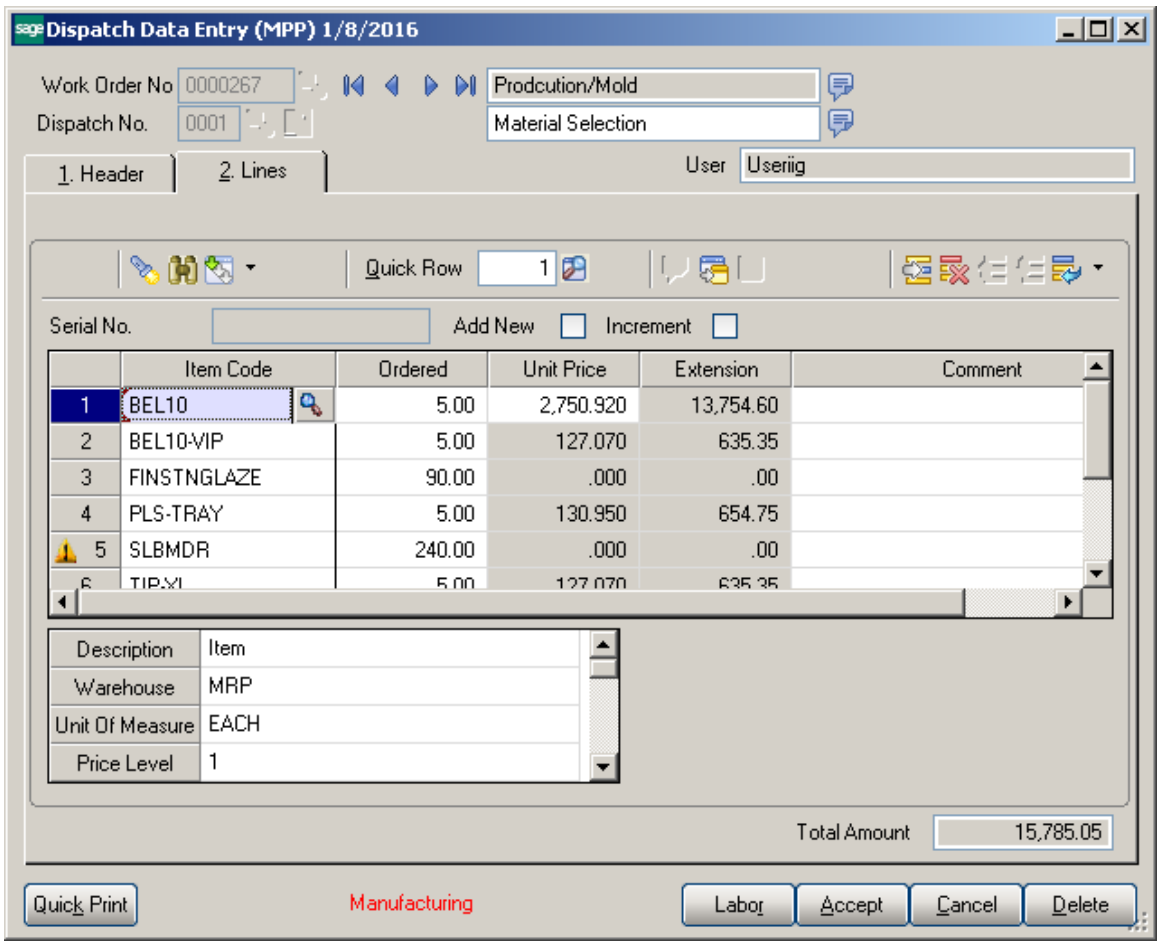
If there are multiple WOs generated for a line, the last Work Order number is displayed. The user may generate a new Work Order for a sales Order even if there are Work Orders already generated. In this case a prompt appears about the Work Orders already generated for Sales Order.



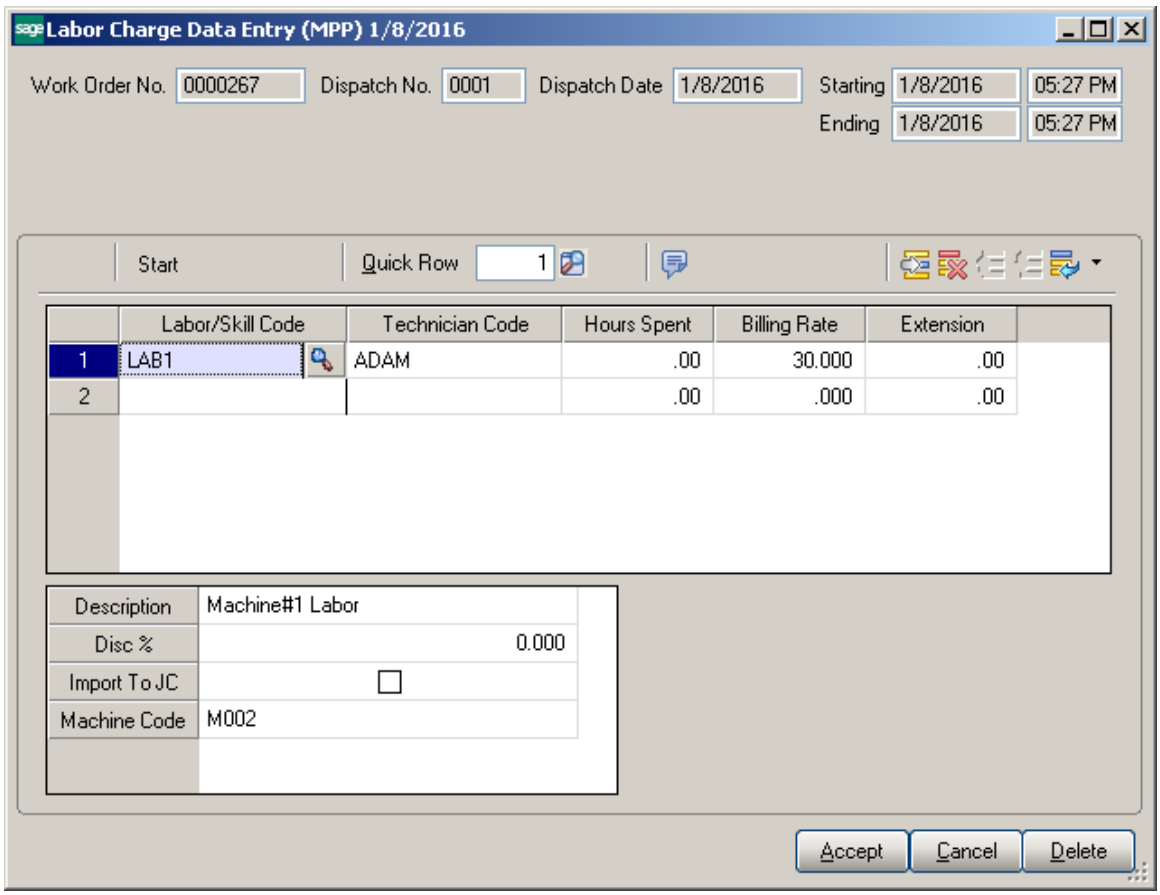
Here is the Work Order generated with respective MFG Dispatches:



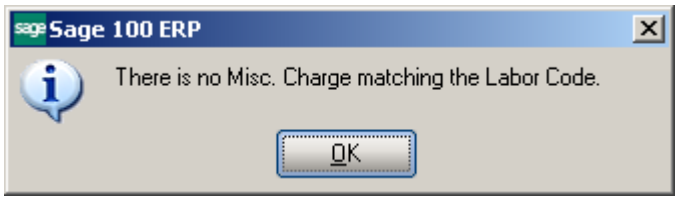
The Bill Item Components are loaded from the BOM into the WO Dispatch Transaction.



The Labor Code specified in the Routing Maintenance is loaded in the Labor Charge Data Entry line if there is Miscellaneous Charge Item matching that Labor Code setup in the Miscellaneous Item Maintenance.



To be able to enter a Labor line in the Labor **Charge Data Entry** it is necessary to have respective Miscellaneous Charge Item (matching the Labor Code) setup in the Miscellaneous Item Maintenance. The following message appears if no Misc. Charge is found with the Item Code matching the Labor Code entered:

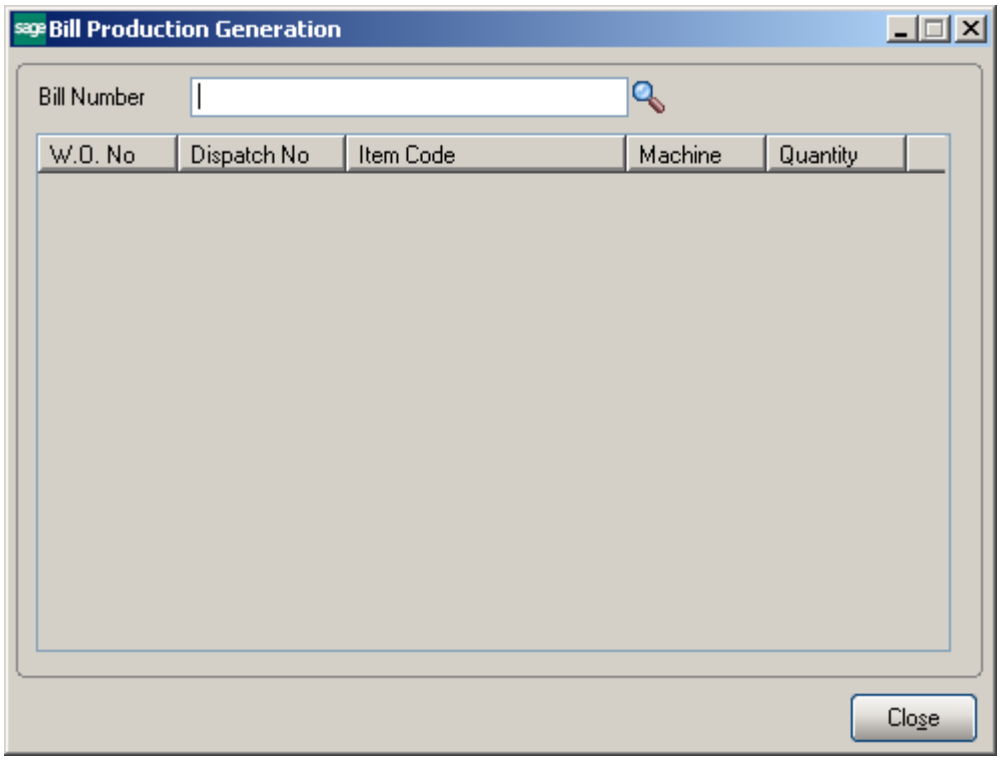


Daily Production entry transactions are created when Dispatch is closed. The Labor line added in the Labor Charge Entry is loaded in the generated Production lines as a **Miscellaneous Charge** line.

If Work Order is generated from Sales Order header, the selected Bill Item is loaded to the generated Work Order. No manufacturing dispatch is generated in this case.

Bill Production Generation

The **Bill Production Generation** program added under the **Material Planning & Production Management-> Main** menu allows for generating Production Entries for a selected WO Number created for current Bill Item.

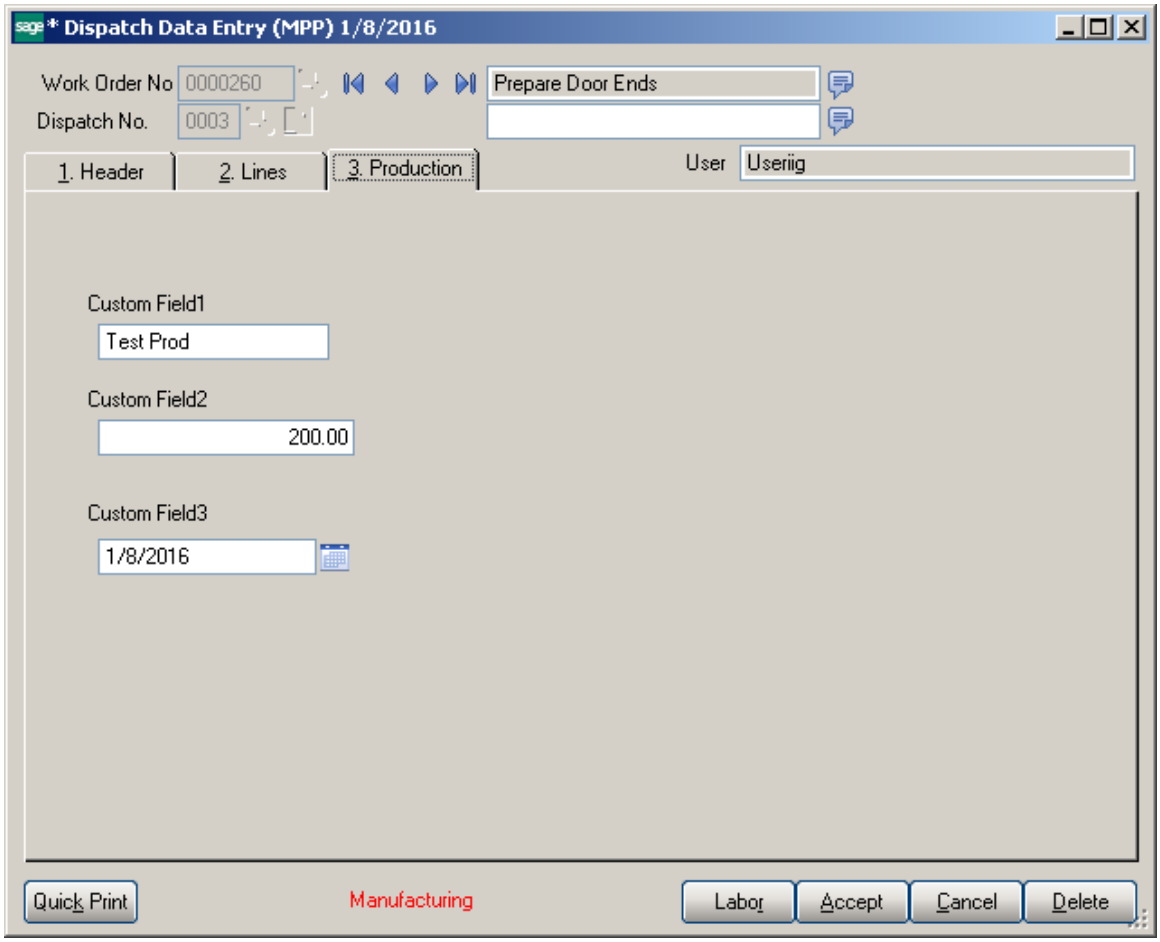


Upon entering a Bill number or selecting it from the Bill Number lookup all Work Orders generated for that Bill number are loaded in the list box.

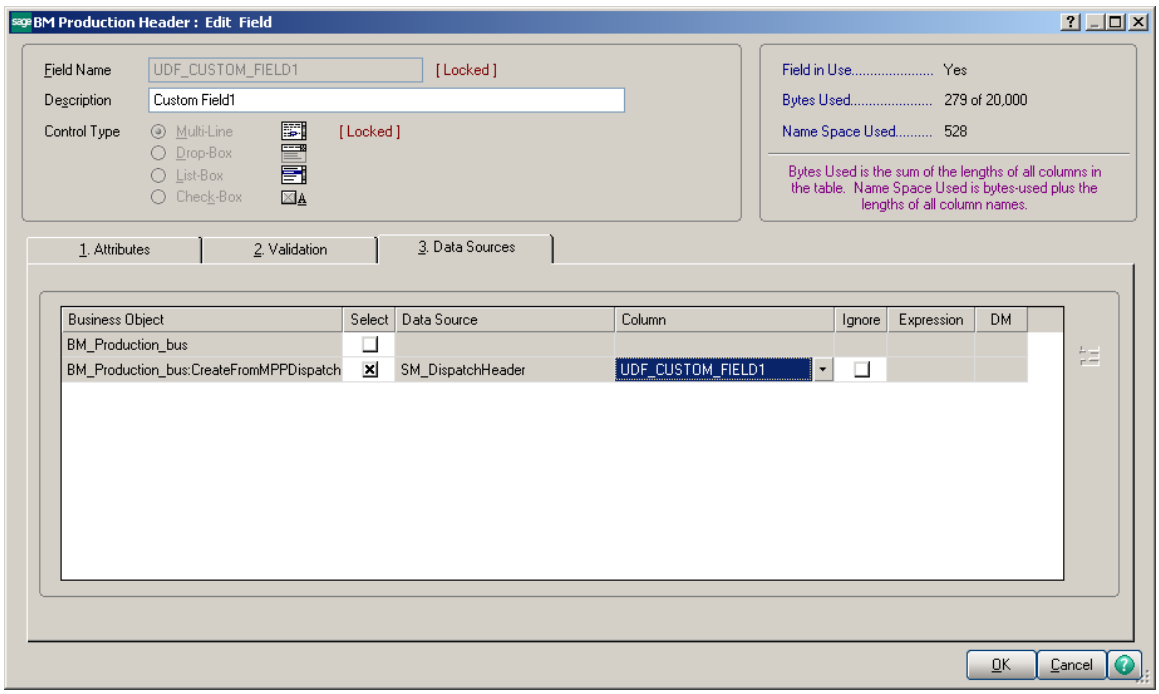
Custom UDFs

Dispatch Data Entry

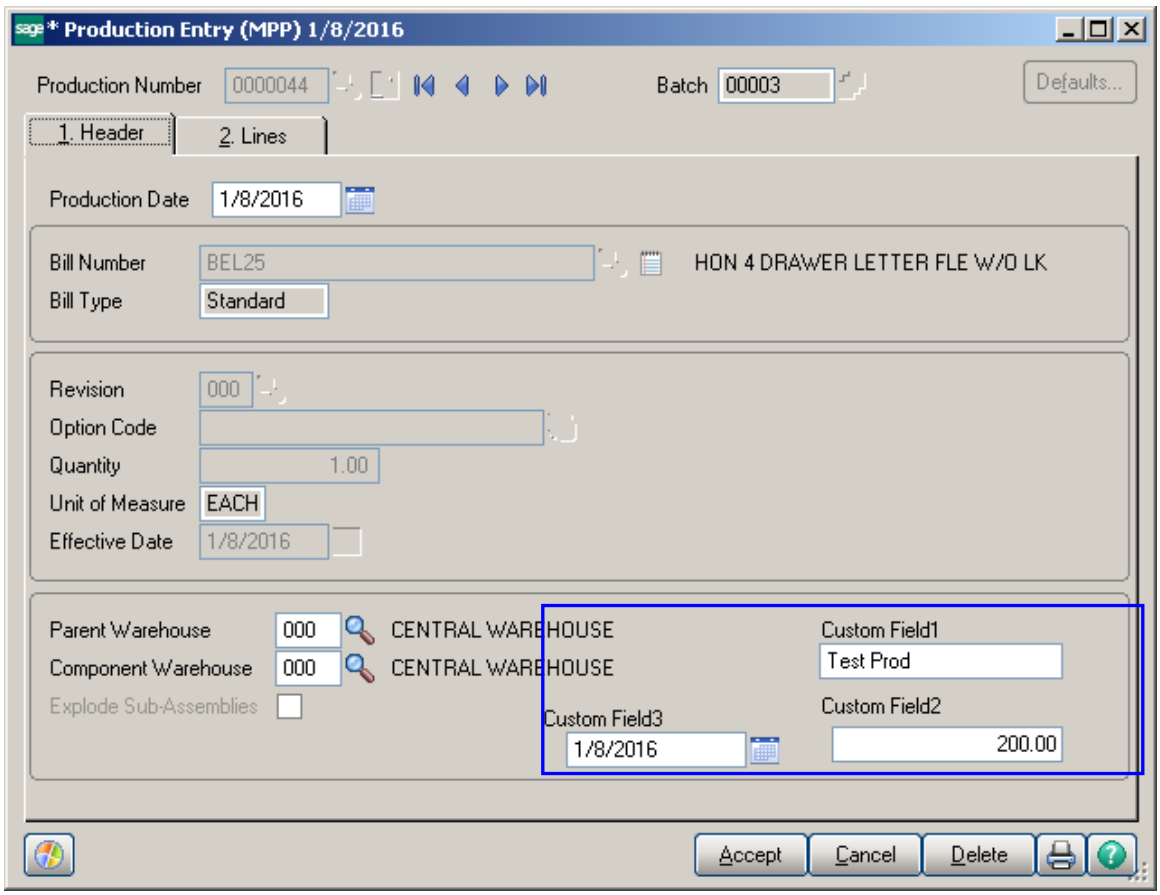
The **Dispatch Data Entry** program has been modified to allow transferring the Dispatch UDF fields' values to respective UDF-s added on the B/M Production Entry.



In order to have the UDF data transferred from Dispatch Data Entry to Production Entry, the UDF fields' names added on the Dispatch Data Entry should match the ones added on the Production Entry.
It is necessary to select the Data Source and respective column on the Data Sources tab of the Edit UDF screen:

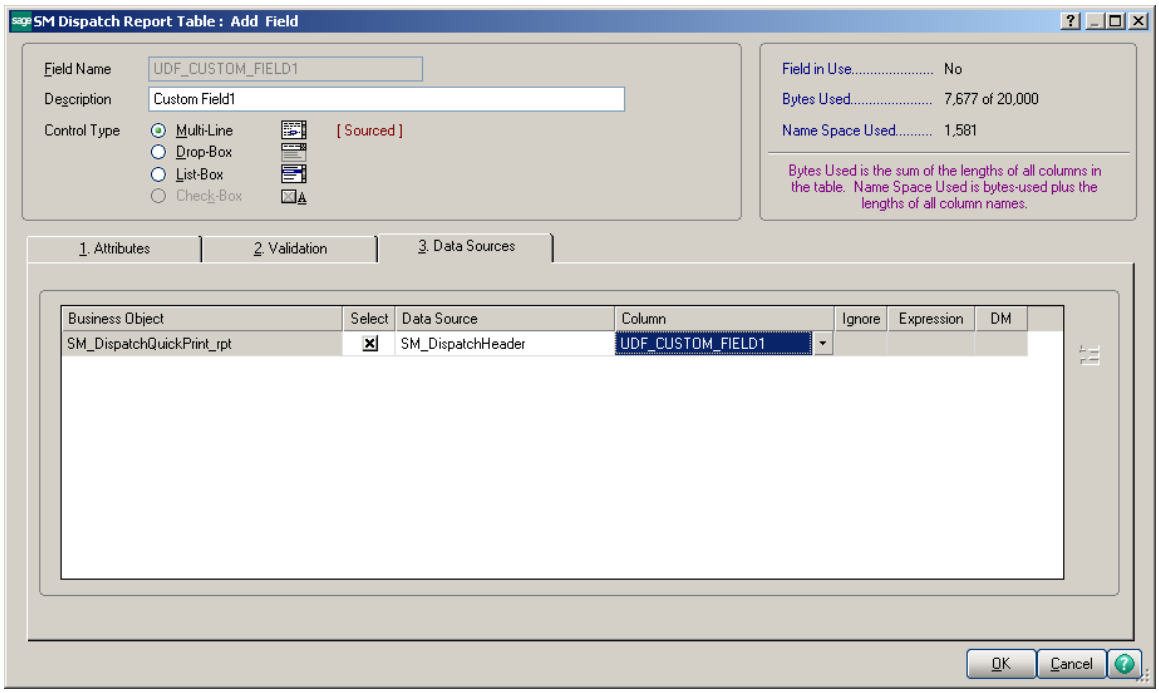


If the UDF fields are created correctly and the data source specified, the UDF fields' values are transferred to the Production Entry generated upon closing the Manufacturing Dispatch.

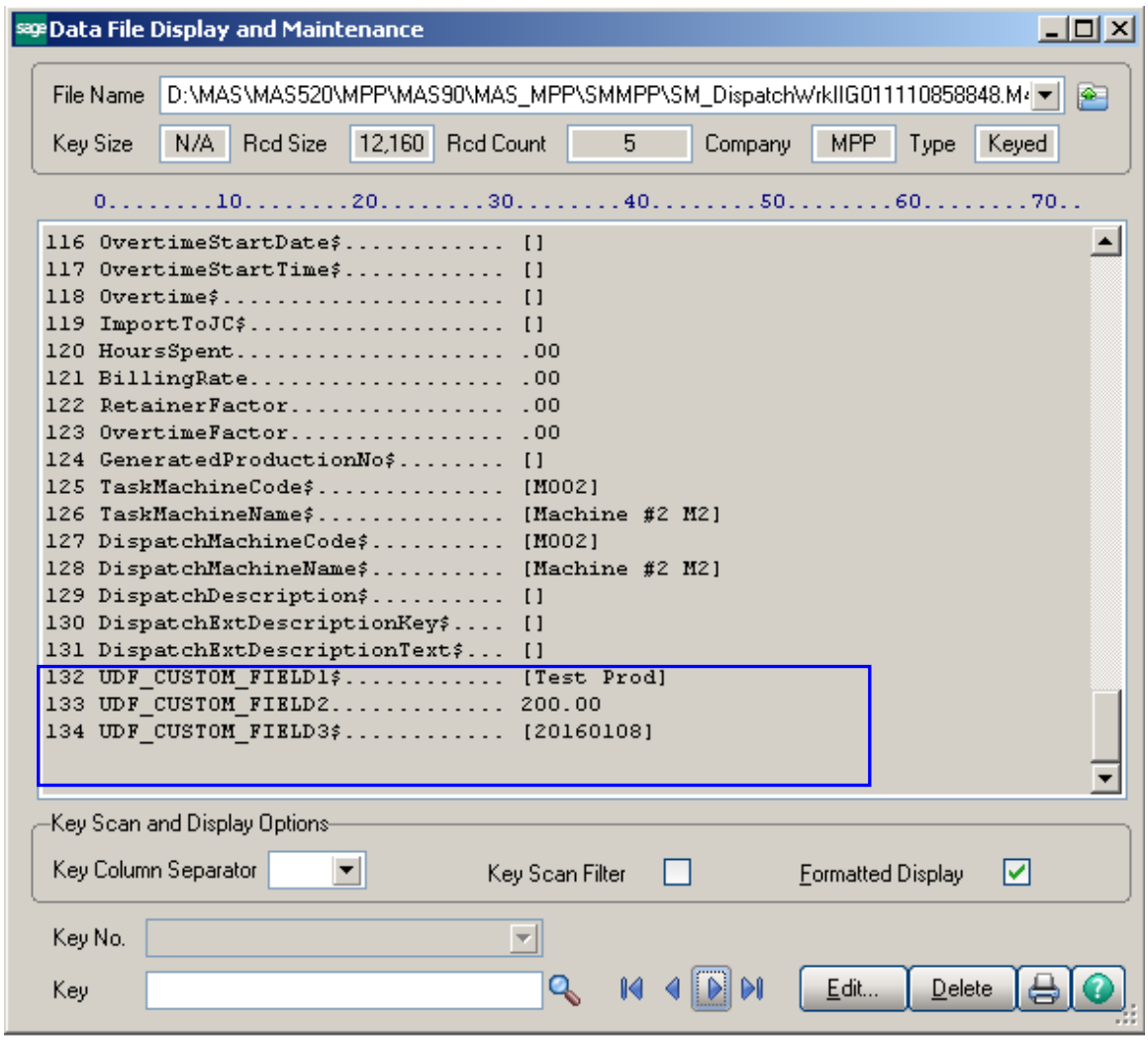

* Production Entry (MPP) 1/8/2016
Production Number
0000044
Batch
00003
Defaults...
1. Header
2. Lines
Production Date
1/8/2016
Bill Number
BEL25
HON 4 DRAWER LETTER FLE W/O LK
Bill Type
Standard
Revision
000
Option Code
Quantity
1.00
Unit of Measure
EACH
Effective Date
1/8/2016
Parent Warehouse
000
CENTRAL WAREHOUSE
Component Warehouse
000
CENTRAL WAREHOUSE
Explode Sub-Assemblies
Custom Field1
Test Prod
Custom Field3
1/8/2016
Custom Field2
200.00
Accept
Cancel
Delete

Dispatch Quick Printing

The **Dispatch Quick Printing** program has been modified to allow printing custom UDF fields and the generated Production Number. In order to have the UDFs populated in the SM_Dispatch worktable it is necessary to add those UDF fields in the SM Dispatch Report Table and select respective data source:

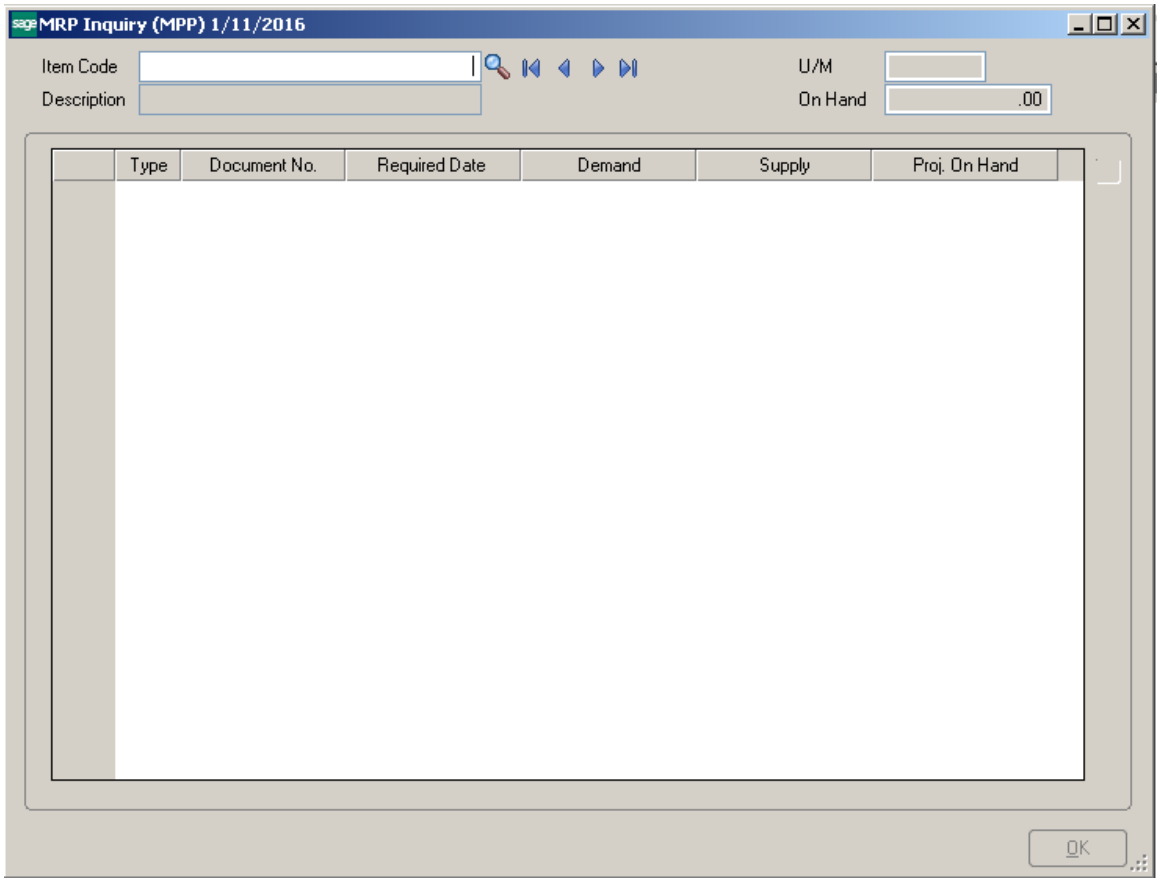


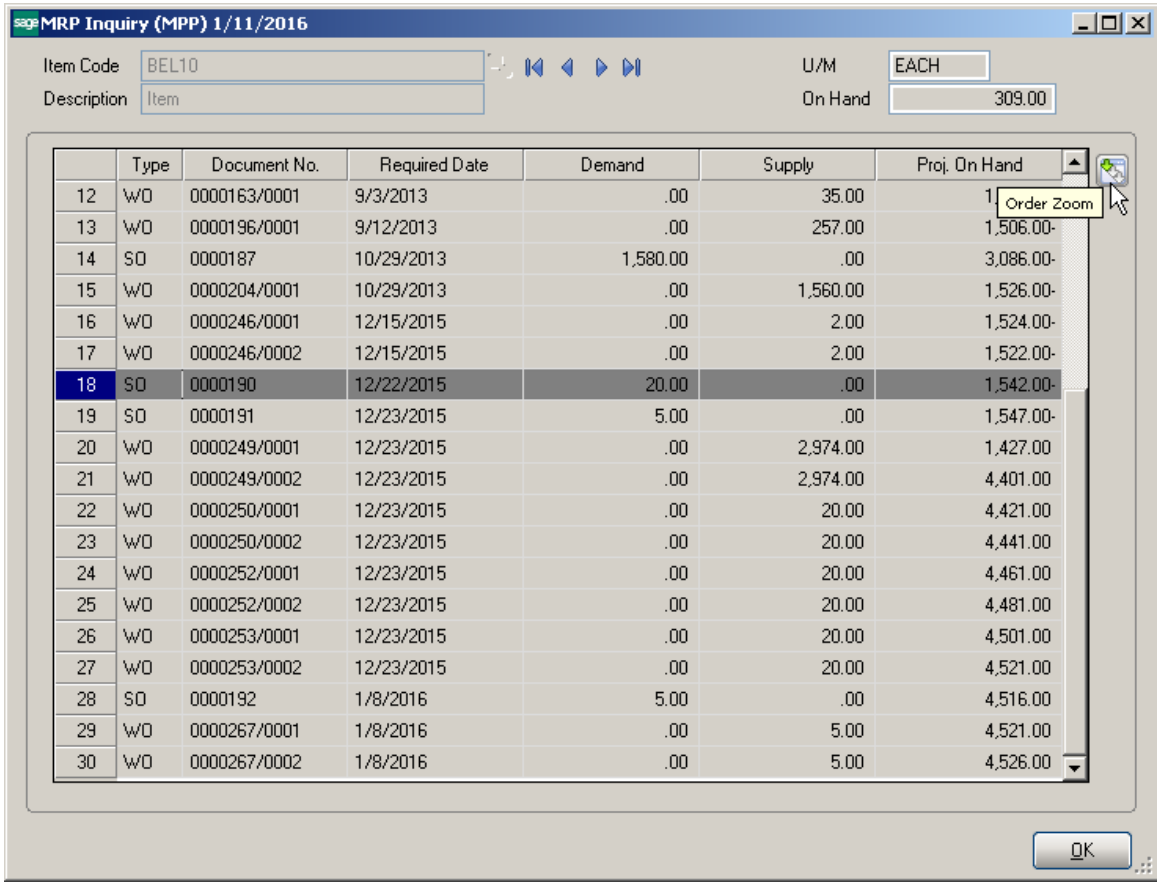
Here is the SM_Dispatch Worktable with the UDF fields populated:


Data File Display and Maintenance
File Name D:\MAS\MAS520\MPP\MAS90\MAS_MPP\SMMPP\SM_DispatchWrkIIG011110858848.M
Key Size N/A Rcd Size 12,160 Rcd Count 5 Company MPP Type Keyed
0.....10.....20.....30.....40.....50.....60.....70..
116 OvertimeStartDate$..... []
117 OvertimeStartTime$..... []
118 Overtime$..... []
119 ImportToJC$..... []
120 HoursSpent..... .00
121 BillingRate..... .00
122 RetainerFactor..... .00
123 OvertimeFactor..... .00
124 GeneratedProductionNo$..... []
125 TaskMachineCode$..... [M002]
126 TaskMachineName$..... [Machine #2 M2]
127 DispatchMachineCode$..... [M002]
128 DispatchMachineName$..... [Machine #2 M2]
129 DispatchDescription$..... []
130 DispatchExtDescriptionKey$.... []
131 DispatchExtDescriptionText$... []
132 UDF_CUSTOM_FIELD1$..... [Test Prod]
133 UDF_CUSTOM_FIELD2..... 200.00
134 UDF_CUSTOM_FIELD3$..... [20160108]
Key Scan and Display Options
Key Column Separator
Key Scan Filter
Formatted Display
Key No.
Key
Edit...
Delete

MRP Inquiry

The **MRP Inquiry** program has been added under the **Material Planning and Production Management** Inquiries menu to allow reviewing information for an item by Transaction type and Required Date. The demand, supply, and Proj. On Hand quantities for an item can be viewed.

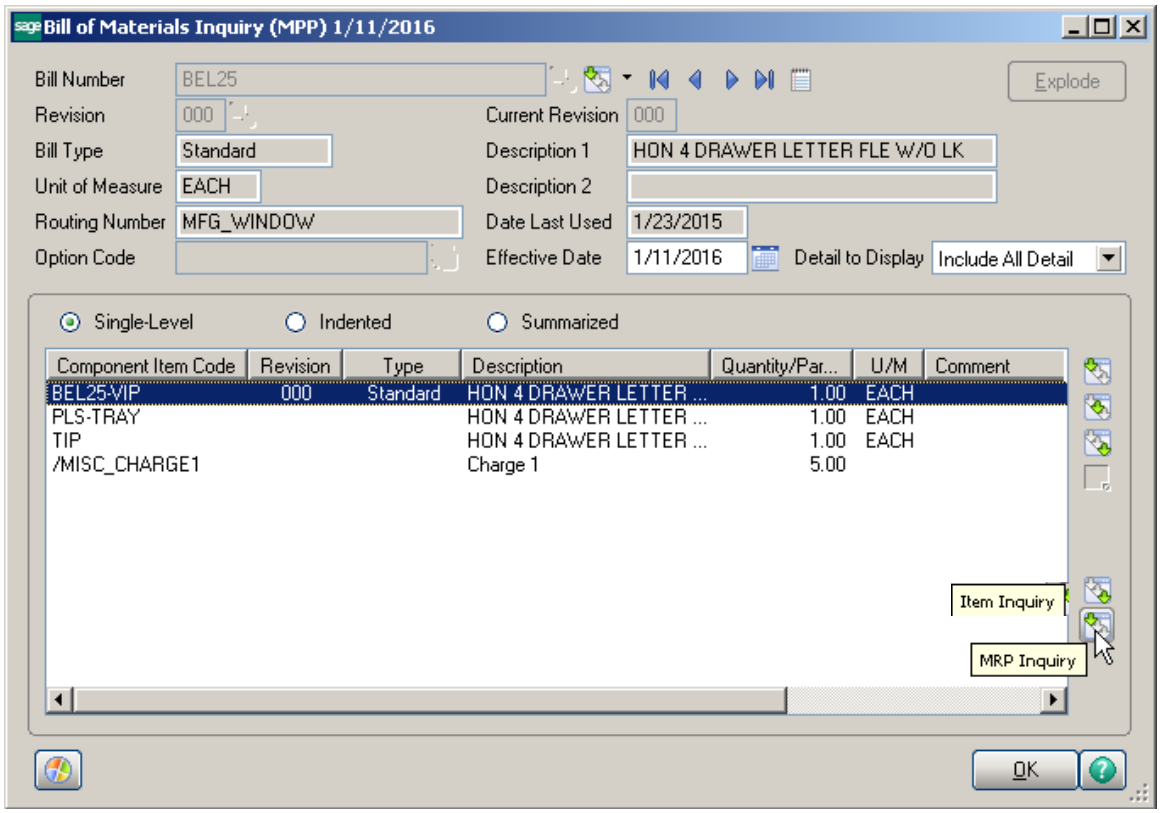




	Type	Document No.	Required Date	Demand	Supply	Proj. On Hand
12	WO	0000163/0001	9/3/2013	.00	35.00	1
13	WO	0000196/0001	9/12/2013	.00	257.00	1,506.00-
14	SO	0000187	10/29/2013	1,580.00	.00	3,086.00-
15	WO	0000204/0001	10/29/2013	.00	1,560.00	1,526.00-
16	WO	0000246/0001	12/15/2015	.00	2.00	1,524.00-
17	WO	0000246/0002	12/15/2015	.00	2.00	1,522.00-
18	SO	0000190	12/22/2015	20.00	.00	1,542.00-
19	SO	0000191	12/23/2015	5.00	.00	1,547.00-
20	WO	0000249/0001	12/23/2015	.00	2,974.00	1,427.00
21	WO	0000249/0002	12/23/2015	.00	2,974.00	4,401.00
22	WO	0000250/0001	12/23/2015	.00	20.00	4,421.00
23	WO	0000250/0002	12/23/2015	.00	20.00	4,441.00
24	WO	0000252/0001	12/23/2015	.00	20.00	4,461.00
25	WO	0000252/0002	12/23/2015	.00	20.00	4,481.00
26	WO	0000253/0001	12/23/2015	.00	20.00	4,501.00
27	WO	0000253/0002	12/23/2015	.00	20.00	4,521.00
28	SO	0000192	1/8/2016	5.00	.00	4,516.00
29	WO	0000267/0001	1/8/2016	.00	5.00	4,521.00
30	WO	0000267/0002	1/8/2016	.00	5.00	4,526.00

Bill of Materials Inquiry

The **Item Inquiry** and **MRP Inquiry** buttons added to the **Bill of Materials Inquiry** screen allows for drill down respectively to Item Inquiry and MRP Inquiry for the selected component line.



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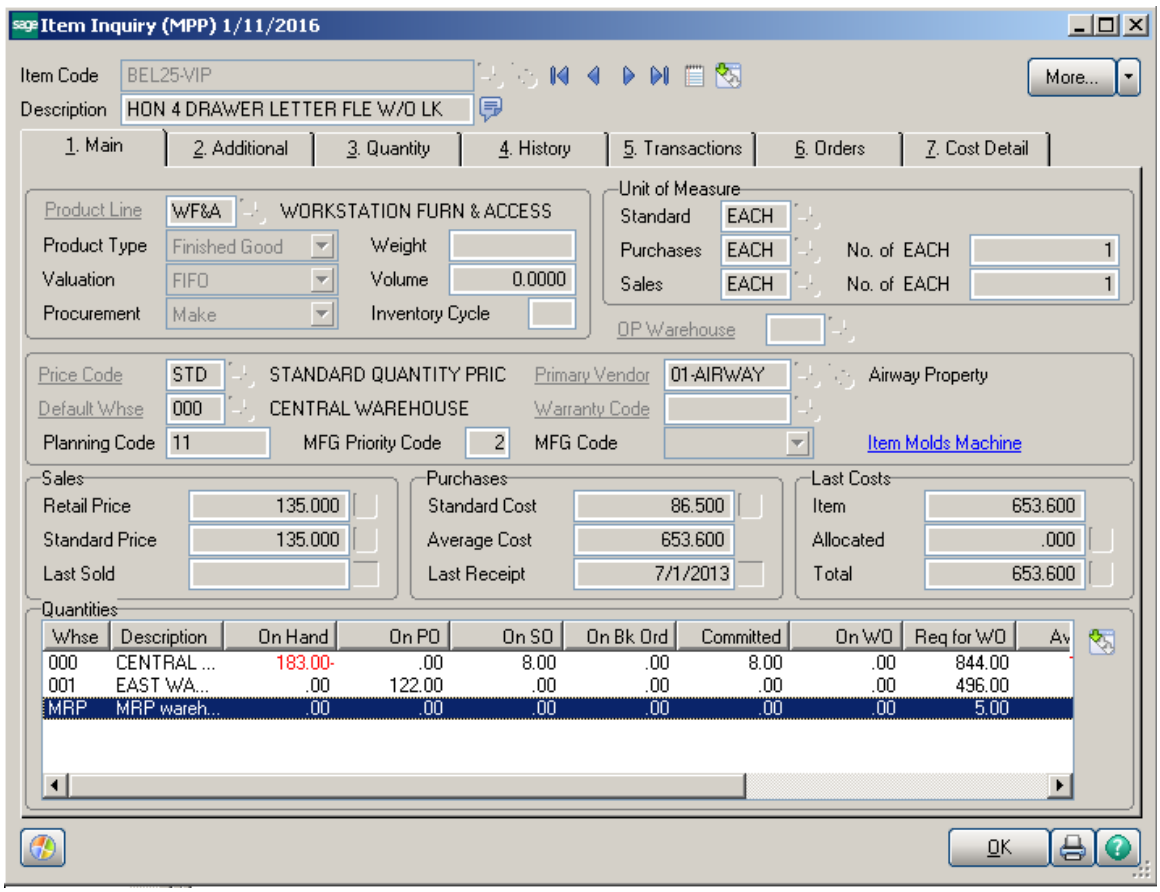
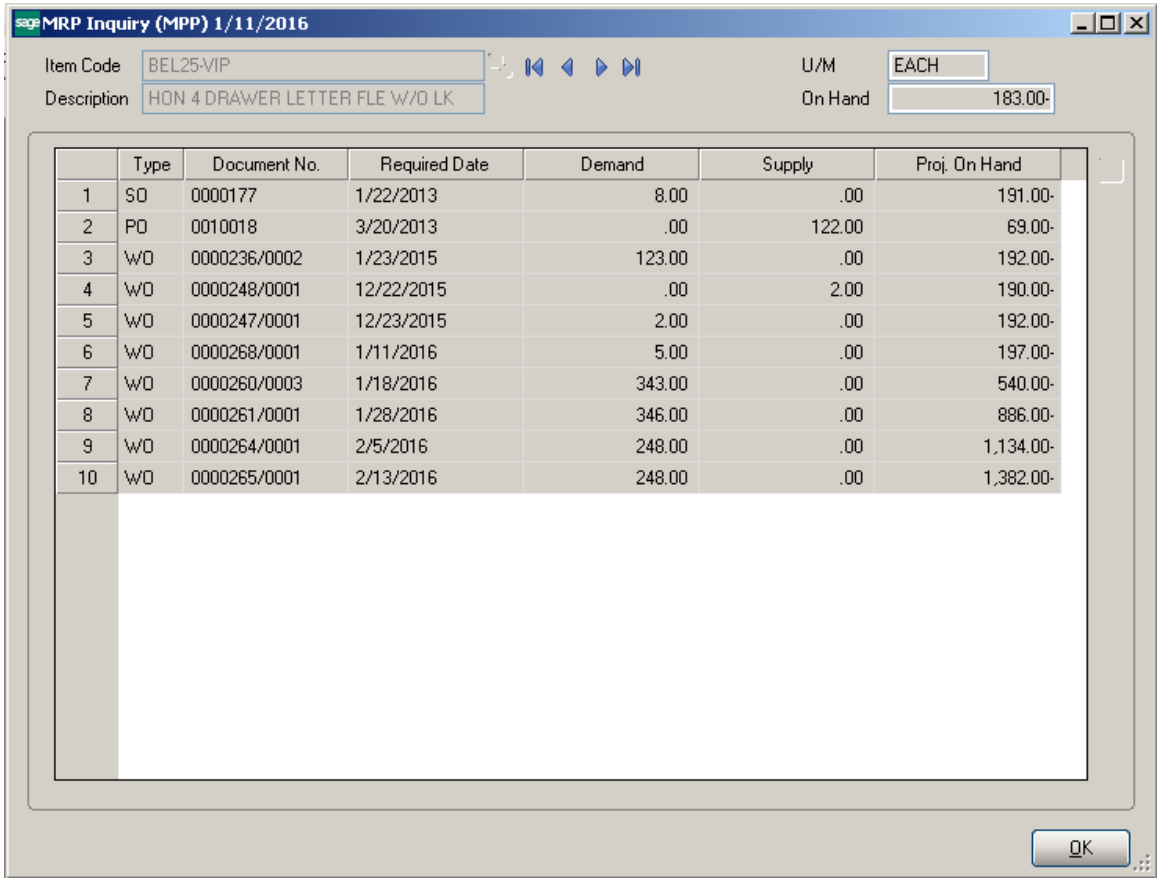


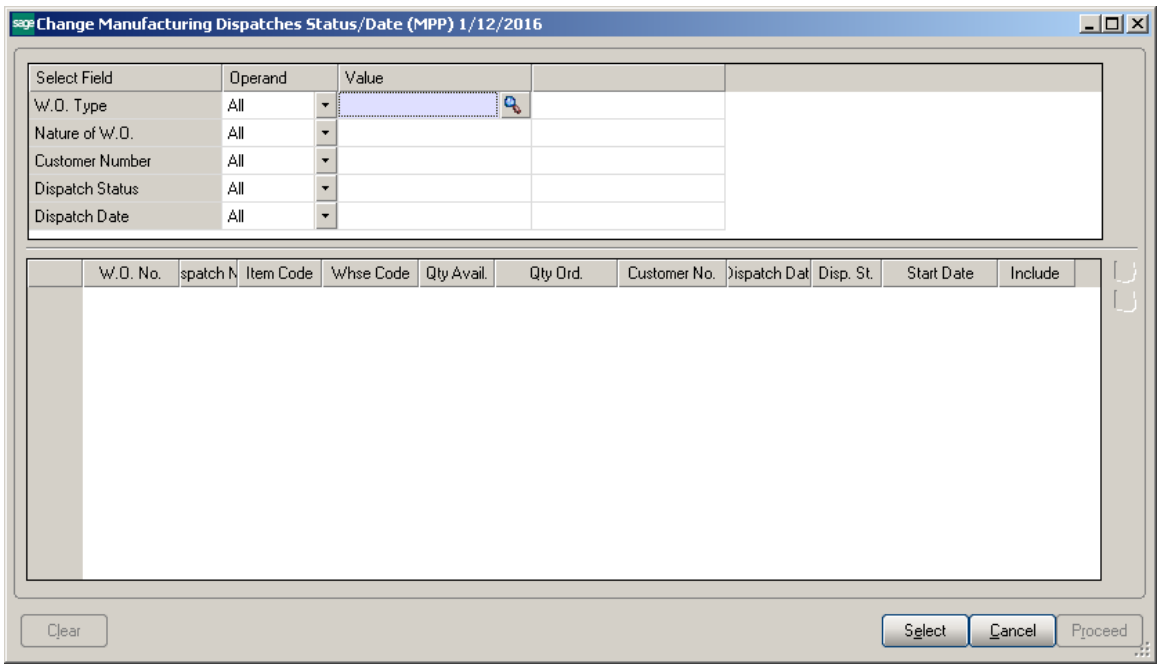


	Type	Document No.	Required Date	Demand	Supply	Proj. On Hand
1	SO	0000177	1/22/2013	8.00	.00	191.00-
2	PO	0010018	3/20/2013	.00	122.00	69.00-
3	WO	0000236/0002	1/23/2015	123.00	.00	192.00-
4	WO	0000248/0001	12/22/2015	.00	2.00	190.00-
5	WO	0000247/0001	12/23/2015	2.00	.00	192.00-
6	WO	0000268/0001	1/11/2016	5.00	.00	197.00-
7	WO	0000260/0003	1/18/2016	343.00	.00	540.00-
8	WO	0000261/0001	1/28/2016	346.00	.00	886.00-
9	WO	0000264/0001	2/5/2016	248.00	.00	1,134.00-
10	WO	0000265/0001	2/13/2016	248.00	.00	1,382.00-

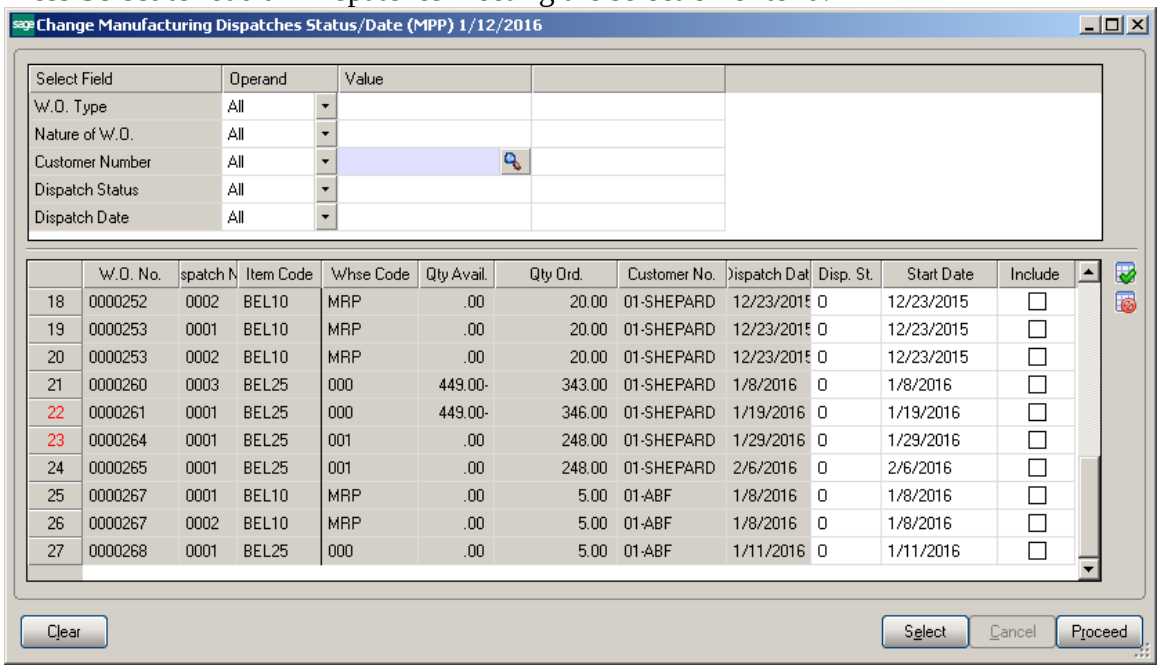
Production Release Status

Change Manufacturing Dispatches Status/Date

The **Change Manufacturing Dispatches Status/Date** program added under the **Material Planning and Production Management ->Main** menu allows for processing all manufacturing dispatches for a given status and dispatch date range to check for availability of inventory for production of quantity (all the components) on the dispatch. Additional selections for WO type, Nature of W.O. and Customer Number are available:

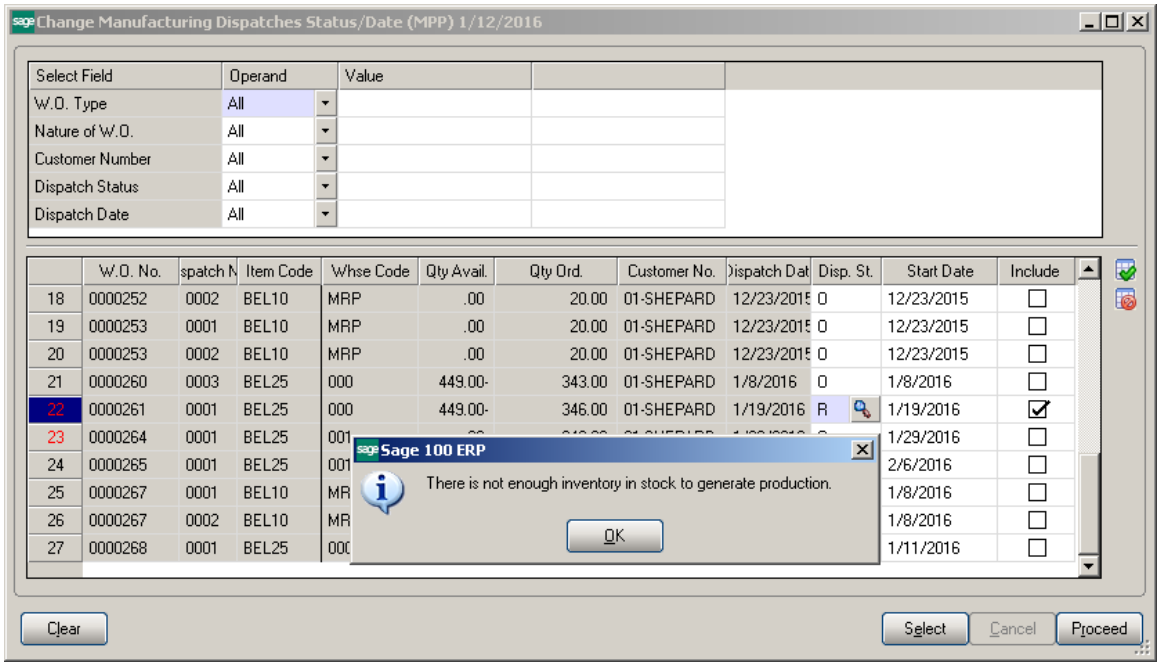


Press **Select** to load all Dispatches meeting the selection criteria:



The **Qty Available** column displays the min quantity available to produce current Bill based on the components quantity available in the Warehouse.
Here the user can change the Dispatch Status and Dispatch start Date.
If there is enough inventory in stock for current Bill (Qty Ordered< QtyAvail) the user can change the Dispatch Status to the one setup as the **Dispatch Status (Released to Production)** in the **Material Planning and Production Setup** without any warning.

If there is not enough inventory in stock for current Bill (Qty Ordered > QtyAvail) a message appears upon changing a **Dispatch Status** to the one setup as the Dispatch Status (Released to Production) in the **Material Planning and Production Setup:**

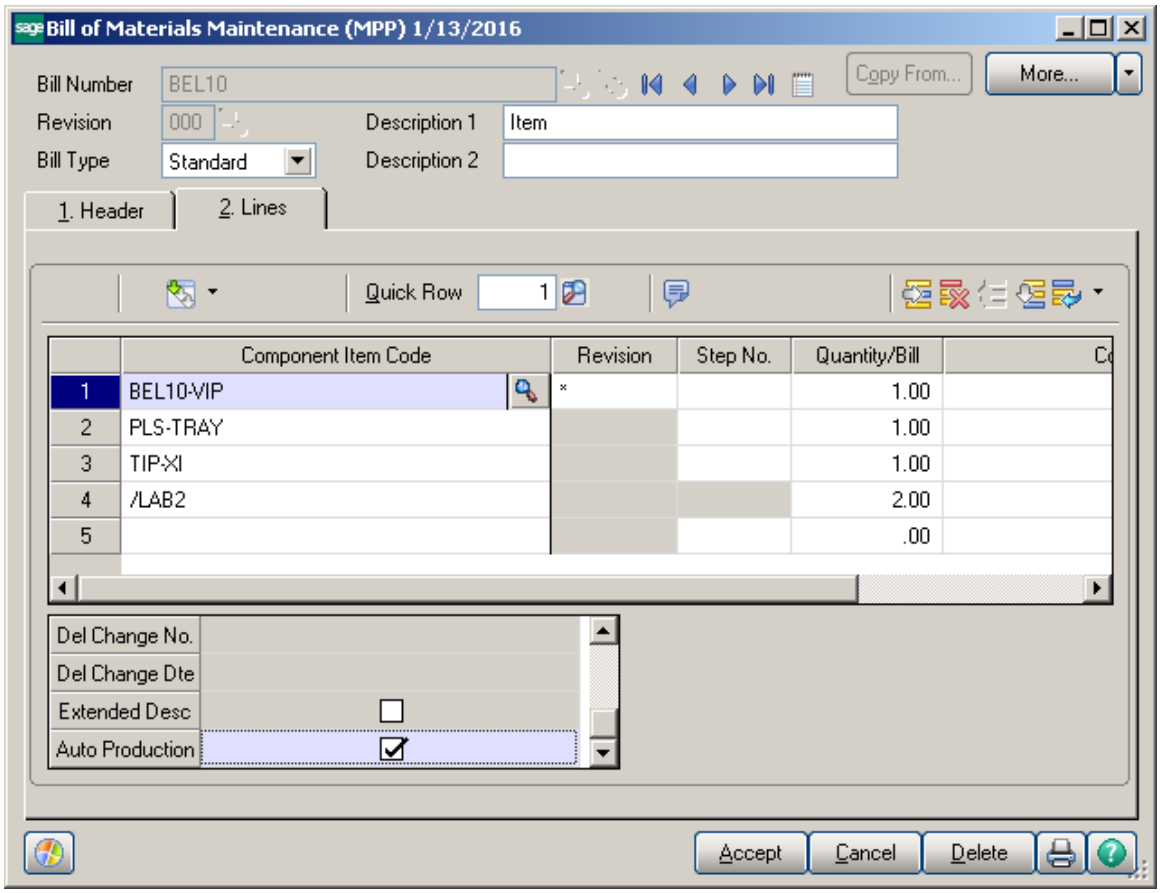


After pressing Ok the status will be changed. It is necessary to select the **Include** checkbox and press Proceed to have the Date and Status changes updated on respective Dispatches.

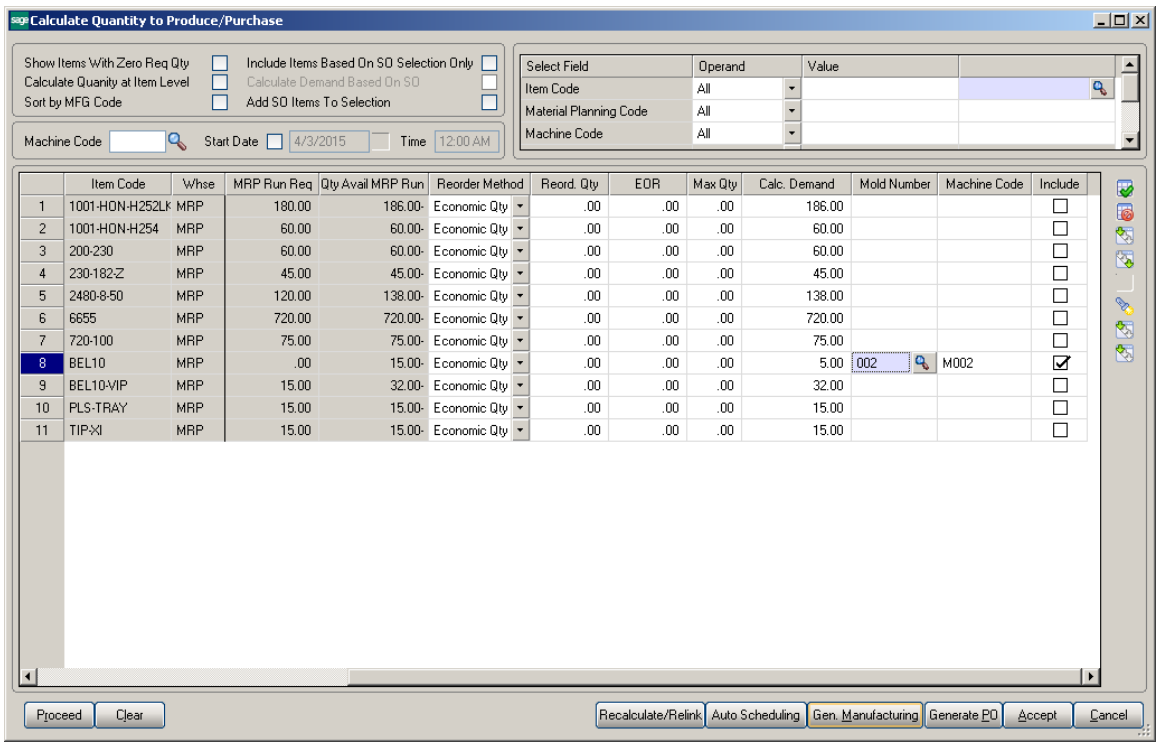
Auto Generate Production for Component Bill

Bill of Material Maintenance

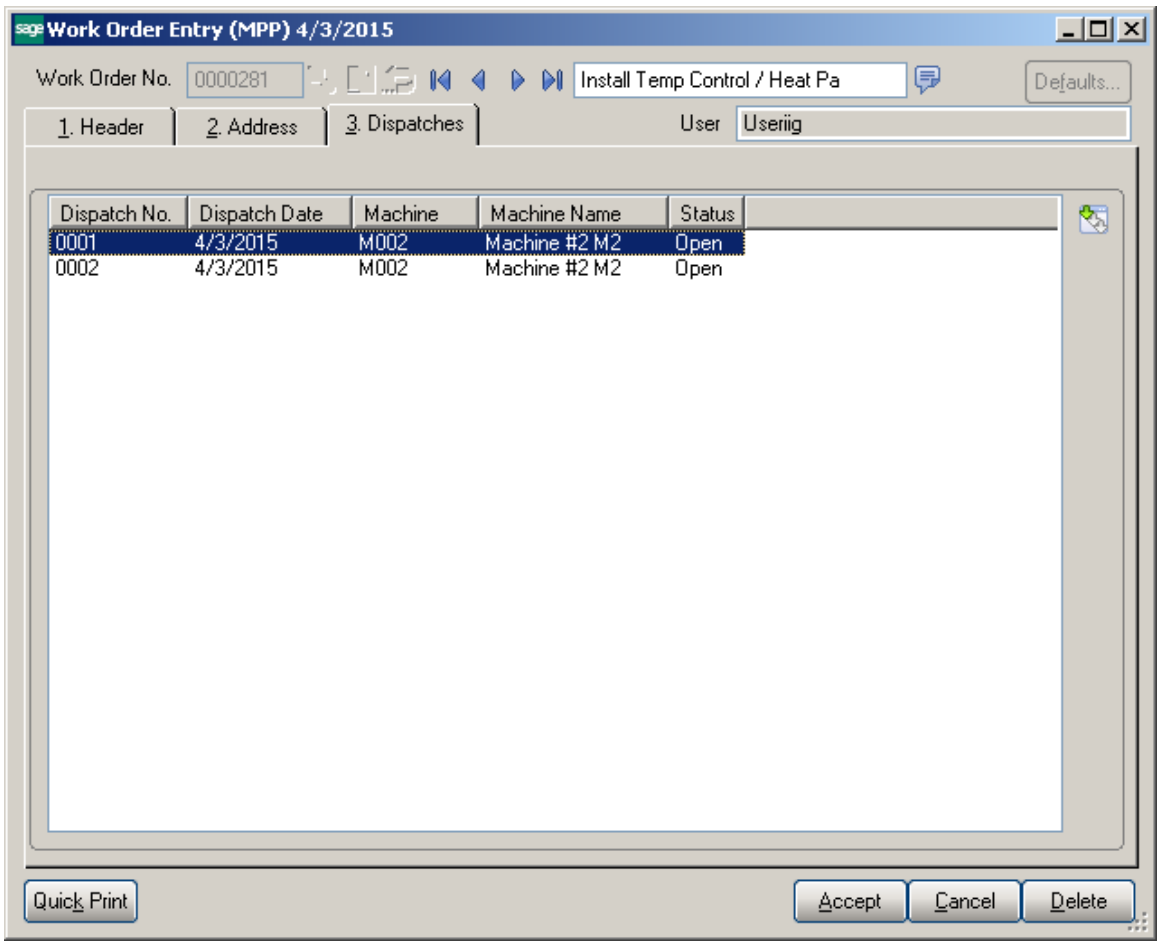
The **Auto Production checkbox** has been added to the **Bill of Materials Maintenance** Lines grid to allow indicating the component Item, which is manufactured item (item that has its own BOM) needed to be produced together.



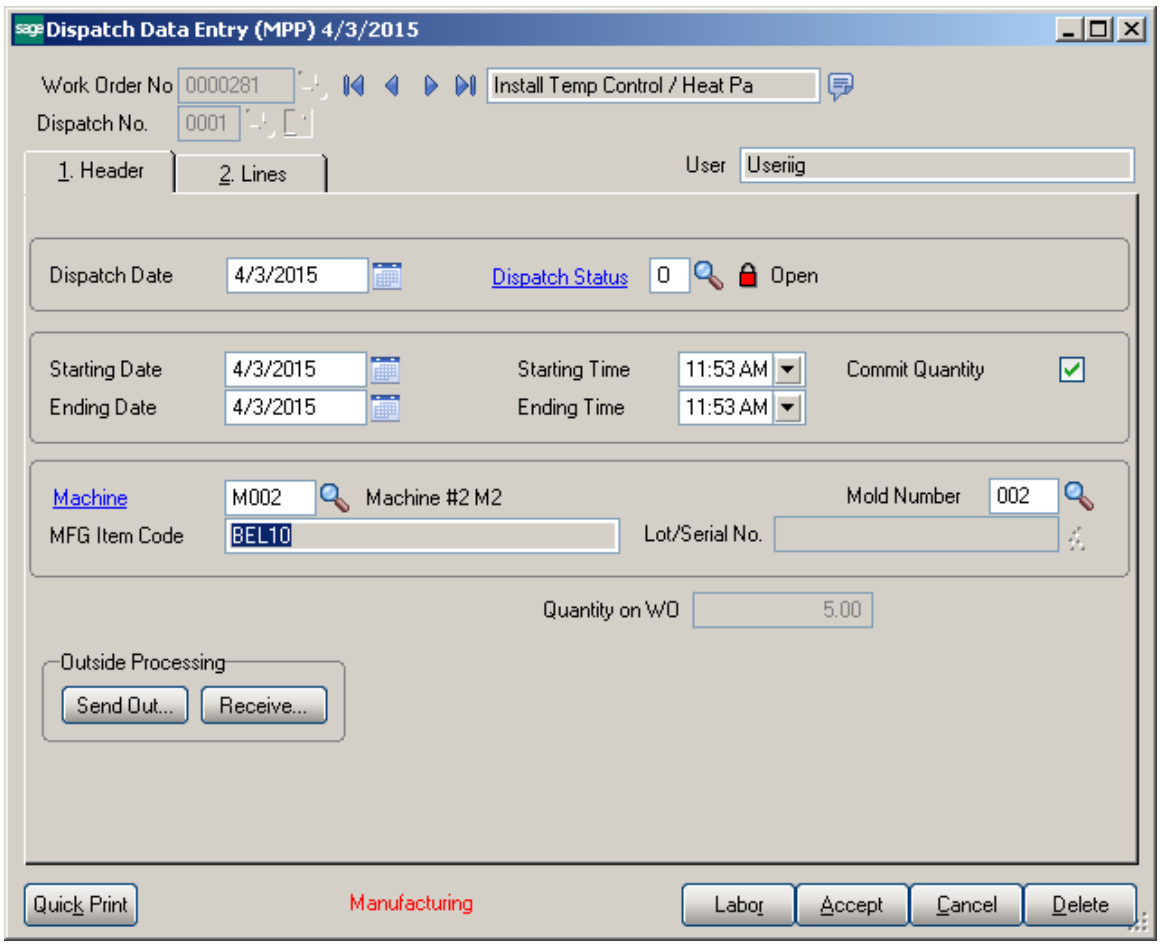
Two Dispatches (One for the main Bill Number and one for the component Bill) will be generated for production of these items when Work Order is generated for the Bill Number from the **Calculate Quantity To Produce/Purchase** program.

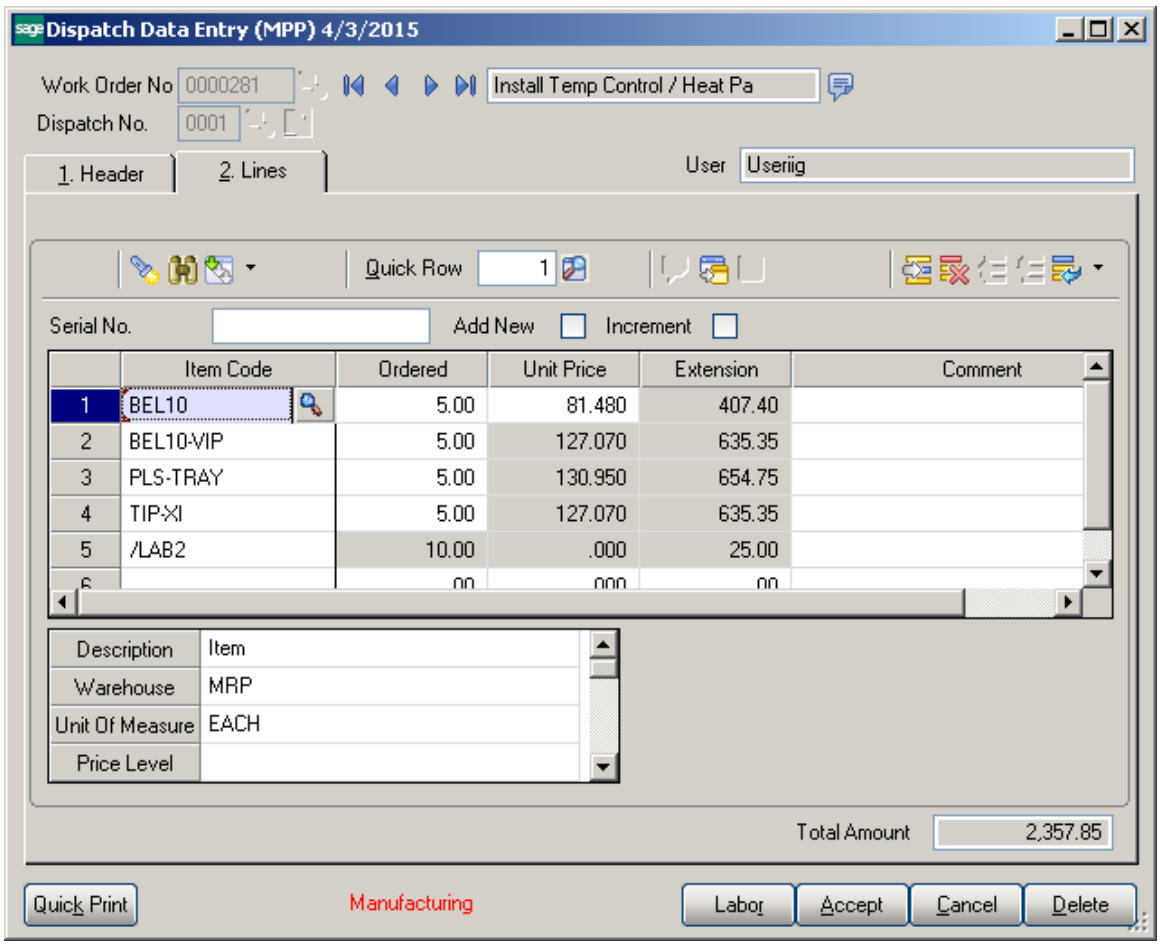


Here are 2 Dispatches generated for current Bill Item:

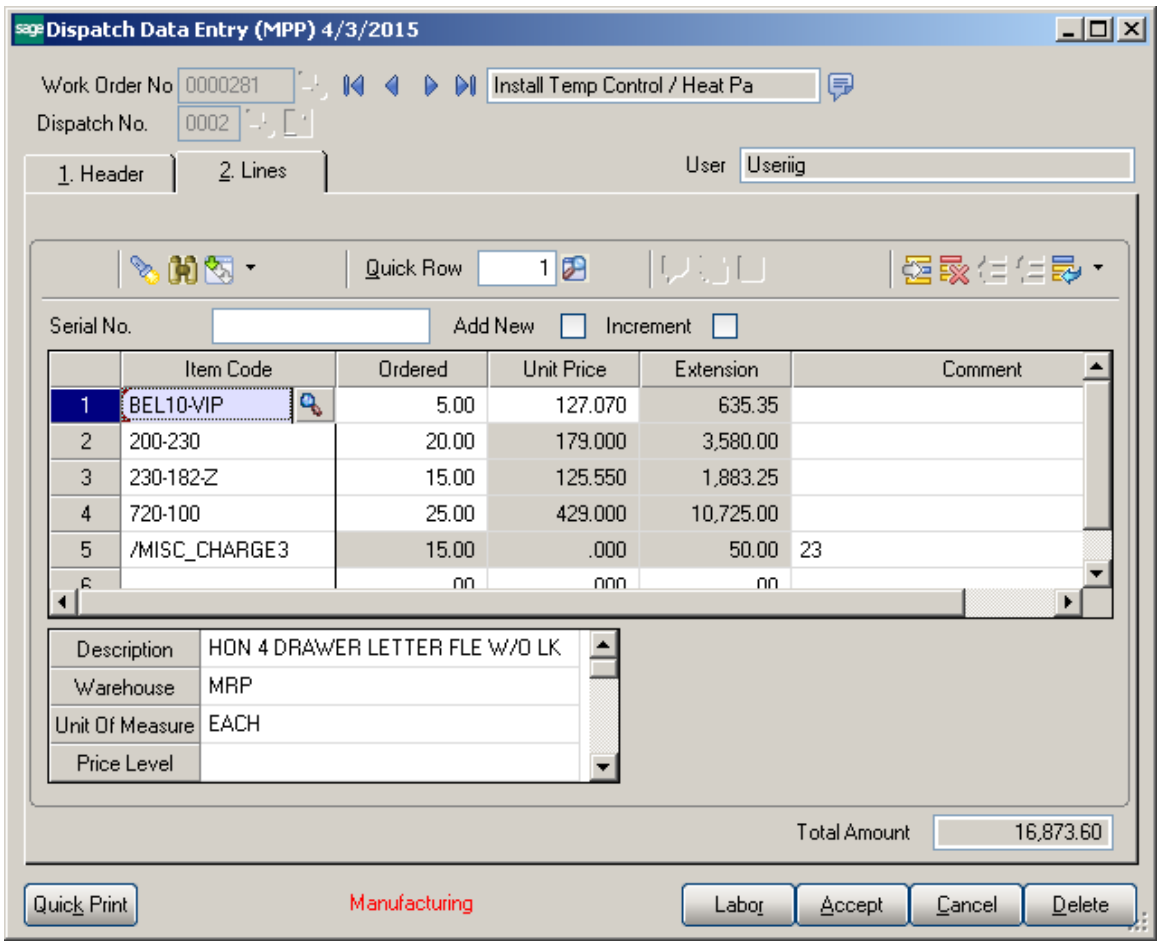


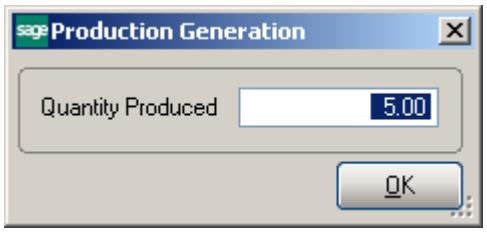
This is the Dispatch generated for main Bill:


Dispatch Data Entry (MPP) 4/3/2015
Work Order No 0000281
Install Temp Control / Heat Pa
Dispatch No. 0001
1. Header
2. Lines
User Useriig
Dispatch Date 4/3/2015
Dispatch Status 0
Open
Starting Date 4/3/2015
Starting Time 11:53 AM
Commit Quantity
Ending Date 4/3/2015
Ending Time 11:53 AM
Machine M002
Machine #2 M2
Mold Number 002
MFG Item Code BEL10
Lot/Serial No.
Quantity on WO 5.00
Outside Processing
Send Out...
Receive...
Quick Print
Manufacturing
Labor
Accept
Cancel
Delete

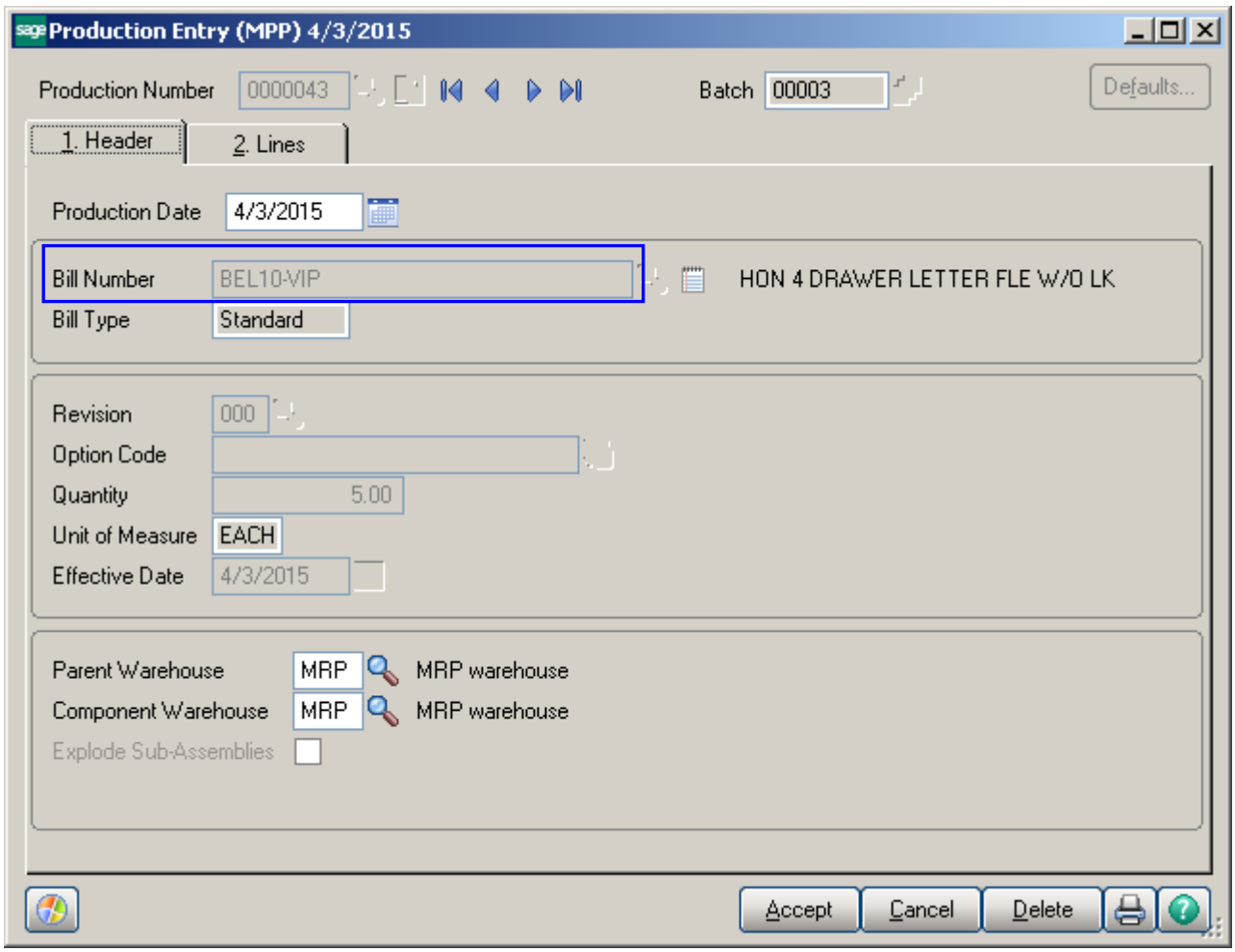


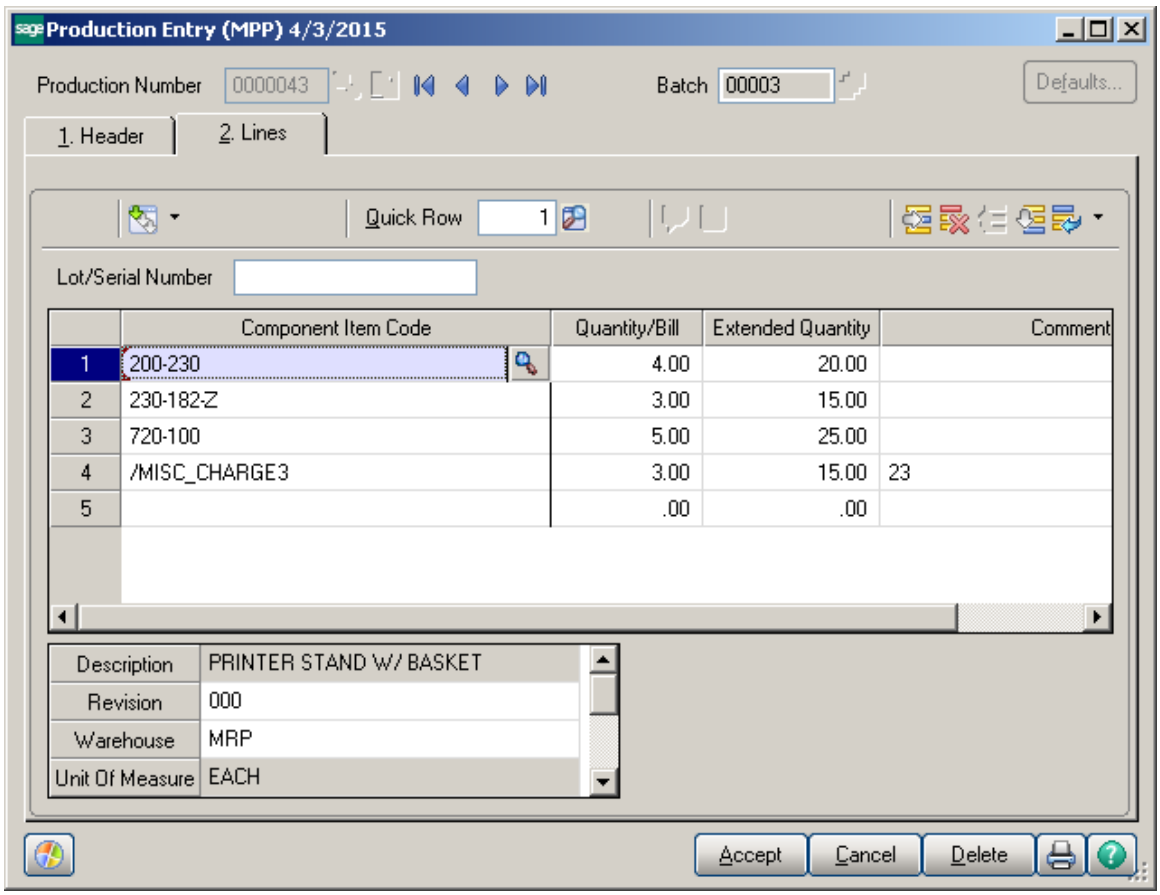
Here is the second dispatch generated for component Bill:

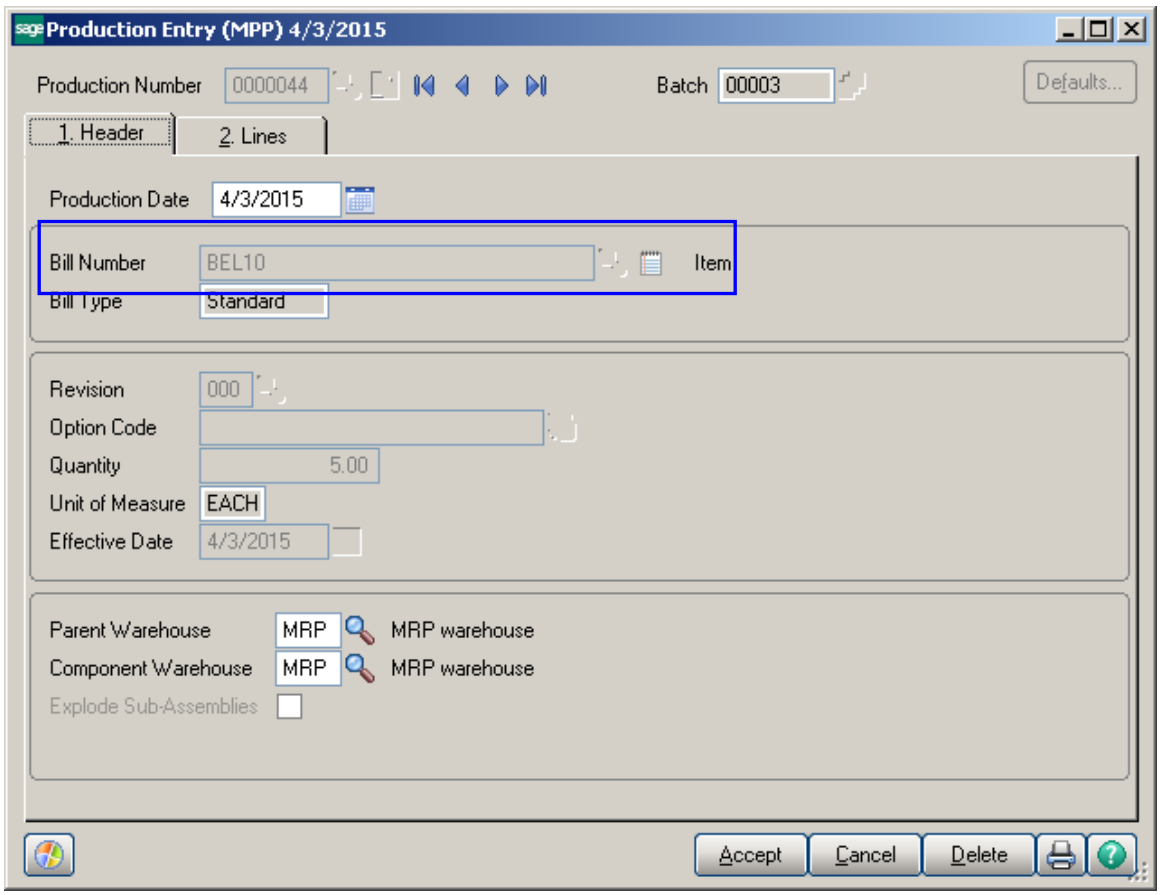


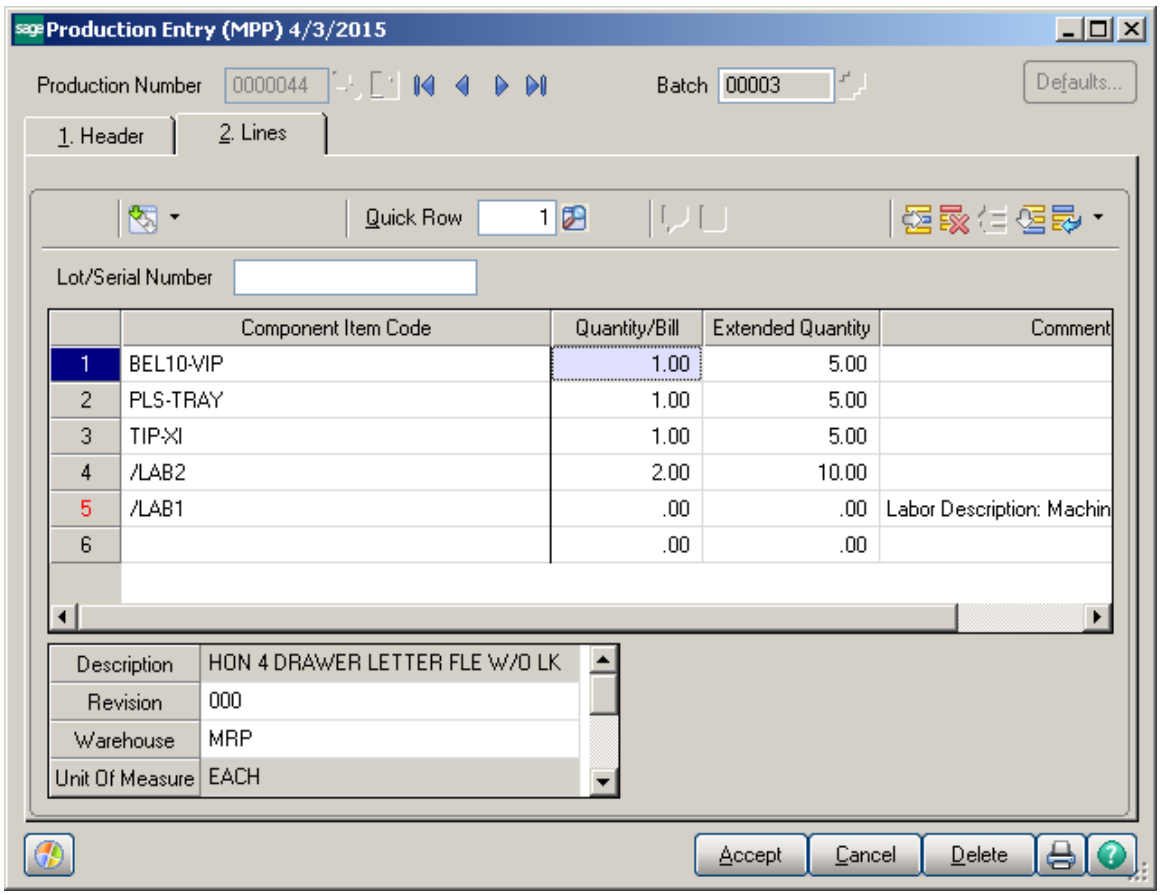


When the Dispatch generated for the main Bill Number is closed, the first Production is generated for the component Bill and then for the Main Bill Number:


Production Entry (MPP) 4/3/2015
Production Number
0000043
Batch
00003
Defaults...
1. Header
2. Lines
Production Date
4/3/2015
Bill Number
BEL10-VIP
HON 4 DRAWER LETTER FLE W/O LK
Bill Type
Standard
Revision
000
Option Code
Quantity
5.00
Unit of Measure
EACH
Effective Date
4/3/2015
Parent Warehouse
MRP
MRP warehouse
Component Warehouse
MRP
MRP warehouse
Explode Sub-Assemblies
Accept
Cancel
Delete


Production Entry (MPP) 4/3/2015
Production Number
0000043
Batch
00003
Defaults...
1. Header
2. Lines
Quick Row
1
Lot/Serial Number
Component Item Code
Quantity/Bill
Extended Quantity
Comment
1
200-230
4.00
20.00
2
230-182-Z
3.00
15.00
3
720-100
5.00
25.00
4
/MISC_CHARGE3
3.00
15.00
23
5
.00
.00
Description
PRINTER STAND W/ BASKET
Revision
000
Warehouse
MRP
Unit Of Measure
EACH
Accept
Cancel
Delete

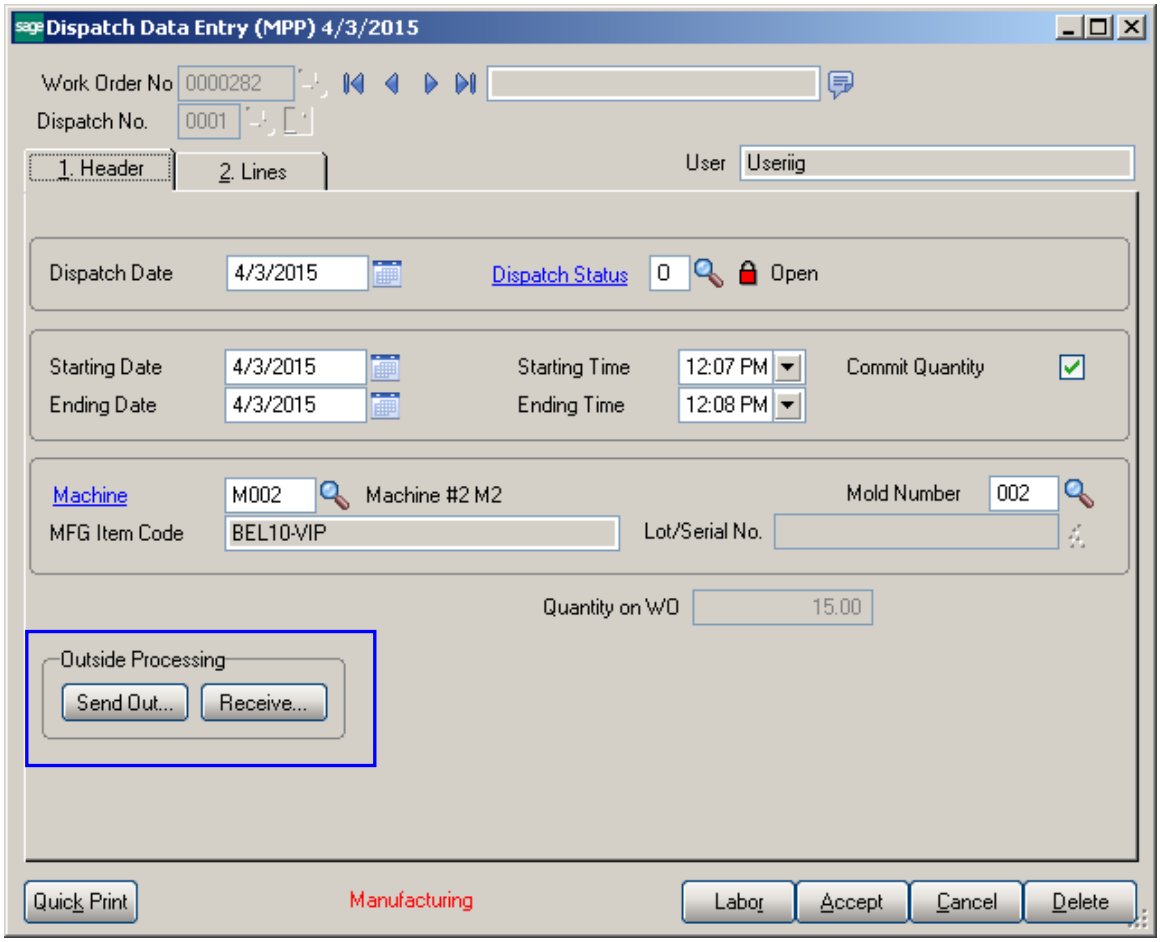

Production Entry (MPP) 4/3/2015
Production Number
0000044
Batch
00003
Defaults...
1. Header
2. Lines
Production Date
4/3/2015
Bill Number
BEL10
Item
Bill Type
Standard
Revision
000
Option Code
Quantity
5.00
Unit of Measure
EACH
Effective Date
4/3/2015
Parent Warehouse
MRP
MRP warehouse
Component Warehouse
MRP
MRP warehouse
Explode Sub-Assemblies
Accept
Cancel
Delete


Production Entry (MPP) 4/3/2015
Production Number
0000044
Batch
00003
Defaults...
1. Header
2. Lines
Quick Row
1
Lot/Serial Number
Component Item Code
Quantity/Bill
Extended Quantity
Comment
1 BEL10-VIP 1.00 5.00
2 PLS-TRAY 1.00 5.00
3 TIP-XI 1.00 5.00
4 /LAB2 2.00 10.00
5 /LAB1 .00 .00 Labor Description: Machin
6 .00 .00
Description HON 4 DRAWER LETTER FLE W/O LK
Revision 000
Warehouse MRP
Unit Of Measure EACH
Accept
Cancel
Delete

Outside Processing

Dispatch Data Entry

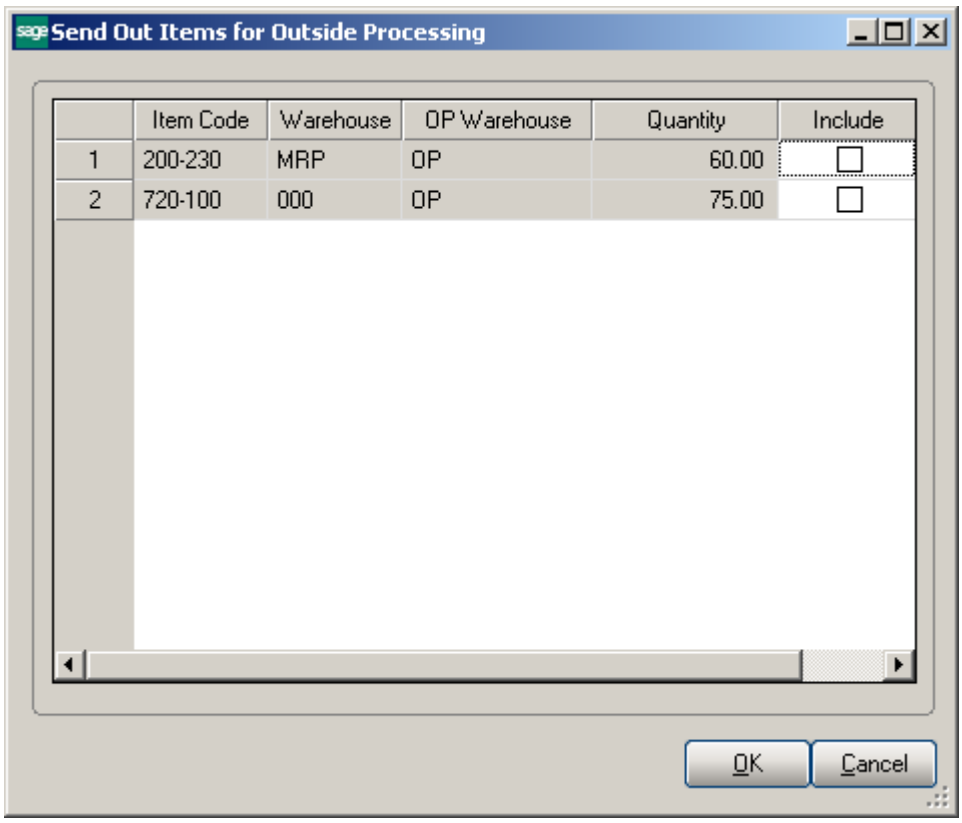
The **Dispatch Data Entry** program has been modified to enable outside processing for bill components which are processed outside your company.



The Outside processing is performed by the following steps:

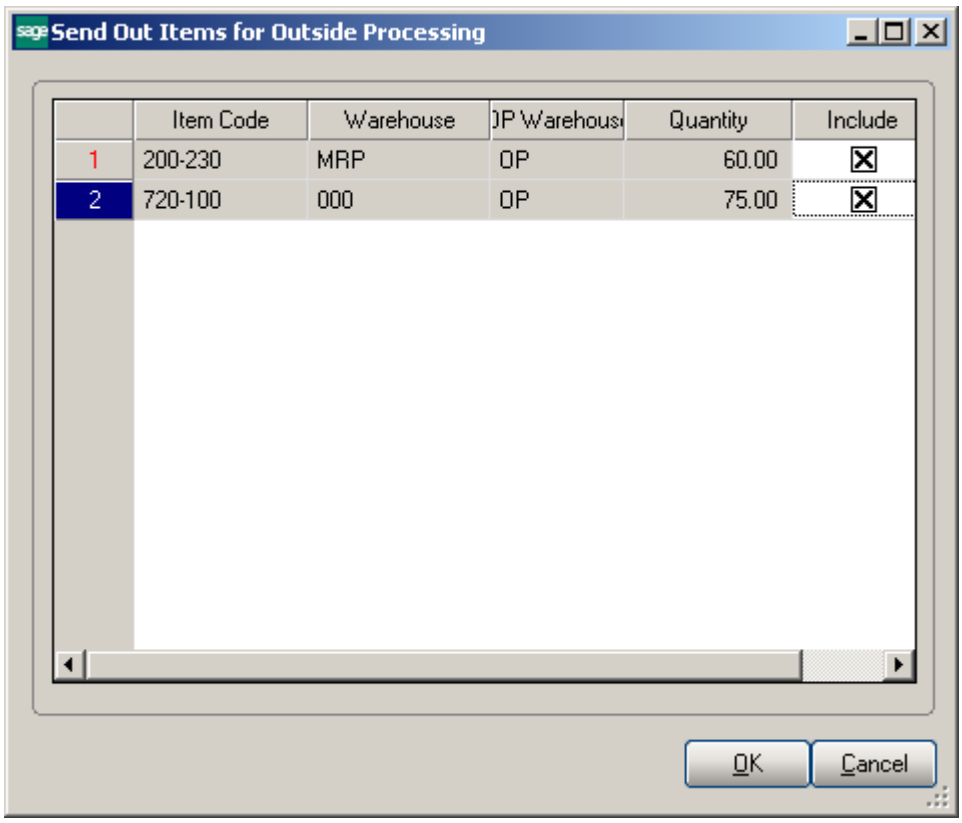
a. sending Items for outside processing
b. receiving the Items already processed

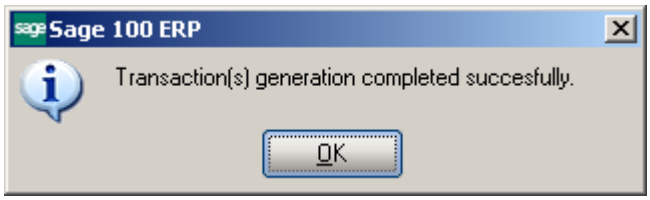
Upon pressing **Send Out** button all the components with Standard and Average Cost valuation types (LIFO, FIFO and Lot/Serial valuation types are not supported) are automatically loaded into the **Send out Items for outside Processing** grid.



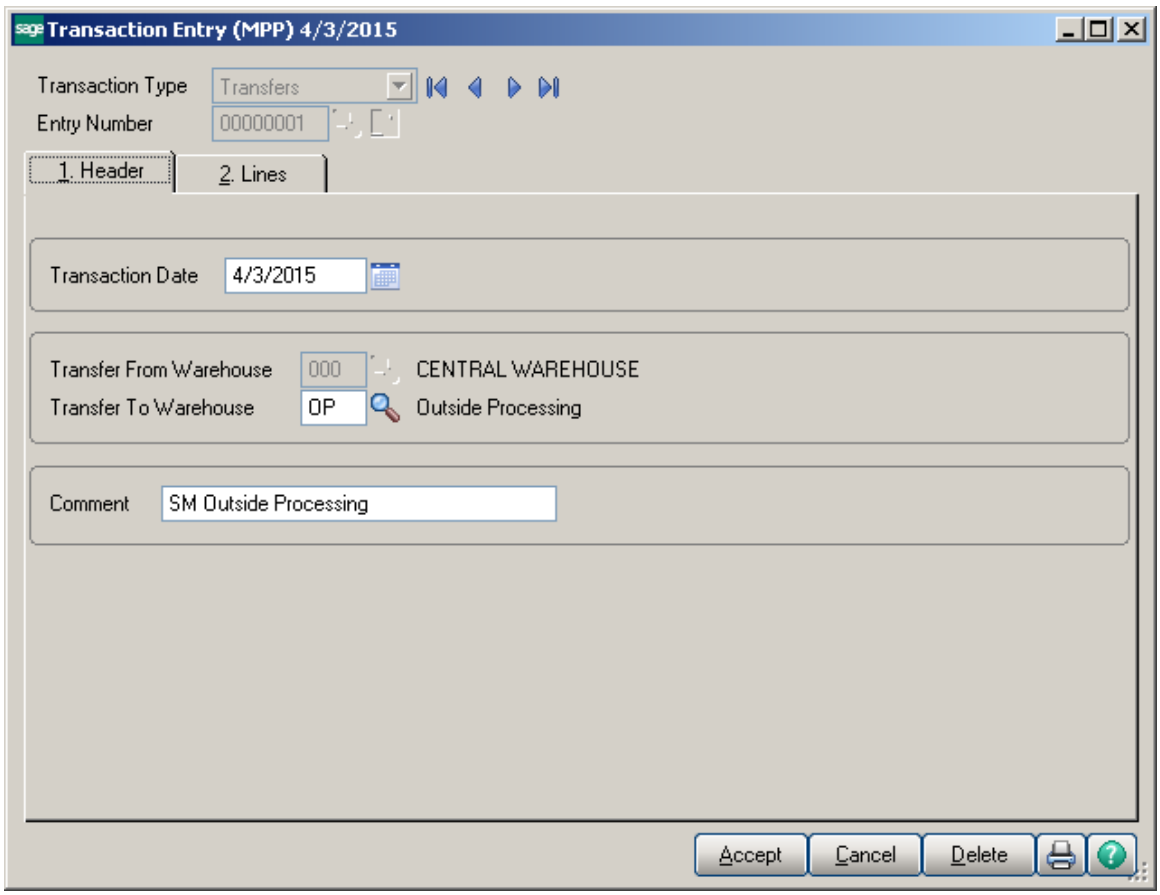
The Warehouse field displays the Warehouse Code from the Dispatch line and the OP warehouse is the **OP Warehouse** code specified for current Item in the Item Maintenance or the OP Warehouse Code setup in the **Material Planning and Production Setup** if there is not one selected in the **Item Maintenance.**

It is necessary to select include checkbox for a component and press OK to have Transfer Transaction automatically generated.



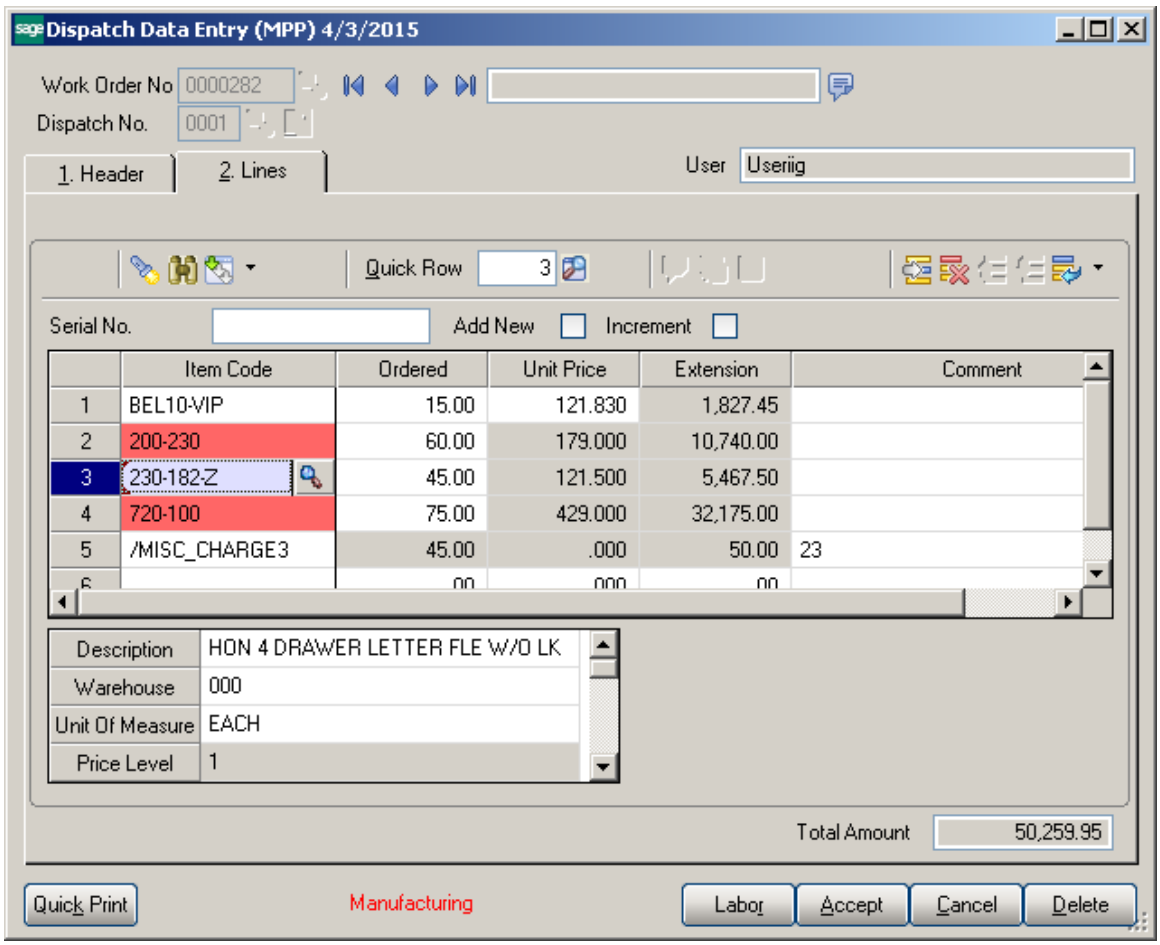


Transfer transaction(s) is/are generated for the Items send out for outside processing. Here is the Transfer transaction generated:



The Outside Processing Warehouse is set as the **Transfer To** Warehouse for current transaction.

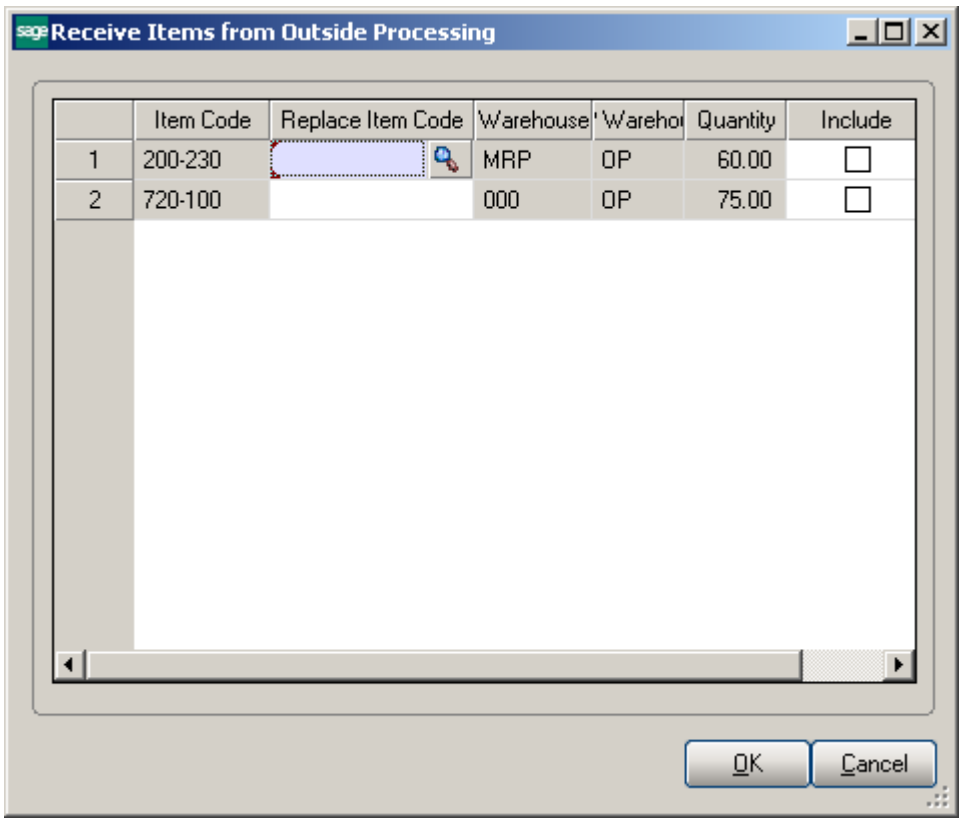
For the Dispatch lines send out for outside processing the Item Code cell becomes red colored:

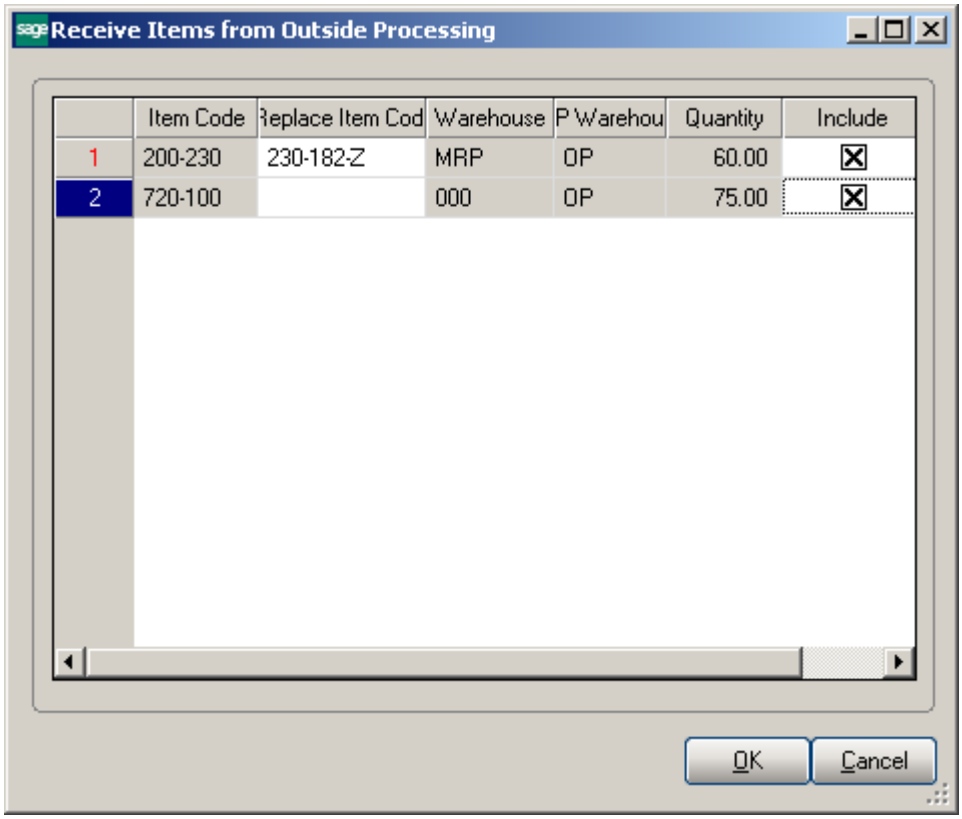


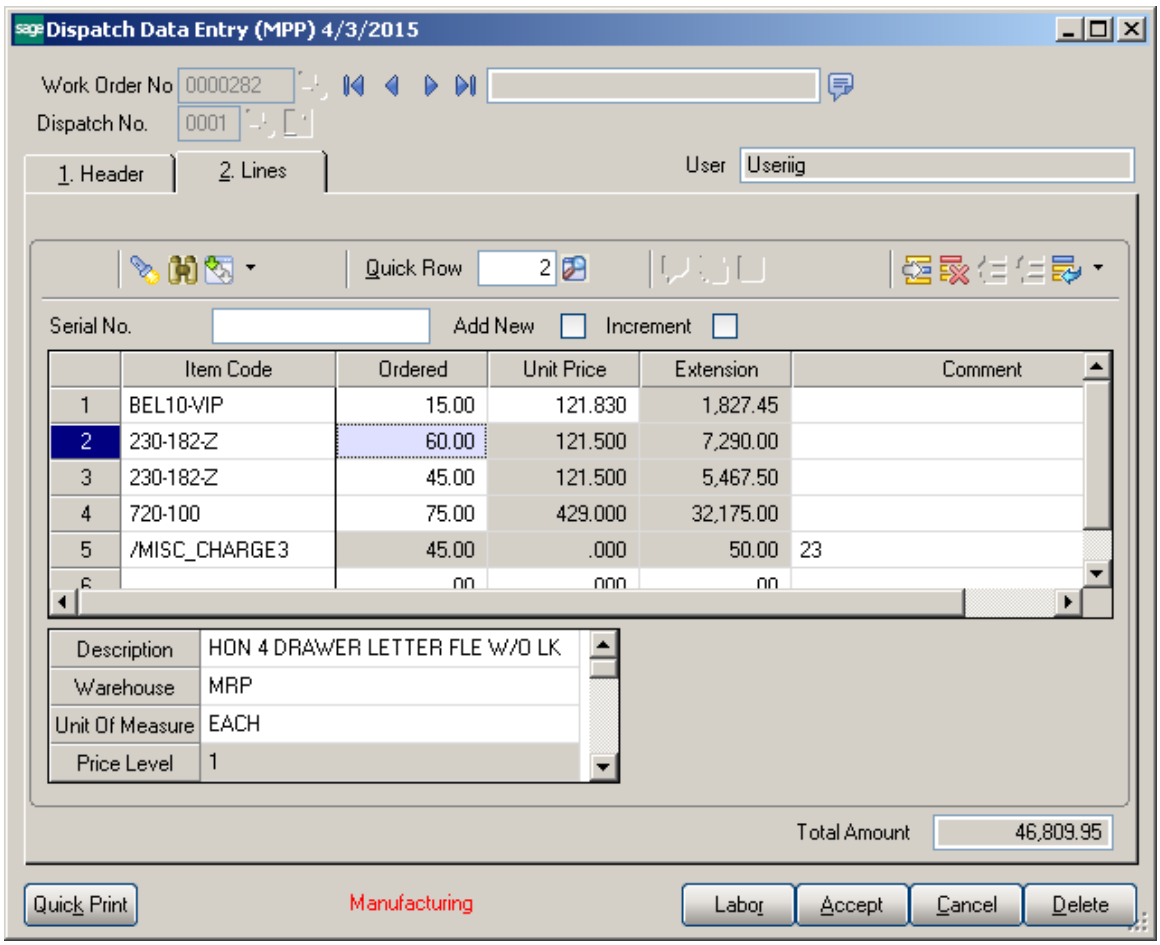
It is necessary to manually update Transfer transaction generated during Send Out process.

Receiving of Items is performed similar to sending just by pressing the **Receive** button. While receiving Items Item may be replaced by another Item. While receiving Items Transfer transaction is generated for receiving the Item from OP Warehouse to the Warehouse specified on the Dispatch Line.

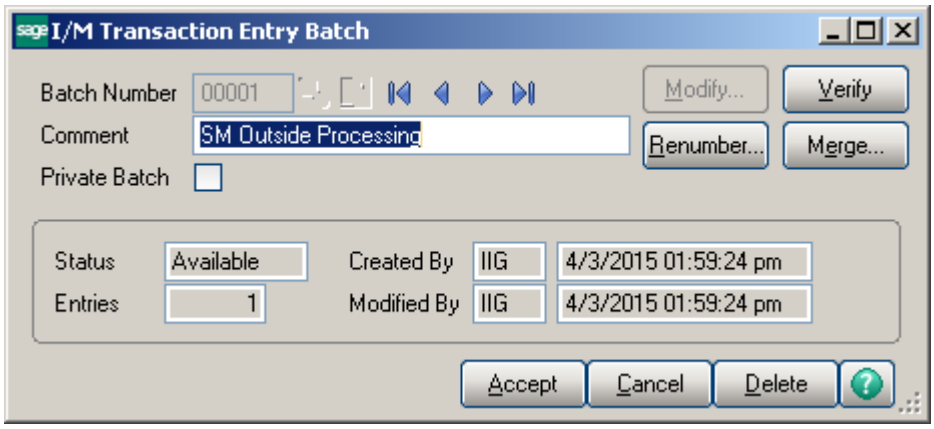
If a replacement Item is entered for an Item in the **Receive Items from Outside Processing** grid an adjustment transaction will be generated for that Item and the Item Code in the Dispatch Line will be replaced with that item Code.


Receive Items from Outside Processing
Item Code
Replace Item Code
Warehouse
Wareho
Quantity
Include
1
200-230
MRP
OP
60.00
2
720-100
000
OP
75.00
OK
Cancel


Receive Items from Outside Processing
Item Code
Replace Item Cod
Warehouse
P Warehou
Quantity
Include
1
200-230
230-182-Z
MRP
OP
60.00
2
720-100
000
OP
75.00
OK
Cancel



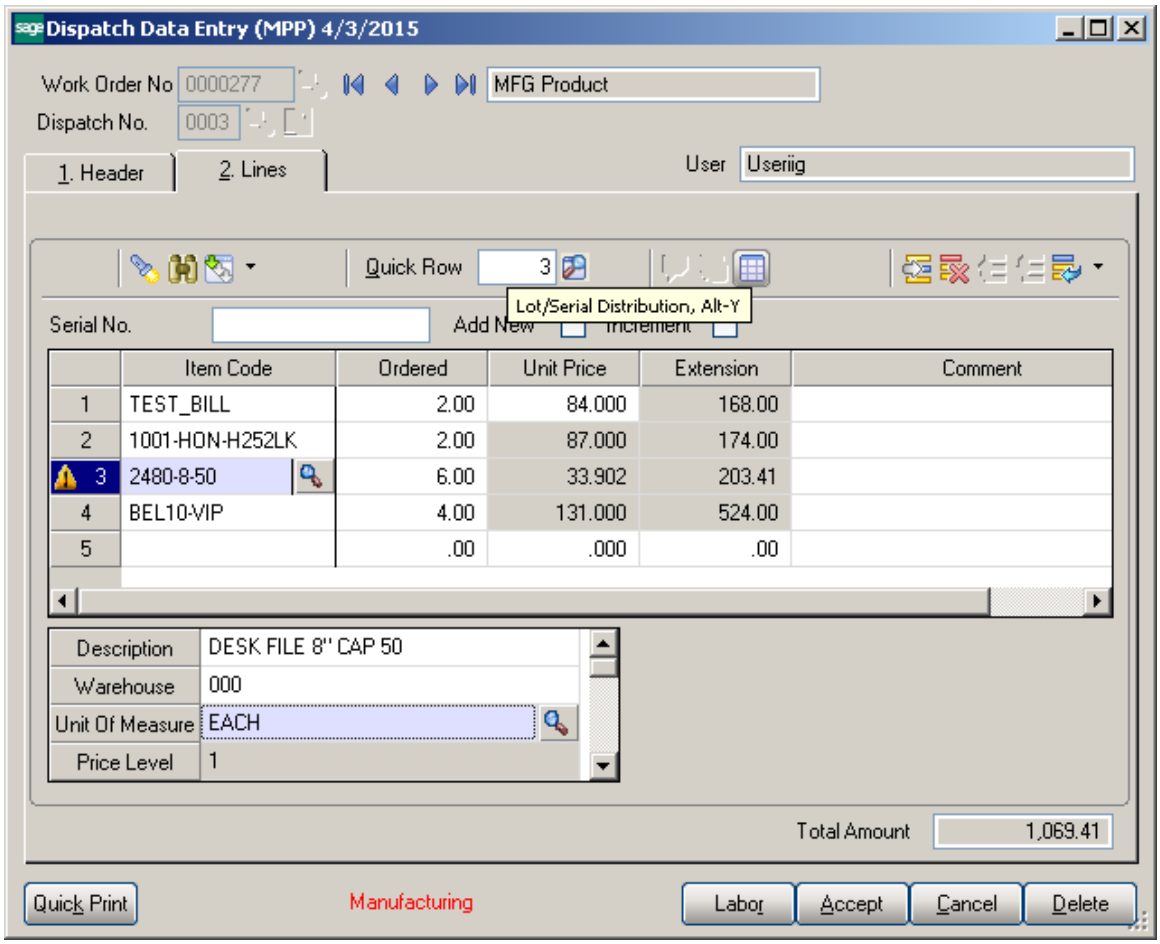
If Batch processing for Transaction entry is enabled in the **Inventory Management Options a Batch** is created with a comment indicating the Batch is created for Outside Processing and all transaction auto generated during outside processing are located in that batch.



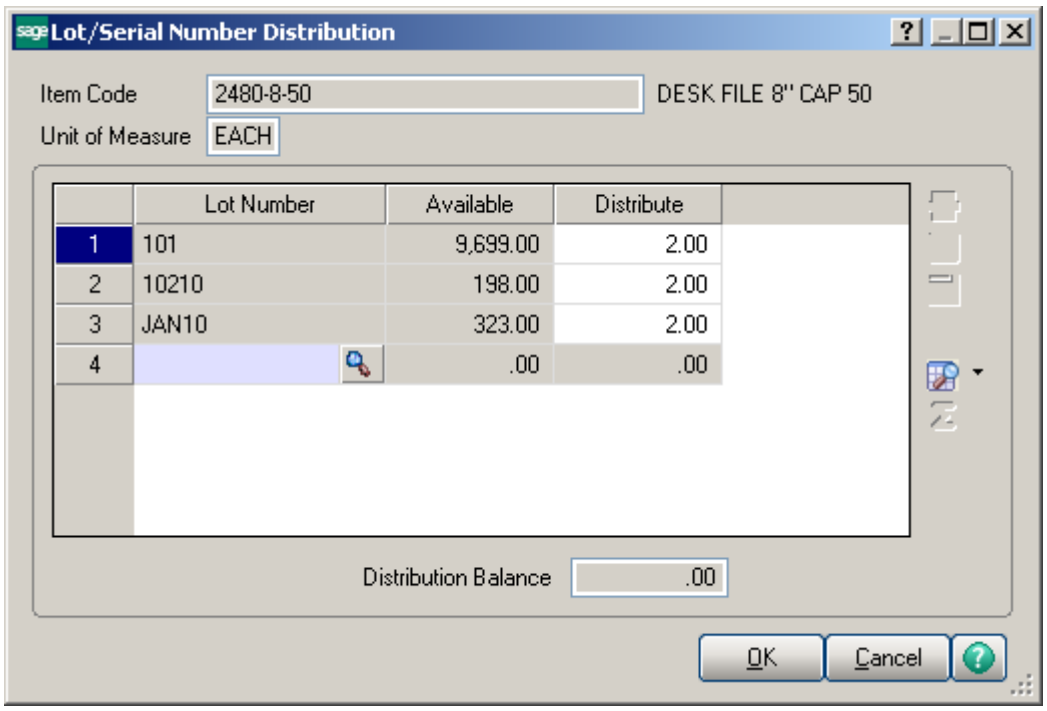
Lot/Serial Distribution

Dispatch Data Entry

Use the **Lot/Serial Number Distribution** button to distribute the transaction quantity or to display the lot and serial numbers that are already distributed for the current line item.



When entering a lot or serial item during line entry, you are required to distribute the total quantity entered for the item to one or more lot/serial numbers. You can enter the lot/serial numbers and quantities one at a time until the total quantity for the item is fully distributed. If the **Require lines to be Fully Distributed** flag is set in the **Material Planning and Production Setup** screen you must fully distribute all lot and serial lines before accepting Dispatch Entry.

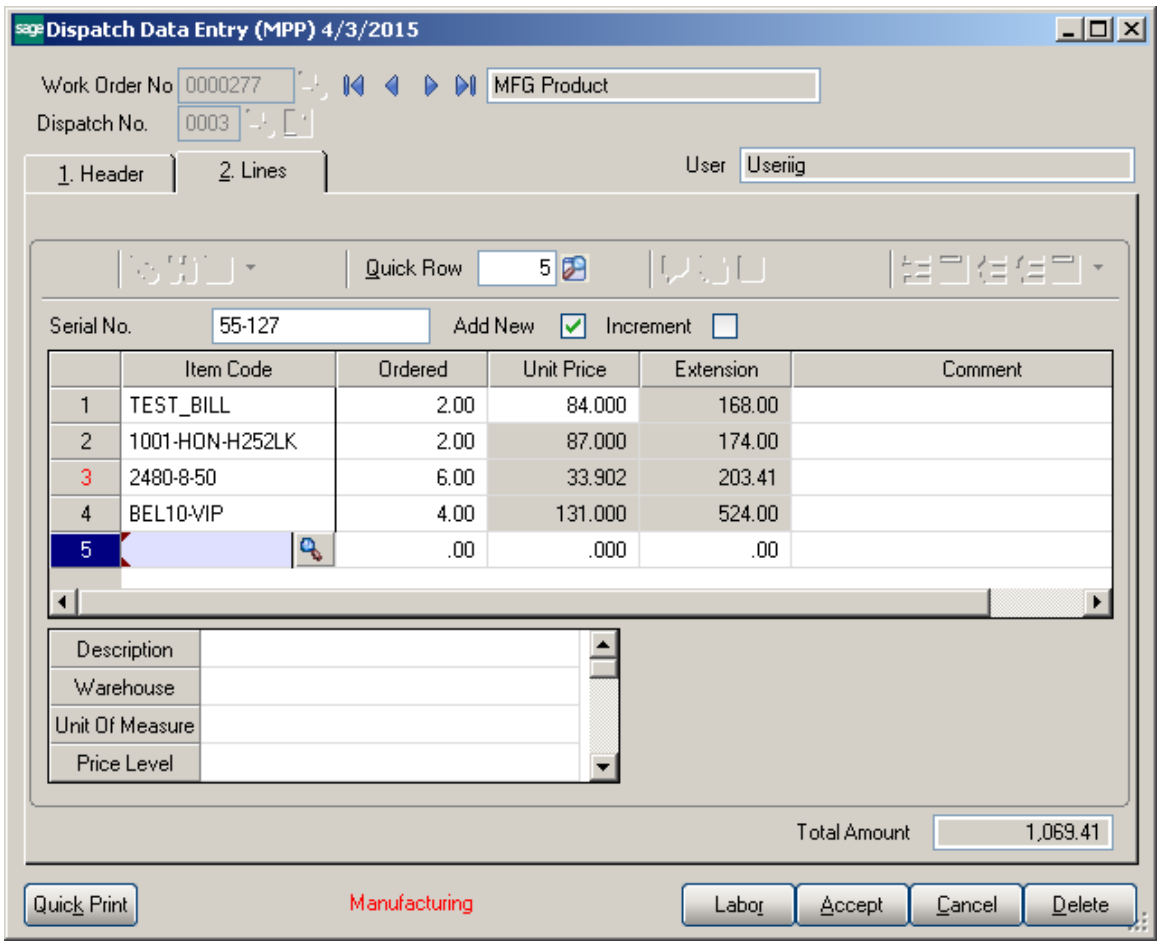


Available -This field displays the lot or serial number quantity available for the selected lot or serial number and can only be viewed.

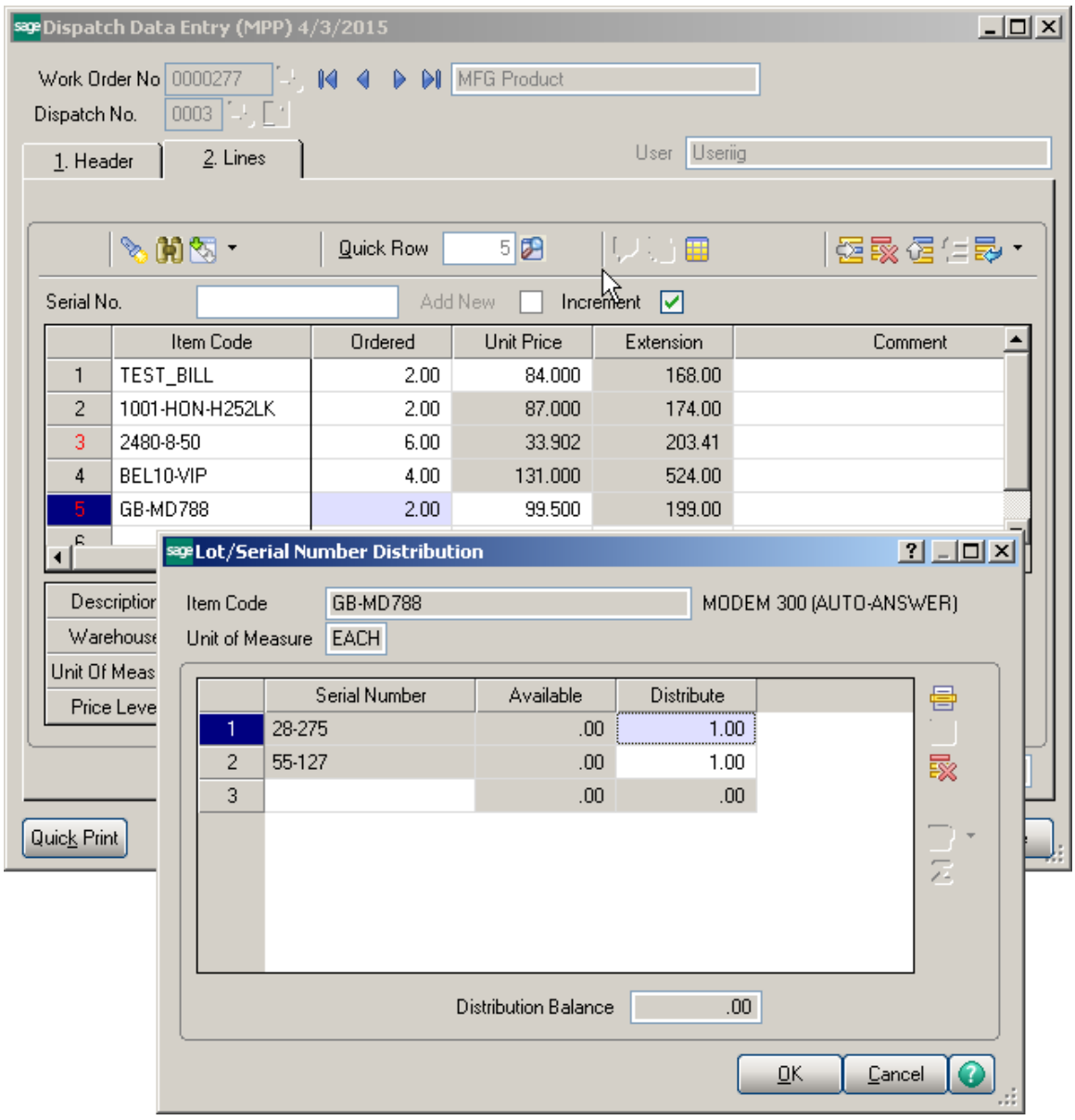
Distribute-Type the total quantity to distribute for the lot or serial number selected.

The **Distribution Balance** field at the bottom of the window reflects a running total of the remaining quantity to distribute. This balance does not reflect the quantity entered for the current line.

Note When the warehouse code, or unit of measure is changed on a previously saved line with existing lot and serial distribution records, the previously entered distribution records are removed.



For **Serial Items** Serial number scanning is provided on the Dispatch entry Lines:
In the **Add New** mode upon scanning serial number respective Serial Item is loaded in the grid with the ordered quantity set to 1 and the Serial Item is distributed by the scanned Serial number.
If the **Increment** checkbox is selected upon scanning each Serial Number the ordered quantity is incremented by one with respective Serial Number auto distributed.



The Lot/Serial distribute quantity is always committed regardless the Dispatch Header Commit checkbox setting.

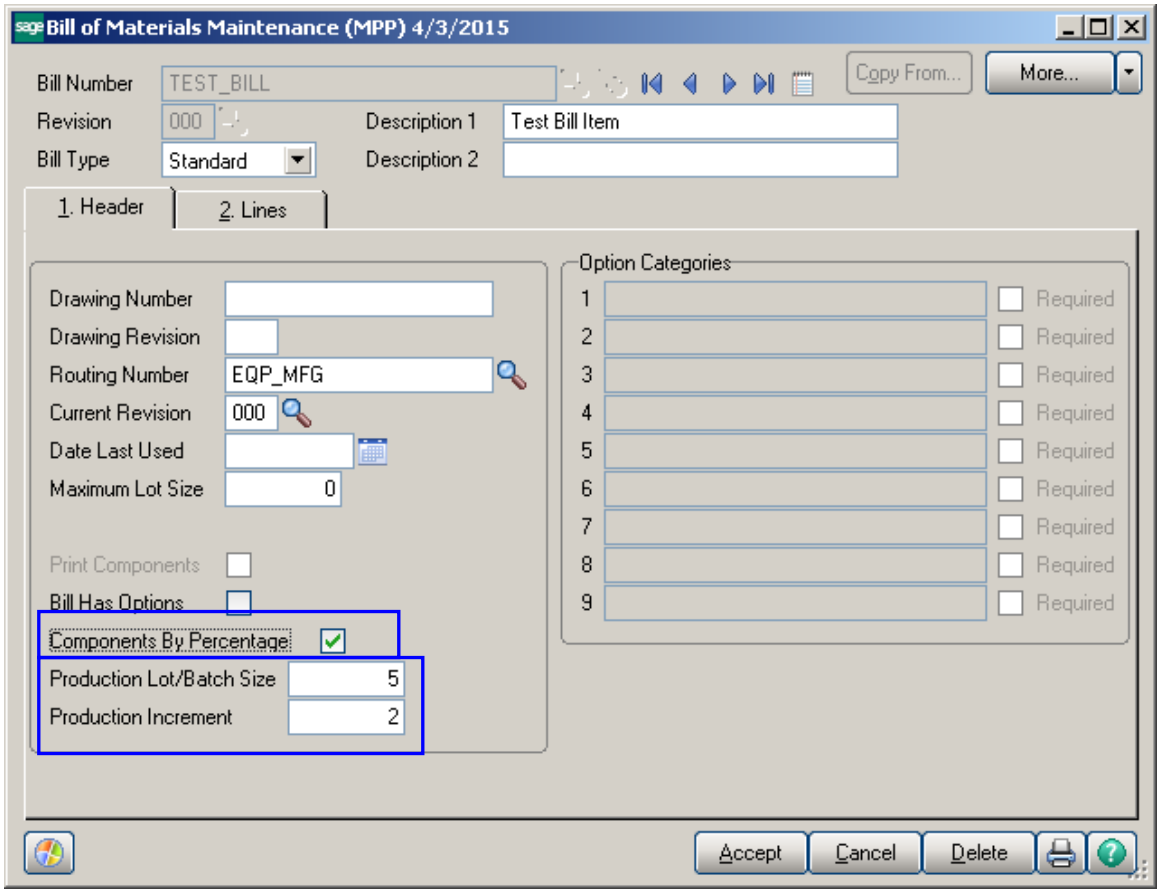
When **Manufacturing Dispatch,** having Bill Item with Lot/Serial components fully distributed, is closed the distribution is carried over to the Production generated.

The Lot/Serial distribution is carried over also to the Sales Order/SO Invoice generated upon closing the Dispatch if the Lot/Serial items are fully distributed.

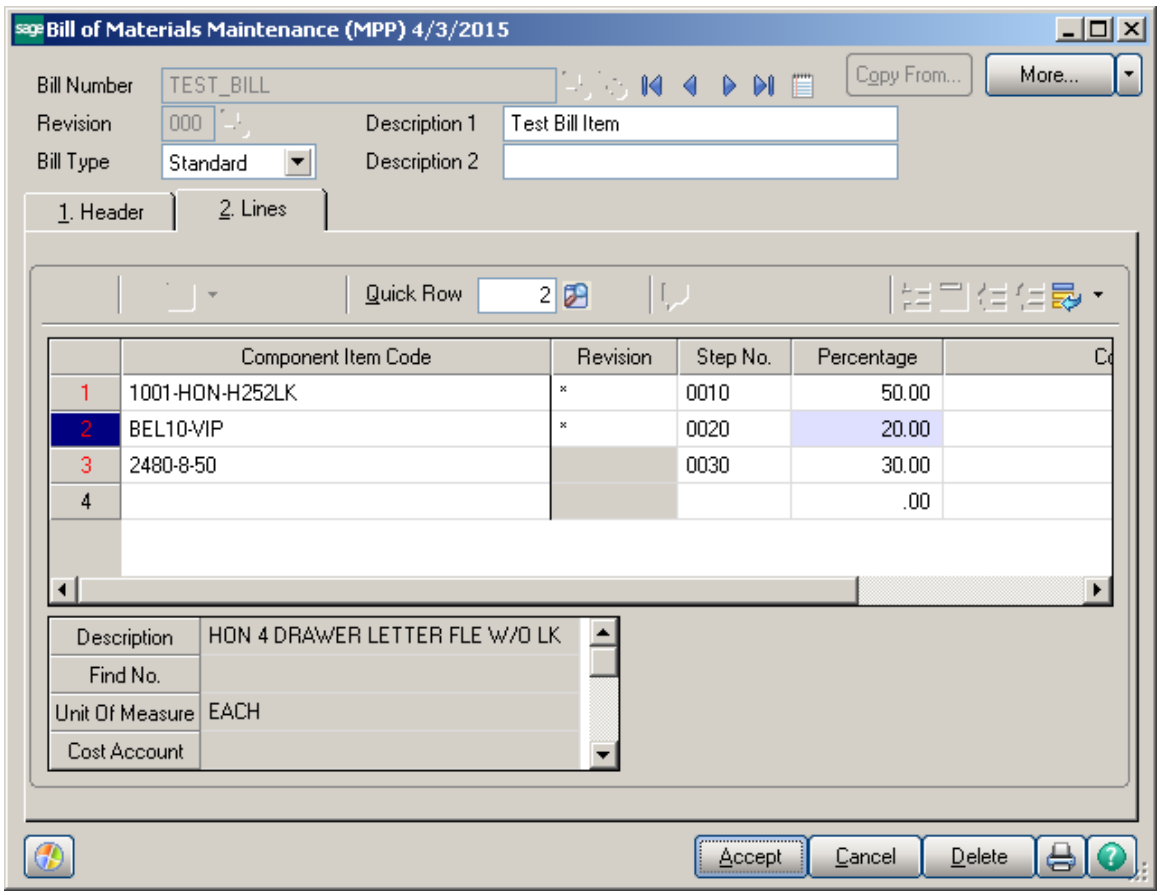
Processing of BOM's with Percentage

Bill of Material Maintenance

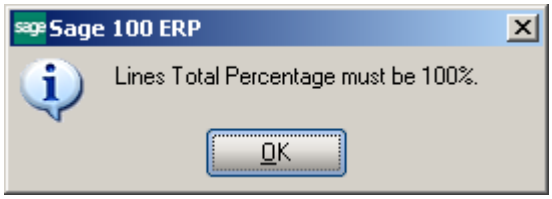
The **Components By Percentage** checkbox has been added on the **Header** tab of **Bill of Materials Maintenance** to enable entering Percentage for component items instead of **Quantity/Bill.**



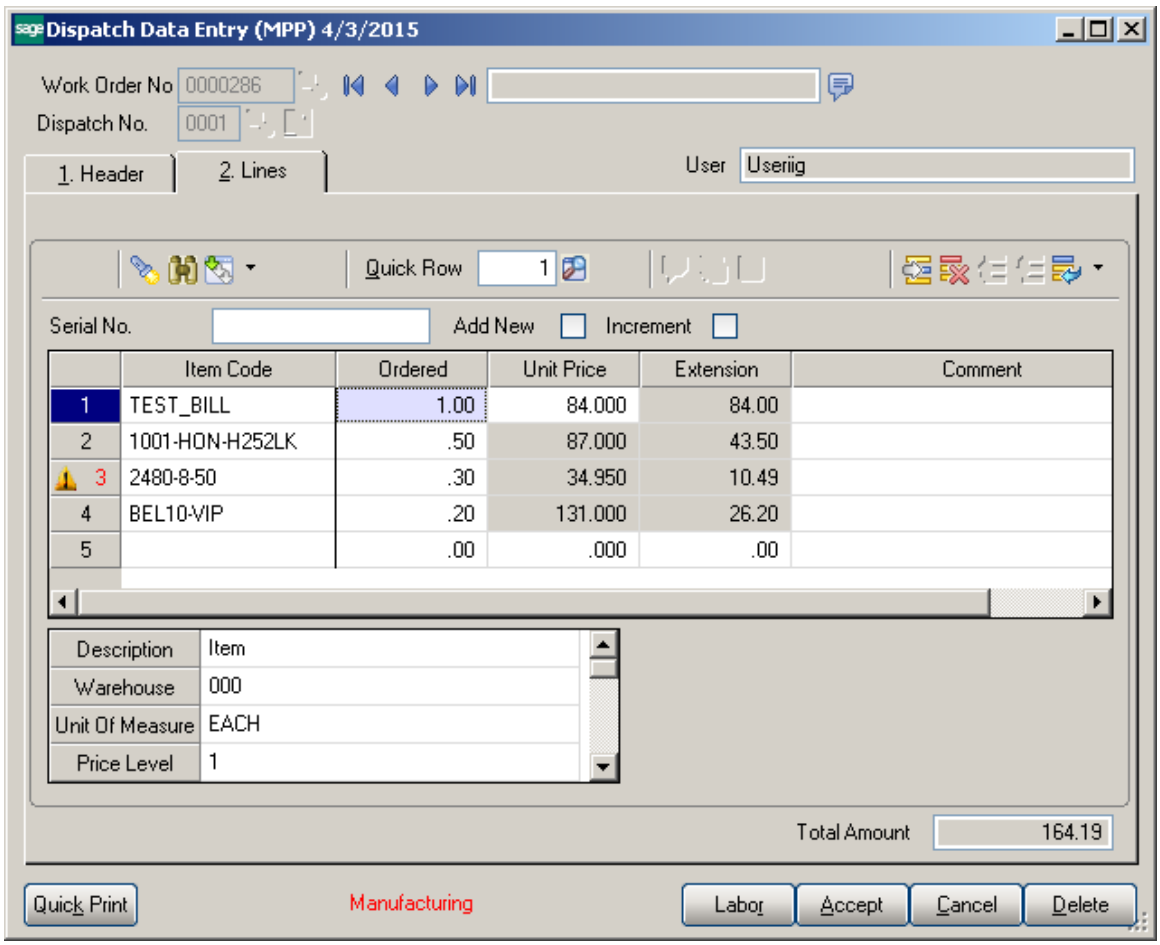
Upon selecting this checkbox on the **Bill of Materials Header** the Quantity/Bill field is hid and the **Percentage** field is shown instead:
The **Production Lot/Batch Size** field is intended for entry of the lot/batch quantity of the product to be produced. It is loaded to the respective field in the Work Order entry upon selecting the Bill Item.
The **Production Increment** field is intended for determination of the optimum production lot/batch size of a product and the ordering quantities of associated raw materials together.



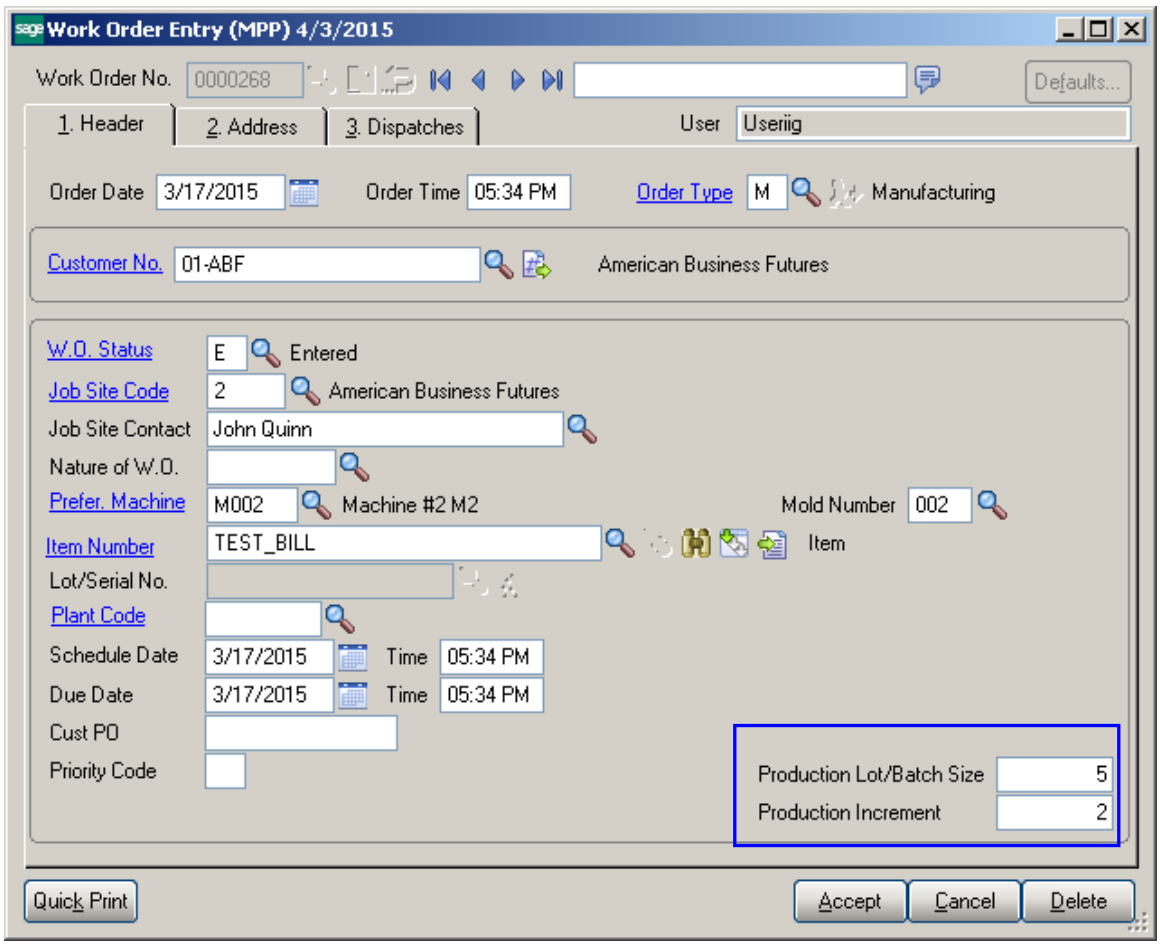
Checking is performed upon **Accept** to not allow accepting the entry if the sum of components percentages is not 100.



When Manufacturing Dispatch, Production is generated for Bill Item with Percentages entered for components, the components' quantity in the Dispatch and production entries is calculated based on the Percentage specified in the Bill of Materials Entry.
Here is an example of Manufacturing Dispatch created for Bill Item with components percentages:



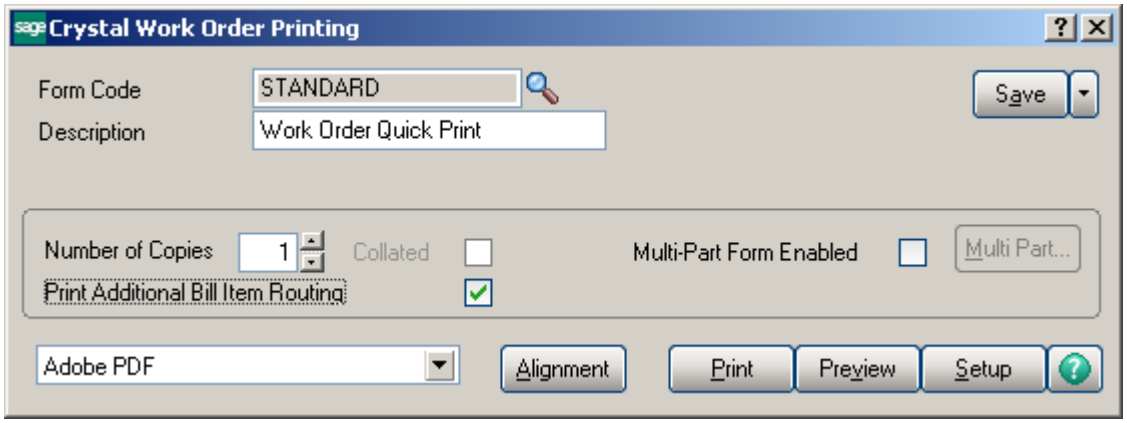
The **Production Lot/Batch Size** and **Production Increment** fields' values are defaulted to the Work Order and are applied when generation Dispatch from Work order entry:


Work Order Entry (MPP) 4/3/2015
Work Order No. 0000268
Defaults...
1. Header
2. Address
3. Dispatches
User Useriig
Order Date 3/17/2015
Order Time 05:34 PM
Order Type M
Manufacturing
Customer No. 01-ABF
American Business Futures
W.O. Status E
Entered
Job Site Code 2
American Business Futures
Job Site Contact John Quinn
Nature of W.O.
Prefer. Machine M002
Machine #2 M2
Mold Number 002
Item Number TEST_BILL
Item
Lot/Serial No.
Plant Code
Schedule Date 3/17/2015
Time 05:34 PM
Due Date 3/17/2015
Time 05:34 PM
Cust PO
Priority Code
Production Lot/Batch Size 5
Production Increment 2
Quick Print
Accept
Cancel
Delete

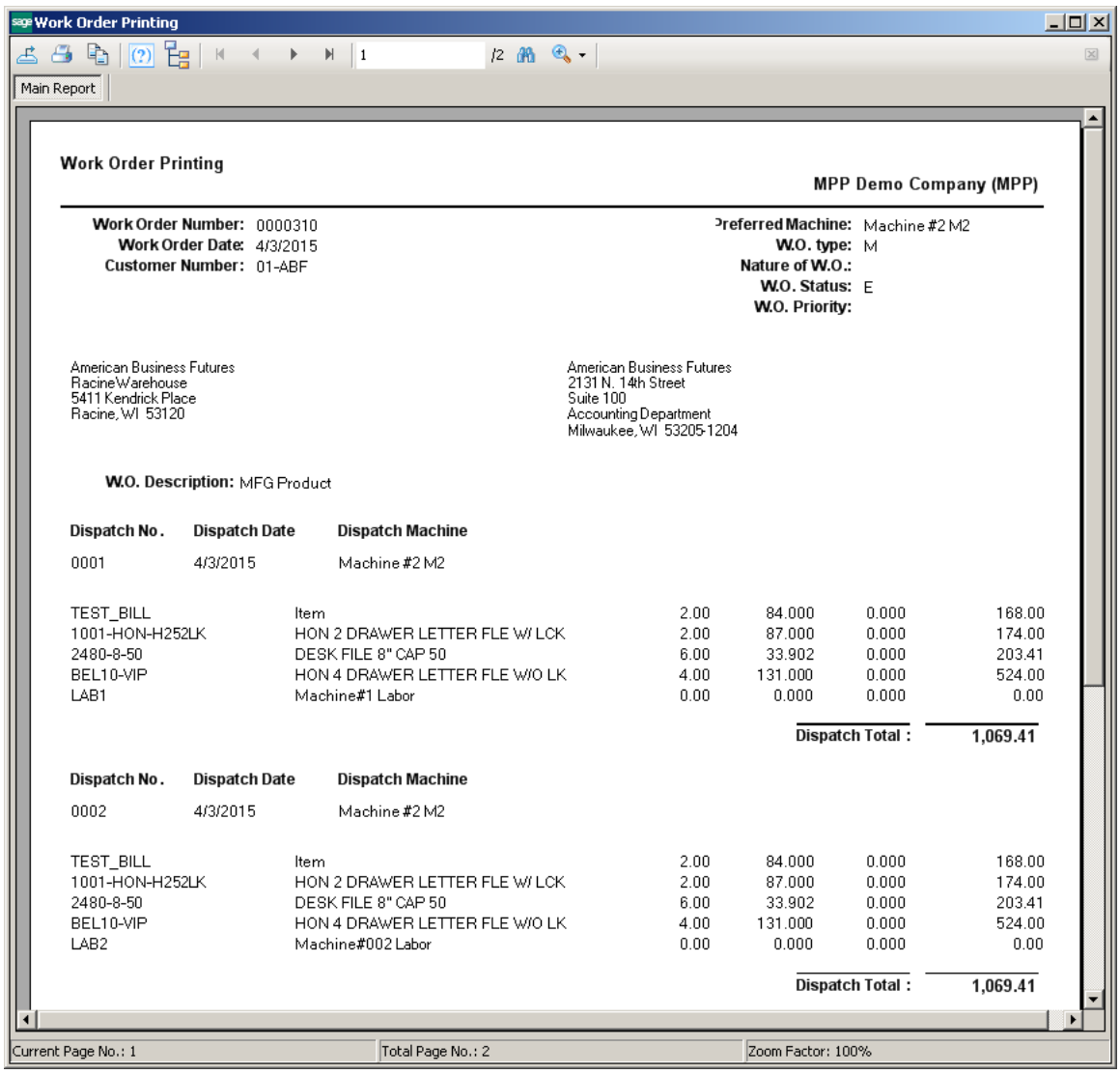
Routing Steps on Work Order Printing

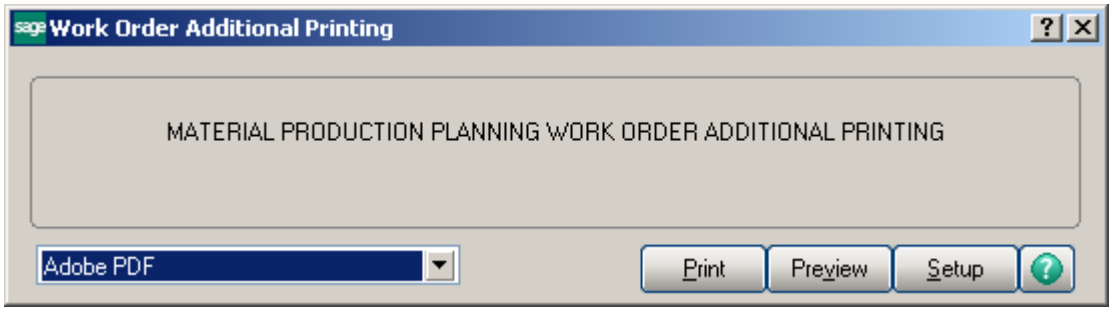
Work Order Printing

The **Print Additional Bill Item Routing** option added on the **Work Order Printing** program allows for printing the information about the steps of Bill Item Routing.

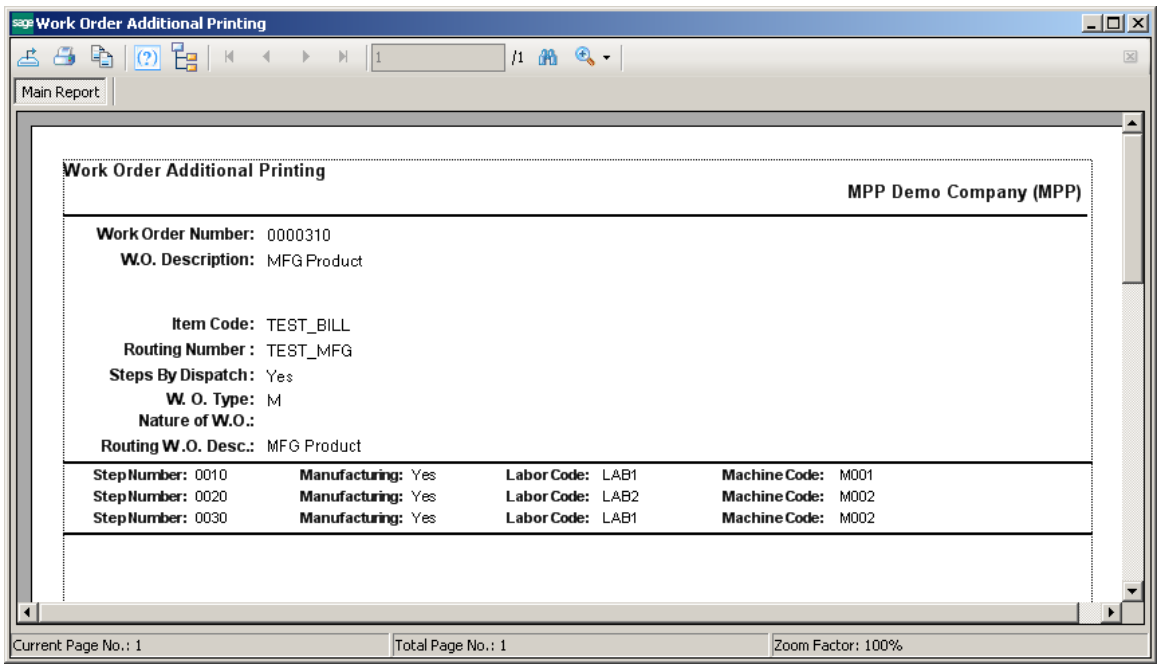


Select the **Print Additional Bill Item Routing** checkbox to print the information of the Routing assigned to the Bill Item.
After Work Order report is printed the **Work Order Additional Printing** is opened.

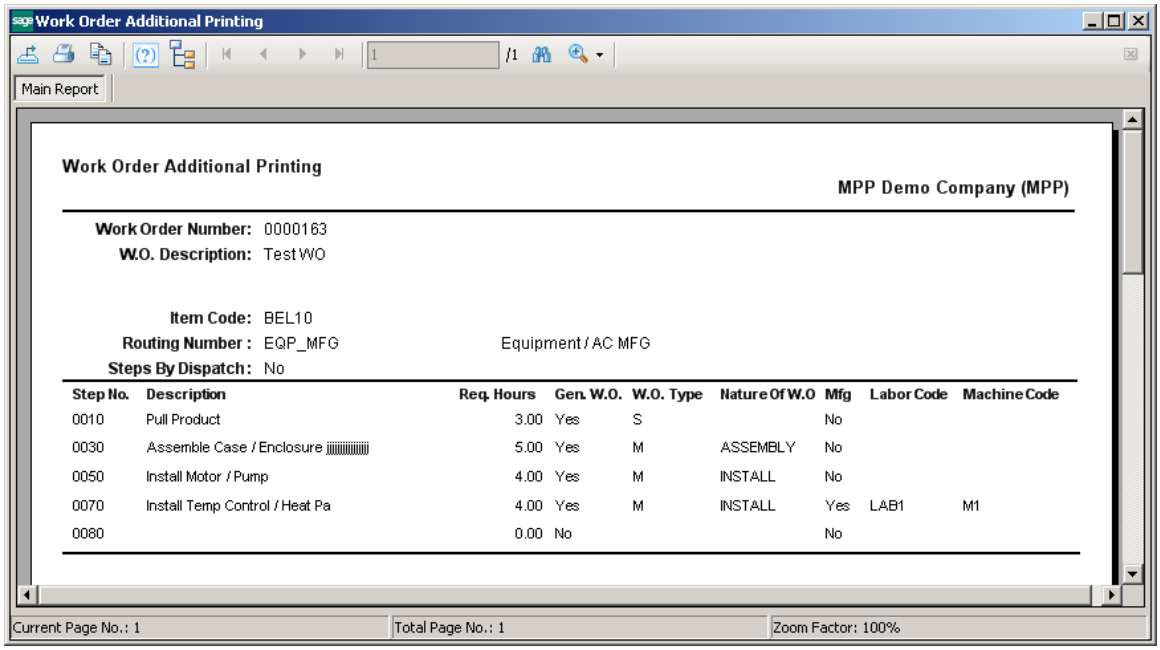




The **Work Order Additional Printing** prints information about the Bill Item, the Routing assigned to it and the steps of Routing.
Here is an example of printout for a **Routing Number** marked as **Steps by Dispatch** in the **Routing Maintenance.**

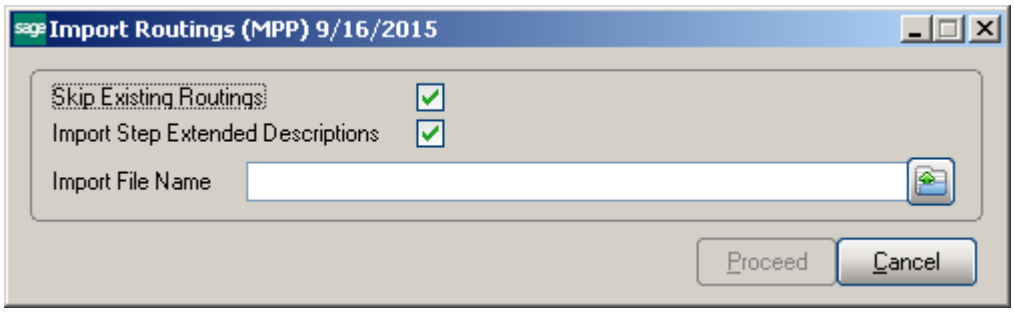


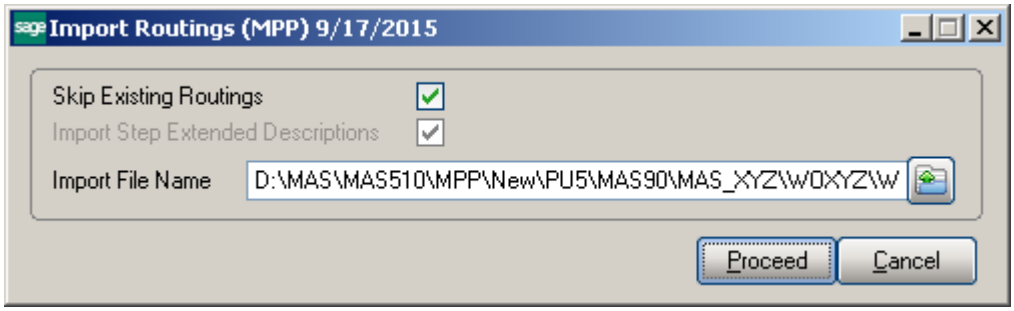
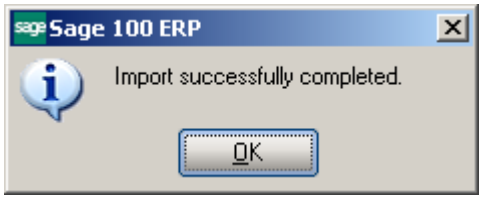
This is an example of printout for a Routing Number not marked as **Steps by Dispatch** in the **Routing Maintenance.**



Import Routings from W/O Module

The **Import Routings from W/O Modul**e utility program has been added under the **Material Planning and Production Management-> Utilities** menu to allow importing the Routings setup in W/O module of any Company (with W/O module activated) to the Material Planning and Production Management-> Routing Maintenance.



Skip Existing Routings – is defaulted to checked.
Import Step Extended Description - is defaulted to checked.

Import File Name - it is necessary to select the WOCXXX.soa file (where XXX is the Company code) from any Company with W/O module activated and having Routings setup.