



Infor CloudSuite Business Molding Industry Pack User Guide

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About the Molding Industry Pack

Although the functionality in the Molding Industry Pack optional module is intended for use in the molding industry, it is equally useful in any manufacturing process that relies on tooling, or that is highly repetitive.

Forms in the Molding Industry Pack optional module can be used only after the SyteLineMO license is applied and the license is enabled on the **Optional Modules** form.

The Molding Industry Pack can be loosely divided into these areas:

- Tooling: The various parts of a molding machine that can be defined, managed, and maintained as individual resources. For example, carriers, fixtures, cavities, inserts, sprues, runners, and gates can all be defined as tooling.
- Co-jobs: A group of jobs that share at least one operation.
- Estimating: The ability to create estimates for co-jobs and jobs that utilize tooling.
- Alternate BOMs: Bills of material that can represent minor deviations due to machine tooling, material concentrations, and mold tolerances.

About Tooling

The molding Industry has a heavy reliance on tooling, that is, parts within a machine. For example, a molding machine can contain tools such as sprues, gates, fixtures, or inserts. These tools can be represented as resources. The machine cannot be scheduled if the tool, or resource, is not available for production. A group of tools that all create the same item; is considered a resource group. Both the machine in which the tools are used, and the tools themselves, must be available before they can be scheduled. If a tool is in maintenance, it is removed from production. If the required tools are not available, shift exceptions prevent the mold from being used.

Resources are tracked by accumulative cycles, similar to odometer cycles. Maintenance tasks can be scheduled based on schedule frequency, in terms of cycles, days, weeks, or months. The planned service cycle is the number of cycles expected to be completed in a month. The Life Expected Cycle is the number of accumulative cycles that is expected to occur before the resource is retired.

Forms

Tooling is specified and managed on these forms:

- Resources
- Resource Maintenance
- Resource Maintenance Types
- Resource Maintenance Schedule Update

Reports

These forms provide tooling reporting data:

- Dispatch List Report
- Resource Maintenance Schedule Report
- Resource Overall Equipment Effectiveness Report

Creating a Quick Entry Estimate Job Order

- 1 Open the Estimate Job Order Quick Entry form.
- 2 In the **Estimate** field, specify an estimate ID or leave this field blank to cause the system to generate a new estimate ID.
- 3 In the **Status** field, specify the current status of the estimate: Planned, Quoted, Working, or History. This field is required.
- 4 In the **Start Date** field, specify the date the quote will be given to the customer, or accept the default of today's date. This field is required.
- 5 Specify the **Customer** and customer **Ship To**, if applicable. Otherwise, specify the **Prospect**. If a customer is specified, the **Prospect** field is disabled.
- 6 Specify the **Opportunity** number, or leave this field blank.
- 7 In the **Salesperson** field, accept the default salesperson or specify a new salesperson. The default is determined by the estimate header, if one exists. Otherwise, it is determined by the Customer Ship Tos form.
- 8 In the **Taken By** field, specify, for reference purposes only, the name of the person who entered this estimate into the system.
- 9 In the **Resource** field, specify a resource or leave the field blank. If you specify a resource, the **BOM Type** field will display the bill of material type of the resource.
- 10 If the BOM Type is Item, specify this information in the grid:
 - Item
 - Quantity/Cycle
 - Price Basis
 - Price Basis Amount
 - Unit of Measure
 - Status
 - Due Date
 - Ship Site
 - Source Type
- 11 To copy a BOM into the Operations and Materials grids, specify **Category** and **Selection**, then click **Copy**. This button is disabled when you add a new record in the Item grid.
- 12 As needed, click **Estimation Worksheet** to open the Estimation Worksheet form, where you can adjust cost and other factors in an effort to determine the best net price.
- 13 As needed, click **Reprice** to recalculate the **Unit Price**.

- 14 When you are satisfied with the estimate, save the record to display the item's current BOM and create an estimate job.
- 15 To copy the estimate to an order, click **Convert Order** to open the Copy Orders and Estimates form.

Managing Tooling

In the molding industry, a machine can have several tools. For example, a mold has a carrier, which can have several fixtures, which can each have several cavities. Each tool is a separate resource, and any maintenance that is required can be managed at the individual resource level.

Creating Tooling

- 1 Open the Resources form.
- 2 Create a new resource that represents a tool. See Resources Overview for more information.
- 3 On the Tooling tab, specify a **BOM Type**:
 - Item: Only one item and alternate BOM can be specified.
 - Co-job: Several items and alternate BOMs can be specified.
 - Co-product: Only one item and alternate BOM can be selected, which represents the primary item.

Note: Changing the **BOM Type** after tooling records have been created requires you to delete the existing tooling resource records on this form.

- 4 In the grid, specify items, quantities per cycle, and alternate BOMs as needed.
- 5 Below the grid, specify this required information:
 - Resource Quantity
 - Cycle Time
 - Labor Type
- 6 You can also specify optional characteristics such as **Default Work Center**, **Parent Resource**, and various resource dimensions.
- 7 On the Machine tab, specify optional information about the tool. These fields are informational only, and are not used on other forms.
- 8 On the Service tab, specify this information:
 - Maintenance ID
 - Schedule Frequency
 - Planned Service Cycle

- Life Expected Cycle
- 9 Save the record.

Creating a Maintenance Record

- 1 On the Resource Maintenance Types form, ensure that the appropriate types of maintenance exist, for example, calibration, scheduled maintenance, and inspection. If you select the **Scheduled Maintenance** field, then the current cycle count is reset to zero for a resource that undergoes this type of maintenance.
- 2 On the Resource Maintenance form, cross-reference the Maintenance Type with a resource.
- 3 Specify the **Maintenance ID** and **Start Date**.
- 4 Optionally, specify the **Time to Complete** and **End Date**.
- 5 Save the record. After a maintenance record has been created, you can only update the Maintenance Type and date fields.

Initiating and Ending Maintenance

- 1 Open the Resource Maintenance form and specify a **Maintenance ID**.
- 2 Ensure that the **Start Date** is appropriate.
- 3 Click **Open** to create shift exceptions for all time periods when the tool will be unavailable.
- 4 When the maintenance is complete, click **Close** to delete all associated shift exceptions and update the End Date field with the appropriate date.
- 5 Save the record.

Using Alternate BOMs

The **Alternate ID** field allows you to specify a routing that can be used as an alternative to an item's current routing. The current routing must exist before you can create another alternate for an item, and you cannot create alternate BOMs for revision-tracked items.

An alternate BOM does not have current or standard costs. Therefore, it is not possible to roll current cost to standard cost.

Jobs using alternate BOMs appear as a cost variance.

Alternate BOMs can affect the capability to promise (CTP), in terms of resources, material, or labor.

Specifying Alternate BOMs Manually

- 1 Open the Current Operations form and create a new record.
- 2 Specify the **Item** for which you want to create alternative routings.
- 3 Specify an **Alternate ID**. You can use both letters and numbers. However, if you use a numerical ID, it must be greater than 1. After the record is saved, you cannot change the ID.
- 4 Save the record.
- 5 Click **Materials** to open the Current Materials form.
- 6 Add material to the new alternate record.
- 7 Save the record and close the form.

Specifying Alternate BOMs on the Engineering Workbench

You can also specify alternate BOMs on the Engineering Workbench form. See Add Routing/BOM Information with Engineering Workbench for more details.

Using Utilities

Alternate BOMs can be processed with these utilities:

- Delete BOM Components
- Substitute Bill of Material Components
- Change Cost Rates

Generating Reports

Alternate BOM information is printed on these reports:

- Indented Costed BOM Report
- Item BOM Where Used Report
- Item Current Routing Report
- Single Level Current BOM Report

Using Co-jobs

Co-jobs Overview

A co-job is a group of jobs that has at least one shared operation. When the shared operations are completed, multiple items have been created that go into different routings. Each item in the co-job can contain a different BOM, as long as at least the first operation is shared.

All jobs in the co-job have the same job number, with incrementing job suffixes. Some header information, such as warehouse, status, and start date, is the same across all jobs. Other information, such as materials, is specific to items in the job.

Shared operations in a co-job have the same operation number and work center. All settings of the shared operation are inherited from the first job (suffix = 0) in the co-job, except for the formula material weight entries. Batch production is used to schedule the shared operations. For the Planner, shared operations must be at the beginning of the routing. For the Scheduler, shared operations can occur at any time with no shared operations in between.

In Infor CloudSuite, the unshared operations of a co-job function similar to regular job orders. The shared operations function similar to co-product jobs.

This table and diagram show a comparison of co-product jobs and co-jobs:

Co-product	Co-job
A single job with multiple items.	Multiple jobs with one item each.
All items must have the same BOM.	All items do not have the same BOM, because one or more operations are not shared or the materials are different.
Labor, machine, and material costs are divided among all items for each operations.	Labor and machine costs are split for only the combined operations, and material costs are item-specific.
Defined through product mixes.	Use separate items.

General Guidelines

This is a summary of co-job functionality:

- Co-job orders and estimate co-job orders are created using the Co-job Orders and Estimate Co-job Orders forms. Also, co-job BOMs and estimate co-job BOMs can be viewed and copied using the Engineering Workbench.
- A formula material weight can be entered on the Job Operations form and used with a formula material weight percentage on the Job Materials form to calculate job material quantities based on a percentage. Use this calculation only for materials that are combined into a single formula. Use the Job Materials Percentage Validation utility form to validate that the sum of the formula weight percentages on a material BOM equals 100 percent. When you click Process on this form, a report based on the specified settings is generated.
- Product cycles can be specified for co-job orders and then used in conjunction with seconds per cycle on the job operation, to calculate machine and labor hours.
- Co-job shared operations are indicated on the Job Operations form and displayed on these reports: Job BOM Report, Job Cost Detail Breakout Report, Job Cost Variance Report, Job Operations Status Report, and Job Cost Detail Status Report. The Unposted Job Transactions form allows for reporting of item-specific information for shared operations.

About BOM Setup

When the bill of materials for a co-job is set up, the operations that are common among the jobs should be marked as shared. These operations must contain the same resource and work center. The values of the fields on the operation record are set from the item that is tied to the first job (suffix = 0) in the co-job. For example, the setup and run times entered for the shared operations of the first job - item A in the example below - should be the total time needed for all items. The only differences in the operations are in the **Formula Material Weight** field. Materials are not shared; they are specific to the item in the co-job.

Resource BOM co-job		Operations		Materials	
Item	Operation	Item	Operation	Item	Material
A	10 (shared)	A	10 (shared)	A	X
B	20 (shared)	A	10 (shared)	A	Y
C	30	A	20 (shared)	A	Z
D	40	A	30	A	M
	10 (shared)	B	40	A	N
	20 (shared)	B	10 (shared)	B	T
	30	B	20	B	U
	40	B	30	B	J

Resource BOM co-job	Operations		Materials		
Item	Operation	Item	Operation	Item	Material
	10 (shared)	C	40	B	K
	20 (shared)	C	40	B	L
	30	C	10 (shared)	C	X
	10 (shared)	D	10 (shared)	C	W
	20 (shared)	D	20	C	U
	30	D	30	C	H
			40	C	I
			10 (shared)	D	V
			10 (shared)	D	Z
			20 (shared)	D	T
			30	D	E
			30	D	F
			30	D	G

About Job Transactions

When job transactions are created, shared operations are similar to co-product operations, with jobitem transaction records created. Unshared operations are treated like individual job records with job transactions created.

jobtran				jobtranitem	
Trans Num	Job	Suffix	Oper	Trans Num	Item
1	1	0	10	1	A
2	1	0	20	1	B
3	1	0	30	1	C
4	1	1	30	1	D
5	1	2	30	2	A
6	1	3	30	2	B
7	1	0	40	2	C
8	1	1	40	2	D

About Costing

Costing for shared operations is similar to costing for co-product operations. Percentage values are assigned to jobs in the co-job for the shared operations, and costing is based on these values. Unshared operations are treated like regular job orders, where the full cost is applied for each item. The cost percentage can be broken down for labor and overhead. The material is job/suffix-specific, but it also can be calculated based on percent values for each specific job/suffix, not across them. All items on a co-job must use the same costing method.

Oper	Item	Cost %
10	A	15
	B	25
	C	45
	D	15
20	A	15
	B	25
	C	45
	D	15
30	A	100
30	B	100
30	C	100
30	D	100
40	A	100
40	B	100

Copying a Co-job Order

You can create a new job order by copying an existing job order.

- 1 Open the Co-job Orders form.
- 2 Find a job that has similar characteristics to the job you want to create.
- 3 Select **Actions > Copy**. A new job record is created.
- 4 Make the necessary changes to the job record, for example, Job number, Start date, and so on.
- 5 Select **Actions > Save**. See Creating a Co-job Order Manually for information about creating the job manually.

Note: The settings of the Preassign Lots and Preassign Serials check boxes on the original co-job order are copied to the new one; however, any preassigned lot or serial numbers are not copied and must be generated for the new co-job order.

Creating a Co-job Order

The system provides these ways to create a co-job order:

- Manually, using the Co-job Orders form.
- By copying existing co-jobs using the Co-job Orders form or the Engineering Workbench form.

Creating a Co-job Order Manually

To manually create a co-job:

- 1 Open the Co-job Orders form and click the filter-in-place button.
- 2 Select Actions > New.
- 3 Specify this information:
 - **Job**: Specify an alphanumeric identifier of up to ten-characters that will be used by every job in the co-job. By default, the system uses the next unique number. If you allow the system to assign the next job number, the job number does not display in the job number field until you save the new job.
 - **Description** (optional): Specify a description of the co-job.
 - For Whse: Specify the warehouse code for the destination of any finished good inventory this job produces. The default value is the same as that entered in the Default Whse field on the Inventory Parameters form.
 - **Status**: Specify the current status of all jobs in the co-job. The default status is Firm. For information about status options, see the Status help topic.
 - **Est Job** (optional): Specify the estimate co-job that this job was created from, if applicable. This field is available for use only when the co-job status is Firm.

- **Job Date** (optional): Specify the date on which the job is created or accept the default of today for new jobs. This field is available for use only when the co-job status is Firm or Released.
- **Start**: Specify the date on which this job is to be released for work, that is, the start of the first job operation. The system uses the start date and the item lead time to generate the end date automatically, if the end date is blank or if earlier than the start date. This field is available for use only when the co-job status is Firm or Released. If you change this date, it changes the start date for every job in the co-job.
- **Priority** (optional): This field applies to the Scheduler only and is available for use only when the co-job status is Firm or Released. If you change the priority, it changes for every job in the co-job. For more information, see the Priority help topic.
- **Priority Freeze** (optional): Select this field to indicate a job's priority is standard. This job's priority is not reset by the Global Priority utility. This field is available for use only when the co-job status is Firm or Released. If you change this setting, it changes for every job in the co-job.
- **Resource BOM** (optional): If you have specified a co-job setup on the Resources form, Tooling tab, you can select it here to automatically add items in the grid. Otherwise, items are added in the next step. This field is available for use only when the co-job status is Firm.
- **Product Cycles** (optional): Specify the number of cycles that will be performed on the resource for the co-job. This value is used for every job in the co-job order. This field can be used only when the order status is Firm or Released.

4 In the grid, add items for the finished good item and specify all appropriate information.

NOTE: All items on the co-job must have the same costing method.

- **Qty Per Cycle**: Specify the quantity of the item that is produced in each cycle. A value can be entered when the co-job status is Firm or Released.
- **BOM Alternate ID**: Specify the BOM to use for the item. A value can be selected when the co-job status is Firm.
- **Released**: Specify the released quantity for the job. A value can be entered when the co-job status is Firm or Released.

NOTE: The remaining grid fields on this form have the same use and behavior as those on the Job Orders form. For more information about an individual field, go to that form, right-click in the field, and select Help.

5 If you need to preassign lot or serial numbers for items on the co-job, click **Preassign Lots/Serials** to open the **Co-job Order Preassign Lots and Serials** form.

6 Save the job.

If necessary, you can now add a routing and BOM to the job.

Creating an Estimate Co-job

If you are using the Molding Industry Pack, use the **Estimate Co-job Orders** form to create and maintain estimate co-job orders. Use the header section to specify shared information for jobs in

the co-job and the grid section to specify item detail for all jobs tied to the co-job. Alternatively, you can quickly create estimates on the Estimate Job Order Quick Entry form.

To create an estimate co-job:

- 1 Open the **Estimate Job Orders** form and click the filter-in-place button.
- 2 Select **Actions > New**.
- 3 Specify this information:
 - **Job:** Specify an alphanumeric identifier of up to 10 characters to be used by every job in the estimate co-job. By default, the system uses the next unique number. If you allow the system to assign the next job number, the job number does not display in the job number field until you save the new job.
 - **Description** (optional): Specify a description of the estimate co-job.
 - **For Whse:** Specify the warehouse code for the destination of any finished good inventory this job produces. The default value is the same as that entered in the Default Whse field on the Inventory Parameters form.
 - **Status:** Specify the current status of all jobs in the estimate co-job. The default status is Firm. For information about status options, see the Status help topic.
 - **Start:** Specify the date on which this estimate job is to be released for work (the start of the first job operation). The system uses the start date and the item lead time to generate the end date automatically, if the end date is blank or if it is earlier than the start date. This field is available for use only when the co-job status is Firm or Released. If you change this date, it changes the start date for every job in the estimate co-job.
 - **Job Date** (optional): Specify the date on which the job is created or accept the default of today for new jobs. This field is available for use only when the estimate co-job status is Firm or Released.
 - **Priority** (optional): This field applies to the Scheduler only and is available for use only when the co-job status is Firm or Released. If you change the priority, it changes for every job in the estimate co-job. For more information, see the Priority help topic.
 - **Priority Freeze** (optional): Select this field to indicate a job's priority is standard. This job's priority is not reset by the Global Priority utility. This field is available for use only when the co-job status is Firm or Released. If you change this setting, it changes for every job in the estimate co-job.
 - **Resource BOM** (optional): If you have specified a co-job setup on the Resources form, Tooling tab, you can select it here to automatically add items in the grid. Otherwise, items are added in the next step. This field is available for use only when the co-job status is Firm.
- 4 In the grid, add items for the finished good item and enter all appropriate data.

NOTE: All items on the co-job must have the same costing method.

- **Qty Per Cycle:** Specify the quantity of the item that is to be produced in each cycle. A value can be entered when the co-job status is Firm or Released.
- **BOM Alternate ID:** Specify the BOM to use for the item. A value can be selected when the estimate co-job status is Firm.

- **Released:** Specify the released quantity for the job. A value can be entered when the co-job status is Firm or Released.

NOTE: The remaining grid fields on this form have the same use and behavior as those on the Estimate Job Orders form. For more information about an individual field, go to that form, right-click in the field, and select Help.

5 If you need to preassign lot or serial numbers for items on the co-job, click Preassign Lots/Serials to open the Co-job Order Preassign Lots and Serials form.

6 Save the job.

If necessary, you can now add a routing and BOM to the job.

Recording Job Scrap Transactions

Use the Job Scrap Transactions form to record scrap quantities for co-jobs. This form follows standard Infor CloudSuite functionality for job scrap and inventory (quantity) adjustment transactions.

To record job scrap transactions:

- 1 Open the Job Scrap Transactions form.
- 2 Specify the item to receive the scrap transaction.
- 3 If this record is for a completed job, you can select **By Container** to issue the entire container. If you select this option, you must add a container, a reason code, and a transaction date. Also, when this check box is selected, container serial numbers are displayed on the Serial Numbers tab.
- 4 Specify the quantity to be scrapped.
- 5 If applicable, specify the job that the quantity will be scrapped against.
- 6 If the specified job has a status of Released, specify this information. Otherwise, skip to the next step.
 - The employee for the scrap transaction.
 - The operation that should record the scrap.
 - The work shift that should record the scrap. A default value is entered based on the selected employee; however, you can change this value.
- 7 Specify the transaction date.
- 8 Specify the reason for the scrap transaction.
- 9 If no job or a job that is not released is specified in step 5, specify this information. Otherwise, skip to the next step.
 - The location that the material will be removed from.
 - If the item is lot tracked, the lot that the material will be removed from.
 - The inventory adjustment account and account unit codes.

- Select the Serial Numbers tab and specify the appropriate information. For help, see the Serial Numbers Tab help topic.
- Select the Pieces tab and specify the appropriate information.
- Select the Container Contents tab and specify the appropriate information.

10 Click **Process**.

Validating the Job Materials Percentage

Use the Job Materials Percentage Validation utility form to process the report that validates the sum of formula material weight percentages on the materials of a BOM. The report lists materials that use the Formula Material Weight % setting and calculates the total for each BOM included in the report criteria.

To process the validation report:

- 1 Open the Job Materials Percentage Validation form.
- 2 Optionally, you can select the Display Report Header check box to display a header on the first page of the report, which lists the parameters by which you generated the report.
- 3 Specify which BOM types to include in the validation:
 - Job BOM
 - Estimate Job BOM
 - Current BOM
 - Alternate BOM
- 4 For each selected BOM type, specify the range of records to include on the report. For example, specify the first and last job numbers for a range of job BOMs or specify the first and last item numbers for a range of current BOMs.
- 5 Click **Process**.