



DS0108
MO Generator



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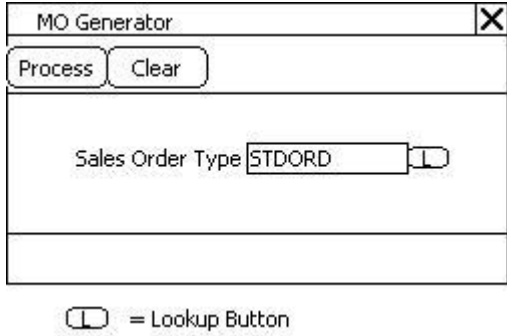
Problem Definition

<i>Problem Definition</i>	CCDA
<p>ACMECO is bringing Sales Orders into Dynamics GP (GP) with eConnect, and need a way to generate manufacturing orders (MO) linked to the imported sales orders. eConnect does not provide "hooks" into GP Manufacturing.</p> <p>An ideal solution would include the ability to send a "change file" of order updates, and have this update linked manufacturing orders.</p>	

Solution Overview

<i>Solution Overview</i>	CCDA
<p>The “MO Generator” will be run from a window inside of Dynamics GP. The user will select an Order Type (such as “STDORD” in the sample company), then click a “Generate” button. The MO Generator will run through all documents that have the selected Order Type, and create linked Manufacturing Orders for any Sales Line where the Quantity is Backordered.</p> <p>This will be a batch process that can be run by the user at any time. New orders will be identified, and MOs generated for each line as needed. New MOs will be created in a Released status.</p> <p>Optional: Existing orders will be analyzed for changes. The following situations will be addressed:</p> <ul style="list-style-type: none"> • Sales Line Quantity set to zero (if a line is canceled, the quantity will be changed to zero, rather than deleting the line/document). • Sales Line Requested Ship Date is changed • Sales Line quantity is changed (up or down) <p>NOTE: ACMECO requested that the handling of changes be estimated separately, so “changes” are noted throughout this document as “optional”, and there is a separate estimate at the end of this document. The estimate is for including that functionality as part of the current design, not for adding it later date.</p> <p>Having the process run from inside of GP allows us to use existing manufacturing code for scheduling the Manufacturing Order (MO) and building the picklist, thus eliminating the need to write that code.</p> <p>If the process were external to GP, such as an automated process running on the server, all of the code necessary to create the manufacturing order, build the picklist, and schedule the MO would need to be contained inside that procedure. The manufacturing code is not accessible outside of the Dynamics GP application.</p>	

Design Features

MO Generator	CCDA								
<p>The MO Generator utility will be accessed from Tools >> Utilities >> Sales >> MO Generator</p>  <table border="1" data-bbox="191 906 1272 1094"> <thead> <tr> <th>Field</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>Sales Order Type</td> <td>User enters a Sales Order Document Type ID, or selects one from a Lookup.</td> </tr> <tr> <td>Process</td> <td>Prompts user if they are ready to Process, then initiates the MO Generation process.</td> </tr> <tr> <td>Clear</td> <td>Clears the window.</td> </tr> </tbody> </table> <p>MO Generation</p> <p>The MO Generation process is restricted by Sales Order Type to allow ACMECO to have some Orders that are not included in the auto-generation process. For example, manually entered orders that are fulfilled from stock, rather than linked to an MO, could be entered using a different Order Type.</p> <p>ACMECO will import Sales Orders with the following characteristics:</p> <ul style="list-style-type: none"> • There is one line per order. This will not be a requirement for the MO Generator, 	Field	Function	Sales Order Type	User enters a Sales Order Document Type ID, or selects one from a Lookup.	Process	Prompts user if they are ready to Process, then initiates the MO Generation process.	Clear	Clears the window.	
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and it will be written in such a way that it could handle multiple line orders if they are present.

- The documents are Orders
- The line quantity is in the Qty to Back Order field.

Orders can change, and these changes will also be brought into GP via eConnect, and result in changes to the Quantity or Requested Ship Date. The Item on the Order would not change.

The MO Generator will have two processes: (1) handle new orders, and (2) handle changes. In the first pass, new requirements will be identified and MO's will be generated.

New Orders

To create an MO, the following conditions must be met:

- The item has a Manufacturing BOM (BOM Type = MFG BOM)
- The item has a Primary Routing
- Item Engineering Effective Date must be on or before the current date
- Item Engineering Fulfillment Method must be Make to Order Silent or Make to Order Manual.
- Item Engineering Item Status must be Active
- There must be a Default Schedule Preference

The MO will be created as follows:

- MO Number: will be the Sales Order Number, with an underscore, and the SOP Line Number (for example, STDORD000256_1). The MO Number is 30-characters, while the SOP Number allows 17-characters, so there is no restriction on the length of the SOP Number.
- MO Description: Customer Name (truncated, if needed, to 30-characters)
- Item Number: from the Sales Line
- BOM Type = MFG BOM
- Routing Name: the Primary Routing for the Item
- Ending Quantity = Sales line Quantity To Backorder
- Post Finished Good To: Sales Line Site ID
- Due Date: Sales Line Requested Ship Date

The MO will have the Picklist built, the order will be scheduled, and its MO Status set to

Released.

Changes Processing

ACMECO's external system should ensure that changes to Sales Orders are not allowed once manufacturing has begun. However, to ensure the MO Generator attempt to change an MO that is in process, the MO Activity table will be checked prior to changing an MO.

The follow conditions will prevent a change:

- WIP Labor or Machine has been entered
- A Mfg Component Transaction has been created
- Any transaction in Mfg that results in a Journal Entry
- Any transaction in Mfg that results in an Inventory transaction
- Any quantity on the MO has been received

The following changes will be handled:

- Line Quantity Changed to ZERO: the MO will be deleted
- Line Quantity Change (increase/decrease): the MO Ending Quantity will be changed, the picklist rebuilt, and the MO rescheduled
- Line Requested Ship Date change: The MO Due Date will be changed, and the MO rescheduled.

After the MO Generator runs, and Error Log report will print, showing information about the Sales Order and New MOs, and/or changes (if present).

NOTE: if there are a large number of Sales Orders this process could take many minutes. If there are 500 sales lines, we estimate that it could take 30 minutes or more to process.