

PERCEPTION[®] MAT-PAC

Work Order Pallets

A Training Guide

This training guide outlines the basic features of the *PERCEPTION* system for developing and managing work order material pallets.

It is a supplement to the user manual entitled “*PERCEPTION Material Planning, Purchasing & Inventory Control*,” which provides more details for the user.

Before using this tutorial, the user should first view the preliminary *PERCEPTION* training tutorial, “Getting Started.”

Other related training tutorials for material control are the following:

- 1. Starting From Scratch: Material Planning, Purchasing & Inventory Control**
- 2. Starting A New Project**
- 3. Managing Drawings & Bills of Materials**
- 4. Material Requisitions**
- 5. Purchase Orders**
- 6. Tool Room Control**
- 7. Developing A Parts Catalog**
- 8. Managing Stock Inventories**
- 9. Receiving & Warehousing**
- 10. Withdrawing Material to Production**
- 11. Managing Vendor Invoices**
- 12. Managing Customer Billings**

Work Order Pallets

Pallets are optional methods for managing production material.

Work order pallets are pre-planned bills of material that allow for pre-marshalling by stores personnel.

Pallets help ensure that production work can start with all necessary material requirements

Benefits From Pallets

The value of pallets is that if planned and expedited properly, delays in production can be avoided by ensuring that the material is immediately available and ready for use when the work order is scheduled to begin.

Storage of pallet material may become a problem, but efficient planning and scheduling of the pallet material can minimize this significantly.

Use of material storage buffers next to various work sites can minimize storage handling costs that can be more problematic with a centralized storage area.

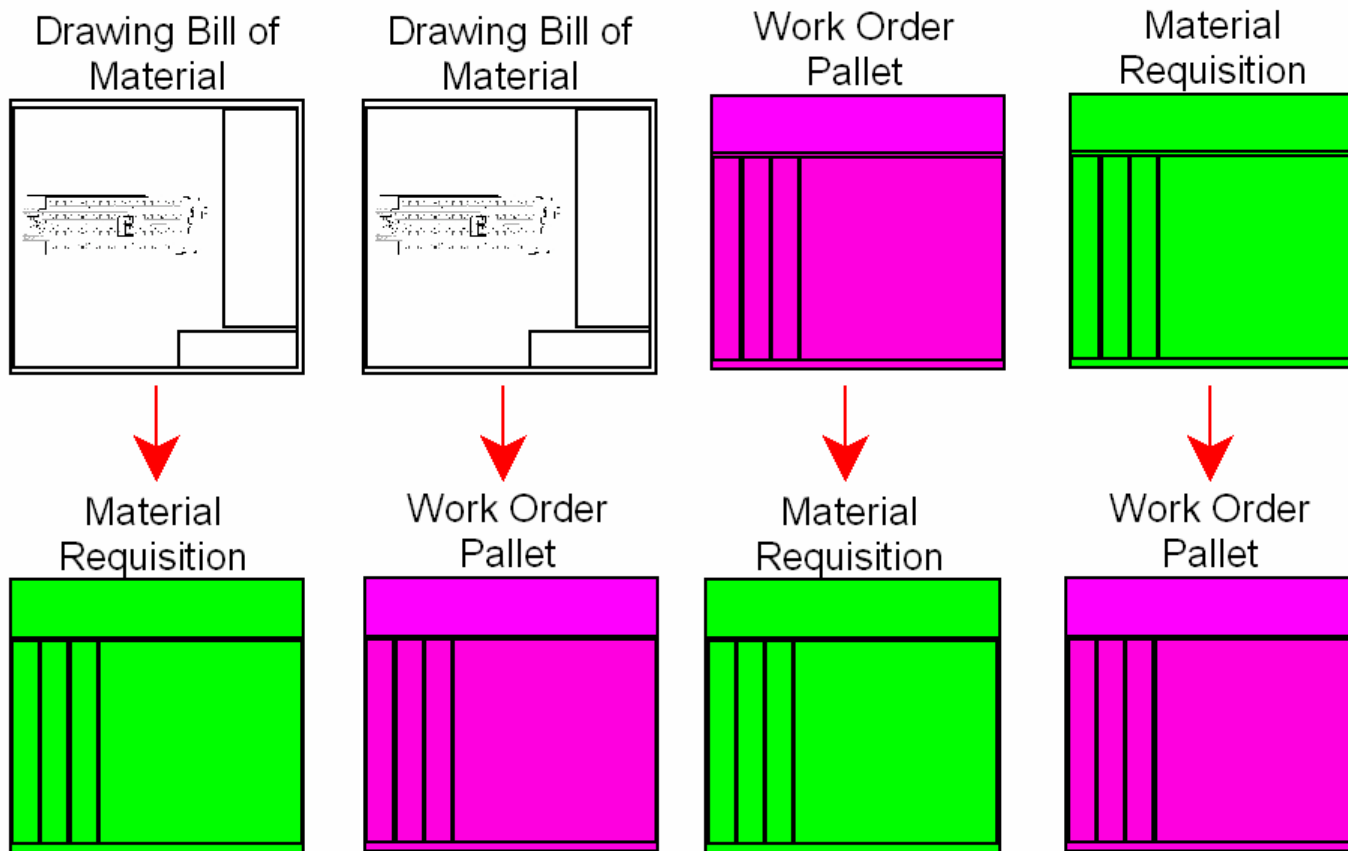
Pallets can be formulated from

- 1. Material Requisitions or**
- 2. Drawing BOMs or**
- 3. Directly for planned work orders.**

Work order pallets can be developed several different ways, depending on the needs of the shipyard and/or of the contract:

- 1. For new construction, pallets can be created from product/process-oriented engineering drawings bills of material (BOMs).**
- 2. Other pallets can be developed from material requisitions that may or may not have any formal association to drawing BOMs.**
- 3. Still other pallets can be developed directly from material requirements defined for specific work tasks. This often characterizes ship repair work.**

With *PERCEPTION*, different documents can be used to create other documents, all depending on specific needs of a project.



Detailed instructions for developing drawing bills of material are provided in the following tutorial:

PERCEPTION MAT-PAC

Managing Drawings & BOMs.

Detailed instructions for developing material requisitions are provided in the following tutorial:

PERCEPTION MAT-PAC

Material Requisitions

Creating Pallets From Drawing BOMs

Pallets can be created on the database from drawing BOMs.

These pallets can be identified with planned work orders.

From the drawing worksheet (*Environment/Engineering/
Drawings*)

1. Select the drawings for the pallet.
2. Select *Edit/Define Pallet from BOMs* from the main menu (or  on the toolbar).

The system will display the window for creating a pallet from drawing BOMs.

Define Material Pallet

Pallet

Activity Center

Activity

Work Center

Work Order

Need Date

Options

Auto Increment Pallet Number

Append To Existing Open Pallet

Include Zero Quantity Items

Use SWBS From	Use PWBS From	Use COA From
<input checked="" type="checkbox"/> Drawing	<input checked="" type="checkbox"/> Drawing	<input checked="" type="checkbox"/> Drawing
<input type="checkbox"/> Activity	<input type="checkbox"/> Activity	<input type="checkbox"/> Activity
<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order

Define Pallet Cancel Help

Pallet: Enter the pallet number (it may also be an existing pallet, but the *Append to Existing Open Pallet* option must be clicked on), or select the *Auto Increment Pallet Number*.

Activity Center & Activity: If identified on the drawing, this information is automatically set by the system.

Work Center & Work Order: If identified on the drawing, this information is automatically set by the system.

Need Date: The date determined by the system according to the scheduling rules described in the chapter “Material Requisitions” of the *PERCEPTION* user manual “Material Planning, Purchasing & Inventory Control.”

Option, Auto Increment Pallet Number: Unless the user wishes to manually define each pallet, this option allows the system to automatically define a new pallet as the next higher pallet number for the project.

Option, Append To Existing Open Pallet: If the drawing BOM items are to be added to an existing pallet, this option must be checked.

Option, Include Zero Quantity Items: Normally (by default), only drawing items whose quantity is greater than zero and is less than their quantity pallet are included as pallet items.

SWBS, PWBS & COA Assignments: The user can assign these WBS elements to the pallet items as defined on the drawing.

Setting A Pallet Need Date

If an assignment is made to either a valid planning activity (requires a valid activity center to be defined) or valid work order (requires a valid work center to be defined), the system will automatically set the pallet Need Date accordingly.

Otherwise, the Need Date can be defined manually.

**Once all desired options have been selected,
click on the *Define Pallet* button.**

The system will then create the pallet.

Creating Production Pallets From Requisitions

Production Pallets can be generated directly from a requisition or from requisition items.

From the requisition worksheet (*Environment/Material Control/Requisitions*) select one or more requisitions for the pallet.

Then select *Edit/Define/Copy/Delete/Define Pallet from Requisition* from the main menu (or  on the toolbar).

The system will display the window for creating a pallet from requisition items.

Define Pallet

Pallet

Activity Center

Activity

Work Center

Work Order

Need Date 00/00/0000

Options

Auto Increment Pallet / Item Number

Append To Existing Open Pallet

Include Zero Quantity Items

Use SWBS From	Use PWBS From	Use COA From
<input checked="" type="checkbox"/> Requisition	<input checked="" type="checkbox"/> Requisition	<input checked="" type="checkbox"/> Requisition
<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order
<input type="checkbox"/> Drawing	<input type="checkbox"/> Drawing	<input type="checkbox"/> Drawing
<input type="checkbox"/> Activity	<input type="checkbox"/> Activity	<input type="checkbox"/> Activity

Define Pallet Cancel Help

Pallet: Enter the pallet number (it may also be an existing pallet, but the *Append to Existing Open Pallet* option must be clicked on), or select the *Auto Increment Pallet Number*.

Activity Center & Activity: If identified on the requisition, this information is automatically set by the system.

Work Center & Work Order: If identified on the requisition, this information is automatically set by the system.

Need Date: The date determined by the system according to the scheduling rules described in the chapter “Material Requisitions” of the *PERCEPTION* user manual “Material Planning, Purchasing & Inventory Control.”

Option, Auto Increment Pallet Number: Unless the user wishes to manually define each pallet, this option allows the system to automatically define a new pallet as the next higher pallet number for the project.

Option, Append To Existing Open Pallet: If the requisition items are to be added to an existing pallet, this option must be checked.

Option, Include Zero Quantity Items: Normally (by default), only requisition items whose quantity is greater than zero and is less than their quantity pallet are included as pallet items.

SWBS, PWBS & COA Assignments: The user can assign these WBS elements to the pallet items as defined on the requisition.

Setting A Pallet Need Date

If an assignment is made to either a valid planning activity (requires a valid activity center to be defined) or valid work order (requires a valid work center to be defined), the system will automatically set the pallet Need Date accordingly.


Otherwise, the Need Date can be defined manually.

Once all desired options have been selected, click on the *Define Pallet* button, and the system will then create the pallet.

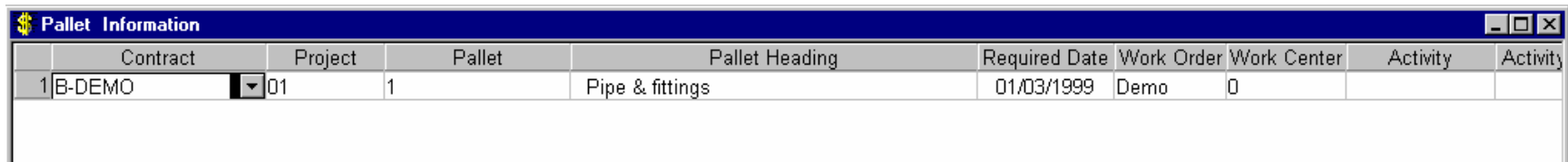
Creating Pallets Directly For Planned Work Orders

Pallets can be created on the database directly from work orders using the Pallet worksheet.

The Pallet worksheet can be accessed two different ways:

1. Directly into the Pallet worksheet by selecting *Environment/Production Engineering/Pallets* from the main menu, or
2. Indirectly via the Work Order worksheet by selecting *Environment/Production Engineering/Work Orders* from the main menu. This opens the Work Order worksheet.
 - Retrieve the desired work orders for which pallets are to be developed.
 - Highlight a selected work order for pallet development
 - Click on the *Drill Down* button  on the toolbar
 - Select Pallets from the selection pop up window

The system will display the Pallet Worksheet.



	Contract	Project	Pallet	Pallet Heading	Required Date	Work Order	Work Center	Activity	Activity
1	B-DEMO	01	1	Pipe & fittings	01/03/1999	Demo	0		

This is a worksheet that allows one or more pallets to be developed for any given work order.

The rows on this worksheet are just pallet headers giving general information, not the pallet bills of material details.

The procedures for retrieving, adding, changing and deleting pallet headers are the same as those outlined in *“Getting Started With PERCEPTION.”*

Each pallet on the database must have a unique set of identifying keys:

- 1. Contract ID (must be previously defined)**
- 2. Project number (must be previously defined)**
- 3. Pallet number (maximum 20 alphanumeric characters)**

The WBS structure comprises the secondary reference keys.

Double click on any pallet header row to open the Pallet Items worksheet.

Pallet Item Information										
	Contract	Project	Pallet	Pallet Item	Description	Qty Pallet	Uom	Drawing	Drawing Item	Requi
1	B-DEMO	01	12345	1	3-inch gate vales	3.00	EA			
2	B-DEMO	01	12345	2	3-inch copper-nickle pipe	20.00	FT			
3	B-DEMO	01	12345	3	3-inch flanges	2.00	EA			
4	B-DEMO	01	12345	4	3-inch 90-elbow	1.00	EA			

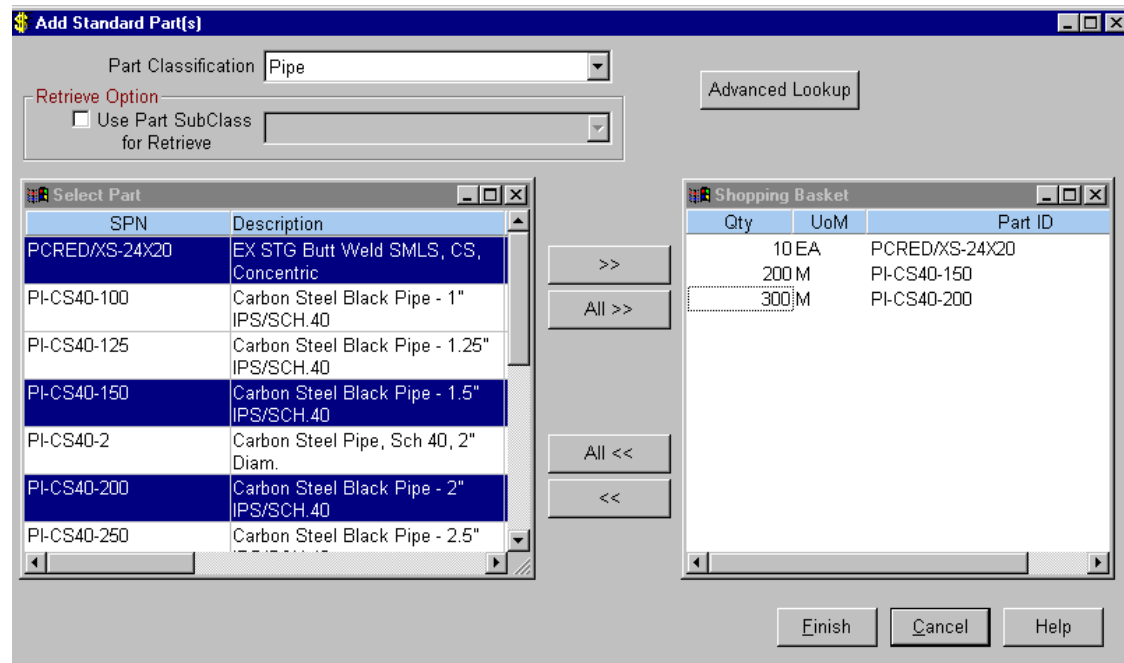
The procedures for retrieving, adding, changing and deleting pallet items are the same as those outlined in “*Getting Started With PERCEPTION.*”

***Special Note:* Before a pallet of items can be withdrawn to production, its items must reference a project requisition that carries the necessary WBS information for project cost tracking.**

Using the Parts Catalog to Create Pallet Items

While the Pallet Items worksheet is open, pallet items can be created using a convenient feature of the Parts Catalog. Click on the *Add Parts* button  on the toolbar.

The system will display the parts selection window.



Add Standard Part(s)

Part Classification: Pipe

Retrieve Option: Use Part SubClass for Retrieve

Advanced Lookup

Select Part



SPN	Description
PCRED/XS-24X20	EX STG Butt Weld SMLS, CS, Concentric
PI-CS40-100	Carbon Steel Black Pipe - 1" IPS/SCH.40
PI-CS40-125	Carbon Steel Black Pipe - 1.25" IPS/SCH.40
PI-CS40-150	Carbon Steel Black Pipe - 1.5" IPS/SCH.40
PI-CS40-2	Carbon Steel Pipe, Sch 40, 2" Diam.
PI-CS40-200	Carbon Steel Black Pipe - 2" IPS/SCH.40
PI-CS40-250	Carbon Steel Black Pipe - 2.5"

>> All >> All << <<

Shopping Basket

Qty	UoM	Part ID
10	EA	PCRED/XS-24X20
200	M	PI-CS40-150
300	M	PI-CS40-200


Finish Cancel Help

1. Select the part classification and, if desired, the sub-classification.
2. Then, to choose parts from the parts displayed in the left-hand window, highlight the ones desired for the pallet.
3. Click on the  button to transfer them to the right-hand window.
4. Fill in the desired quantities of these parts and click the  button.
5. The system will add these parts to the pallet.

The user then must provide the additional information, such as the pallet item number and the project WBS assignments, etc.

Attaching Planning Activities To Pallets

Pallets may be attached to schedule planning activities so that they can have the same schedules as the planning activities.

1. Highlight one or more pallets in the Pallet worksheet to be attached,
2. Click on the *Attach/Detach Planning Activity* button  on the toolbar.

The system will display a pop-up window in which the user can identify the planning activity and its work center.

An option allows the user to indicate if the planning activity's WBS (SWBS, PWBS and/or COA) also should be assigned to these pallets.

The screenshot shows a dialog box titled "Attach and Detach Activity Center and Activity". It is divided into three main sections:

- Attach Activity:** Contains a radio button selected for "Attach Activity and Center to Selected Pallets". Below this are two dropdown menus: "Activity Center" with the value "0" and "Activity" with the value "10".
- Options:** Contains three unchecked checkboxes: "Set Pallet(s) SWBS to Activity", "Set Pallet(s) PWBS to Activity", and "Set Pallet(s) COA to Activity".
- Remove Activity Assignment:** Contains a radio button for "Detach Activity and Center from Selected Pallets" with the subtext "(Only Not-Complete Items can be updated)".


At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

Creating Requisitions From Pallets

Pallet items can be assigned to requisition items as the pallets are created.

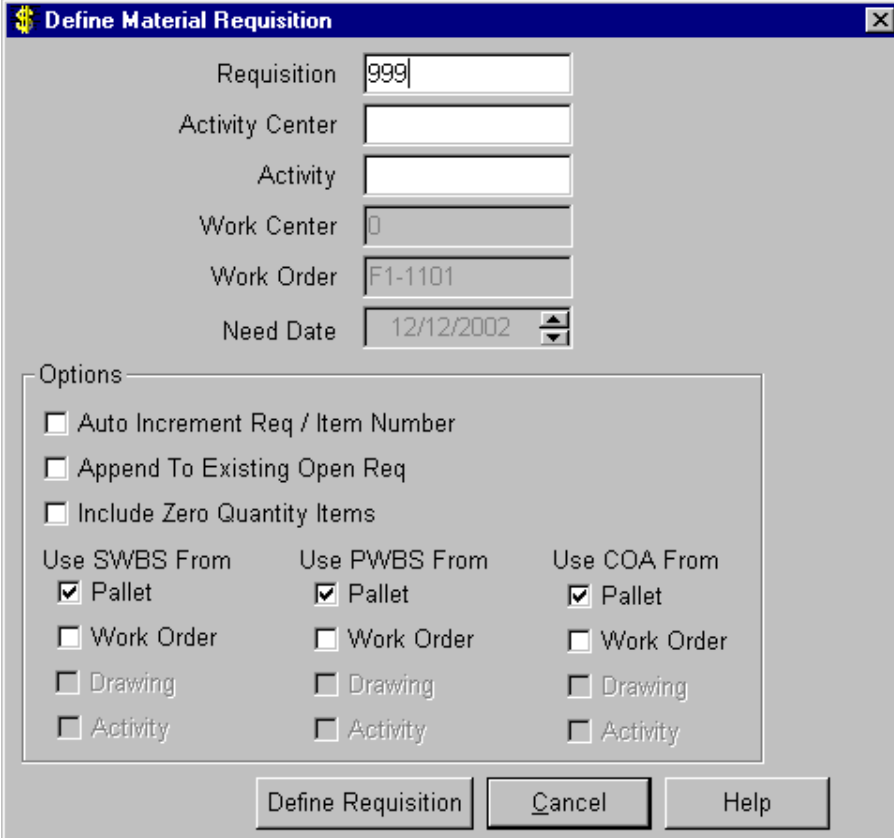
However, pallets also can be developed independently.

Before pallet items can be withdrawn to production, they must reference a project requisition that carries the necessary project WBS information for cost tracking.

To make a requisition assignment to pallet items, highlight the pallet items and click on the *Define Requisition from Pallet* button  on the toolbar.

The system will display the window for creating a new requisition or for appending the pallet items to an existing requisition.

This window allows the user to specify the source of the project WBS.



Define Material Requisition

Requisition: 999
Activity Center:
Activity:
Work Center: 0
Work Order: F1-1101
Need Date: 12/12/2002

Options

Auto Increment Req / Item Number
 Append To Existing Open Req
 Include Zero Quantity Items

Use SWBS From	Use PWBS From	Use COA From
<input checked="" type="checkbox"/> Pallet	<input checked="" type="checkbox"/> Pallet	<input checked="" type="checkbox"/> Pallet
<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order	<input type="checkbox"/> Work Order
<input type="checkbox"/> Drawing	<input type="checkbox"/> Drawing	<input type="checkbox"/> Drawing
<input type="checkbox"/> Activity	<input type="checkbox"/> Activity	<input type="checkbox"/> Activity

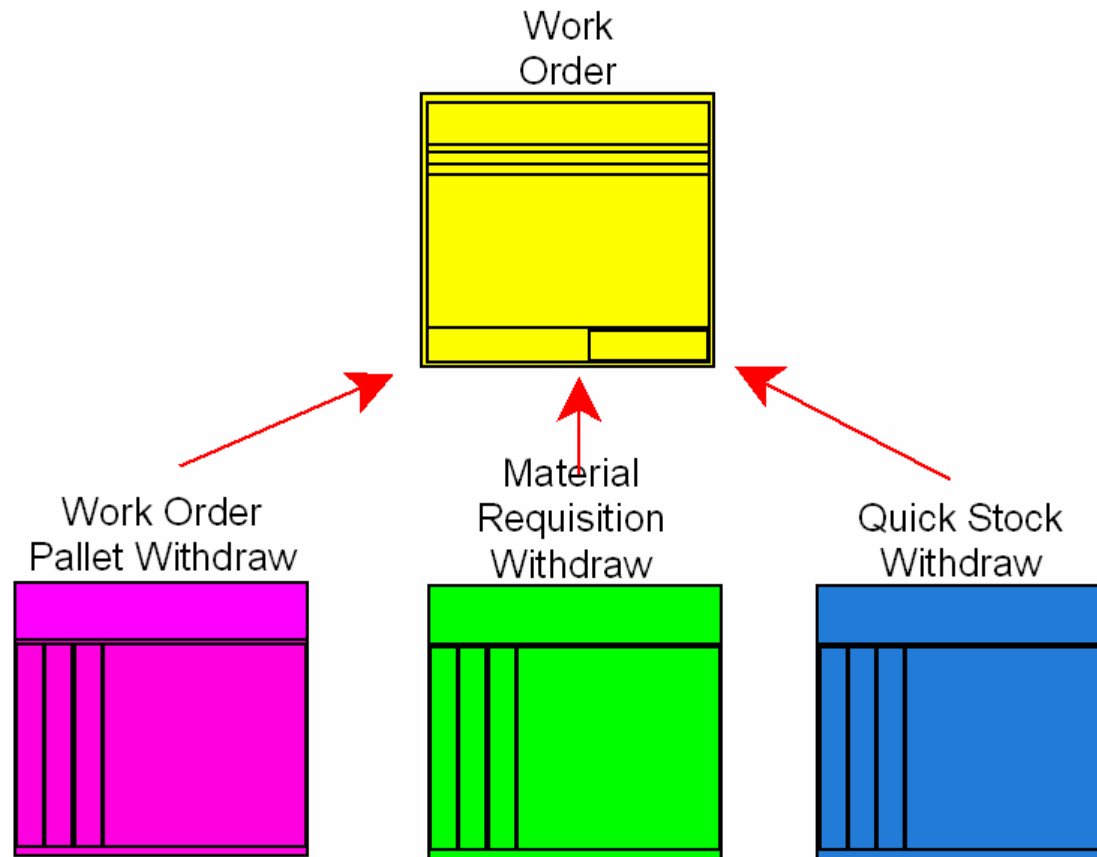
Define Requisition Cancel Help

Withdrawing Material To Production

Material may be withdrawn to production in one or more of three ways:

1. Withdrawing material for which a requisition item has already been created.
2. Withdrawing material from stock inventory for which no requisition item exists, but is created in this function to account for its use. This is referred to as a “Quick Stock” Withdraw.
3. Withdrawing material that has been defined on a pallet.

Work orders can be issued material from three possible sources: Material Requisition, Work Order Pallet, and/or A Quick Stock Withdraw.



Detailed instructions for issuing material to production are provided in the following tutorial:

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Withdrawing Material To Production.

Closing Out A Pallet

A pallet that is not completely withdrawn may be closed out manually.

- 1. Open the Pallet Header worksheet**
- 2. Retrieve the desired pallet(s)**
- 3. Click on the drop-down selection to close out the pallet.**

When a pallet is closed and saved to the database, the system will make the following updates:

- 1. The system will adjust all pallet item quantities as equal to the quantities actually withdrawn to production.**
- 2. The system will back out the un-withdrawn pallet quantities from the related requisition item records of quantities “on pallet.”**
- 3. If pallet items have been linked to the Parts Catalog, the system will back out the un-withdrawn pallet quantities from the Parts Catalog records of quantities “on pallet.”**

SPECIAL NOTICE: If material has been formulated for a pallet, the same palletized material should never be withdrawn directly under a requisition or a Quick Stock withdrawal.

If this is done, the system will retain the requirements of the pallet as unused project material when in fact the material has been used.