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Inventory Replenishment
Introduction

Inventory Replenishment Overview

The Inventory Replenishment module in Microsoft Dynamics® SL aids you in deciding what inventory items need replenishing, how much to order, and when to order them. It also aids you in managing inventory cost effectively and in measuring performance and profitability.

Inventory Replenishment captures purchase order lead time information from the Purchasing module and past usage information from the Inventory, Order Management, and Work Order modules. It enables you to adjust past usage information based on the needs of your business, and to manually enter additional information that works with its calculations to provide the most complete picture of your current inventory situation.

Using this up-to-date information, Inventory Replenishment plans replenishment orders for the current period and then sends this information to Purchasing and Order Management. Purchasing and Order Management use this information to create purchase orders, kit assembly orders, and warehouse transfer orders.

Inventory Replenishment helps you to manage your inventory requirements on an ongoing basis. It provides tools to help you:

- Identify current replenishment needs at the inventory site level
- Analyze inventory performance
- Monitor new item performance
- Measure customer service
- Identify irregularities
- Identify purchase orders with excess lead times
- Identify purchase orders that need to be expedited
- Identify unusual usage patterns
- Calculate inventory site replenishment values
- Identify inventory items that need target orders placed

Inventory Replenishment enables you to measure how well you are serving your customers on an overall level and on an inventory item level. It also helps you measure each inventory item’s performance and profitability in terms of its turnover rate, gross margin, adjusted gross margin, and return on investment.
User Guide Overview

This user guide provides information regarding the setup and use of the Inventory Replenishment module. Reviewing the user guide can help you make informed decisions regarding the implementation of the Inventory Replenishment module in your business.

What is Covered in the User Guide?

The user guide consists primarily of procedures and checklists that describe how to perform the various tasks featured in the Inventory Replenishment module. The user guide also contains topics that help you become better acquainted with the capabilities of the module. Topics are arranged in a logical order that builds on information previously presented in other user guides.

Who Should Use the User Guide?

The user guide is designed for readers who are new to Microsoft Dynamics SL. The guide provides the information necessary for making decisions regarding how to use the Inventory Replenishment module in order to get the most from your system.

How to Use the User Guide

Read the appropriate section of the user guide before proceeding with any system customizations. The user guide presents the procedures and steps required for completing the various customization processes. To assist you in locating information, the user guide contains:

- A “Table of Contents” of logically organized activities and tasks
- An alphabetized “Quick Reference Task List” of commonly performed tasks
- An alphabetized “Index” of the information provided in the user guide
Concepts: How Inventory Replenishment Works

Interaction with Other Modules
The Inventory Replenishment module is designed to calculate replenishment values for all items in your inventory. Inventory Replenishment captures information from past sales orders, purchase orders, work order issues, inventory issues, and transfer orders and calculates the replenishment values that become the basis for future orders. As an option, it also handles kit assembly orders. Inventory Replenishment is integrated with the following modules:
- Purchasing
- Inventory
- Bill of Material
- Shared Information
- Order Management
All of the modules listed above, except Bill of Material, are required to use Inventory Replenishment. The following topics explain how these modules interact with Inventory Replenishment.

Purchasing
If Inventory Replenishment is installed, Purchase Orders (04.250.00) enables you to determine whether or not Inventory Replenishment includes the purchase order in lead time calculations. Inventory Replenishment cannot calculate lead times if it does not have purchasing receipt transactions. If no purchasing transactions are marked to be included in lead time calculations, Inventory Replenishment can use a manually entered value, rather than a calculated value, for lead time.

Order Management
If Inventory Replenishment is installed:
- Sales Orders (40.100.00), Other Information tab, enables you to specify whether the transaction should be included in the usage history of the inventory item.
- Sales Orders (40.100.00), Line Items tab, shows whether the transaction is included and enables you to specify how the transaction should be included in past usage calculations.
- Shippers (40.110.00), Line Items tab, shows whether the transaction is included in the usage history of the inventory item and enables you to specify how the transaction should be included.

Bill of Material
If Inventory Replenishment is installed:
- Bill of Material Structure (11.320.00), Item Site Info tab, displays the replenishment policy for the inventory site associated with the bill of material.
- Component Where-Used (11.330.00) displays the replenishment policy you selected when you set up Inventory Replenishment for the inventory site associated with that bill of material.
Shared Information

If Inventory Replenishment is installed, *Material Type Maintenance (21.370.00), Replenishment* tab, enables you to specify replenishment parameters at the material type level. These parameters control how Inventory Replenishment calculates demand, lead times, safety stock, and replenishment values.

Inventory

The Inventory module maintains inventory value, quantity-on-hand, pricing, and location records for all inventory items you enter into the system. If Inventory Replenishment is installed:

- *Inventory Items (10.250.00), Replenishments* tab — Enables you to specify replenishment parameters at the inventory item level. These parameters control how Inventory Replenishment calculates demand, lead times, safety stock, and replenishment values.

- *Sites (10.310.00), Replenishment* tab — Enables you to specify replenishment parameters at the site level. These parameters control how Inventory Replenishment calculates demand, lead times, safety stock, and replenishment values.

- *Inventory Sites (10.255.00), Replenishment Parameters* tab — Enables you to specify replenishment parameters at the inventory site level. These parameters control how Inventory Replenishment calculates demand, lead times, safety stock, and replenishment values.

- *Inventory Sites (10.255.00), Replenishment Values* tab — Enables you to manually set values for each parameter at the inventory site level. For each parameter, it also displays the calculated values and tolerance ranges and provides a flag that you set to tell Inventory Replenishment whether to use the calculated or the manually-set value.

- *Inventory Transaction Inquiry (10.223.00)* — Enables you to view and verify that a specific transaction has been posted to Inventory Replenishment and is available for usage calculations.
Task Flow
This section provides a conceptual overview of the Inventory Replenishment task flow. For step by step instructions, see “Task Guidelines” on page 53.

Summary of Task Flow
The following diagrams show the order of the tasks you perform to set up, run, and maintain Inventory Replenishment. Setup tasks need to be performed only once and can be repeated at any time as needed to change parameter values. Other tasks need to be performed at least once each fiscal period and can be performed as often as you need to calculate replenishment values.

Required tasks are shown in the first column. You perform the required tasks so that Inventory Replenishment can plan replenishment orders.

Recommended tasks are shown in the second column. To obtain maximum benefit from Inventory Replenishment, perform as many of the recommended tasks as desired to meet the needs of your business.
Setup

**Required**
- Confirm that Purchasing, Bill of Material, Order Management, and Shared Information are setup and working

**Recommended**
- Confirm that transaction histories are in place

- If you have not already done so, run an integrity check on past transactions using \textit{IN Integrity Check (10.990.00)}

- Set up system defaults using \textit{IR Setup (41.950.00), Options}

- Configure material type parameters using \textit{Material Type Maintenance (21.370.00), Replenishment and Seasonality}

- Configure inventory item parameters using \textit{Inventory Items (10.250.00), Replenishments and Seasonality}

- Configure site parameters using \textit{Sites (10.310.00), Replenishment and Seasonality}

- Configure inventory site parameters using \textit{Inventory Sites (10.255.00), Replenishment Parameters and Replenishment Values}

- Set up demand formulas using \textit{Demand Formula Maintenance (41.220.00)}

- Set up lead time formulas using \textit{Lead Time Formula Maintenance (41.230.00)}

- Define the number of workdays in each fiscal period using \textit{Fiscal Work Days (41.200.00)}
Calculate Replenishment Values

**Required**
- Capture past usage using *Usage Capture Process* (41.460.00)

**Recommended**
- View past transactions using *Inventory Transaction Inquiry* (10.223.00)
  - Adjust or exclude selected individual transactions using *Usage Transactions Maintenance* (41.470.00)
  - Adjust the actual usage quantities for selected inventory sites using *Item Usage Maintenance* (41.210.00)

- Calculate replenishment values using *Calculate Replenishment Values* (41.450.00)
Manage Inventory Replenishment

Recommended

Calculate site values using the Inventory Valuation (10.620.00) report

Identify orders with excess lead times using the Unusual PO Lead Time (41.010.00) report

Identify purchase orders that need to be expedited using the Expiring Report (41.020.00)

Monitor new item performance using the New Item Performance Report (41.030.00)

View the replenishment parameters being used for inventory sites using the Replenishment Parameters Used (41.090.00) report

View current replenishment needs using the Current Replenishment Needs (41.040.00) report

Identify suggested target purchase orders using the Suggested Target Purchase Order (41.050.00) report

Analyze inventory performance using the Inventory Analysis (41.060.00) report

Identify inventory items with unusual usage patterns using the Unusual Usage Report (41.070.00)

Calculate and review customer service performance using the Customer Service Level (41.120.00) report

Calculate and review inventory turnover using the Inventory Turnover (41.130.00) report

Calculate and review gross margins and adjusted gross margins using the Gross and Adjusted Margin (41.150.00) report

Calculate and review return on investment using the Return On Investment (41.140.00) report
Prepare Planned Orders

**Required**

- Generate planned orders using *Generate Planned Orders* (41.400.00)
- Add additional demand for selected inventory sites using *Collaborative Forecast* (41.110.00)
- Convert planned orders using *Transaction Order Creation* (41.440.00)

**Recommended**

- After you generate planned orders, you can view them using the *Planned Order Report* (41.080.00)
- Adjust planned orders as needed using *Planned Order Maintenance* (41.100.00)
- Enter any additional planned orders using *Planned Order Maintenance* (41.100.00)
Integrating Inventory Replenishment with Other Modules

Inventory Replenishment is integrated with the Purchasing, Inventory, Bill of Material, Shared Information, and Order Management modules.

Integration tasks are specified in a checklist provided in “Implementation Checklist” on page 105.

Before you work with Inventory Replenishment, it is recommended that you confirm that a solid history of inventory transactions is in place for at least the last six-month period. These tasks include confirming:

- Purchase order receipts
- Sales order transactions
- Inventory transfer transactions for multiple sites
- Kit assemblies (optional)
- Work order issues (optional)

Having these transactions in place ensures that you have a solid baseline upon which to build an Inventory Replenishment history and promotes accuracy in future calculations. If you are unable to confirm these transactions, you can manually enter estimates in Item Usage Maintenance (41.210.00) so that you get Inventory Replenishment up and running quickly. However, it is in your best interest to reenter the actual values as soon as possible.

Setting Up and Configuring Inventory Replenishment Parameters

After you confirm that the transaction histories are in place, you set up Inventory Replenishment by assigning values to the parameters that it uses to calculate replenishment quantities. Shared parameters are specified on IR Setup (41.950.00), Options tab. Other parameters are specified using one of the following:

- Material Type Maintenance (21.370.00), Replenishment tab
- Inventory Items (10.250.00), Replenishments tab
- Sites (10.310.00), Replenishment tab
- Inventory Sites (10.255.00), Replenishment Parameters tab and Replenishment Values tab

Although you only need to assign parameters values once, you can update these parameter values at any time based on the needs of your business.

Replenishment Order Planning

After you configure Inventory Replenishment parameters, you can use Inventory Replenishment to plan replenishment orders and then send this information to Purchasing and Order Management. Purchasing and Order Management use planned order information to create purchase orders, kit assembly orders, and transfer orders.

Planning replenishment orders includes:

- Capturing past usage information
- Viewing and adjusting past usage information (optional)
- Calculating replenishment values for inventory sites
- Specifying collaborative forecasting for selected inventory sites to accommodate additional demand not reflected in past usage (optional)
- Generating planned orders
- Adjusting planned orders (optional)
- Manually entering additional planned orders (optional)
• Creating transaction orders
  – Selecting and converting planned orders to transaction orders
  – Sending transaction orders to Purchasing and Order Management

Management of Inventory Replenishment
You manage Inventory Replenishment by performing as many of the following recommended tasks as appropriate to meet the needs of your business:

• Determining site values using the Inventory Valuation (10.620.00) report

• Identifying purchase orders with excess lead times using the Unusual Purchase Order Lead Time (41.010.00) report

• Identifying purchase orders that need to be expedited as well as inventory that is below safety stock levels using the Expediting Report (41.020.00)

• Monitoring new item performance using the New Item Performance Report (41.030.00)

• Identifying current replenishment needs using the Current Replenishment Needs (41.040.00) report

• Identifying inventory sites that require target orders using the Suggested Target Purchase Order (41.050.00) report

• Analyzing inventory performance using the Inventory Analysis (41.060.00) report

• Identifying unusual usage patterns using the Unusual Usage Report (41.070.00)

• Viewing planned orders using the Planned Order Report (41.080.00)

• Viewing replenishment parameters selected for inventory sites using the Replenishment Parameters Used (41.090.00) report

Performance and Profitability Measurement
Inventory Replenishment enables you to measure how well you are serving your customers on an overall level and on an inventory item level. It also enables you to measure each inventory item’s performance and profitability in terms of its turnover rate, gross margin, adjusted gross margin, and return on investment. You perform the tasks associated with calculating these measures on an ongoing basis as you manage Inventory Replenishment. Tasks associated with interpreting these measures include viewing and making decisions based on the following reports:

• Customer Service Level (41.120.00) report

• Inventory Turnover (41.130.00) report

• Gross and Adjusted Margin (41.150.00) report

• Return On Investment (41.140.00) report
Inventory Replenishment Controls
This section discusses types and levels of Inventory Replenishment controls.

Types of Inventory Replenishment Controls
Inventory Replenishment provides two types of inventory controls: replenishment parameters and replenishment values. This section introduces these concepts. The next section explains how they are used at various levels of inventory control.

Replenishment Parameters
Replenishment parameters are used to calculate replenishment values. These include:
- Replenishment policy and source
- Future replenishment policy and effective date
- Target order method and requirement
- Safety stock policy and related parameters
- Seasonality dates
- Primary vendor
- Carrier for inventory transfers
- Lead time and demand formulas
- Calculation policy
Replenishment parameters are available as controls at the material type, inventory item, site, and inventory site levels of inventory control and are explained further in “Levels of Inventory Replenishment Control” on page 13.

Replenishment Values
Replenishment values are used to calculate replenishment quantities for inventory sites. You can
- Calculate replenishment values using replenishment parameters if Automatic is selected as the calculation policy for the inventory site.
- Determine replenishment values for new inventory sites based on manual default values specified at the inventory item level of control if Manual is selected as the calculation policy for the inventory site. Keep in mind that inventory item values are copied to the inventory site when a new site is created. If you change inventory item values later, these changes are not copied to existing inventory sites associated with the inventory item for which you made the change.
- Determine replenishment values based on manual override values specified at the inventory site level of control if Manual is selected as the calculation policy for the inventory site.

The following replenishment values can be calculated or can be defined by manual defaults at the inventory item level of control or by manual overrides at the inventory site level of control:
- Reorder quantity
- Reorder point
- Line point
- EOQ (economic order quantity)
- Safety stock
- Purchase order lead time
- Review cycle days
The following replenishment values can be defined by manual default at the inventory item level of control or by manual default at the inventory site level of control:

- Minimum on hand
- Maximum on hand
- Manufacturing lead time (used for assembly order lead time and work order lead time)

There are no manual override values for the three replenishment values listed above.

The projected daily demand replenishment value can be calculated or can be defined by manual override at the inventory site level of control.

The following table shows replenishment values and the replenishment policies that use them.

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<td>Reorder point</td>
<td>EOQ and reorder point</td>
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<td>Line point</td>
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<td>Review cycle days</td>
<td>Line point</td>
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<td>MAX/MIN</td>
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<tr>
<td>Maximum on hand</td>
<td>MAX/MIN and order to replenish</td>
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<td>Manufacturing lead time</td>
<td>Reorder point, line point, and EOQ</td>
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<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Target order requirement (reorder quantity for line point)</td>
<td>Line point</td>
</tr>
</tbody>
</table>

### Levels of Inventory Replenishment Control

Inventory Replenishment provides system controls and specific controls for material types, inventory items, sites, and inventory sites. Specific controls include replenishment parameters and replenishment values. Replenishment parameters are available at the material type, inventory item, site, and inventory site levels of inventory control. Replenishment values are available as manual defaults at the inventory item level of control. Manual defaults for replenishment values are not available as controls at the material type or site level because they are specific to inventory items.

Replenishment values are available as manual overrides at the inventory site level of control. Manual overrides for replenishment values are not available as controls at the material type, site level, or inventory item level of control because manual overrides are specific to inventory sites.

### System Replenishment Controls

System controls apply to all material types, inventory items, sites, and inventory sites. You specify system controls using IR Setup (41.950.00), Options tab, where you can:

- Exclude nonrecurring inventory transfers from past usage calculations
- Specify central distribution sites, which in turn, exclude all inventory transfers from past usage calculations
• Specify the system default values for the number of:
  - Business days in a fiscal period
  - Demand periods to use in calculating average daily usage
  - Lead time receipts to use when calculating lead time demand
  - Service level periods to use when calculating safety stock
• Specify the inventory carrying cost percentage to use when calculating economic order quantities
• Specify the monetary amount for the reordering cost to use when calculating economic order quantities
• Specify the number of fiscal periods to retain past usage information
• Specify the decimal precision to use for the projected daily demand
• Specify which sales order type to use when creating kit assemblies and warehouse transfers

Material Type Replenishment Controls

Inventory Replenishment provides specific controls for material types. Material types are used to identify and track groups of materials that have similar purposes.

For more information on material types, see the Inventory and Shared Information help or user guides.

Material type replenishment controls include only replenishment parameters. Because manual defaults for replenishment values are specific to inventory items, they are not available at the material type level of control. Because manual overrides for replenishment values are specific to inventory sites, they are not available at the material type level of control.

Using Material Type Maintenance (21.370.00), Replenishment tab, you specify controls for a material type by selecting the material type and then assigning or selecting replenishment parameters for:
• Replenishment policy and source
• Future replenishment policy and effective date
• Target order method and requirement
• Safety stock policy and related parameters
• Seasonality dates
• Primary vendor
• Carrier for inventory transfers
• Lead time and demand formulas
• Calculation policy

When you assign replenishment parameters for a material type, you assign replenishment parameters that can be applied to all inventory items within that material type. However, replenishment parameters specified for inventory sites, sites, and inventory items override replenishment parameters specified for material types.

The material type level of control does not enable you to specify a supplier site for inventory transfers but it does enable you to specify a carrier.

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing replenishment parameters and the control levels where they are found.
Inventory Item Replenishment Controls

Inventory Replenishment provides specific controls for each product and kit assembly listed in the Inventory database. These controls include the replenishment parameters and manual defaults for replenishment values that are used to calculate replenishment quantities for inventory sites associated with the inventory item. Inventory Replenishment supports the following inventory items:

- Component Parts
- Finished Goods
- Other Items
- Raw Materials
- Subassemblies

Replenishment Parameters for Inventory Items

You use Inventory Items (10.250.00), Replenishments tab, to specify replenishment parameters for an inventory item. First, select the inventory item identification number and then assign parameters values. Parameter values specified for inventory items override parameter values specified for material types.

Inventory Items (10.250.00), Replenishments tab, enables you to specify all of the parameters that are available at the material type level. These parameters include:

- Replenishment policy and source
- Future replenishment policy and effective date
- Target order method and requirement
- Safety stock policy and related parameters
- Seasonality dates
- Primary vendor
- Carrier for inventory transfers
- Lead time and demand formulas
- Calculation policy

Inventory Items (10.250.00), Replenishments tab, also enables you to specify:

- Buyer
- Supplier site for inventory items (Transfer From Site)
- Carrier for inventory transfers

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing Inventory Replenishment parameters and the control levels where they are found.

Replenishment Values for Inventory Items

You also use Inventory Items (10.250.00), Replenishments tab, to specify manual defaults for replenishment values at the inventory item level of control. Manual defaults for replenishment are not available at the site or material type levels of inventory control. Manual defaults for replenishment values will be used to calculate replenishment quantities for inventory sites associated with this inventory item when the Calculation Policy selected for the inventory site is Manual.

Manual defaults for replenishment values can be used to get Inventory Replenishment up and running quickly while you determine how to specify the replenishment parameters used to calculate replenishment values. Manual defaults can also be used for selected inventory sites when calculated values do not reflect current business conditions due to factors outside the system.
You can use *Inventory Items* (10.250.00), **Replenishments** tab, to specify manual defaults for the following replenishment values:

- Purchase order lead time
- Manufacturing lead time (used to calculate assembly order lead time)
- Reorder quantity
- Reorder point
- Economic order quantity (EOQ)
- Safety stock
- Minimum on hand
- Maximum on hand
- Review cycle
- Line point

The following table shows replenishment values and the replenishment policies that use them.

<table>
<thead>
<tr>
<th>Replenishment Value</th>
<th>Policies using this Replenishment Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder quantity</td>
<td>Reorder point</td>
</tr>
<tr>
<td>Reorder point</td>
<td>EOQ and reorder point</td>
</tr>
<tr>
<td>Line point</td>
<td>Line point</td>
</tr>
<tr>
<td>EOQ (reorder quantity for EOQ)</td>
<td>EOQ</td>
</tr>
<tr>
<td>Safety stock</td>
<td>All</td>
</tr>
<tr>
<td>Purchase order lead time</td>
<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Review cycle days</td>
<td>Line point</td>
</tr>
<tr>
<td>Minimum on hand</td>
<td>MAX/MIN</td>
</tr>
<tr>
<td>Maximum on hand</td>
<td>MAX/MIN and order to replenish</td>
</tr>
<tr>
<td>Manufacturing lead time</td>
<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Projected daily demand</td>
<td>Reorder point, line point, and EOQ,</td>
</tr>
<tr>
<td>Target order requirement (reorder quantity for line point)</td>
<td>Line point</td>
</tr>
</tbody>
</table>

**Note:** When a new inventory site is created for an inventory item, Inventory Replenishment copies the manual default values you specify for an inventory item on *Inventory Items* (10.250.00), **Replenishments** tab, to *Inventory Sites* (10.255.00), **Replenishment Values** tab. Keep in mind that Inventory Replenishment treats each manual default value independently. If desired, you can override the manual default for any parameter at the inventory site level by selecting **Manual Override** for that parameter on *Inventory Sites* (10.255.00), **Replenishment Values** tab. When you override the default, you must specify a new value for that parameter for the inventory site on *Inventory Sites* (10.255.00), **Replenishment Values** tab.
Site Replenishment Controls

Inventory Replenishment provides specific controls that can be used for all inventory items stored at any given site. Sites are locations or warehouses at which inventory items are stored. Site controls only include replenishment parameters. Site controls do not include replenishment values.

Using Sites (10.310.00), Replenishment tab, you select the identification number of the site and specify replenishment parameters that apply to all items stored at that site. The Replenishment tab of the Sites (10.310.00) screen enables you to specify all of the same replenishment parameters that are available at the material type level. These replenishment parameters include:

- Replenishment policy and source
- Future replenishment policy and effective date
- Target order method and requirement
- Safety stock policy and related parameters
- Seasonality dates
- Primary vendor
- Carrier for inventory transfers
- Lead time and demand formulas
- Calculation policy

In addition, Sites (10.310.00), Replenishment tab, enables you to specify the supplier site for inventory transfers.

Because the site level of control applies to all items stored a particular site, Sites (10.310.00), Replenishment tab, does not enable you to specify:

- Manual defaults for replenishment values. Replenishment values are for specific items and are defined at the inventory item level of control using Inventory Items (10.250.00), Replenishments tab.
- The number of days used for review cycle calculations.
- Manual overrides for replenishment values. Manual overrides for replenishment values are for specific inventory sites and are defined at the inventory site level of control using Inventory Sites (10.255.00), Replenishment Values tab.

With two exceptions, replenishment parameters specified on Sites (10.310.00), Replenishment tab, override replenishment parameters specified on Material Type Maintenance (21.370.00), Replenishment tab, and on Inventory Items (10.250.00), Replenishments tab. When you specify Replenishment Source Code and Transfer From Site at the inventory item level using Inventory Items (10.250.00), Replenishments, those replenishment parameters override replenishment parameters for Replenishment Source Code and Transfer From Site that you specify at the site level using Sites (10.310.00), Replenishment tab.

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing Inventory Replenishment parameters and the control levels where they are found.
Inventory Site Replenishment Controls

Inventory Replenishment provides specific controls for inventory sites. Inventory sites are records of the quantity on hand of an inventory item stored at a site. Each inventory site is specified by a unique combination of identification numbers. Each combination includes a Site ID and an Inventory ID. There is no single identification number for an inventory site. The following sections explain inventory site replenishment controls.

When Inventory Replenishment is installed, you specify inventory site controls using Inventory Sites (10.255.00), Replenishment Parameters and Replenishment Values tabs. Using Inventory Sites (10.255.00), Replenishment Parameters tab, you can define the same set of replenishment parameters that you did at the site level of inventory control. Using Inventory Sites (10.255.00), Replenishment Values tab, you can define manual override values for any or all of the replenishment values displayed on that tab.

- If the Calculation Policy for the inventory site is Manual, you can specify manual override values that replace any or all of the manual default values that Inventory Replenishment copied from Inventory Items (10.250.00), Replenishments tab, to Inventory Sites (10.255.00), Replenishment Values tab, when the inventory site was created. You override a parameter value by typing a new value in the Active field for that parameter.

- If the Calculation Policy for the inventory site is Automatic, you can specify manual override values that replace any or all of the calculated values that Inventory Replenishment uses to calculate replenishment quantities for this inventory site. You override a parameter value by selecting Manual Override for that parameter and then typing a new value in the Active field for that parameter.

Keep in mind that replenishment parameters specified for inventory sites override replenishment parameters specified for sites, inventory items, and material types.

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing Inventory Replenishment parameters and the control levels where they are found.

Replenishment Parameters for Inventory Sites

Inventory Sites (10.255.00), Replenishment Parameters tab, enables you to specify or select all of the same replenishment parameters that are available at the site level. These replenishment parameters include:

- Replenishment policy and source
- Future replenishment policy and effective date
- Target order method and requirement
- Safety stock policy and related parameters
- Seasonality dates
- Primary vendor
- Carrier for inventory transfers
- Lead time and demand formulas
- Calculation policy
- Supplier site for inventory transfers

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing Inventory Replenishment parameters and the control levels where they are found.
Replenishment Values for Inventory Sites

Inventory Sites (10.255.00), Replenishment Values tab, provides a Manual Override option for each of the following replenishment values:

- Reorder quantity
- Reorder point
- Economic order quantity
- Safety stock
- Purchase order lead time
- Projected daily demand
- Review cycle days
- Line point

When the calculation policy for the inventory site is Manual, you can specify manual override values to replace the manual default values used to calculate the replenishment quantities for the inventory site. Manual default values are specified at the inventory item level of control.

When the calculation policy for that inventory site is Automatic, you can specify manual override values to replace the calculated values used to calculate the replenishment quantity for an inventory site.

There is no control hierarchy for replenishment values.

Inventory Sites (10.255.00), Replenishment Values tab, provides a Manual Default option at the inventory site level for each of the following replenishment values:

- Maximum on hand
- Minimum on hand
- Manufacturing lead time

The following table shows replenishment values and the replenishment policies that use them.

<table>
<thead>
<tr>
<th>Replenishment Value</th>
<th>Policies using this Replenishment Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder quantity</td>
<td>Reorder point</td>
</tr>
<tr>
<td>Reorder point</td>
<td>EOQ and reorder point</td>
</tr>
<tr>
<td>Line point</td>
<td>Line point</td>
</tr>
<tr>
<td>EOQ (reorder quantity for EOQ)</td>
<td>EOQ</td>
</tr>
<tr>
<td>Safety stock</td>
<td>All</td>
</tr>
<tr>
<td>Purchase order lead time</td>
<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Review cycle days</td>
<td>Line point</td>
</tr>
<tr>
<td>Minimum on hand</td>
<td>MAX/MIN</td>
</tr>
<tr>
<td>Maximum on hand</td>
<td>MAX/MIN and order to replenish</td>
</tr>
<tr>
<td>Manufacturing lead time</td>
<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Projected daily demand</td>
<td>Reorder point, line point, and EOQ</td>
</tr>
<tr>
<td>Target order requirement</td>
<td>Line point</td>
</tr>
<tr>
<td>(reorder quantity for line point)</td>
<td></td>
</tr>
</tbody>
</table>
Control Hierarchy for Replenishment Parameters

Inventory Replenishment can calculate the replenishment quantity for an inventory site using parameter values specified for that inventory site. Inventory Replenishment treats each parameter independently. If no value is specified for a parameter at the inventory site level, Inventory Replenishment can calculate the replenishment quantity for the inventory site using parameter values specified for the site, inventory item, or material type associated with the inventory site. Because Inventory Replenishment can only use one of these values to calculate a replenishment quantity, it uses a control hierarchy to determine which parameter value to use when more than one value can be applied to the same inventory site.

See “Summary of Control Hierarchies for Replenishment Parameters” on page 21 for a table showing Inventory Replenishment parameters and the control levels where they are found.

Control Hierarchy for Most Parameters

For parameters other than transfer parameters, Inventory Replenishment looks first for the value specified for the inventory site, next for the value specified for the site, then for the value specified for the inventory item, and last for the value specified for the material type. The control sequence is:

- **Inventory Sites (10.255.00), Replenishment Parameters and Replenishment Values tabs**
- **Sites (10.310.00), Replenishment tab**
- **Inventory Items (10.250.00), Replenishments tab**
- **Material Type Maintenance (21.370.00), Replenishment tab**

When deciding where to assign parameter values for an inventory item, keep in mind that:

- Parameter values specified for an inventory site override parameters specified for the site, inventory item, and material type associated with the inventory site.
- With the exception of parameters used to manage inventory transfers, parameter values specified for sites override parameter values specified for inventory items and material types.
- Parameter values specified for inventory items override parameter values specified for material types.

Control Hierarchy for Parameters Used to Manage Inventory Transfers

Because Inventory Replenishment enables you to define a Replenishment Source Code or Transfer From Site for a specific inventory item and then get that inventory item from one particular site, it treats parameters used to manage inventory transfers differently than it treats other parameters.

When looking for values for Replenishment Source Code and Transfer From Site, Inventory Replenishment looks for values specified for the inventory site, next for values specified for the inventory item, and last for values specified for the site. The control sequence for transfer parameters is:

- **Inventory Sites (10.255.00), Replenishment Parameters tab**
- **Inventory Items (10.250.00), Replenishments tab**
- **Sites (10.310.00), Replenishment tab**

When deciding where to specify parameters used to manage inventory transfers, keep in mind that:

- Parameter values specified for inventory sites override parameters specified for sites and inventory items.
- Parameter values specified for inventory items override parameter values specified for sites.
- Parameter values used to manage inventory transfers are not specified for material types.
Summary of Control Hierarchies for Replenishment Parameters

The following table shows where Inventory Replenishment parameters are located and which parameters override others. The various hierarchies are reflected in the table. Because some parameters are not available for all levels of inventory control, parameters are listed in alphabetical order. The first column in the table shows the name of the parameter. The next four columns show where Inventory Replenishment looks for values for each parameter. Parameter values in the left column override the values in all columns to the right of them. For example, parameter values from the column labeled First Source override all parameter values in the three columns to the right. Parameter values in the column labeled Second Source override all parameter values in the two columns to the right, and so forth.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>First Source</th>
<th>Second Source</th>
<th>Third Source</th>
<th>Fourth Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>—</td>
</tr>
<tr>
<td>Calculation Policy</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
<td>—</td>
</tr>
<tr>
<td>Projected Daily Demand</td>
<td>Inventory Site</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Lead Time and Demand Formulas</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Future Replenishment Effective Date and Policy</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Model After Inventory ID</td>
<td>Inventory Site</td>
<td>Inventory Item</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Primary Vendor</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Replenishment Policy</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Replenishment Source Code</td>
<td>Inventory Site</td>
<td>Inventory Item</td>
<td>Site</td>
<td>Material Type</td>
</tr>
<tr>
<td>Review Cycle Days</td>
<td>Inventory Item</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Safety Stock Policy and related parameters</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Secondary Vendor</td>
<td>Inventory Site</td>
<td>Inventory Item</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Ship Via ID (carrier for inventory transfers)</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>—</td>
</tr>
<tr>
<td>Target Order Method and Target Order Requirement</td>
<td>Inventory Site</td>
<td>Site</td>
<td>Inventory Item</td>
<td>Material Type</td>
</tr>
<tr>
<td>Tolerance ranges for each parameter</td>
<td>Inventory Site</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Transfer From Site</td>
<td>Inventory Site</td>
<td>Inventory Item</td>
<td>Site</td>
<td>—</td>
</tr>
</tbody>
</table>
Lead Times

Lead time is one of the factors used in calculating replenishment quantities and replenishment points. All lead times are based on two standard inventory concepts:

- **Lead time** — The number of days between the date you place an order until the date you receive the order. To ensure that Inventory Replenishment calculations are accurate, lead times should be maintained for each inventory item at each site. Lead times are specific to individual orders for inventory items and are not used to predict future needs.

- **Projected lead time** — A factor used to predict needs in the current fiscal period, projected lead time is the average number of days estimated to replenish inventory from the normal source of supply.

Inventory Replenishment calculates the replenishment quantity for an inventory site using purchase order lead time, transfer order lead time, or assembly order lead time.

### Purchase Order Lead Time

Purchase order lead time can be determined by a calculated value, a manual default value specified at the inventory item level of control, or a manual override value specified at the inventory site level of control. The following sections explain the concepts behind these values and explain how to define and apply the purchase order lead time formula.

#### Using a Calculated Value for Purchase Order Lead Time

You use a calculated value for purchase order lead time when you want to determine purchase order lead time for the current fiscal period based on what happened in previous fiscal periods. You control whether or not a purchase order is included in purchase order lead time calculations by selecting or deselecting **Include in Lead Time Calc on Purchase Orders** (04.250.00), **Line Items** tab.

Inventory Replenishment calculates purchase order lead time when you specify Automatic as the **Calculation Policy** and you identify a lead time formula using **Lead Time Formula ID** for the site, inventory item, or material type associated with the inventory site. If you select Automatic but do not select a lead time formula from **Lead Time Formula ID**, then Inventory Replenishment will calculate lead time using the **Number of Lead Time Receipts** that you entered in the manual default on **IR Setup** (41.950.00), **Options** tab, without weighting the lead time receipts.

You define purchase order lead time formulas using **Lead Time Formula Maintenance** (41.230.00) when you set up Inventory Replenishment. You can update purchase order lead time formulas at any time.

#### Using a Manual Default Value for Purchase Order Lead Time

You use a manual default value for purchase order lead time when you do not want to determine purchase order lead time for the current fiscal period based on what happened in previous fiscal periods. At times, business conditions may make it necessary to use a manual default value that you specify for the inventory item.

Inventory Replenishment uses a manual default value for purchase order lead time when you select Manual as the **Calculation Policy** for the site, inventory item, or material type associated with the inventory site. You enter the manual default value in **PO Lead Time** at the inventory item level using **Inventory Items** (10.250.00), **Replenishments** tab. Manual default values cannot be specified at the site level or at the material type level.

#### Using a Manual Override Value for Purchase Order Lead Time

You use a manual override value for purchase order lead time when you do not want use the manual default value specified for the inventory item or the calculated value. At times, business conditions may make it necessary to determine purchase order lead time at the inventory site level. You can specify manual override values at any time.

Inventory Replenishment uses a manual override value for purchase order lead time and you select **Manual Override** for purchase order lead time using **Inventory Sites** (10.255.00), **Replenishment**
Values tab. You enter the manual override value in the Active field for PO Lead Time on Inventory Sites (10.255.00), Replenishment Values tab.

Inventory Replenishment copies manual default values specified for the inventory item from Inventory Items (10.250.00), Replenishments tab, to Inventory Sites (10.255.00), Replenishment Values tab, when an inventory site is created. When Manual is selected as the Calculation Policy for the inventory site, you see these copied values in the Active field when you open to Inventory Sites (10.255.00), Replenishment Values tab, for the first time.

Defining Purchase Order Lead Time Formulas

You define purchase order lead time formulas using Lead Time Formula Maintenance (41.230.00) when you set up Inventory Replenishment. You can update these formulas at any time.

To specify parameter values for the purchase order lead time formula, you enter the tolerance ranges and weights that Inventory Replenishment uses to determine lead time. You can specify as many purchase order lead time formulas as you need for the various items in your inventory.

In formula form, projected lead time can be expressed as:

$\frac{\sum (\text{Number of lead time days} \times \text{Weight factor})}{\sum \text{Weight factors}}$

Where the symbol $\sum$ means to sum the values of the number within the parentheses.

Put another way, lead time can be expressed as:

$\frac{\text{Sum of the extensions}}{\text{Sum of the weight factors}}$

Example: Let’s say that the date is June 1 and that Company C wants to determine lead time for Product X for the last five months. Company C uses Lead Time Formula Maintenance (41.230.00) to define the following formula for Product X.

Inventory Replenishment determines projected lead time using the values shown in the table below. Column 1 shows the last five receipts. Column 2 shows the number of lead time days per receipt. Column 3 shows the weight factors that Company C entered. Column 4 shows the extensions, the products of multiplying the number of lead time days per receipt (displayed in column 2) by the weight factor for that receipt (displayed in column 3).

<table>
<thead>
<tr>
<th>Prior Receipt #</th>
<th>Number of Days</th>
<th>Weight</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>3.0</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>2.5</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>2.0</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>1.5</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>1.0</td>
<td>7</td>
</tr>
</tbody>
</table>

To determine lead time, Inventory Replenishment sums the extensions and divides this sum by the sum of the weight factors. The number of days projected lead time is $(61 \text{ days} / 10 \text{ weight factors}) = 6.1 \text{ days}$. Rounding up, this becomes 7 days.

When you select Automatic as the calculation policy but do not define a lead time formula at any of the four levels of inventory control, then Inventory Replenishment determines lead time using the Number of Lead Time Receipts that you specified using IR Setup (41.950.00), Options tab. In this case, Inventory Replenishment uses no weights to determine lead time.

Lead time can be determined for the current fiscal period by applying the lead time formula to compute a weighted average lead time for a select number of recent transactions. A transaction occurs when a purchase order is placed for an inventory item and that item is received in inventory.

Based on your own situation, you need to decide how many transactions to use to calculate the weighted average. As a general rule, what happened most recently is most likely to reflect what will happen in the current fiscal period. Use the following guidelines to determine purchase order lead time.
To ensure accuracy:

- Recalculate lead time at the start of each fiscal period.
- Consider only the most recent transactions as the best indicators. As a general rule, use the most recent five or six transactions.
- Exclude any unusual transactions.
- Include lead times for stock shipments from the primary source(s) of supply only; exclude lead times for stock shipments from secondary source(s) of supply.

You determine how Inventory Replenishment calculates lead time by:

1. Selecting which transactions to consider.
2. Selecting weights for each transaction. Inventory Replenishment then multiplies each lead time by its weight to get an extension.
3. Summing the extensions.
4. Dividing the sum of the extensions by the sum of the weights used.

In formula form, lead time can be expressed as:

\[ \text{Lead time} = \frac{\sum (\text{Lead time} \times \text{Weight factor})}{\text{Sum of the weights used}} \]

Where the symbol \( \sum \) means to sum the values of the number within the parentheses.

Put another way, lead time can also be expressed as:

\[ \left( \frac{\text{Sum of extensions}}{\text{Sum of the weights used}} \right) \]

**Example:** Let’s say you decide to look at the three most recent purchase orders for an inventory item. Purchase order lead times are shown in the following table.

<table>
<thead>
<tr>
<th>PO Number</th>
<th>PO Date</th>
<th>Stock Received Date</th>
<th>Lead Time</th>
<th>Vendor Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1003</td>
<td>Mar. 7</td>
<td>Mar. 20</td>
<td>13 days</td>
<td>Secondary</td>
</tr>
<tr>
<td>1002</td>
<td>Feb. 12</td>
<td>Feb. 25</td>
<td>13 days</td>
<td>Primary</td>
</tr>
<tr>
<td>1001</td>
<td>Jan. 8</td>
<td>Jan. 24</td>
<td>16 days</td>
<td>Primary</td>
</tr>
</tbody>
</table>

Because what happened most recently is most likely to reflect what reoccurs, calculate purchase order lead time by placing a weight on each lead time that is twice the weight placed on the previous lead time. Multiply each purchase order lead time by its weight factor to produce the extensions shown in the following table. Notice that the order supplied by the secondary vendor is not shown. As explained previously, you should only consider lead times for stock shipments from the primary source of supply.

<table>
<thead>
<tr>
<th>PO Number</th>
<th>Lead Time</th>
<th>Weight</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1002</td>
<td>13 days</td>
<td>2</td>
<td>26 days</td>
</tr>
<tr>
<td>1001</td>
<td>16 days</td>
<td>1</td>
<td>16 days</td>
</tr>
</tbody>
</table>

After calculating the extensions, sum them and then divide the sum by the number of lead times considered. This produces a weighted average known as purchase order lead time. Purchase order lead time can be calculated as \( (26 \text{ days} + 16 \text{ days}) / 3 \text{ weights} = 42 \text{ days} / 3 \text{ weights} = 14 \text{ days} \).

**Note:** You can use the following to define the parameters that Inventory Replenishment uses to calculate lead time. Unlike the demand formula, the lead time formula does not use a trend percentage.

- **Number of Lead Time Receipts** on IR Setup (41.950.00), **Options** tab, to specify how many purchase order receipts Inventory Replenishment will use to calculate lead time. If you do not specify this number, Inventory Replenishment will default to six receipts.
• **Weight** on *Lead Time Formula Maintenance* (41.230.00) to enter the weights for each lead time transaction. Because **Weight** is a required field, Inventory Replenishment will use a weight factor of 1 if you do not enter a weight factor for a transaction.

• **Receipt Number** is a display-only field *Lead Time Formula Maintenance* (41.230.00).

**Assembly Order Lead Time**

Assembly order lead time is used for kit assemblies and work orders. Assembly order lead time for the current fiscal period is determined by the manual default value entered at the inventory item level using **Manuf. Lead Time** on *Inventory Items* (10.250.00), **Replenishments** tab, or by the manual override value entered at the inventory site level using **Manuf. Lead Time** on *Inventory Sites* (10.255.00), **Replenishment Values** tab.

Keep in mind that Inventory Replenishment copies manual default values specified for the inventory item from *Inventory Items* (10.250.00), **Replenishments** tab, to *Inventory Sites* (10.255.00), **Replenishment Values** tab, when an inventory site is created. You can specify manual override values for the inventory site at any time.

**Transfer Order Lead Time**

Transfer order lead time is determined by the carrier that transports the inventory items. You select the carrier using **Ship Via ID** for the inventory site, or for the inventory item, site, or material type associated with the inventory site. If you do not enter the number of days transfer order lead time, then Inventory Replenishment defaults to using the number of days entered in **Transit Time** in *Ship Via Maintenance* (21.260.00).

Unlike purchase orders and assembly orders, you do not specify the manual default value for transfer order lead time on *Inventory Items* (10.250.00), **Replenishments** tab.
Demand

Demand is one of the factors that Inventory Replenishment uses to calculate replenishment quantities. Recall that replenishment quantities can be calculated using demand determined by calculated parameter values or determined by parameter values that you entered manually. You determine whether Inventory Replenishment uses calculated values or manual default values by selecting a calculation policy at the inventory item level of control.

- If you want Inventory Replenishment to calculate replenishment quantities using calculated parameter values, select Automatic as the Calculation Policy on Inventory Items (10.250.00), Replenishments tab, or on Sites (10.310.00), Replenishment tab, or Material Type Maintenance (21.370.00), Replenishment tab.
- If you want Inventory Replenishment to calculate replenishment using manual default values, select Manual as the Calculation Policy on Inventory Items (10.250.00), Replenishments tab.
- If you have selected Manual as the Calculation Policy on Inventory Items (10.250.00), Replenishments tab, and later decide that you want to use a different manually entered value, you can enter a manual override value at the inventory site level on the Inventory Sites (10.255.00), Replenishment Values tab.

Note: Manual Override is disabled when Manual is selected as the Calculation Policy.

You control whether or not a transaction is included in demand calculations for an inventory site by selecting or deselecting Include in Demand on Sales Orders (40.100.00), Other Information tab. Include in Demand is a display-only field on Sales Orders (40.100.00), Line Items tab, and on Shippers (40.110.00), Line Items tab.

If the transaction does not involve a drop shipment and you do not select Include in Demand on Sales Orders (40.100.00), Other Information tab, then Inventory Replenishment does not include the transaction in the demand calculations for the inventory site.

Drop shipments are not included by default in demand calculations in this version of Inventory Replenishment.

Using Formulas to Project Demand

Demand is most often projected using a demand formula. A demand formula takes past usage from a selected number of fiscal periods, weights that usage by period, and then skew it using a trend factor to reflect anticipated conditions not accounted for in past usage patterns. Past usage includes all inventory items sold to customers or used for assembly orders and work orders. It may or may not include inventory items used for inventory transfers. Past usage includes only those inventory items used in fiscal periods preceding the current period. You define demand formulas using Demand Formula Maintenance (41.220.00). Using Demand Formula Maintenance (41.220.00), you identify which fiscal periods to consider, determine the weight used for each fiscal period, and define the trend factor used. You can specify as many demand formulas as you need for the various items in your inventory.

You identify which demand formula to use for an inventory item by selecting the formula from Demand Formula ID on:

- Inventory Items (10.250.00), Replenishments
- Inventory Sites (10.255.00), Replenishment Parameters
- Sites (10.310.00), Replenishment
- Material Type Maintenance (21.370.00), Replenishment
Using Manually-Entered Values to Project Demand

Demand can also be projected using manually-entered default values rather than a demand formula. You can do this to get Inventory Replenishment up and running quickly.

When projecting demand for inventory sites using manually entered values, Inventory Replenishment uses the manual default values you specify. You enter the number of fiscal periods to be used as the manual default in **Number of Demand Periods** on **IR Setup (41.950.00), Options** tab. When you use manually-entered values, Inventory Replenishment does not use weights or a trend factor to project demand.

The following sections explain how Inventory Replenishment projects average demand per period, average daily demand, and review cycle days for inventory sites. Inventory Replenishment uses these averages to project demand for the current period.

**Average Demand Per Period**

The demand formula consists of individual weights that are applied to actual usage from previous fiscal periods to determine weighted demand and a trend percentage that skews the weighted demand up or down, depending on what you expect to happen in future demand. The following sections explain weighted demand, the trend percentage, and how the demand formula calculates the demand per period.

Inventory Replenishment uses weighted demand rather than actual usage because more recent fiscal periods are believed to be better indicators of what will happen in the near future than earlier periods. Using weighted demand also enables you to calculate demand for products that have seasonal variations in usage.

Weighted demand is calculated by multiplying the actual usage for each period by the weight factor assigned to each period to get an extension, summing those extensions, and dividing the sum of the extensions by the sum of the weight factors.

In formula form, weighted demand can be expressed as:

\[
(\sum (Demand\ per\ period \times Weight\ factor) / \sum \text{Weight factors})
\]

Where the symbol \(\sum\) means to sum the values of the number within the parentheses.

Put another way, weighted demand can be expressed in formula form as:

\[
(\text{Sum of the extensions} / \text{Sum of weight factors})
\]

You use the following fields and screens to define the parameters that Inventory Replenishment uses to calculate weighted usage.

- **Use Demand Formula Maintenance (41.220.00)** to specify the fiscal periods that Inventory Replenishment will use to calculate demand. Three to six periods are typically used. If you do not specify the fiscal periods on **Demand Formula Maintenance (41.220.00)**, then Inventory Replenishment will start with the most recent fiscal period and will default to using the **Number of Demand Periods** on **IR Setup (41.950.00), Options** tab, to specify how many previous fiscal periods to use in projecting demand. When you do not specify a demand formula, Inventory Replenishment does not weight each fiscal period.

- **Weight** on **Demand Formula Maintenance (41.220.00)** to enter the weight for each fiscal period. Keep in mind that:
  - Fiscal periods with irregular usage patterns can be weighted at zero to exclude them from usage calculations.
  - Because **Weight** is a required field, Inventory Replenishment will use a weight factor of 1 if you do not enter a weight factor for a fiscal period.
  - You set the weight factors based on the needs of your business. If you are unsure how to begin, you can use the weight factors shown in the following example. After you have Inventory Replenishment up and running, you can update the weight factors at any time.
Example: Let’s say that the date is June 1 and that Company C wants to set up weights for Inventory Item B. Inventory Item B is a non-seasonal inventory item with a consistent usage pattern and moderate to high sales volume. Company C uses Weight on Demand Formula Maintenance (41.220.00) to enter the set of weights shown column three of the following table. Note that the most recent months receive the most weight.

Inventory Replenishment calculates weighted demand using the values shown in the table below. Column 1 shows the last five fiscal periods. Column 2 shows the number of units used per period. Column 3 shows the weight factors that Company C entered. Column 4 shows the extensions, the products of actual usage per period displayed in column 2 multiplied by the weight factor for that period displayed in column 3.

<table>
<thead>
<tr>
<th>Period</th>
<th>Usage in Units</th>
<th>Weight</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>11</td>
<td>3.0</td>
<td>33</td>
</tr>
<tr>
<td>April</td>
<td>10</td>
<td>2.5</td>
<td>25</td>
</tr>
<tr>
<td>March</td>
<td>12</td>
<td>2.0</td>
<td>24</td>
</tr>
<tr>
<td>February</td>
<td>14</td>
<td>1.5</td>
<td>21</td>
</tr>
<tr>
<td>January</td>
<td>13</td>
<td>1.0</td>
<td>13</td>
</tr>
</tbody>
</table>

To calculate weighted demand, Inventory Replenishment sums the extensions and divides this sum by the sum of the weight factors. Weighted demand is \( \frac{116\text{ units}}{10\text{ weight factors}} = 11.6\text{ units} \). Because partial units cannot be ordered, 11.6 units is rounded to 12 units.

You can use Trend % on Demand Formula Maintenance (41.220.00) to enter the trend percentage that Inventory Replenishment uses to skew the weighted demand up or down. Trend % is an optional field. If you do not enter a trend percentage, Inventory Replenishment uses 0%.

Using the trend percentage enables you to adjust replenishment calculations to account for factors that are not reflected by past usage histories. The trend percentage you enter depends on the change in demand you anticipate in the next fiscal period for the kinds of inventory items that use this formula.

Example: Let’s say that your company has just acquired two new customers. Because you anticipate that these new customers will cause demand for most items in your inventory to increase 10%, you enter 10% in Trend % on Demand Formula Maintenance (41.220.00). This trend percentage skews weighted usage upward so that replenishment quantities more closely match your anticipated needs.

Inventory Replenishment applies the trend percentage to weighted demand to calculate average demand per period. The demand formula can be expressed as:

\[
(\text{Weighted demand} + (\text{Weighted demand} \times \text{Trend percentage}))
\]

Example: Let’s say that Company C calculates a weighted demand of 12 units for Inventory Item B and estimates a 25% increase in the next fiscal period. Using the demand formula, Inventory Replenishment calculates average demand per period by applying the 25% trend percentage to weighted demand as follows: \( (12\text{ units} + (12\text{ units} \times 25\%)) = (12\text{ units} + 2\text{ units}) = 14\text{ units per period} \). Average demand per period is 14 units.
**Average Daily Demand**

Average daily demand is one of the factors used to calculate lead time demand and review cycle demand as described in the next sections. Inventory Replenishment averages daily demand because the number of business days in each fiscal period varies due to holidays and other factors. Using average daily demand smoothes out these variations and ensures more accurate calculations.

Average daily demand is the average quantity of an inventory item that you expect to sell or otherwise consume on a daily basis during the upcoming fiscal period. Also known as daily demand, it is based on past usage history.

Average daily demand can be calculated by dividing total usage by the number of business days in the previous fiscal period. In formula form, it can be expressed as:

\[
\frac{\text{Total usage}}{\text{Number of business days in fiscal period}}
\]

**Example:** Let’s say that total usage during the previous fiscal period was 300 units and that the number of business days was 30 days. Average daily demand can be calculated as (300 units / 30 days) = 10 units per day.

**Review Cycle Demand**

Review cycle demand is one of the factors used to calculate the replenishment point for inventory items purchased from vendors who specify target order requirements. It is used when the Line Point replenishment policy is selected.

Review cycle demand is the quantity you need to keep in the inventory site to be used between the date you reach a replenishment point and the date you reach a point where you can place an order that meet a vendor’s target order requirement. This period is called the review cycle. The review cycle is calculated by dividing the target order requirement by the average daily demand to get the number of days in the review cycle.

In formula form, the number of days in the review cycle can be expressed as:

\[
\frac{\text{Target order requirement}}{\text{Average daily demand}}
\]

Then, when you know the number of days in the review cycle, review cycle demand can be expressed in formula form as:

\[
\text{Average daily demand} \times \text{Number of business days in review cycle}
\]

**Example:** Let’s say that average daily demand is 10 units and that the review cycle is 10 days. Review cycle demand can be calculated as (10 units x 10 days) = 100 units.
Lead Time Demand

Lead time demand is one of the factors used to calculate replenishment points and replenishment quantities for inventory sites. It is the quantity you need to keep in the inventory site to use between the date you place a replenishment order and the date you receive the inventory items.

Lead time demand is calculated using the demand formula and the lead time formula. You define demand formulas using Demand Formula Maintenance (41.220.00). You define lead time formulas using Lead Time Formula Maintenance (41.230.00).

Lead time demand is calculated by multiplying the average daily demand by the weighted average number of business days during projected lead time period. Depending on the circumstance and the inventory item, projected lead time can be calculated as purchase order lead time, transfer order lead time, or assembly order lead time. In formula form, lead time demand can be expressed as:

\[(\text{Average daily usage} \times \text{Number of days lead time})\]

Example: Let’s say that average daily demand is 10 units and that the lead time is 10 business days. Lead time demand can be calculated as \((10 \text{ units } \times 10 \text{ days}) = 100 \text{ units.}\)
Safety Stock

Safety stock is the quantity of an inventory item needed in inventory to prevent stock outs. It provides protection against greater than normal demand or delays in delivery during the time that it takes to order and receive a replenishment shipment.

Safety stock quantities can be set manually. They can also be calculated using the days’ supply, percentage of lead time demand, or service level formula.

This section explains how safety stock quantities can be determined and identifies factors that should be considered when calculating additional safety stock and calculating safety stock for critical items.

Manual Entry

A manual entry can be used to define safety stock when you need to rely on your buyer to set safety stock quantities. For example, have the buyer set the safety stock quantity when you have promised a specific customer to keep a certain quantity of an inventory item in stock at all times and that customer is the only customer who buys that inventory item.

Safety stock can be set to any value, including zero. For example, many distributors keep no safety stock for costly, very slow-moving inventory items. When an inventory item is sold, they reorder another.

Days Supply

The days supply formula can be used to calculate safety stock when you need to keep enough stock on hand to last a specified number of days in case of emergencies. This formula relies on a buyer’s estimate of how many days’ supply you need to keep in inventory.

When using the days supply formula, Inventory Replenishment calculates safety stock by multiplying the average daily demand by the number of days’ supply you want to keep on hand in case of an emergency.

In formula form, safety stock can be expressed as:

\[(\text{Average daily demand} \times \text{Number of business days’ supply})\]

Example: Let’s say that average daily demand for Inventory Item A is 10 units and that Company A wants to keep a supply on hand to last 10 business days in case of emergencies. Safety stock can be calculated as \((10 \text{ units} \times 10 \text{ days}) = 100 \text{ units}\).

If you select Use days supply as the Safety Stock Policy for an inventory site, you can use Safety Stock Days to specify the number of days that Inventory Replenishment uses to calculate safety stock quantities. Safety Stock Days can be specified on:

- Inventory Sites (10.255.00), Replenishment Parameters tab
- Inventory Items (10.250.00), Replenishments tab
- Sites (10.310.00), Replenishment tab
- Material Type Maintenance (21.370.00), Replenishment tab

If you specify Use Days Supply as the Safety Stock Policy, you can use Safety Stock on Inventory Sites (10.255.00), Replenishment Values tab, to specify the manual default value for the quantity of inventory you want to keep on hand as safety stock. Inventory Replenishment will use the quantity of inventory specified in Safety Stock rather than the quantity of inventory calculated using the days supply formula you select Manual Override for Safety Stock on Inventory Sites (10.255.00), Replenishment Values tab.
Percentage of Lead Time Demand

The percentage of lead time demand formula can be used to calculate safety stock for inventory items with fairly consistent usage patterns and projected lead times less than two to three weeks. Do not use this formula for inventory items with long lead times and fairly consistent usage or for inventory items with short lead times and highly variable usage patterns. In general, do use the percentage of lead time demand formula to calculate safety stock for inventory items when it is reasonable to assume that the safety stock quantity should increase proportionally as average daily demand and projected lead time increase.

When using the percentage of lead time demand formula, Inventory Replenishment calculates safety stock as a percentage of projected lead time demand. A buyer-specified percentage is multiplied by the projected usage during the lead time period to determine the safety stock quantity. In formula form, safety stock can be expressed as:

\[(\text{Lead time demand} \times \text{Specified percentage})\]

**Example:** Let’s say that average daily usage for Inventory Item A is 10 units and that projected lead time is 15 days. Projected lead time demand is 150 units. Let’s also say that Company A needs to keep 50% of projected lead time demand in safety stock. Safety stock can be calculated as \((10 \times 15 \times 50\%) = 75\) units.

**Note:** In order to calculate percentage of lead time demand formula accurately, you must specify the percentage used as a multiplier in this formula based on the needs of your business and the inventory item. When you specify this percentage, keep in mind that you need a smaller safety stock of certain kinds of inventory items. These include:

- Fast-moving inventory items. Because inventory items with a large number of transactions have more accurate demand forecasts than slow-moving inventory items, you need less protection from changes in demand.
- Inventory items from vendors that almost always deliver on time. Because you run less risk of delays, you need less protection from stock outs.
- Inventory items almost always sold to a single customer in the same quantity on a regular basis. For example, let’s say that Customer A almost always buys 10 units of Inventory Item B on a weekly basis. If Customer A is the only customer that buys this inventory item, you do not need as much protection from greater than average usage during the projected lead time as you would for inventory items sold in variable quantities to multiple customers.

For additional information on how to estimate projected percent, see *Achieving Effective Inventory Management, Second Edition*, by Jon Schreibfeder.
Service Level

Use the Service Level formula to calculate safety stock for the critical “bread and butter” items in your inventory. These are the inventory items that you always expect to have in stock and that are critical to your image as a reliable supplier. The formula can also be used for inventory items with consistently erratic usage patterns.

The service level formula is a statistical formula that uses a factor known as a deviation multiple. This factor is determined by the customer service level you that you specified for the inventory item when you set up Inventory Replenishment. Possible values are:

- 50% 75%
- 80% 85%
- 90% 92%
- 94% 96%
- 97% 98%
- 99% 99.5%
- 99.9%

You specify the customer service level using Service Level on one of the following screens:
- Inventory Sites (10.255.00), Replenishment Parameters and Replenishment Values tabs
- Sites (10.310.00), Replenishment tab
- Inventory Items (10.250.00), Replenishments tab
- Material Type Maintenance (21.370.00), Replenishment tab

Example: You might decide that you want to be able to fill 95% of orders for Inventory Item A from stock in inventory. You would set the customer service level for Inventory Item A at 95% and then specify that safety stock should be calculated using the customer service level formula. Inventory Replenishment would then calculate safety stock quantities sufficient to ensure that you have Inventory Item A in stock 95% of the time it is needed.

When you set up Inventory Replenishment, you can set the customer service level for an inventory item to any of the values shown in the left column of the following table. The deviation multiple associated with each service level is shown beside it in the right column.

<table>
<thead>
<tr>
<th>Customer Service Level</th>
<th>Deviation Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= .5</td>
<td>0</td>
</tr>
<tr>
<td>.75</td>
<td>.68</td>
</tr>
<tr>
<td>.8</td>
<td>.84</td>
</tr>
<tr>
<td>.85</td>
<td>1.04</td>
</tr>
<tr>
<td>.90</td>
<td>1.28</td>
</tr>
<tr>
<td>.92</td>
<td>1.41</td>
</tr>
<tr>
<td>.94</td>
<td>1.56</td>
</tr>
<tr>
<td>.95</td>
<td>1.65</td>
</tr>
<tr>
<td>.96</td>
<td>1.75</td>
</tr>
<tr>
<td>.97</td>
<td>1.88</td>
</tr>
<tr>
<td>.98</td>
<td>2.05</td>
</tr>
<tr>
<td>.99</td>
<td>2.33</td>
</tr>
<tr>
<td>.995</td>
<td>2.58</td>
</tr>
<tr>
<td>.999</td>
<td>3.08</td>
</tr>
</tbody>
</table>
When using this formula to calculate safety stock, Inventory Replenishment first calculates the average difference between actual usage per period and forecast demand per period during ‘n’ fiscal periods in which actual usage exceeded forecast demand. Periods in which actual usage was less than forecast demand are not included in this formula.

When Use Service Level has been selected as the Safety Stock Policy, the number of fiscal periods that Inventory Replenishment uses to calculate safety stock is determined by the demand formula that you specify using Demand Formula Maintenance (41.220.00). If you select Use Service Level as the Safety Stock Policy and you do not specify a demand formula for the inventory site, or for the inventory item, site, or material type associated with the inventory site, then Inventory Replenishment defaults to using the number of fiscal periods that you specified in Number of Demand Periods on IR Setup (41.950.00), Options tab. The value is usually from three to six months.

**Note: Number of Service Level Periods on IR Setup (41.950.00), Options tab, is not active in this version of Inventory Replenishment.**

In formula form, the average difference between the number of units actually used and the number of units that were forecast can be expressed as:

$$\sum \text{Floor} (\text{Actual usage per period} - \text{Forecast demand per period}, 0) / \text{Number of periods}$$

The symbol ∑ means to sum the values of the number within the parentheses. Because the number of periods includes only periods in which actual usage was greater than the forecast demand for that period, the Floor function causes the number zero to be used when the actual usage is less than forecast demand during any given period.

After Inventory Replenishment calculates the average difference between actual usage per period and forecast demand per period, it multiplies this quantity by the deviation multiple to get the safety stock quantity.

In formula form, safety stock can be expressed as:

$$(\text{Average difference per period} \times \text{Deviation multiple})$$

**Example:** Let’s say that actual usage exceeded forecast demand for Inventory Item A for three months. The differences were 10 units, 12 units, and 14 units. The average difference between actual usage and forecast demand for these three months can be calculated as $$(10 \text{ units} + 12 \text{ units} + 14 \text{ units}) / 3 \text{ months} = 12 \text{ units}$$. Let’s say that Company A has specified a 95% service level for Inventory Item A. The deviation multiple associated with the 95% service level is 1.65. Safety stock can be calculated as $$(12 \text{ units} \times 1.65) = 19.8 \text{ units}$$. Because Company A cannot order part of a unit, safety stock is rounded to 20 units.

**Note:** Because the need for safety stock is determined by competition, customer expectations, and profitability, there is no best formula for determining the “right” quantity of safety stock. Keep in mind, however, that because the Service Level formula relies on calculated values rather than estimates, it automatically reduces safety stock quantities for inventory items with accurate demand forecasts and consistent lead times. For this reason, consider using it rather than the days supply formula or percentage of lead time demand formula.
Safety Stock for Critical Inventory Items

Critical inventory items require more safety stock than regular inventory items because a stockout can damage your reputation as a reliable supplier. You can use adjusted gross margin analysis to identify critical inventory items that require a relatively high level of safety stock. Typically, these inventory items represent less than 2% of your total inventory.

Use the following guidelines to set safety stock levels for critical inventory items:

- When using the percentage of lead time demand formula, set safety stock for critical items at 100% to 200% of lead time demand.
- When using the days’ supply formula, keep enough critical inventory items in stock to ensure 100% customer service level.
- When using the service level formula, use a deviation multiple of 3 to prevent stock outs of critical inventory items.
- When you cannot accurately forecast demand based on past usage, manually set additional safety stock levels as explained in “Collaborative Forecasting” on page 35.

Collaborative Forecasting

At times, you may anticipate an increase in future demand that cannot be predicted by calculations based on past usage. To meet this demand, Inventory Replenishment enables you to manually enter an additional demand amount for an inventory item on a specific day on Collaborative Forecast (41.110.00). After you manually enter a collaborative forecast, Inventory Replenishment adds the additional quantity to the projected period forecast.

Before you can enter a collaborative forecast amount, the inventory item and inventory site must already exist.

Note: This is the only collaborative forecasting tool available in this release of Inventory Replenishment. For information about how to create a collaborative forecasting system to determine how many units to place in additional safety stock, see Achieving Effective Inventory Management, Second Edition, by Jon Schreibfeder.
Planned Orders

When replenishment orders are created, they are called planned orders. Planned orders can be generated by Inventory Replenishment using Generate Planned Orders (41.400.00) or can be entered manually using Planned Order Maintenance (41.100.00). When you run Transaction Order Creation (41.440.00), planned orders are converted to transaction orders and sent to Purchasing where they become actual purchase orders, or to Order Management where they become kit assembly orders or transfer orders.

Each planned order has a status displayed in Status on Planned Order Maintenance (41.100.00). Status specifies whether the order is Firmed, Unfirmed, or Converted.

- Firmed orders are ready to be converted to actual purchase orders, assembly orders, or transfer orders. They can be converted the next time you run Transaction Order Creation (41.440.00) or kept in Inventory Replenishment to be used in the future.

- Unfirmed orders are not ready to be converted to actual purchase orders, assembly orders, or transfer orders. Inventory Replenishment keeps Unfirmed planned orders until their status is changed to Firmed or until the next time you run Generate Planned Orders (41.400.00), whichever comes first. When you run Generate Planned Orders (41.400.00), existing Unfirmed planned orders are deleted.

- Converted orders have become purchase orders, assembly orders, or transfer orders. Inventory Replenishment displays these for your reference. Because they have already been converted, you cannot select them for conversion again.

You can select the status of an order using Status on Planned Order Maintenance (41.100.00). If you do not select a status, Inventory Replenishment uses Unfirmed.

You can change the status of a planned order using Planned Order Maintenance (41.100.00). You can change the status as a separate step before you run Transaction Order Creation (41.440.00) or you can change the status by drilling down to a particular planned order when you use Transaction Order Creation (41.440.00).

You determine how Inventory Replenishment treats a planned order by selecting or deselecting Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab.

- When you do not select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, then Transaction Order Creation (41.440.00) converts any Firmed and Unfirmed orders you select. If you do not select an Unfirmed order for conversion, then the Unfirmed order remains in the system temporarily. Inventory Replenishment deletes any existing Unfirmed orders the next time that you run Generate Planned Orders (41.400.00).

- When you select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, Transaction Order Creation (41.440.00) converts any planned orders you select only if they are Firmed orders. If you select an Unfirmed planned order and click Create Transactions, an error message will be recorded in the log file indicating the planned order has an Unfirmed status and was not converted. Additionally a summary message indicates how many planned orders were attempted and how many had errors. If you do not select an Unfirmed planned order for conversion, then the Unfirmed planned order remains in the system temporarily. Inventory Replenishment deletes any existing Unfirmed planned orders the next time that you run Generate Planned Orders (41.400.00).

Note: On occasion, Inventory Replenishment calculates a planned order with an order quantity for partial units. For example, you might get a planned order for 10.5 units. This occasional error occurs when Quantities (Decimal Places) in IN Setup (10.950.00), Options, is set to a value greater than zero. To manually correct this occasional error, you can adjust the order quantity using Quantity on Planned Order Maintenance (41.100.00). For instructions, see “Adjusting Planned Orders” on page 88. Future versions of Inventory Replenishment will automatically correct this occasional error.
Replenishment Calculations

Every active inventory item that is kept in stock must be replenished. When the item's replenishment position reaches its replenishment point, you must order a replenishment quantity. Each of these factors must be determined before you can decide when and how much to order.

For an explanation of replenishment parameters and replenishment values, see “Types of Inventory Replenishment Controls” on page 12.

Replenishment Point

A replenishment point is the level of inventory in an inventory site equal to safety stock plus the quantity needed for lead time demand. It is known as the reorder point when the Reorder Point replenishment policy is used. Informally, the terms replenishment point and reorder point are used interchangeably.

Replenishment Position

Replenishment position is a key concept in Inventory Replenishment. You reorder an inventory item when its replenishment position reaches at or below its replenishment point determined by the replenishment policy you selected.

The replenishment position is the quantity you expect to need before the next order arrives plus the safety stock you need to keep on hand. The replenishment position is based on three quantities:

- Book quantity — The quantity in stock according to inventory records.
- Quantity committed — The quantity that is scheduled to be shipped before the next Inventory Replenishment order is received. Quantity committed can include quantities on current sales orders, inventory transfers, work orders, and kit assemblies.
- Quantity on order — Quantity on current purchase orders plus the net quantity on current transfer orders minus the quantity needed for current collaborative forecasting requirements.
- Current orders have requested by dates that are on or before the date when you receive the next Inventory Replenishment order from your suppliers.

In formula form, replenishment position can be expressed as:

\[(\text{Book quantity} - \text{Quantity committed} + \text{Quantity on order})\]

Example: Let’s say that the book quantity is 12 units, that the quantity committed is 2 units, and that the quantity on order is 10 units. The replenishment position can be calculated as \((12 \text{ units} - 2 \text{ units} + 10 \text{ units}) = 20 \text{ units}\).

Note: Replenishment position in Inventory Replenishment is not the same as Quantity Available as it is calculated in Inventory and not the same as Available as it is calculated in Order Management. In Inventory, Quantity Available is the quantity of an item that is considered available for sale. In Order Management, Available is the total quantity of the item that is available for immediate shipment. Although replenishment position, Quantity Available, and Available are related, they provide different kinds of information. Their values are different. See the Inventory and Order Management help or user guides for further information.

Note: When the Work Order module is installed:

- Work orders going into inventory will be included as available.
- Quantity committed will include components on work orders.

For further information, see the Work Order help or user guide.

Replenishment Quantity

A replenishment quantity is how much inventory you order to replenish an inventory site. It is calculated using replenishment values.
Calculate Trend %

Trend % replenishment allows for the variations in usage experienced for seasonal products or for those with varying popularity.

Trend % replenishment can be used for:
- Non-seasonal items, based on the past usage history.
- Seasonal items, based on the history of the past season.

When you use Trend % replenishment, Inventory Replenishment automatically calculates the trend % and uses it to calculate the replenishment quantity. Calculations are as follows.

Seasonal Trend % Calculation

For the season defined in Inventory Sites (10.255.00) by Season Start Month and Season End Month, the trend is calculated as the ratio of the sum of usage between the season start period and the current period, divided by the sum of usage for the same periods from the past season.

For the calculation to process:
- Calculate Trend % must be selected on Inventory Sites (10.255.00), Replenishment Values tab.
- Season Start Month and Season End Month must have a month selected on Inventory Sites (10.255.00), Replenishment Parameters tab. Also, the current Inventory (IN) period must be within the seasonal months defined and should be greater than the Season Start Month.
- For the past season, for all the periods, there must be real values (not zero).

Example:
Current Period = 05-2002
Season Start Month: February
Season End Month: June

<table>
<thead>
<tr>
<th>Year 2002</th>
<th>Year 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>Usage</td>
</tr>
<tr>
<td>04-2001</td>
<td>150</td>
</tr>
<tr>
<td>03-2001</td>
<td>150</td>
</tr>
<tr>
<td>02-2001</td>
<td>50</td>
</tr>
<tr>
<td>01-2001</td>
<td>50</td>
</tr>
</tbody>
</table>

Seasonal Trend for period 05-2002 = (Total usage from February to April for year 2002 – Total Usage from February to April for year 2001) / (Total Usage from February to April for year 2001)

Total Usage from February to April for year 2002 = 100 + 150 + 200 = 450
Total Usage from February to April for year 2001 = 50 + 150 + 150 = 350
Seasonal Trend for 05-2002 = (450-350) / 350 = 28.57 %
Non-Seasonal Trend % Calculation

Given that no season is defined in Inventory Sites (10.255.00) by Season Start Month and Season End Month, the history is read from IRItemUsage for the number of periods specified in IR Setup (41.950.00). Next, usage % is calculated as:

Usage % = IRItemUsage.DemActual + IRItemUsage.DemActAdjust + IRItemUsage.DemOverride

Then the % change in the consequent periods is calculated.

Next the average of the Usage % calculated earlier is saved in Trend %, in the Calculated column on the Inventory Sites (10.255.00) Replenishment Values tab. This is the calculated trend factor.

Now the % change is calculated from the past value and checked to see if it passes the Low and High % value for trend factor. If it passes and the Manual Override check box is not selected, the value is saved on the Replenishment Values tab of Inventory Sites (10.255.00) in Trend % in the Active column.

Finally, it calculates the demand, using the trend factor from Inventory Sites (10.255.00).

Example:

<table>
<thead>
<tr>
<th>Period</th>
<th>Usage</th>
<th>% Change in Consequent Period</th>
<th>Trend Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-2000</td>
<td></td>
<td></td>
<td>77.63 %</td>
</tr>
<tr>
<td>01-2000</td>
<td>100</td>
<td>42.9 %</td>
<td></td>
</tr>
<tr>
<td>12-1999</td>
<td>70</td>
<td>40 %</td>
<td></td>
</tr>
<tr>
<td>11-1999</td>
<td>50</td>
<td>150 %</td>
<td></td>
</tr>
<tr>
<td>10-1999</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

% Change for period 01-2000 = (100 - 70)/70 = 42.9 %
% Change for period 12-1999 = (70 – 50)/50 = 40 %
% Change for period 11-1999 = (50 – 20)/20 = 150 %
Trend for period 02-2000 = (42.9 + 40 + 150) / 3 = 77.63 %

Final Trend % Calculation

Once Trend % is calculated, Inventory Replenishment applies it to do the demand calculations as follows:

- It defaults the Trend % from the Demand formula if the calculated Trend % is zero.
- Demand = Demand projected from the past historical usage + (Demand projected from the past historical usage * Trend %)

It modifies the stored procedure IRDemCalc to account for the above calculation.
# Replenishment Policies

A replenishment policy determines how Inventory Replenishment calculates the replenishment quantity and reorder point for an inventory site.

If you do not select a replenishment policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment does not calculate a replenishment quantity for that inventory site nor does it generate a planned order for that inventory site.

## Types of Replenishment Policies

Inventory Replenishment enables you to determine how replenishment values are calculated by enabling you to specify one of five replenishment policies, formerly known as replenishment methods in Bill of Material and Inventory.

You specify a replenishment policy based on the demand for the inventory item, its usage patterns, and other factors such as its cost and the importance of the inventory item to your business. The following table provides guidelines for selecting a policy.

<table>
<thead>
<tr>
<th>Replenishment Policy</th>
<th>When Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder Point</td>
<td>The Reorder Point replenishment policy can be used for inventory items that have no target order requirements and for which you do not want to calculate an economic order quantity or manually set maximum and/or minimum replenishment points. See “Reorder Point Replenishment Policy” on page 41 for more information.</td>
</tr>
<tr>
<td>Line Point</td>
<td>The Line Point replenishment policy should be used for inventory items that have target order requirements specified by the vendor. See “Line Point Replenishment Policy” on page 41 for more information.</td>
</tr>
</tbody>
</table>
| EOQ                  | The EOQ replenishment policy can be used for most moderate to fast-moving inventory items. Because the EOQ formula assumes constant demand, it can be used for:  
  - Inventory items with total demand that exceeds the number of units most commonly sold to a single customer during most inventory periods.  
  - Non-seasonal inventory items that have been in stock for at least five months.  
  - Seasonal inventory items that have been in stock for at least 12 months.  
  See “Economic Order Quantity Replenishment Policy” on page 42 for more information. |
| MAX/MIN              | The MAX/MIN replenishment policy can be used for:  
  - Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage.  
  - Slow-moving items that are sold infrequently.  
  - Inventory items with highly variable usage patterns.  
  - New inventory items with no usage histories.  
  See “MAX/MIN Replenishment Policy” on page 43 for more information. |
**Order to Replenish**

The Order to Replenish replenishment policy can be used for inventory items for which the MAX/MIN replenishment policy does not provide enough inventory to meet actual needs during the lead time period. This policy can be used for:

- Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage. Slow-moving items that are sold infrequently.
- Inventory items with highly variable usage patterns.
- Fast-moving inventory items for which no minimum quantity needs to be kept in stock.
- New inventory items with no usage histories.

See “Order to Replenish Policy” on page 44 for more information.

**Reorder Point Replenishment Policy**

The Reorder Point replenishment policy can be used for inventory items that have no target order requirements and for which you do not want to calculate an economic order quantity or manually set maximum and/or minimum replenishment points.

When you use the Reorder Point replenishment policy, you order a replenishment quantity when the replenishment position drops below a replenishment point called a reorder point.

Inventory Replenishment calculates the replenishment point by adding lead time demand to the safety stock quantity.

In formula form, the reorder point can be expressed as:

\[(\text{Lead time demand} + \text{Safety stock})\]

**Example:** Let’s say that lead time demand is 40 units and that you need to keep 40 units in safety stock. The replenishment point can be calculated as \((40 \text{ units} + 40 \text{ units}) = 80 \text{ units}\).

**Line Point Replenishment Policy**

The Line Point is a replenishment policy that should be used for inventory items with target order requirements specified by the vendor. Because the vendor has specified a target order requirement, you may not want to order when the replenishment position reaches the replenishment point. You may need to wait so that you can place an order that meets the target order requirement. Because of this, you need to order additional units to meet your needs during the time it takes to build the target order.

Using the Line Point replenishment policy ensures that you keep enough inventory on hand to meet your needs between the time the replenishment position reaches the replenishment point and the time it takes to build a target order.

In formula form, the line point can be expressed as:

\[(\text{Safety stock} + \text{Lead time demand} + \text{Review cycle demand})\]

**Example:** Let’s say that lead time demand is 20 units, safety stock is 40 units, and review cycle demand is 10 units. The line point can be calculated as \((20 \text{ units} + 40 \text{ units} + 10 \text{ units}) = 70 \text{ units}\).
**Economic Order Quantity Replenishment Policy**

Using the economic order quantity (EOQ) replenishment policy results in the lowest total cost of inventory rather than the lowest per-unit cost. EOQ takes into account material costs (including freight), reordering costs, and inventory carrying costs. You enter these values manually using *IR Setup (41.950.00), Options* tab.

The EOQ replenishment policy can be used for most moderate to fast-moving inventory items. Because the EOQ formula assumes constant demand, it can be used for:

- Inventory items with total demand that exceeds the number of units most commonly sold to a single customer during most inventory periods.
- Non-seasonal inventory items that have been in stock for at least five months.
- Seasonal inventory items that have been in stock for at least 12 months.

You order an economic order quantity when the replenishment position falls below the replenishment point. The replenishment point equals safety stock plus the lead time demand quantity. In formula form, this replenishment point can be expressed as:

\[(\text{Safety stock} + \text{Lead time demand})\]

Inventory Replenishment calculates replenishment quantity as an EOQ using an up-to-date version of an industry-standard formula, with the results adjusted to reflect realities of the marketplace.

In formula form, the EOQ can be expressed as:

\[\sqrt{\left(\frac{2 \times \text{Number of Fiscal Periods Per Year} \times \text{Default number of days in fiscal period specified in IR Setup (41.950.00)} \times (\text{Reorder Cost specified in IR Setup (41.950.00)} \times \text{Projected Daily Demand})}{\text{(Annual Carrying Cost percentage specified in IR Setup (41.950.00) } \times \text{Replacement Unit Cost})}\right)}\]

where:

- The symbol \(\sqrt{\}\) is the square root of the quantity in square brackets.
- Reorder cost is the cost of processing, placing, receiving, and paying for an inventory item.

**Example:** Let's say that Business A uses the month as its fiscal period. Let's also say that the values for Inventory Item M are as follows:

- Reorder cost = $25
- Projected daily demand = 20 units
- Annual carrying cost percentage = 10%
- Replacement cost = $1,000
- Number of fiscal periods per year is 12
- Default number of fiscal days per period is 22

The EOQ can be calculated as \[\sqrt{\frac{2 \times 12 \times 22 \times (25 \times 20 \text{ units})}{(10\% \times 1,000)}}\] = 51 units.

**Note:** Because EOQ is a mathematical formula, you may need to adjust it under certain circumstances. Apply the following limits to economic order quantities to meet the needs of your business:

- All businesses should increase the lower limit of the EOQ to a minimum of ‘y’ times the projected demand of the current inventory period to avoid excess costs associated with ordering and stocking an item too often. In this case, ‘y’ is a multiplier that you define to take into account the costs associated with ordering and processing the inventory item.
- Most hard-goods distributors, as a general rule, should increase the minimum EOQ to at least a one-week supply of an inventory item. Inventory items that turn over more frequently should be replenished with maximum stock quantities using the MAX/MIN formula rather than the EOQ formula.
- Most businesses other than distributors, as a general rule, should limit the EOQ to a quantity sufficient for the shelf life of the inventory item. For example, order a two-month supply for an inventory item that has a shelf life of two months.
- Most distributors, as a general rule, should limit the EOQ to a quantity sufficient for one-half of the shelf life of the inventory item. For example, order a one-month supply for an inventory item that has a shelf life of two months.

- All businesses should round the EOQ to the nearest package quantity. For example if an EOQ is 10 units and the inventory item sells by the dozen, increase the minimum EOQ to 12 units.

- All businesses should limit the EOQ for seasonal items as follows:
  - Just before and during the peak season, limit the maximum EOQ to the quantity needed to meet expected demand through the entire peak season.
  - At the end of the peak season and during the off season, limit the maximum EOQ to ‘x’ times the average inventory period demand during the off season. In this case, ‘x’ is a multiplier that you define based on the needs of your business. For most businesses, an off-season EOQ should not exceed a four to six month supply.

**MAX/MIN Replenishment Policy**

The MAX/MIN is a replenishment policy that can be used to determine reorder quantities when forecast demand based on past usage does not accurately predict future needs. Inventory Replenishment automatically includes safety stock levels when it calculates replenishment quantities using the MAX/MIN replenishment policy. You can tell Inventory Replenishment not to include safety stock levels if you want to exclude them from calculations by selecting None as the Safety Stock policy at the inventory site, inventory item, site, or material type level of control.

The MAX/MIN replenishment policy can be used for:

- Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage. Slow-moving items are sold infrequently.

- Inventory items with highly variable usage patterns.

- New inventory items with no usage histories.

The MAX/MIN is also known formally as the minimum/maximum replenishment policy.

When you use the MAX/MIN replenishment policy, you order when the replenishment position drops below the minimum quantity. You set the minimum and maximum values manually. They are not calculated by Inventory Replenishment. After these values are set, Inventory Replenishment uses them to calculate the replenishment quantity by subtracting the replenishment position from the maximum when the replenishment position drops below the minimum.

Set the minimum quantity to the smallest quantity needed in inventory before you place an order to replenish. It is determined by the buyer for each inventory item and manually entered in Inventory Replenishment. As a general rule, there are three ways to set the minimum quantity. The minimum quantity can be set to:

- One unit when you want to exhaust inventory before you place an order to replenish. In this case, you order when the replenishment position equals zero.

- The mode (the most common sale quantity) plus one unit. In this case, you keep enough units in safety stock to fill one common sale, and you place an order to replenish when the replenishment position drops below the minimum.

- A multiple of the mode. For example, you might keep two times the most common sale quantity in safety stock and place an order to replenish when the replenishment position drops below the minimum.

Set the maximum quantity to the largest quantity of an inventory item that you want to have in inventory. As a general rule, the maximum quantity can be set to the minimum quantity plus the mode or to a multiple of the mode. For inventory items with few dollars moving through inventory each year, the maximum can be set to a quantity sufficient to meet expected demand for ‘x’ fiscal periods. In this case, ‘x’ is a number of fiscal periods defined by the buyer.

**Note:** To ensure accurate calculations, it is essential that the minimum and maximum values be set realistically. If the mode is not available, you can use the mean average sale quantity to determine the minimum and maximum quantities. Because the minimum and maximum quantities are not
Inventory Replenishment

recalculated after they manually entered, it is important to update them on an ongoing basis. Once every six months, review inventory items sold to more than one customer. To ensure ongoing maintenance, review one-sixth of the inventory items each month. Once a month, review inventory items most often sold to a single customer.

If the replenishment position is less than the minimum quantity, Inventory Replenishment calculates the replenishment quantity needed to bring the replenishment position to the maximum quantity. In formula form, replenishment quantity can be expressed as:

\[(\text{Maximum quantity} - \text{Replenishment position})\]

This formula is applied only if the replenishment position is less than the minimum quantity. If the replenishment position is greater than the minimum quantity, nothing is ordered and no planned order is generated.

**Example:** Let’s say that the minimum is 11 units, the maximum is 21 units, and that the replenishment position drops to 9 units. Replenishment quantity can be calculated as \((21 \text{ units} - 9 \text{ units}) = 12 \text{ units}\).

**Order to Replenish Policy**

The Order to Replenish policy is used to determine replenishment quantities when forecast demand based on past usage does not accurately predict future needs. In particular, it can be used for inventory items for which the MAX/MIN replenishment policy does not provide enough inventory to meet actual needs during the lead time period. As an alternative to the MAX/MIN replenishment policy, this policy can be used for:

- Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage. Slow-moving items are sold infrequently.
- Inventory items with highly variable usage patterns.
- New inventory items with no usage histories.

When you use the Order to Replenish policy, you order when the replenishment position drops below a manually set maximum quantity. After this value is entered manually, it is not recalculated by Inventory Replenishment.

Set the maximum quantity to the largest quantity of an inventory item that you want to have in inventory. As a general rule, the maximum quantity can be set to a multiple of the mode, meaning the quantity most often ordered. For inventory items with few dollars moving through inventory each year, the maximum can also be set to a quantity sufficient to meet expected demand for ‘x’ fiscal periods. In this case, ‘x’ is a number of fiscal periods defined by the buyer.

When the replenishment position drops below the maximum quantity, Inventory Replenishment calculates the replenishment quantity by subtracting the replenishment position from the maximum quantity. In formula form, replenishment quantity can be expressed as:

\[(\text{Maximum quantity} - \text{Replenishment position})\]

**Example:** Let’s say that the maximum is 21 units and that the replenishment position drops to 14 units. Replenishment quantity can be calculated as \((21 \text{ units} - 14 \text{ units}) = 7 \text{ units}\).

**Note:** To ensure accurate calculations, it is essential that the maximum value be set realistically. If the mode is not available, you can use the mean average sale quantity to determine the maximum quantity. Because the maximum quantity is not recalculated after it is manually entered, it is important to update it on an ongoing basis. Once every six months, review inventory items sold to more than one customer. To ensure ongoing maintenance, review one-sixth of the inventory items each month. Once a month, review inventory items most often sold to a single customer.
Comparing Replenishment Policies

Use the information in the following table to compare the replenishment quantities and replenishment points that result from various replenishment policies.

<table>
<thead>
<tr>
<th>Replenishment Policy</th>
<th>Replenishment Quantity</th>
<th>Replenishment Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>E0Q</td>
<td>Economic Order Quantity</td>
<td>Safety stock plus lead time demand</td>
</tr>
<tr>
<td>MAX/MIN</td>
<td>Maximum minus the replenishment position</td>
<td>Minimum + safety stock</td>
</tr>
<tr>
<td>Line Point</td>
<td>Target order requirement</td>
<td>Safety stock plus lead time demand plus review cycle demand</td>
</tr>
<tr>
<td>Reorder Point</td>
<td>Lead time demand</td>
<td>Safety stock plus lead time demand</td>
</tr>
<tr>
<td>Order to Replenish</td>
<td>Maximum minus the replenishment position</td>
<td>Maximum or any number below it</td>
</tr>
</tbody>
</table>
Inventory Transfers

Inventory transfers are captured when you use Usage Capture Process (41.460.00) to bring usage transactions from other modules into Inventory Replenishment. Usage capture takes adjusted quantities from the transactions and summarizes them by item site and fiscal period. It is recommended that you capture usage transactions on a weekly basis or more often, depending on the volume of transactions in your business. You should use the usage capture process at least once each fiscal period.

The following sections explain how these captured inventory transfers are treated.

Defining Transfer Relationships

Transfer relationships are defined using four parameters: Site ID, Transfer From Site, Replenishment Source Code, and Ship Via ID. The following table shows these parameters and the hierarchy of control they follow.

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Hierarchy of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site ID</td>
<td>Inventory Site and Site</td>
</tr>
<tr>
<td>Transfer From Site</td>
<td>Inventory Site, Inventory Item, Site</td>
</tr>
<tr>
<td>Replenishment Source Code</td>
<td>Inventory Site, Inventory Item, Site</td>
</tr>
<tr>
<td>Ship Via ID</td>
<td>Inventory Site, Inventory Item, Site, Material Type</td>
</tr>
</tbody>
</table>

In studying this table, notice that the only transfer-related parameter available at the material type level of control is Ship Via ID. Ship Via ID is used at the material type level of control to specify the carrier that normally handles inventory transfers for that material type. It is used as the manual default when the Ship Via ID is not specified for the inventory site, inventory item, or site.

Ship Via ID not only determines the name of the carrier that will transfer the inventory items; it also determines the number of days needed to handle the inventory transfer.

Normal Transfer Relationships

To enable Inventory Replenishment to make accurate calculations, you must specify the site identification codes for Site ID and Transfer From Site for normal transfer relationships. When you set up Inventory Replenishment, you can specify normal transfer relationships for:

- Inventory sites using Inventory Sites (10.255.00), Replenishment Parameters tab
- Inventory Items using Inventory Items (10.250.00), Replenishments tab
- Sites using Sites (10.310.00), Replenishment tab

You cannot specify transfer relationships for material types.

To specify a normal transfer relationship for an inventory site, inventory item, or site:

- Use Site ID to select the site identification number of the dependent site where the inventory items are now stored.
- Select OM Warehouse Transfer for Replenishment Source Code.
- Use Transfer From Site to select the site identification number of the central distribution site from which the inventory items are normally transferred.
- Use Ship Via ID to select the carrier that normally handles the transfer. The number of transfer days is defined by the carrier that you select.
Actual Transfer Relationships
When you create the actual OM Warehouse Transfer order, you specify the actual transfer relationship. To specify the actual transfer relationship:

- Use Site ID to select the site identification number of the site where the inventory items are now stored.
- If the Site ID is for a dependent site and inventory items on the order were transferred to the dependent site, select OM Warehouse Transfer for Replenishment Source Code.
- If you selected OM Warehouse Transfer for Replenishment Source Code, use Transfer From Site to select the site identification number of the site from which the inventory items were transferred. Most transfers will come from the normal central distribution site. However, on occasion, you may need to transfer inventory items from a different site. When this occurs, you specify a site identification number for that site.
- Use Ship Via ID to select the carrier that handled the transfer in this transaction. It may be the same or different from the carrier that normally handles this kind of inventory transfer. The number of transfer days is defined by the carrier that you select.

After you use Usage Capture Process (41.460.00) to bring actual past usage transactions into Inventory Replenishment, if desired you can:

- View actual transactions using Inventory Transaction Inquiry (10.223.00).
- Manually adjust actual transfer quantities to reflect true demand using Usage Transaction Maintenance (41.470.00).
- Manually adjust calculated replenishment quantities for inventory sites to reflect known future needs using Item Usage Maintenance (41.210.00).

Excluding Non Recurring Transfers
When you are not using central distribution sites, you must decide which transfers to include in past usage calculations. When you want to exclude unusual inventory transfers from past usage calculations, select Exclude Non Recurring Transfers on IR Setup (41.950.00), Options tab.

Handling Transfer Relationships to Ensure Accurate Usage Calculations
Transfer relationships must be handled accurately to ensure past usage calculation are made accurately. If you select Exclude Non Recurring Transfers on IR Setup (41.950.00), Options tab, each time Inventory Replenishment processes a transfer transaction, it will compare the Site ID and Transfer From Site values on each transfer transaction with the Site ID and Transfer From Site values you set up for normal relationships for the inventory site, and the inventory item and site associated with the transfer.

- If Inventory Replenishment can match the Site ID and Transfer From Site values with the Site ID and Transfer From Site values specified in one of the normal relationships, then Inventory Replenishment includes the usage when calculating the total usage quantity for the central distribution site.
- If Inventory Replenishment cannot match the Site ID and Transfer From Site values with the Site ID and Transfer From Site values specified in one of the normal relationships, then Inventory Replenishment excludes the usage quantity when calculating the total usage quantity for the central distribution site.
Two of the parameters associated with inventory transfers, **Transfer from Site** and **Replenishment Source Code**, behave differently from other Inventory Replenishment parameters. With other parameters:

- Parameter values set at the inventory site level override parameter values set at all other levels.
- Parameter values set at the site level override parameters set at the inventory item level and the material type level.
- Parameter values set at the inventory item level override parameter values set at the material type level.

In contrast, with **Transfer from Site** and **Replenishment Source Code**:

- Parameter values set for **Transfer from Site** and **Replenishment Source Code** at the inventory site level override values set at all other levels.
- Parameter values set for **Transfer from Site** and **Replenishment Source Code** at the inventory item level override values set at site level.

This difference enables you to define the site relationships at the site level, and then enter exceptions for particular inventory items at the inventory item level. You do not need to enter all of those exceptions at the inventory site level. Because there are multiple inventory sites for the same inventory item, entering exceptions at the inventory item level rather than at the inventory site level:

- Saves you time by enabling you to enter exceptions only once.
- Increases your accuracy by removing the need to enter the same information repeatedly in multiple locations.
- Avoids problems associated with treating transfers to dependent sites in the same manner as sales to customers.

**Note:** Before you can specify that an inventory item stored in a dependent site should be replenished by an OM Warehouse Transfer from the central distribution site, you must tell Inventory Replenishment how to supply the central distribution site for the inventory item. You do this by selecting either Purchase Order or OM Kit Assembly type as the **Replenishment Source Code** using Sites (10.310.00), **Replenishment** tab.
Rolled Up Demand for Central Distribution Site Environments

A central distribution site environment exists when inventory items are stored in one or more dependent sites that are normally supplied by another site called a central distribution site. The central distribution site must maintain enough inventory to meet its own needs and the needs of any dependent sites that it supplies.

To avoid double counting in the central distribution site environment, Inventory Replenishment calculates replenishment quantities using rolled up demand rather than total demand. Rolled up demand excludes all inventory transfers. It includes only sales to customers and usage in kit assemblies and work orders. The following sections explain how rolled up demand is calculated and how transfer relationships are defined.

How Rolled Up Demand Is Calculated

When calculating demand in central distribution site environments, Inventory Replenishment calculates rolled up demand rather than total demand. Rolled up demand excludes all inventory transfers when calculating demand to avoid double counting. Only sales to customers and usage in kit assemblies and work orders are considered.

If you select Use Central Distribution Sites on IR Setup (41.950.00), Inventory Replenishment calculates rolled up demand for the central distribution site and all other sites it supplies. This summary appears in Rolled Up Demand on Item Usage Maintenance (41.210.00).

When you view the Active column on the Inventory Sites (10.255.00), Replenishment Values tab for a central distribution site, you will see rolled up replenishment values for the central distribution site and all its associated sites. The Calculated column for the central distribution site lists the replenishment values for that site alone. For a site that is not the central distribution site, Active and Calculated reflect only that site’s values.

Note: Run Calculate Replenishment Values (41.450.00) to update replenishment values.

Problems Avoided Using Rolled Up Demand Instead of Total Usage

Using rolled up demand rather than total usage for central distribution site environments enables Inventory Replenishment to avoid problems found in other Inventory Replenishment systems designed to calculate replenishment quantities based on total usage calculated for each warehouse independently. Calculating replenishment quantities based on total usage means that the Inventory Replenishment system treats inventory transfers from distribution sites to dependent sites in the same manner that it treats shipments to customers. This treatment seems to make sense but causes problems when calculating replenishment quantities for planned orders.

Following are two examples of issues associated with using total usage rather than rolled up demand:

Example 1: Let’s say that you transfer 10 units of Inventory Item A from the central distribution site to a dependent site. These 10 units are added to the usage history of the central distribution site and are used to calculate replenishment quantities for Inventory Item A. Now let’s say that those 10 units become dead stock in the dependent site. You now have a problem because using total usage means you will order enough inventory to supply unnecessary transfers of this inventory item to the dependent site.

Example 2: Let’s say that demand for Inventory Item A from the dependent site goes up suddenly. If replenishment quantities are calculated based on total usage, you will not have enough stock to satisfy increased needs from the dependent site. Using total usage does not enable you to adjust the replenishment quantity for known factors that change demand in the current fiscal period.

To solve these kinds of problems, you can select Use Central Distribution Sites on IR Setup (41.950.00), Options tab, to tell Inventory Replenishment to calculate replenishment quantities using rolled up demand rather than total usage.
Performance and Profitability Measures

Four performance and profitability measures are provided by Inventory Replenishment.

- Customer Service Level
- Inventory Turnover
- Gross Margin and Adjusted Gross Margin
- Return on Investment (ROI)

Customer Service Level

Customer service level is the primary measure of how well you are serving your customers. Customer service level measures how often you have an inventory item in stock when customers order it. It includes only those orders that are filled from inventory and excludes special orders and direct or drop shipments. It should be measured at least once each fiscal period (usually each month) for each inventory item, each vendor, and each site. To obtain an accurate picture of customer service level, you need at least three months of transaction history.

Customer service level is the percentage calculated by dividing the number of inventory items shipped complete and on time by the total number of inventory items ordered. For example, if you ship 97 out of 100 items on time, your customer service level is 97%.

In formula form, customer service level can be expressed as:

\[
\frac{\text{Number shipped on time}}{\text{Total number shipped}}
\]

As a general rule, industry expert Jon Schreibfeder recommends that your overall customer service level for all inventory items should be about 95%. When you follow this general rule, you have inventory items in stock when they are needed about 95% of the time. The customer service level for individual inventory items can vary, depending on the nature of the item. You can set the customer service level at:

- 95% for bulk items such as items counted by weight
- 97% for most inventory items
- 99% for valuable or critical inventory items

Note: Customer service level can be used to calculate safety stock by selecting the service level formula.
Inventory Turnover

Inventory turnover measures how many times in the last year that you sold an amount of an inventory item equal to the average amount of money invested in the inventory item. It should be calculated separately for each inventory item in each warehouse on a monthly basis.

Turnover is calculated by dividing the total cost of goods sold (COGS) by the average investment in that inventory. Knowing the inventory turnover rate enables you to identify which inventory items contribute to profits and which do not because turnover rate is one of the factors used to calculate return on investment. Following are some examples of turnover rates:

<table>
<thead>
<tr>
<th>Annual COGS</th>
<th>Average Investment</th>
<th>Annual Inventory Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000</td>
<td>$10,000</td>
<td>1</td>
</tr>
<tr>
<td>$10,000</td>
<td>$5,000</td>
<td>2</td>
</tr>
<tr>
<td>$10,000</td>
<td>$2,500</td>
<td>4</td>
</tr>
</tbody>
</table>

In formula form, inventory turnover can be expressed as:

\[
\text{Annual COGS} / \text{Average annual investment}
\]

where COGS includes stock sales filled from inventory and excludes non-stock inventory and direct shipments.

**Example:** Let’s say that COGS is $12,000 for Inventory Item A and that the average investment in the last 12 months was $2,000. Inventory turnover can be calculated as $(\$12,000 / \$2,000) = 6$ times.

**Note:** Your inventory turnover goals depend on your business. Most distributors with 20% to 30% gross margins should have a target inventory turnover rate of six to eight times per year.

Gross Margin and Adjusted Gross Margin

Gross margin is a basic measure of an inventory item’s performance during the previous 12 months. It is calculated by subtracting the annual cost of goods sold (COGS) from annual sales revenue to get annual profit and then dividing annual profit by annual sales. In formula form, gross margin can be expressed as:

\[
(\text{Annual sales revenue} - \text{Annual COGS}) / \text{Annual sales revenue}
\]

**Example:** Let’s say that annual sales revenue for Inventory Item B equal $10 million and that the annual COGS equals $7.5 million. Gross margin can be calculated as $(\$10 million - \$7.5 million / \$10 million) = 25%.

Adjusted gross margin is a more refined measure of an inventory item’s performance during the previous 12 months. Knowing its adjusted gross margin helps you classify an inventory item in one of three categories:

- Profitable items — Your company makes money on these inventory items.
- Unprofitable but necessary items — Your company loses money on these inventory items but you must keep them in stock to support other profitable inventory items.
- Unprofitable and unnecessary items — Your company loses money on these items and there is no reason to stock them.

To calculate adjusted gross margin, you need to know the annual profit and annual carrying cost of the inventory item.

- Annual profit is calculated by subtracting the annual cost of goods sold from annual sales and can be expressed as $(\text{Annual sales revenue} - \text{Annual COGS})$.
- Annual carrying cost is calculated by multiplying the average annual investment in inventory by an annual carrying cost percentage and can be expressed as $(\text{Average annual investment} \times \text{Annual carrying cost percentage})$. The carrying cost percentage is the same percentage that is used to
calculate EOQ. You enter carrying cost percentage on IR Setup (41.950.00) when you set up Inventory Replenishment, and you maintain the value manually.

Adjusted gross margin is then calculated by subtracting annual carrying cost from annual profit and then dividing that amount by the annual sales revenue. In formula form, adjusted gross margin can be expressed as:

\[
\frac{(\text{Annual profit} - \text{Annual carrying cost})}{\text{Annual sales revenue}}
\]

**Example:** Let’s say that annual sales revenue is $10 million for Inventory Item C and that annual COGS is $7.5 million. Annual profit can be calculated as $(10 \text{ million} - 7.5 \text{ million}) = 2.5 \text{ million}$. Let’s also say that the average investment is $5 million and that the annual carrying cost percentage is 25%. Annual carrying cost can be calculated as $(5 \text{ million} \times 25\%) = 1.25 \text{ million}$. Adjusted gross margin can be calculated as \[
\frac{(2.5 \text{ million} - 1.25 \text{ million})}{10 \text{ million}} = 12.5\%.
\]

Note that this 12.5% is far less than the gross margin of 25% calculated in the gross margin example using the same annual sales and the same annual cost of goods sold.

**Note:** Average inventory investment depends on factors such as:
- Cost of goods sold
- Variations in customer demand
- Vendor reliability in delivery on time
- Vendor’s method of transport
- Vendor’s target order requirements

Carrying costs include:
- Handling costs such as putting away and moving inventory items
- A portion of rent and utilities
- A portion of insurance and taxes
- Physical inventory and cycle counting
- Inventory obsolescence and shrinkage
- Opportunity cost of funds invested in inventory

**Return on Investment (ROI)**

Return on Investment (ROI) is a profitability measure that enables you to compare the performance of inventory items and vendor lines. It also enables you to balance turnover and profits by identifying inventory items where relatively high margins can compensate for low inventory turnover. ROI is determined by multiplying inventory turnover by the gross margin percentage. In formula form, ROI can be expressed as:

\[
(\text{Turnover} \times \text{Gross Margin})
\]

As a general rule, industry expert Jon Schreibfeder recommends that most businesses should set a 120% ROI as a target for most inventory items.

**Example:** Let’s say that Inventory Item A has a turnover rate of eight times per year and an average gross margin percentage of 15%. ROI for Inventory Item A can be calculated as \((8 \times 15\%) = 120\%\). Now let’s say that Inventory Item B has a turnover rate of five times per year and an average gross margin percentage of 24%. ROI for Inventory Item B can be calculated as \((5 \times 24\%) = 120\%\). Inventory Item A and Inventory Item B both meet the target ROI of 120% even though Inventory Item A turns over faster than Inventory Item B. Now let’s say that Inventory Item C has a turnover rate of 10 times per year and an average gross margin percentage of 11%. ROI for Inventory Item C can be calculated as \((10 \times 11\%) = 110\%\). Inventory Item C does not meet the target ROI of 120%. You may need to manage Inventory Item C better to increase ROI or you may need to discontinue it.

**Note:** As a general rule, inventory items that meet the target ROI with the fewest turnovers are the most profitable. These items have lower purchasing, handling, and receiving costs.
Task Guidelines

Quick Reference Task List
This list contains tasks that are commonly performed with the Inventory Replenishment module. Each task is cross-referenced to a specific page in the user guide describing how to perform the task.

How Do I Adjust...?
- Order Quantities — see “Adjusting Planned Orders” on page 88.
- Past Usage Quantities — see “Adjusting Past Usage” on page 80.
- Replenishment Values — see “Replenishment Values” on page 12.

How Do I Analyze...?
- Inventory Performance — see “Analyzing Inventory Performance” on page 97.
- New Inventory Item Performance — see “Monitoring New Item Performance” on page 95.

How Do I Assign or Update Parameter Values...?
- Manual Defaults — see “Configuring System Parameters” on page 56.
- Material Types — see “Configuring Material Types” on page 62.
- Inventory Items — see “Configuring Inventory Items” on page 65.
- Sites — see “Configuring Sites” on page 69.
- Inventory Sites — see “Configuring Inventory Sites” on page 72.

How Do I Calculate ...?
- Order Quantities — see “Calculating Replenishment Values for Inventory Sites” on page 84.
- Past Usage — see “Capturing Past Usage” on page 77.
- Replenishment Values — see “Calculating Replenishment Values for Inventory Sites” on page 84.

How Do I Define or Update...?
- Demand Formulas — see “Setting up Demand Formulas” on page 58.
- Lead Time Formulas — see “Setting Up Lead Time Formulas” on page 59.
- Number of Days in Each Fiscal Period — see “Defining Fiscal Work Days” on page 61.
- Replenishment Policies — see “Setting Up and Configuring Inventory Replenishment Parameters” on page 56.
- Safety Stock Policies — see “Setting Up and Configuring Inventory Replenishment Parameters” on page 56.

How Do I Determine the Value of ...?
- Inventory Stored at a Site — see “Valuing Inventory” on page 94.

How Do I Enter...?
- Collaborative Forecasting — see “Specifying Additional Demand for Collaborative Forecasting” on page 85.
Inventory Replenishment

- Additional Replenishment Orders — see “Manually Entering Additional Planned Orders” on page 90.

How Do I Identify...?
- Inventory Items that Need to Be Ordered — see “Identifying Current Replenishment Needs” on page 96.
- Inventory Items that Need Attention — see “Identifying Orders and Inventory Sites that Need Attention” on page 95.
- Inventory Sites that Meet their Target Order Requirements — see “Identifying Inventory Sites that Require Target Orders” on page 96.
- Orders that Need to Be Expedited — see “Identifying Orders and Inventory Sites that Need Attention” on page 95.
- Purchase Orders that Will Be Late — see “Identifying Purchase Orders with Excess Lead Times” on page 94.
- Unusual Usage Patterns — see “Identifying Unusual Usage Patterns” on page 97.

How Do I Look Up...?
- Individual Transactions — see “Viewing Past Usage” on page 78.
- Item Usage Histories — see “Viewing Past Usage” on page 78.

How Do I Measure...?
- Gross Margin or Adjusted Gross Margin — see “Calculating Gross Margins and Adjusted Gross Margins” on page 102.
- Inventory Turnover — see “Monitoring Inventory Turnover” on page 101.
- Return on Investment — see “Determining Return on Investment” on page 102.

How Do I Replenish...?
- Inventory Sites — see “Planning Replenishment Orders” on page 77.

How Do I View...?
- Planned Orders — see “Viewing Planned Orders” on page 98.
- Replenishment parameters used for an inventory site — see “Viewing Replenishment Parameters Used" on page 99.

How Do I Purge Records and transactions ...?
- That no longer need to be retained — see “Purging Records and Transactions” on page 103.
Integrating Inventory Replenishment with Other Modules

Before you work with the Inventory Replenishment module, it is recommended that you confirm that a solid history of inventory transactions is in place in other modules for at least the last six months. If you do not want to do this or if you cannot do this, you can manually enter past usage values so that you can get Inventory Replenishment up and running quickly.

These tasks to confirm inventory transaction history include:

- Confirming Purchase Order Receipts. For instructions, see the Purchasing help or user guide.
- Confirming Sales Order and Inventory Issue Transactions. For instructions, see the Order Management help or user guide.
- Confirming Kit Assemblies (Optional). For instructions, see the Order Management help or user guide.
- Confirming OM Warehouse Transfers (Optional). If your business stores inventory in multiple locations, it is recommended that you confirm that a history of inventory transfer transactions is in place for at least the last six months. For instructions, see the Order Management help or user guide.
- Confirming Work Order Transactions (Optional). For instructions, see the Work Order help or user guide.
Setting Up and Configuring Inventory Replenishment Parameters

You must complete basic installation of Microsoft Dynamics SL before you can set up Inventory Replenishment. Inventory Replenishment relies on transactions generated by the Purchase Order, Order Management, and Inventory modules. These modules must be set up and running before Inventory Replenishment can work.

When you set up and configure Inventory Replenishment, you specify system-wide manual defaults using IR Setup (41.950.00), Options tab. Shared parameters are used at all levels of inventory control.

When you set up and configure Inventory Replenishment, you specify parameters specific to:

- Material types using Material Type Maintenance (21.370.00), Replenishment tab and Seasonality tab. Information you enter on the Seasonality tab is used for reference.
- Inventory items using Inventory Items (10.250.00), Replenishments tab
- Sites using Sites (10.310.00), Replenishment tab
- Inventory sites using Inventory Sites (10.255.00), Replenishment Parameters and Replenishment Values tabs

Specific parameters apply to the inventory site or to the site, inventory item, or material type to which they are assigned. They include such things as replenishment policy, replenishment source, target order method, and safety stock policy.

Configuring System Parameters

To set up Inventory Replenishment, you define values for the system parameters on IR Setup (41.950.00), Options tab. You can update these parameter values at any time.

After Inventory Replenishment has completed one fiscal period cycle, you can view IR Setup (41.950.00), Process Run Dates tab, to determine when usage was last captured, when replenishment values were last calculated, and when planned orders were last generated.
To set up Inventory Replenishment:

1. In Inventory Replenishment, open IR Setup (41.950.00), and then click the Options tab.

2. Select the next planned order number in Next Planned Order Number. This is the planned order number that Inventory Replenishment will use the next time you generate planned orders using Generate Planned Orders (41.400.00).

3. Type the default values for:
   - Period Fiscal Days
   - Number of Demand Periods
   - Number of Lead Time Receipts
   - Number of Trend Periods

   For descriptions of field names on IR Setup (41.950.00), Options tab, see “IR Setup, Options Tab” on page 183.

   Note: Number of Service Level Periods is not active in this version of Inventory Replenishment.

4. Use Daily Demand to type the number of decimal places to use in calculating average daily demand. This calculated value is displayed in Projected Daily Demand on Inventory Sites (10.255.00), Replenishments Values tab. The value you enter in Daily Demand must be at least two decimal places larger than the value you entered in Quantities on IN Setup (10.950.00), Options tab, when you set up your Inventory module. If you do not use a value that is at least two decimal places larger than the value you entered when you set up Inventory, then slow moving inventory items will have their daily demand set to zero due to decimal truncation.

5. Use EOQ Carrying Cost Percentage to indicate the carrying cost percentage that Inventory Replenishment will use to calculate the carrying cost of an economic order quantity in inventory. See “Economic Order Quantity Replenishment Policy” on page 42 for more information. Changes in Carrying Cost Percentage will be reflected in the Gross and Adjusted Margin (41.150.00) report.

6. Use EOQ Reorder Cost to type the carrying cost percentage that Inventory Replenishment will use to calculate the carrying cost of an economic order quantity in inventory. See “Economic Order Quantity Replenishment Policy” on page 42 for more information.

7. To exclude nonrecurring transfers, select Exclude Non Recurring Transfers.
8. If your business stores inventory in multiple locations, you can select **Use Central Distribution Sites** to roll up demand into central distribution sites. If you select **Use Central Distribution Sites**, you will exclude inventory transfers from demand calculations. When **Use Central Distribution Sites** is selected, demand calculations include issues due to sales to customers, work orders, and kit assembly orders. For information, see “Rolled Up Demand for Central Distribution Site Environments” on page 49.

9. Use **Number of Periods Retained** to type the number of fiscal periods for which you want Inventory Replenishment to retain item usage histories. Because most businesses retain item usage histories for 24 periods, the default value is 24 periods. The **Delete old IR Records/Transaction** (41.480.00) function uses the value you enter in **Number of Periods Retained** to determine the retention period when purging old records from IRItemUsage and IRDemandTran.

10. Use **Warehouse Transfers** to select the type of sales order to be used when **Transaction Order Creation** (41.440.00) creates an OM Warehouse Transfer Order. The possible values list contains all active sales order types that affect OM Warehouse Transfers. If you do not select a type of sales order, then Inventory Replenishment defaults to using TR (Warehouse Transfer). **Warehouse Transfers** is a required field.

11. Use **Kit Assemblies** to select the type of sales order to be used then **Transaction Order Creation** (41.440.00) creates an OM Kit Assembly Order. The possible values list contains all active sales order types that affect OM Kit Assembly Orders. If you do not select a type of sales order, then Inventory Replenishment defaults to using KA (Kit Assembly). **Kit Assemblies** is a required field.

12. Save the values you entered.

**Note:** For further information about the inventory theory used to set default values, see *Achieving Effective Inventory Management, Second Edition*, by Jon Schreibfeder and *Distribution Inventory Management* by Gordon Graham.

**Setting up Demand Formulas**

Inventory Replenishment enables you to define different demand formulas for the various kinds of inventory items in your business.

You use **Number of Demand Periods** on **IR Setup** (41.950.00), **Options** tab, to enter the manual default value for the number of fiscal periods to consider when calculating demand. You can use as many fiscal periods as desired. You use **Demand Formula Maintenance** (41.220.00) to select a formula identification number and then to select weights for previous fiscal periods and to specify a trend percentage to skew demand calculations to reflect the business conditions you expect in the current fiscal period. You can update demand formulas at any time.

If you do not specify a demand formula for an inventory item, Inventory Replenishment will calculate demand using no weights, no trend factor, and the number of demand periods you specified in **Number of Demand Periods** on **IR Setup** (41.950.00), **Options** tab.

To get Inventory Replenishment up and running quickly, you can use the manual value in **Number of Demand Periods** on **IR Setup** (41.950.00), **Options** tab, to calculate demand. When you are able, you can specify demand formulas for your entire inventory, or for as much of your inventory as you choose. For descriptions of field names, see “Demand Formula Maintenance (41.220.00)” on page 167.

**Note:** When Use Service Level has been selected as the **Safety Stock Policy**, the number of fiscal periods that Inventory Replenishment uses to calculate safety stock is determined by the demand formula that you specify using **Demand Formula Maintenance** (41.220.00). If you select Use Service Level as the **Safety Stock Policy** and you do not specify a demand formula for an inventory site, or for the inventory item, site, or material type associated with that inventory site, then Inventory Replenishment defaults to using the number of fiscal periods that you specified in **Number of Demand Periods** on **IR Setup** (41.950.00), **Options** tab. The value is usually from three to six months. In this version of Inventory Replenishment, **Number of Service Level Periods** on **IR Setup** (41.950.00), **Options** tab, is not active.
To define or update a demand formula:
1. In Inventory Replenishment, open Demand Formula Maintenance (41.220.00) in grid view.

![Demand Formula Maintenance (41.220.00)](image)

2. If you want to define a new formula, type a new Formula ID and type an explanation of the formula ID in Description.
3. If you want to update an existing formula, select an existing Formula ID and review the description in Description to ensure that you have selected the formula you want to update.
4. Type a positive or negative value in Trend %.
5. For as many prior periods as desired:
   a) Use Weight to type the weight factor for each period.
   b) Save the values you enter for each period.
   c) Repeat these steps as needed for the next period.
6. If desired, click Notes/Attachments in the lower-left corner to display a text box in which you can enter comments about the demand formula. Enter comments as desired. Additionally, you can attach files.
7. Save your work.
8. If desired, repeat this procedure to define or update other demand formulas.

**Note:** You control whether or not a transaction is included in demand calculations for an inventory site by selecting or deselecting Include in Demand on Sales Orders (40.100.00), Other Information tab. Include in Demand is displayed as a display-only field on Sales Orders (40.100.00), Line Items tab, and on Shippers (40.110.00). If the transaction does not involve a drop shipment and you do not select Include in Demand on Sales Orders (40.100.00), Other Information tab, then Inventory Replenishment does not include the transaction in the demand calculations for the inventory site. Drop shipments are not included in demand calculations in this version of Inventory Replenishment.

### Setting Up Lead Time Formulas

Inventory Replenishment enables you to define different lead time formulas for the various kinds of inventory items in your business.

You use Number of Lead Time Receipts on IR Setup (41.950.00), Options tab, to enter the default number of transactions to consider when calculating lead time. You use Lead Time Formula Maintenance (41.230.00) to select a formula identification number, specify high and low tolerance ranges, and then select weights for previous fiscal periods. You do not specify a trend percentage for the lead time formula. You can update lead time formulas at any time.
If you do not specify a lead time formula for an inventory item, Inventory Replenishment will calculate lead time using no weights and the number of transactions specified in Number of Lead Time Receipts on IR Setup (41.950.00), Options tab.

To get Inventory Replenishment up and running quickly, you can use the manual value in Number of Lead Time Receipts on IR Setup (41.950.00), Options tab, to calculate lead times. When you are able, you can specify lead time formulas for your entire inventory, or for as much of your inventory as you choose.

Lead time formulas can be defined when you set up Inventory Replenishment and can be updated at any time.

For descriptions of field names, see “Lead Time Formula Maintenance (41.230.00)” on page 169.

Note: You control whether or not a purchase order is included in Inventory Replenishment lead time calculations by selecting or deselecting Include in Lead Time Calc on Purchase Orders (04.250.00), Line Items tab.

To define or update a lead time formula:

1. In Inventory Replenishment, open Lead Time Formula Maintenance (41.230.00) in grid view.

2. If you want to define a new formula, type a new Formula ID and type an explanation in Description.

3. If you want to update an existing formula, select an existing Formula ID. Review the description in Description to ensure that you have selected the formula you want to update.

4. Type the low tolerance percentage limit in Unusual Low %.

5. Type the high tolerance percentage limit in Unusual High %.

6. Save your work.
7. As needed, repeat this procedure to define or update other lead time formulas.

   **Example:** You can update the weights at any time to refine your calculations. If you are not sure how to weight the receipts, as a general rule, you can assign a weight value of one to the last receipt and then multiply this value by two to determine the weight of the next receipt. For each receipt, multiply the weight assigned to the next receipt by two. The following table shows six receipts weighted in this manner. The oldest receipt is given a receipt number of six and a weight of one.

<table>
<thead>
<tr>
<th>Receipt Number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

**Defining Fiscal Work Days**

Use *Fiscal Work Days (41.200.00)* to define the number of business days in each fiscal period. This number enables Inventory Replenishment to accurately calculate average daily usage. If you do not specify the number of work days in each fiscal period, then Inventory Replenishment uses the system default value that you specified for fiscal work days using *Period Fiscal Days* on IR Setup (41.950.00), Options tab.

For descriptions of field names, see "Fiscal Work Days (41.200.00)" on page 121.

**To define the number of business days in each fiscal period:**

1. Open *Fiscal Work Days (41.200.00)*.
2. Use *Period* to select the number of the fiscal period you want to define.
3. Enter the number of business days in that period in *Work Days*.
4. Save your work.
5. Repeat this procedure as needed for other fiscal periods.
Configuring Material Types

Use this procedure to configure parameters for all of the material types in your inventory. For more information about material types, see the Inventory help or user guide.

You configure material types by assigning values to the parameters on the three tabs on Material Type Maintenance (21.370.00). The material type level provides the most basic level of inventory control. Parameter values assigned at other levels of control override parameter values assigned at the material type level.

For descriptions of field names, see “Material Type Maintenance (21.370.00)” on page 158.

To configure parameters for a material type:

1. In Inventory Replenishment, open Material Type Maintenance (21.370.00). The screen’s Information tab appears.

![Material Type Maintenance (21.370.00), Information tab](image)

2. Use Material Type to select the material type you want to configure.

3. Using the Information tab:
   - Use Description to verify that you have selected the material type you want to configure.
   - Select a status from Status.
   - Select the name of the buyer from Buyer.
4. Click the **Replenishment** tab.

![Material Type Maintenance (21.370.00), Replenishment tab](image)

**Figure 5: Material Type Maintenance (21.370.00), Replenishment tab**

5. In the **Replenishment** tab:
   - Select a **Replenishment Source Code**.
   - Select a **Replenishment Policy**.
   - Select a **Target Order Method** if you selected Line Point as the **Replenishment Policy**.
   - Select a **Calculation Policy**.
   - Type a **Target Order Requirement** amount if you selected Line Point as the **Replenishment Policy**.
   - Select a **Safety Stock Policy**. Possible values are Use Days Supply, Use % Lead Time, and Use Service Level.
     - If you selected Use Days Supply as the **Safety Stock Policy**, select the number of **Safety Stock Days** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item.
     - If you selected Use % Lead Time as the **Safety Stock Policy**, type the **Safety Stock Percent** that Inventory Replenishment will use to calculate safety stock quantities for this material type.
     - If you selected Use Service Level as the **Safety Stock Policy**, select the **Service Level** that Inventory Replenishment will use to calculate safety stock quantities for this material type.
   - In the Future Replenishment area, type the **Effective Date** if you anticipate changing the **Replenishment Policy** in the future.
   - In the Future Replenishment area, select a future **Replenishment Policy**.
   - Type the name of the **Primary Vendor**. **Primary Vendor** is required when Purchase Order is selected as the **Replenishment Source Code**.
   - Select a carrier identification number from **Ship Via ID**.
   - Select a demand formula identification number from **Demand Formula ID**.
   - Select a lead time formula identification number from **Lead Time Formula ID**.
• Save the parameters that you configured.

6. Click the **Seasonality** tab.

![Material Type Maintenance (21.370.00), Seasonality tab](image)

*Figure 6: Material Type Maintenance (21.370.00), Seasonality tab*

7. If desired, select or type values for the **Season Start Month**, **Season Start Day**, **Season End Month**, and **Season End Day**. These fields are optional. They are used for your reference only and do not affect Inventory Replenishment calculations.

8. Repeat this procedure as needed to configure other material types in your inventory.
Configuring Inventory Items

Use this procedure to configure parameters for inventory items that you want to control at the inventory item level. For more information about inventory items, see the Inventory help or user guide.

You configure inventory items by assigning parameter values on Inventory Items (10.250.00), Replenishments tab, and by specifying seasonality dates on Inventory Items (10.250.00), Seasonality tab.

As you assign parameter values and specify dates at the inventory item level, keep in mind that:

- Inventory Replenishment treats each parameter independently.
- The inventory item level of control provides a higher level of control than the material type level.
- Parameter values set at the inventory item level override parameter values assigned at the material type level.
- If you do not assign a value for a parameter at the inventory item level, Inventory Replenishment will look for a value for that parameter at the material type level.
- As a general rule, parameter values assigned at the site level of control override parameter values assigned at the inventory item level. However, there are two exceptions. Parameter values assigned to Replenishment Source Code and Transfer From Site at the inventory item level override parameter values assigned to Replenishment Source Code and Transfer From Site at the site level.
- The inventory item level of control provides some parameters that are not provided at other levels of control. Inventory Items (10.250.00), Replenishments tab, lists the parameters in a slightly different order than the order in which they are presented in the following procedure. It is recommended that you assign parameter values in the order presented in the procedure. This order makes it easier for you to recognize which parameter values can be omitted because they can also be set at another level and which parameter values must be set at the inventory item level because they cannot be assigned elsewhere.

For descriptions of field names on Inventory Items (10.250.00), Replenishments tab, see “Inventory Items, Replenishments Tab” on page 127.
To configure parameters for an inventory item:

1. In Inventory Replenishment, open Inventory Items (10.250.00), and then click the Replenishments tab.

2. Use Inventory ID to select the identification number of the inventory item you want to configure.

3. Review the Description to verify that you have selected identification number for the inventory item you want to configure.

4. Assign values to as many of the following parameters as desired. If you do not assign a value for a parameter here, Inventory Replenishment will look for the parameter value that you assigned to the material type associated with the inventory item.

   - Select a Replenishment Source Code. Possible values are Purchase Order, OM Kit Assembly Order, and OM Warehouse Transfer.

   - Select a Replenishment Policy. Possible values are Reorder Point, Line Point, EOQ, MAX/MIN, and Order to Replenish.

   - Select a Target Order Method if you selected Line Point as the Replenishment Policy.

   - Select a Calculation Policy. Possible Calculation Policy values are Manual, which will cause Inventory Replenishment to calculate replenishment quantities using manually entered parameter values, Automatic, which will cause Inventory Replenishment to calculate replenishment quantities using calculated parameter values, or None, which will cause Inventory Replenishment to look to the next level of inventory control for a calculation policy. If no calculation policy is selected at any of the levels of control, Inventory Replenishment defaults to using calculated values.

   - Type the Future Replen. Eff. Date if you anticipate changing the Replenishment Policy for this inventory item at a future date.

   - Select a Future Replenishment Policy.
• If desired, select a **Model After Inventory ID**. This field is optional. For information, see “Model After Inventory ID” on page 129.

• If **Replenishment Source Code** is set to OM Warehouse Transfer, use **Transfer From Site** to select the identification number of the site from which the inventory items were transferred.

• Select the name of the **Primary Vendor** of this inventory item if **Replenishment Source Code** is set to Purchase Order.

• Select the name of the **Buyer** of this inventory item if **Replenishment Source Code** is set to Purchase Order.

• If desired, select a demand formula identification number in **Demand Form. ID**.

• If desired, select a lead time formula identification number in **Lead Time Form. ID**.

• Select a **Safety Stock Policy**. Possible values are Use Days Supply, Use % Lead Time Demand, and Use Service Level.

• If you selected Use Days Supply as the **Safety Stock Policy**, select the number of **Safety Stock Days** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item.

• If you selected Use % Lead Time Demand as the **Safety Stock Policy**, type the **Safety Stock Percent** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item.

• If you selected Use Service Level as the **Safety Stock Policy**, select the **Service Level** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item. For information, see “Service Level” on page 33.

• If you selected Line Point as the **Replenishment Policy** for this inventory item, type the **Target Order Requirement** specified by the primary vendor for this inventory item. Use the unit of measure specified by the vendor. **Target Order Requirement** cannot be specified at the material type level.

5. If the Orders to Purchase module is installed, **Auto PO Policy** is enabled. Select an automatic purchase order policy if desired.

6. If the Orders to Purchase module is installed, **Auto Drop Ship** is enabled. Select **Auto Drop Ship** if you want to have this purchase order automatically drop shipped.

7. Select **Calculate Trend %** if you want to calculate the trend percentage when generating planned inventory. For more information, see “Calculate Trend %” on page 38.

8. Type the manual default values for all of the following parameters. The following manual default values must be set at the inventory item level. When you create a new inventory site record, these manual defaults are copied from **Inventory Items** (10.250.00), **Replenishments** tab, to **Inventory Sites** (10.255.00), **Replenishments** tab. These manual defaults are not available at the material type or site levels of control. The table in “Replenishment Values for Inventory Items” on page 15 shows which replenishment policies use the various replenishment values.

• **PO Lead Time**
• **Manuf. Lead Time**
• **Reorder Quantity**
• **Reorder Point**
• **EOQ**
• **Safety Stock**
• **Minimum on Hand**
• **Maximum on Hand**
• **Line Point**
• **Review Cycle**
9. If OM Warehouse Transfer is selected as the **Replenishment Source Code**, select a carrier identification number from **Ship Via ID**.

10. Save the parameters and manual default values you entered on the **Replenishments** tab.

11. Click the **Seasonality** tab.

12. If desired, select or type values for the **Season Start Month**, **Season Start Day**, **Season End Month**, and **Season End Day**. These fields are optional. They are used for your reference only and do not affect Inventory Replenishment calculations.

13. Save the values you entered on the **Seasonality** tab.

14. Repeat the process as needed for other inventory items.
Configuring Sites

Use this procedure to configure parameters for all of the sites where you store inventory. These sites were set up when you set up your Inventory. For more information about sites, see the Inventory help or user guide.

You configure sites by assigning parameter values on Sites (10.310.00), Replenishment tab, and specifying seasonality dates on Sites (10.310.00), Seasonality tab. Inventory Replenishment can then use these parameter values to calculate replenishment values for all items stored within a site. As you assign parameters at the site level, keep in mind that:

- Inventory Replenishment treats each parameter independently.
- The site level of control provides a higher level control than the inventory item level and the material type level.
- If you do not assign a parameter value at the site level, Inventory Replenishment will look for that parameter value at the inventory item level. If Inventory Replenishment does not find the parameter value at the inventory item level, it will look for that parameter value at the material type level.
- As a general rule, parameter values assigned at the site level of control override parameter values assigned at the inventory item level. However, there are two exceptions. Values assigned to Replenishment Source Code and Transfer From Site at the inventory item level override parameter values assigned to Replenishment Source Code and Transfer From Site at the site level.
- Sites (10.310.00), Replenishment tab, lists the parameters in a slightly different order than the order in which they are presented in the following procedure. It is recommended that you assign parameter values in the order presented in the procedure. This order enables you to quickly recognize which parameter values can be omitted because they can also be assigned at another level and which parameter values must be assigned at the site level because they cannot be assigned elsewhere.

See the Inventory help or user guide for information on how site identification codes are structured.

For descriptions of field names, see “Sites (10.310.00)” on page 148.
To configure parameters for a site:

1. In Inventory Replenishment, open Sites (10.310.00), and then click the Replenishment tab.

2. Use Site ID to select the identification number of the site you want to configure and use Name to verify that you have selected the identification number of the site you want to configure.

3. Assign values to as many of the following parameters at the site level as desired. If you do not assign a parameter value here, Inventory Replenishment will look for the parameter value that you assigned to the inventory item. If it does not find a parameter value associated with the inventory item, it will look for the parameter value assigned to the material type associated with the inventory item.

   - Select a Replenishment Source Code. Possible values are Purchase Order, OM Kit Assembly Order, and OM Warehouse Transfer.
   - Select a Replenishment Policy. Possible values are Reorder Point, Line Point, EOQ, MAX/MIN, and Order to Replenish. Select a Target Order Method.
   - Select a Calculation Policy. Possible Calculation Policy values are Manual, which will cause Inventory Replenishment to calculate replenishment quantities using manually entered parameter values, Automatic, which will cause Inventory Replenishment to calculate replenishment quantities using calculated parameter values, or None, which will cause Inventory Replenishment to look to the next level of inventory control for a calculation policy. If no calculation policy is selected at any of the levels of control, Inventory Replenishment defaults to using calculated values.
   - If you selected Line Point as the Replenishment Policy, type the Target Order Requirement specified by the primary vendor. Use the unit of measure specified by the vendor. If you do not specify a Target Order Requirement here, Inventory Replenishment will look for the value at the inventory item level. Target Order Requirement cannot be specified at the material type level.
   - Select the name of the Primary Vendor of this inventory item if Replenishment Source Code is set to Purchase Order.
   - Select a Safety Stock Policy. Possible values are Use Days Supply, Use % Lead Time Demand, and Use Service Level.
• If you selected Use Days Supply as the **Safety Stock Policy**, select the number of **Safety Stock Days** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item.

• If you selected Use % Lead Time Demand as the **Safety Stock Policy**, type the **Safety Stock Percent** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item.

• If you selected Use Service Level as the **Safety Stock Policy**, select the **Service Level** that Inventory Replenishment will use to calculate safety stock quantities for this inventory item. For information, see “Service Level” on page 33.

• Type the **Effective Date**.

• Select a **Replenishment Policy**.

• If **Replenishment Source Code** is set to OM Warehouse Transfer, use **Transfer From Site** to select the identification number of the site from which the inventory items were transferred.

• If **Replenishment Source Code** is set to OM Warehouse Transfer, select a carrier identification number from **Ship Via ID**.

• Select a demand formula identification number from **Demand Formula ID**.

• Select a lead time formula identification number from **Lead Time Formula ID**.

4. Save the parameters that you configured.

5. Click the **Seasonality** tab.

6. If desired, select or type values for the **Season Start Month**, **Season Start Day**, **Season End Month**, and **Season End Day**. These fields are optional. They are used for your reference only and do not affect Inventory Replenishment calculations.

7. Save the values you entered.

8. As needed, repeat this procedure for other sites.
Configuring Inventory Sites

You configure Inventory sites by assigning values to the parameters in Inventory Replenishment on Inventory Sites (10.255.00), Replenishment Parameters tab, and if desired, by entering manual override values on the screen’s Replenishment Values tab.

Configuring Parameters for Inventory Sites

Use this procedure to configure parameters for inventory sites. For more information about inventory sites, see the Inventory help or user guide. As you assign parameter values at the inventory site level, keep in mind that:

- Inventory Replenishment treats each parameter independently.
- The inventory site level of control provides a higher level of control than all other levels.
- Parameter values assigned at the inventory site level override parameter values assigned at all other levels.
- You can assign as many parameters values at the inventory site level as you choose.

As a general rule, if you do not assign a value for a parameter at the inventory site level, Inventory Replenishment looks for a value for that parameter at the site level, the inventory item level, and the material type level. Parameter values assigned at the site level of control override parameter values assigned at the inventory item level and the material type level. Parameters defined at the inventory item level override parameters assigned at the material type level.

There are two exceptions to this general rule. When looking for values for Replenishment Source Code and Transfer From Site, Inventory Replenishment looks at the inventory site level. If you do not assign a value at the inventory site level, then Inventory Replenishment looks first at the inventory item level, next at the site level, and last at the material type level. Parameter values assigned to Replenishment Source Code and Transfer From Site at the inventory item level override values assigned at the site level and the material type level. Values assigned at the site level override values assigned at the material type level.

- Inventory Sites (10.255.00), Replenishment Parameters tab, lists the parameters in a slightly different order than the order in which they are presented in the following procedure. It is recommended that you assign parameter values in the order presented in the procedure. This order enables you to quickly recognize which parameter values can be omitted because they can also be assigned at other levels and which parameter values must be assigned at the inventory site level because they cannot be assigned elsewhere.

For descriptions of field names, see “Inventory Sites, Replenishment Parameters Tab” on page 137.
To configure parameters for an inventory site:

1. In Inventory Replenishment, open **Inventory Sites (10.255.00)**, and then click the **Replenishment Parameters** tab.

![Figure 11: Inventory Sites (10.255.00), Replenishment Parameters tab](image)

2. Use **Inventory ID** to select the identification number of the inventory item that is associated with the inventory site you want to configure.

3. Read the inventory item description displayed in **Description** to verify that you have selected the correct inventory item. Description should display the description of the inventory item associated with the inventory site that you want to configure. If it does not, select the correct inventory identification number from **Inventory ID**.

4. Use **Site ID** to select the identification number of the site that is associated with the inventory site that you want to configure. Inventory Replenishment displays the name of the site beside **Site ID**. Verify that you have selected the correct site.

5. Assign values to as many of the following parameters as desired. If you do not assign a parameter value here, Inventory Replenishment will look for the parameter value that you assigned to the site where the inventory items are stored. If it does not find a parameter value there, it will look for the parameter value assigned to the inventory item. If it does not find the parameter value there, it will look for the parameter value assigned to the material type associated with the inventory item.

   - Select a **Replenishment Source Code**. Possible values are Purchase Order, OM Kit Assembly Order, and OM Warehouse Transfer.
   - Select a **Replenishment Policy**. Possible values are Reorder Point, Line Point, EOQ, MAX/MIN, and Order to Replenish.
   - Select a **Target Order Method** if you selected Line Point as the Replenishment Policy.
   - Type the **Future Replen. Eff. Date** if you anticipate changing the Replenishment Policy for this inventory site on a future date.
   - Select a **Future Replenishment Policy**.
   - If desired, select a **Model After Inventory ID**. This field is optional.
• If **Replenishment Source Code** is set to OM Warehouse Transfer, use **Transfer From Site** to select the identification number of the site from which the inventory items were transferred.

• Select the name of the **Primary Vendor** of this inventory item if **Replenishment Source Code** is set to Purchase Order.

• Select the name of the **Secondary Vendor** of this inventory item if **Replenishment Source Code** is set to Purchase Order.

• Select the name of the **Buyer** of this inventory item if **Replenishment Source Code** is set to Purchase Order.

• Select a demand formula identification number from **Demand Form. ID**.

• Select a lead time formula identification number from **Lead Time Form. ID**.

• If you selected Line Point as the **Replenishment Policy**, type the **Target Order Requirement specified by the primary vendor for this inventory item. Use the unit of measure specified by the vendor.** **Target Order Requirement** cannot be specified at the material type level.

• If you selected OM Warehouse Transfer as the **Replenishment Source Code**, select a carrier identification number from **Ship Via ID**.

• Select a **Safety Stock Policy**. Possible values are Use Days Supply, Use % of Lead Time Demand, and Use Service Level.

• If you selected Use Days Supply as the **Safety Stock Policy**, select the number of **Safety Stock Days** to use when calculating safety stock quantities for this inventory site. This number will be used to calculate safety stock quantities when you select Use Days Supply as the **Safety Stock Policy** and you do not select **Manual Override for Safety Stock on Inventory Sites (10.255.00)**, **Replenishment Values** tab. This is a required field if Use Days Supply has been selected as the **Safety Stock Policy**.

• If you selected Use % of Lead Time Demand as the **Safety Stock Policy**, type the **Safety Stock Percent**. This percentage is required and will be used to calculate safety stock when you select Use % of Lead Time Demand as the **Safety Stock Policy** for this inventory site and you do not select **Manual Override for Safety Stock on Inventory Sites (10.255.00)**, **Replenishment Values** tab. This is a required field when Use % of Lead Time Demand has been selected as the **Safety Stock Policy**.

• If you selected Use Service Level as the **Safety Stock Policy**, select a service level to use when calculating safety stock by service level. This service level is required and will be used to calculate safety stock when you select Use Service Level as the **Safety Stock Policy** for this inventory site and you do not select **Manual Override for Safety Stock on Inventory Sites (10.255.00)**, **Replenishment Values** tab. This is a required field when Use Service Level has been selected as the **Safety Stock Policy**.

• If desired, select or type values for the **Season Start Month**, **Season Start Day**, **Season End Month**, and **Season End Day**. These fields are optional. They are used for your reference only and do not effect Inventory Replenishment calculations.

6. Save the parameters you configured.

7. As needed, repeat this procedure for other inventory sites.
Specifying Manual Values for Inventory Sites

Use this procedure to specify manual override values and manual default values for an inventory site. When you specify a manual value at the inventory site level, this manual value overrides the manual default value or the calculated specified for the inventory item.

Note: The values that Inventory Replenishment uses to calculate replenishment quantities for inventory sites are determined by the Calculation Policy you specified for the inventory site at the site, inventory item, or material type level of control. If you select Manual as the Calculation Policy for an inventory site, then Inventory Replenishment selects replenishment quantities for the inventory site using the manual default values you specified at the inventory item level of control on Inventory Items (10.250.00), Replenishments tab. You can select a Calculation Policy at the site, inventory item, and material type levels of inventory control. If you select Automatic as the Calculation Policy for an inventory site, then Inventory Replenishment calculates replenishment quantities for the inventory site using calculated values based on the parameters you specified or selected at the inventory site, site, inventory item, or material type levels of control. You can select a Calculation Policy at the site, inventory item, and material type levels of inventory control.

For descriptions of field names, see “Calculate Trend %” on page 38.

To specify manual override and manual default values for an inventory site.
1. Open Inventory Sites (10.255.00), and then click the Replenishment Values tab.

2. In Inventory ID and Site ID, select an inventory item and site.
3. If desired, specify **Manual Override** values for:
   - Reorder Quantity
   - Reorder Point
   - EOQ
   - Safety Stock
   - PO Lead Time
   - Projected Daily Demand
   - Review Cycle Days
   - Line Point

4. If desired, specify manual default values at the inventory site level for the following. Because these values are not calculated, you can specify manual defaults at the inventory site level or at the inventory item level.
   - Maximum on Hand
   - Minimum on Hand
   - Manuf Lead Time

5. Type the low-limit percentage for each parameter in **Low Limit %** in its row. If the calculated value is lower than the low limit percentage of the existing value, then a message is logged in the log file and the existing value is not replaced by the calculated value.

6. Type the high-limit percentage for each parameter in **High Limit %** in its row. If the calculated value is higher than the high limit percentage of the existing value, then a message is logged in the log file and the existing value is not replaced by the calculated value.

7. Save the manual override and manual default values you specified.

8. Repeat this procedure as desired for other inventory sites.
Planning Replenishment Orders

Replenishment orders are prepared in Inventory Replenishment. Called planned orders because they are not yet active, these replenishment orders are sent to Purchasing and Order Management for conversion to actual purchase orders, transfer orders, and assembly orders.

The following sections explain how to use Inventory Replenishment to prepare planned orders:

- Capturing past usage
- Reviewing and adjusting past usage
- Calculating replenishment values
- Generating or manually entering planned orders
- Adjusting the generated orders as needed
- Creating transaction orders from planned orders, and sending the transaction orders to Purchasing where they are converted to purchase orders, or to Order Management where they are converted to assembly orders or warehouse transfer orders.

Capturing Past Usage

After you have set up Inventory Replenishment and configured material types, inventory items, sites, and inventory sites, you are ready to capture past usage transactions from Inventory, Order Management, and Work Order. You capture past usage again at the beginning of each fiscal period.

You use Usage Capture Process (41.460.00) to capture and import usage transactions into Inventory Replenishment. Usage Capture Process (41.460.00) summarizes the transaction amounts by inventory site and fiscal period. You can then view and adjust these transactions as explained in the following sections.

Note: You may or may not need to run an integrity check before you capture past usage. The Inventory Integrity Check (10.990.00) process is a way of checking that inventory records are logically consistent and referentially correct. If you discover that information has been corrupted, you can use the integrity check process to rebuild the information from original records. You should run integrity checks before you set up Inventory Replenishment, on a regular basis before period closings, and whenever you find that records are inconsistent. See the Inventory help or user guide for instructions on running an integrity check.
To capture past usage:
1. Open *Usage Capture Process* (41.460.00).

   ![Image of Usage Capture Process](image)

   *Figure 13: Usage Capture Process (41.460.00)*

2. Click *Begin Processing*. Inventory Replenishment captures transactions from other modules and imports them into Inventory Replenishment.

   Inventory Replenishment displays a dialog box with the status as this process is run. It displays a confirmation message when this process ends.

**Viewing Past Usage**

Inventory Replenishment enables you to review and adjust quantities associated with specific transactions and inventory items. You can perform as many of the following tasks as needed to ensure that you have accurate past usage information to use when calculating replenishment values.

**Viewing a Specific Transaction**

Use *Inventory Transaction Inquiry* (10.223.00) to verify that a transaction has been posted to Inventory Replenishment.
To verify that a specific transaction has been posted to Inventory Replenishment:

1. In the Inventory module, open Inventory Status Inquiry (10.220.00).
2. In Inventory ID, select an inventory item that is included in the transaction you want to review.
3. Click the Transaction Detail button. Inventory Transaction Inquiry (10.223.00) appears.

4. In the Selection Filters area, specify the identifier assigned to the site, warehouse bin location, customer, or vendor that is the focus of your search. To narrow your search, use more than one filter.
5. Click Refresh. Inventory Replenishment displays the transaction information.
6. Confirm that Inventory Replenishment displays a check mark in Processed by I.R. If Processed by I.R. is not selected, the transaction has not been posted to Inventory Replenishment. Types of transactions that are posted to Inventory Replenishment include Transfers, Inventory Issues, Invoices, Kit Assembly Issues, and Work Order Issues.

   **Note:** Other transactions such as Adjustments will not have Processed by I.R. selected.
7. Save your changes.
Adjusting Past Usage

Inventory Replenishment enables you to adjust individual transactions, adjust period usage for inventory sites, and specify additional safety stock for inventory sites.

Adjusting Individual Transactions

After you run Usage Capture Process (41.460.00), you can use Usage Transaction Maintenance (41.470.00) to review an individual inventory transaction, to exclude an irregular transaction from past usage calculations, or to adjust the transaction quantity to reflect a more accurate picture of true demand.

For descriptions of field names, see “Usage Transaction Maintenance (41.470.00)” on page 180.

To view, exclude, or adjust a transaction:

1. In Inventory Replenishment, open Usage Transaction Maintenance (41.470.00).

![Image of Usage Transaction Maintenance (41.470.00)]

2. Use Inventory ID to select the inventory item identification number.
3. Use Site ID to select the site identification name or number.
4. Use Period to type the number of the fiscal period in which the transaction occurred.
5. Press TAB. Inventory Replenishment redisplays Usage Transaction Maintenance (41.470.00), showing transactions that match the criteria you specified.
6. If this transaction is irregular and you need to exclude it from past usage calculations, uncheck Include in Usage. If you do not remove the check mark, Inventory Replenishment will automatically include this transaction when calculating replenishment quantities for the inventory site associated with this transaction.
7. If the transaction quantity shown in Usage does not reflect the true demand quantity, use Adjustment to Usage to type the difference between the true demand quantity and the demand quantity shown in Usage. If you do not enter a manual adjustment in Adjustment to Usage on Usage Transaction Maintenance (41.470.00), Inventory Replenishment will use zero.

**Example:** Let’s say that the unit of measure is in units, that Usage displays 10, and the true demand for this transaction was 12. You type 2 in Adjustment to Usage so that the transaction quantity reflects true demand.

**Note:** If you enter a value in Adjustment to Usage on Usage Transaction Maintenance (41.470.00), Inventory Replenishment uses this value to calculate the overall adjustment to item usage shown in Actual Usage Adjustment on Item Usage Maintenance (41.210.00).

8. If you excluded the transaction or adjusted the transaction quantity, you can enter an explanation for your action in Reason. This step is optional.

9. Save your data entry.

10. Repeat this procedure as needed for other transactions.

**Adjusting Period Usage for Inventory Sites**

After you run Usage Capture Process (41.460.00), you can use Item Usage Maintenance (41.210.00) to view and adjust the calculated usage quantity for an inventory site for any of the previous fiscal periods used in the calculation. Inventory Replenishment calculates period usage when it captures transactions from other modules. The calculated usage may not reflect true demand due to factors outside the Inventory system.

For field name descriptions, see “Item Usage Maintenance (41.210.00)” on page 164.
To view and adjust the calculated period usage quantity for an inventory site:

1. In Inventory Replenishment, open Item Usage Maintenance (41.210.00).

   ![Image of Item Usage Maintenance](image)

   *Figure 16: Item Usage Maintenance (41.210.00)*

2. Select an Inventory ID.

3. Select a Site ID.

4. Select the Period for which you want to see the item usage history.

   Inventory Replenishment displays the item usage history for the selected fiscal period for the inventory site that is associated with this inventory item identification number and site identification name or number.

5. Review the information displayed in the following display-only fields:

   - **Actual Usage** — The total value of all transactions that were used to calculate period usage. Include in Usage was selected on the order for those transactions.
   - **Actual Usage Adjustment** — The value of the adjustment that was added or subtracted from Actual Usage to help Actual Usage reflect true demand. This is the sum of all the adjustments made to usage transactions for this period.
   - **Non Recurring Usage** — The total value of all of the usage transactions that were not used to calculate period usage. A transaction is excluded from usage calculations when Include in Usage was deselected on the order for the transaction or was deselected after the transaction was captured using Usage Transaction Maintenance (41.470.00).
   - **Projected Demand** — The demand that was forecast for the inventory site for the fiscal period you selected.
   - **Rolled Up Demand** — Rolled Up Demand is displayed when Use Central Distribution Sites has been selected on IR Setup (41.950.00), Options tab. Rolled Up Demand includes projected demand for the central distribution site and for the sites supplied by the central distribution site. For information about the concept behind rolled up demand, see “Rolled Up Demand for Central Distribution Site Environments” on page 49.

6. If desired, click Usage Transactions to view Usage Transaction Maintenance (41.470.00) for the transactions associated with this inventory site during the fiscal period you specified in Period.
7. If desired, use Usage Transaction Maintenance (41.470.00) to exclude or adjust individual transactions.

8. If the actual usage adjustment calculated by Inventory Replenishment and displayed in Actual Usage Adjustment does not accurately reflect the difference between actual usage and true demand, type a more accurate value in Period Usage Adjustment.

   If you typed a value in Period Usage Adjustment, Inventory Replenishment will add Period Usage Adjustment to Actual Usage Adjustment to adjust the quantity displayed in Actual Usage. Period Usage becomes Actual Usage plus any Actual Usage Adjustment plus any Period Usage Adjustment.

   If you do not enter a value here, Inventory Replenishment will disregard this field when calculating period usage for this inventory site.

9. If you typed a value in Period Usage Adjustment, you must select a Reason Code. Possible values are None, Unusual Sales Activity, Error Correction, Insufficient Inventory, and Manual Adjustment.

10. If desired, click Notes/Attachments to gain access to a text box in which you can enter additional comments or attach files for Item Usage Maintenance (41.210.00).

11. Save your changes.

12. Repeat this procedure for other inventory sites as needed.
Calculating Replenishment Values for Inventory Sites

You use *Calculate Replenishment Values* (41.450.00) to calculate replenishment values for inventory sites.

Before you use *Calculate Replenishment Values* (41.450.00):

- Use *Usage Capture Process* (41.460.00) to capture actual usage for the most recent fiscal period.
- Use *Usage Transaction Maintenance* (41.470.00) to exclude irregular transactions from past usage calculations when replenishment quantities are calculated or to review and adjust specific transaction quantities as needed.
- Use *Item Usage Maintenance* (41.210.00) to review and adjust the overall usage values generated for specific inventory sites by the usage capture process.

Once each fiscal period, or as often as needed, use *Calculate Replenishment Values* (41.450.00) to have Inventory Replenishment calculate replenishment values for inventory sites for which *Calculation Policy* has been set to Automatic. Using the past usage information that you captured and adjusted and the parameter values you specified, Inventory Replenishment calculates:

- Projected daily demand (See “Average Daily Demand” on page 29.)
- Lead time (See “Lead Times” on page 22.)
- Safety stock (See “Safety Stock” on page 31.)
- Reorder point (See “Reorder Point Replenishment Policy” on page 41.)
- Reorder quantity (See “Reorder Point Replenishment Policy” on page 41.)
- Economic order quantity (See “Economic Order Quantity Replenishment Policy” on page 42.)
- Review cycle days (See “Review Cycle Demand” on page 29.)
- Line point (See “Line Point Replenishment Policy” on page 41.)

To calculate replenishment values:

1. In Inventory Replenishment, open *Calculate Replenishment Values* (41.450.00).

![Figure 17: Calculate Replenishment Values (41.450.00)](image)
2. Click **Begin Processing**.

   Inventory Replenishment compares the current period’s start date with the date when usage was last captured. If usage has been captured after the beginning of the current fiscal period, Inventory Replenishment calculates replenishment values. If usage has not been captured after the beginning of the current fiscal period, Inventory Replenishment displays a warning. You can override the warning and proceed if desired. After you calculate replenishment values, you can generate planned orders.

   Inventory Replenishment displays a dialog box with the status as this process is run. It displays a confirmation message when this process ends.

**Specifying Additional Demand for Collaborative Forecasting**

At times you may expect an increase in future demand for an inventory item that is not reflected in its past usage calculations. When this happens, you can use **Collaborative Forecast** (41.110.00) to add to the period forecast calculated in **Calculate Replenishment Values** (41.450.00). This is an optional step in planning replenishment orders and is the only collaborative forecasting tool available in this release of Inventory Replenishment.

**To specify additional safety stock:**

1. In Inventory Replenishment, open **Collaborative Forecast** (41.110.00).

   ![Collaborative Forecast (41.110.00)](image)

   **Figure 18: Collaborative Forecast (41.110.00)**

2. Use **Inventory ID** to select the inventory item for which you need additional safety stock.

3. Use **On Date** to select the date on which you need the additional safety stock. Selecting **On Date** enables you to specify additional safety stock for that date only. Inventory Replenishment will ignore this additional safety stock after that date has passed.

4. Use **Site ID** to select the site for which you need additional safety stock.

5. Use **Site ID description** to verify that you have selected the correct site.

6. Type the additional number of units you need in **Qty Desired**. The number you type must be greater than zero. Inventory Replenishment will add this amount to the replenishment demand for this inventory site.

7. Repeat steps 1 through 6 as needed for other dates, sites, and quantities.

8. Repeat steps 1 through 7 as needed for other inventory sites that require collaborative forecasts.

9. Run **Calculate Replenishment Values** (41.450.00 after making any changes in **Collaborative Forecast** (41.110.00)). For more information, see “Calculating Replenishment Values for Inventory Sites” on page 84.
Generating Planned Orders

Before you use Generate Planned Orders (41.400.00):

1. If Customer Priority Scheduling is turned on for Inventory and Order Management, you must run Process Manager to ensure that all transaction information is ready to be captured. If Customer Priority Scheduling is turned off, this step is not necessary. For information about Process Manager, see the Order Management help or user guide.

2. Use Usage Capture Process (41.460.00) to capture actual usage for the most recent fiscal period.

3. Use Usage Transaction Maintenance (41.470.00) to exclude irregular transactions from past usage calculations when replenishment quantities are calculated or to review and adjust specific transaction quantities as needed.

4. Use Item Usage Maintenance (41.210.00) to review and adjust the overall usage values generated for specific inventory sites by the usage capture process.

5. Use Calculate Replenishment Values (41.450.00) to calculate replenishment values for all inventory sites for which Calculation Policy has been set to Automatic.

6. If desired, use Collaborative Forecast (41.110.00) to specify additional safety stock for specific inventory sites as needed. This step is optional.

7. If desired, use Planned Order Maintenance (41.100.00) to change the Status of any existing Unfirmed planned orders to Firmed if you do not want those existing planned orders deleted from Inventory Replenishment when you run Generate Planned Orders (41.400.00). Each time you run Generate Planned Orders (41.400.00), Inventory Replenishment deletes any existing planned orders with an Unfirmed status. You can use Planned Order Maintenance (41.100.00) again to change the status of those planned orders back to Unfirmed after you generate planned orders.

Use Generate Planned Orders (41.400.00) to generate planned orders based on current levels of inventory and the replenishment values that have been calculated or set manually. Inventory Replenishment generates planned orders for all inventory sites that have a Replenishment Policy and a Replenishment Source Code selected at one of the four levels of inventory control.

After using Generate Planned Orders (41.400.00) to generate planned orders, you can review the Event Log to see the various pieces of information that contributed to generating the planned orders. The Event Log shows:

- Inventory ID, Site ID and replenishment method
- Lead time
- Planned through Date, which is the current date plus lead time
- Quantity Available calculated from the information in the SOPlan table
- Sum of quantity on firmed planned orders
- Net quantity available
- Planned Order Qty, if planned order is generated
To generate planned orders:

1. In Inventory Replenishment, open Generate Planned Orders (41.400.00).

![Generate Planned Orders (41.400.00)](image)

*Figure 19: Generate Planned Orders (41.400.00)*

2. Click **Begin**.

   Inventory Replenishment compares the date when replenishment values were last calculated, **Calculate Replen. Values**, with the current period’s start date. If replenishment values have been calculated since the beginning of the current fiscal period, Inventory Replenishment will generate planned orders. If replenishment values have not been calculated since the beginning of the current fiscal period, Inventory Replenishment will display a warning. You can override the warning and proceed if desired.

   Inventory Replenishment displays a dialog box with the status as this process is run. It displays a confirmation message when this process ends and generates a log file. You should check this log file for any error messages or informational message.
Adjusting Planned Orders

You can use Planned Order Maintenance (41.100.00) to review and adjust planned orders before you convert them to purchase orders, assembly orders, and transfer orders.

You can view and adjust planned orders before you open Transaction Order Creation (41.440.00) by opening Planned Order Maintenance (41.100.00) from the Inventory Replenishment menu. You can also open Planned Order Maintenance (41.100.00) while using Transaction Order Creation (41.440.00). You do this by drilling down to a specific transaction in the grid on Transaction Order Creation (41.440.00).

If you selected Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you must use Planned Order Maintenance (41.100.00) to change the planned order status for any planned orders that you want to convert before you click Create Transaction on Transaction Order Creation (41.440.00). In this case, Inventory Replenishment converts only those planned orders that you identified for conversion if the planned order has a Firmed status. Unfirmed planned orders, whether identified for conversion or not, remain in Inventory Replenishment until the next time you run Generate Planned Orders (41.400.00).

If you did not select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you do not need to use Planned Order Maintenance (41.100.00) to change the status to Firmed. In this case, Inventory Replenishment converts all Firmed and Unfirmed planned orders that you identified for conversion when you click Create Transaction on Transaction Order Creation (41.440.00).

All required fields on Planned Order Maintenance (41.100.00) are populated when you generate the planned orders.

If the planned order has already been converted to a replenishment order, then Document ID displays the number of the replenishment order. If the replenishment order is a purchase order, Document ID displays a purchase order number. If the replenishment order is an assembly order or a transfer order, then Document ID displays a sales order number. Document ID is a display-only field that is populated when you convert planned orders using Transaction Order Creation (41.440.00).

Note: Each time you run Generate Planned Orders (41.400.00), Inventory Replenishment deletes any existing planned orders with an Unfirmed status. If you have an existing planned order with an Unfirmed status, and you do not want Inventory Replenishment to delete that existing planned order when you generate planned orders, you must change its status to Firmed before you run Generate Planned Orders (41.400.00). If necessary, you can change the status back to Unfirmed after you generate planned orders.
To review and adjust a planned order:

1. In Inventory Replenishment, open Planned Order Maintenance (41.100.00)

2. Select the planned order number from Plan Order Number.

3. Update any or all of the following as needed. For field name descriptions, see “Planned Order Maintenance (41.100.00)” on page 115.
   - Inventory ID
   - Site ID
   - Quantity
   - UOM
   - Start Date
   - Lead Time
   - End Date
   - IR Doc Type
   - Vendor ID
   - Transfer from Site ID
   - Ship Via ID
   - Planner
   - Buyer

4. Save your changes.

Note: On occasion, Inventory Replenishment calculates a planned order with an order quantity for partial units. For example, you might get a planned order for 10.5 units. This occasional error occurs when Quantities (Decimal Places) in IN Setup (10.950.00), Options is set to a value greater than zero. To manually correct this occasional error, you can adjust the order quantity using Quantity on Planned Order Maintenance (41.100.00). For instructions, see “Adjusting Planned Orders” on page 88. Future versions of Inventory Replenishment will automatically correct this occasional error.
Manually Entering Additional Planned Orders

You can use Planned Order Maintenance (41.100.00) to manually enter planned orders.

To enter a new planned order:
1. In Inventory Replenishment, open Planned Order Maintenance (41.100.00).
2. Select New from Plan Order Number.
3. Type or select all of the following. For field name descriptions, see “Planned Order Maintenance (41.100.00)” on page 115.
   - Inventory ID
   - Site ID
   - Quantity
   - UOM
   - Start Date
   - Lead Time
   - End Date
   - IR Doc Type
   - Vendor ID
   - Transfer from Site ID
   - Ship Via ID
   - Planner
   - Buyer
4. Save your changes.
Creating Transaction Orders

Use Transaction Order Creation (41.440.00) to select planned orders to convert to replenishment orders. Replenishment orders include Purchase Orders, OM Kit Assembly Orders, and OM Warehouse Transfer Orders.

Before you use Transaction Order Creation (41.440.00):

- Use Usage Capture Process (41.460.00) to capture actual usage for the most recent fiscal period.
- Use Usage Transaction Maintenance (41.470.00) to exclude irregular transactions from past usage calculations when replenishment quantities are calculated or to review and adjust specific transaction quantities as needed.
- Use Item Usage Maintenance (41.210.00) to review and adjust the overall usage values generated for specific inventory sites by the usage capture process.
- Use Calculate Replenishment Values (41.450.00) to calculate replenishment values for all inventory sites for which Calculation Policy has been set to Automatic.
- If desired, use Collaborative Forecast (41.110.00) to specify additional safety stock for specific inventory sites as needed. This step is optional.
- Use Generate Planned Orders (41.400.00) to generate planned orders.
- If you selected Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you must use Planned Order Maintenance (41.100.00) to select Firmed as the status of all planned orders that you want to convert before you select them and click Create Transaction on Transaction Order Creation (41.440.00). You can open Planned Order Maintenance (41.100.00) from the Inventory Replenishment menu before you open Transaction Order Creation (41.440.00). You can also open Planned Order Maintenance (41.100.00) while using Transaction Order Creation (41.440.00) by drilling down to an individual transaction in the Planned Transactions area on Transaction Order Creation (41.440.00).
- If you did not select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you do not need to use Planned Order Maintenance (41.100.00) to change the status of all planned orders that you want to convert before you select them and click Create Transaction on Transaction Order Creation (41.440.00). When Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, is not selected, Inventory Replenishment converts all planned orders that you have placed in the Planned Transactions area on Transaction Order Creation (41.440.00) and then selected, regardless of Status.
- If desired, use Planned Order Maintenance (41.100.00) to manually create additional planned orders.

For descriptions of fields, see “Transaction Order Creation (41.440.00)” on page 174.
To select planned orders for conversion:

1. In Inventory Replenishment, open *Transaction Order Creation* (41.440.00).

![Transaction Order Creation (41.440.00)](image)

*Figure 21: Transaction Order Creation (41.440.00)*

2. If desired, select the appropriate filters for your needs. Inventory Replenishment displays the planned order numbers only for the planned orders that meet the criteria you specified by the filters you selected. If you want to select all unconverted planned orders, then you do not need to enter any filters.

3. For each planned order you want to select:
   a) Select the appropriate values for:
      - Company ID
      - Inventory ID
      - Vendor ID
      - Transaction Type
      - Plan Order Nbr
      - Site ID
      - From Site ID
   b) Select a *Status*.
   c) Select the name of the *Planner*.
   d) Select the *Start After* and *Start Before* dates. Inventory Replenishment will only convert planned orders with start dates between these dates.
   e) Select the *Finish After* and *Finish Before* dates. Inventory Replenishment will only convert planned orders with finish dates between these dates.
   f) Select the name of the *Buyer*.
   g) Click *Refresh*. Inventory Replenishment redisplays *Transaction Order Creation* (41.440.00) showing the planned order(s) you have selected so far in Planned Transactions area.
h) If desired, highlight one of the planned orders and click **Drill Down** to view and adjust the planned order using **Planned Order Maintenance** (41.100.00).

i) If you do not want a replenishment order created from this planned order, uncheck **Selected** for this order.

j) Click **Clear All** to remove the filter values you entered.

k) Repeat this process as needed until you have selected all of the planned orders for which you want to create replenishment orders.

4. When all of the planned orders you want to convert are displayed in the Planned Transactions area, do one of the following:
   - To select all orders displayed in the Planned Transactions area, click **Select All**.
   - To select none of the orders, click **Select None**.
   - To select an individual transaction, click on **Selected** for that transaction.

5. Click **Create Transaction**.

When you click **Create Transaction**:

a) If the **Transaction Type** is Purchase Order, Inventory Replenishment sends the planned order information to Purchasing to be converted to a purchase order.

b) If the **Transaction Type** is Kit Assembly, Inventory Replenishment sends the planned order information to Order Management to be converted to an assembly order.

c) If the **Transaction Type** is OM Warehouse Transfer, Inventory Replenishment sends the planned order information to Order Management to be converted to a transfer order.

When you click **Create Transaction**, Inventory Replenishment also generates a summary screen that shows how many transactions were attempted, how many transactions were created, and how many transactions had errors. You can generate a report of these transactions using the **Planned Order Report** (41.080.00).

**Process Flow**

The program will loop through all the selected planned orders, and group them together based on Inventory Replenishment document type (Purchase Order, OM Warehouse Transfer, OM Kit Assembly). These document types will be arranged to generate a single document based on the following sort criteria:

- Purchase Orders are sorted based on **Vendor ID**.
- Transfer Orders can be sorted based on **Transfer From Site ID**, **Site ID**, or **Ship Via ID**.
- Kit Assembly Orders can be sorted based on **Transfer From Site ID**, **Site ID**, or **Ship Via ID**.
Managing Inventory Replenishment

Inventory Replenishment reports provide information for managing Inventory Replenishment. Perform as many of the following recommended tasks as appropriate to meet the needs of your business.

Valuing Inventory

You can use the Inventory Valuation (10.620.00) report to determine the value of:

- All inventory items stored at a site
- Selected or all ABC Classes within a site
- Selected or all Movement Classes within a site
- Selected or all Product Classes or Product Lines within a site

You can also use Inventory Valuation (10.620.00) to identify all items in a site that have had no sales within the past X months.

The Inventory Valuation (10.620.00) report lists item ID, description, valuation method, and stocking UOM and then by site lists the quantity on hand, site cost, and the receipts for each site—with receipt number, quantity, cost, and extended cost. This report is commonly used to analyze the book value of inventory items by site or to compare to the Trial Balance (01.610.00) report from General Ledger before period closings.

To generate the report:
1. In the Inventory module, open the Inventory Valuation (10.620.00) report.
2. Select filters as desired for this report.
3. Use Beg/End Period to type the first and last fiscal period to include in the report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Identifying Purchase Orders with Excess Lead Times

You can use the Unusual Purchase Order Lead Time (41.010.00) report to identify any purchase order receipt transactions that fall outside the lead time formula’s low and high percentage tolerances, provided that the inventory site has a lead time formula associated with it. This lead time formula can be specified at the inventory site level or at the site, inventory item, or material type level that is associated with the inventory site.
To generate the report:
1. In Inventory Replenishment, open the Unusual Purchase Order Lead Time (41.010.00) report.
2. Select filters as desired for this report.
3. Use Beg/End Period to type the first and last fiscal period to include in the report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Identifying Orders and Inventory Sites that Need Attention
You can use the Expediting Report (41.020.00) to identify purchase orders and inventory items that require attention from the buyer or the vendor.

To generate the report:
1. In Inventory Replenishment, open the Expediting Report (41.020.00).
2. Select filters as desired for this report.
3. Use Beg/End Period to type the first and last fiscal period to include in the report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Monitoring New Item Performance
You can use the New Item Performance Report (41.030.00) to monitor the performance of new inventory items during the past 12 months.

To generate the report:
1. In Inventory Replenishment, open the New Item Performance Report (41.030.00).
2. Select filters as desired for this report.
3. Type the first and last page number to include in the report in Beg/End Page Nbr.
4. Type the number of copies to print in Copies.
5. To preview the report, click Print Preview.
6. To reset printer options, click Print Options.
7. To print the report, click Print.
Identifying Current Replenishment Needs

You can use the Current Replenishment Needs (41.040.00) report to identify inventory sites that require replenishment in the current fiscal period because the replenishment position has fallen below the replenishment point.

To generate the report:
1. In Inventory Replenishment, open the Current Replenishment Needs (41.040.00) report.
2. Select filters as desired for this report.
3. Select the report format from Report Format.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Identifying Inventory Sites that Require Target Orders

You can use the Suggested Target Purchase Order (41.050.00) report to identify inventory sites that meet target order requirements. This report can be generated for purchase orders, assembly orders, and transfer orders.

To generate the report:
1. In Inventory Replenishment, open the Suggested Target Purchase Order (41.050.00) report.
2. Select filters as desired for this report.
3. Select the report format from Report Format. Possible values are Purchase Order, Assembly Order, or Transfer Order.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.
Analyzing Inventory Performance

You can use the Inventory Analysis (41.060.00) report to analyze the performance of selected inventory items in a specified fiscal period.

The Inventory Analysis (41.060.00) report should be run at least once each fiscal period. When calculating safety stock levels using the service level formula, the Inventory Analysis (41.060.00) report can be run as often as desired to ensure that customer service level includes the latest sales order transactions.

To generate the report:
1. In Inventory Replenishment, open the Inventory Analysis (41.060.00) report.
2. Select filters as desired for this report.
3. Use Period to Report to type the number of the fiscal period to include in the report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Identifying Unusual Usage Patterns

You can use the Unusual Usage Report (41.070.00) to identify inventory items that may have unusual usage patterns. This report enables you to compare and contrast usage patterns and forecast demand for the fiscal period you specified for the report.

To generate the report:
1. In Inventory Replenishment, open the Unusual Usage Report (41.070.00).
2. Select filters as desired for this report.
3. Type the number of the fiscal period in Period to Report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.
Viewing Planned Orders

You can use the Planned Order Report (41.080.00) to view all of the planned orders that were generated when you ran Generate Planned Orders (41.400.00). This report is sorted by Planned Order Number. You can filter the report based on the status of the planned order.

Note: You can view and adjust individual planned orders by opening Planned Order Maintenance (41.100.00) from the Inventory Replenishment menu. You can also open Planned Order Maintenance (41.100.00) while using Transaction Order Creation (41.440.00) by drilling down to a specific transaction in the Planned Transactions area displayed on Transaction Order Creation (41.440.00).

Note: On occasion, Inventory Replenishment calculates a planned order with an order quantity for partial units. For example, you might get a planned order for 10.5 units. This occasional error occurs when Quantities (Decimal Places) in IN Setup (10.950.00), Options tab, is set to a value greater than zero. To manually correct this occasional error, you can adjust the order quantity using Quantity on Planned Order Maintenance (41.100.00). For instructions, see “Adjusting Planned Orders” on page 88. Future versions of Inventory Replenishment will automatically correct this occasional error.

To generate the report:
1. In Inventory Replenishment, open the Planned Order Report (41.080.00).
2. Select filters as desired for this report.
3. Type the first and last page number to include in the report in Beg/End Page Nbr.
4. Type the number of copies to print in Copies.
5. To preview the report, click Print Preview.
6. To reset printer options, click Print Options.
7. To print the report, click Print.
Viewing Replenishment Parameters Used
You can view replenishment parameters for a single site or view a report that shows replenishment parameters for multiple sites.

Viewing Replenishment Parameters for a Single Site
You can use Replenishments (10.220.06), a sub screen of Inventory Status Inquiry (10.220.00) in the Inventory module to view the replenishment parameters used for any site.

To view replenishment parameters used for an inventory site:
1. In the Inventory module, open Inventory Status Inquiry (10.220.00).
2. Type the Inventory ID.
3. Type the Site ID.
4. Click Replenishment. Replenishments (10.220.06) appears, showing the replenishment parameters selected for the inventory site.

Viewing Replenishment Parameters for Multiple Sites
You can use the Replenishment Parameters Used (41.090.00) report to view the replenishment parameters that have been selected for inventory sites. The report can be sorted by inventory item and then by inventory site.

To generate the report:
1. In Inventory Replenishment, open the Replenishment Parameters Used (41.090.00) report.
2. Select filters as desired for this report.
3. Type the first and last page number to include in the report in Beg/End Page Nbr.
4. Type the number of copies to print in Copies.
5. To preview the report, click Print Preview.
6. To reset printer options, click Print Options.
7. To print the report, click Print.
Measuring Performance and Profitability

Inventory Replenishment enables you to measure how well you are serving your customers on an overall level and on an inventory item level. It also enables you to measure each inventory item’s performance and profitability in terms of its turnover rate, gross margin, adjusted gross margin, and return on investment.

Because most businesses use the calendar month as the fiscal period, Inventory Replenishment reports measure performance and profitability on a monthly basis. The Customer Service Level (41.120.00) report displays customer service levels for the previous month. The following reports display performance and profitability measures for the previous 12 months.

- Inventory Turnover (41.130.00) report
- Gross and Adjusted Margin (41.150.00) report
- Return On Investment (41.140.00) report

The Inventory Analysis (41.060.00) report displays all of these measures.

Note: Inventory Replenishment operates on the basis of fiscal periods.

Analyzing Overall Inventory Performance

You can use the Inventory Analysis (41.060.00) report to obtain a report with all four measures of inventory performance:

- Customer Service Level
- Inventory Turnover
- Return on Investment
- Gross and Adjusted Gross Margin

To generate the report:

1. In Inventory Replenishment, open the Inventory Analysis (41.060.00) report.
2. Select filters as desired for this report.
3. Type the number of the fiscal period in Period to Report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.
Measuring Customer Service Levels

You can use the Customer Service Level (41.120.00) report to view the actual customer service level of each inventory item, the number of orders for each inventory item, and number of complete and on time shipments for each inventory item during the previous month. For information about the concepts behind this report, see “Customer Service Level” on page 50.

To generate the report:
1. In Inventory Replenishment, open the Customer Service Level (41.120.00) report.
2. Select filters as desired for this report.
3. Type the number of the fiscal period in Period to Report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.

Monitoring Inventory Turnover

You can use the Inventory Turnover (41.130.00) report to view how many times each inventory item has turned over during the previous 12 months. For information about the concepts behind this report, see “Inventory Turnover” on page 51.

To generate the report:
1. In Inventory Replenishment, open the Inventory Turnover (41.130.00) report.
2. Select filters as desired for this report.
3. Type the number of the fiscal period in Period to Report.
4. Type the first and last page number to include in the report in Beg/End Page Nbr.
5. Type the number of copies to print in Copies.
6. To preview the report, click Print Preview.
7. To reset printer options, click Print Options.
8. To print the report, click Print.
Calculating Gross Margins and Adjusted Gross Margins

You can use the *Gross and Adjusted Margin* (41.150.00) report to view the gross margin and adjusted gross margin for inventory items during the previous 12 months. For information about the concepts behind this report, see “Gross Margin and Adjusted Gross Margin” on page 51.

**To generate the report:**

1. In Inventory Replenishment, open the *Gross and Adjusted Margin* (41.150.00) report.
2. Select filters as desired for this report.
3. Type the number of the fiscal period in **Period to Report**.
4. Type the first and last page number to include in the report in **Beg/End Page Nbr**.
5. Type the number of copies to print in **Copies**.
6. To preview the report, click **Print Preview**.
7. To reset printer options, click **Print Options**.
8. To print the report, click **Print**.

Determining Return on Investment

You can use the *Return On Investment* (41.140.00) report to view the return on investment for each inventory item during the previous 12 months. For information about the concepts behind this report, see “Return on Investment (ROI)” on page 52.

**To generate the report:**

1. In Inventory Replenishment, open the *Return On Investment* (41.140.00) report. **Report Date** displays the current date.
2. Select filters as desired for this report.
3. Type the number of the fiscal period in **Period to Report**.
4. Type the first and last page number to include in the report in **Beg/End Page Nbr**.
5. Type the number of copies to print in **Copies**.
6. To preview the report, click **Print Preview**.
7. To reset printer options, click **Print Options**.
8. To print the report, click **Print**.
Purging Records and Transactions

You can use *Delete old IR Records/Transactions* (41.480.00) to purge old records from IRItemUsage and IRDemandTran in accordance with the retention period specified in *IR Setup* (41.950.00). After purging old records, sufficient history remains to calculate the forecast and trend %.

**Note:** Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

**To purge IR records and transactions:**

1. In Inventory Replenishment, open the *Delete old IR Records/Transactions* (41.480.00).
2. Review the dates in **Current Fiscal Period** and **Delete Detail From**. For more information, see “Delete old IR Records/Transactions (41.480.00)” on page 182.
3. Click **Begin Processing**. Inventory Replenishment deletes all the records from IRItemUsage and IRDemandTran in which the value for **Period** is less than or equal to the value in **Delete Detail From**.
Implementation Hints and Tips

The following sections provide hints and tips about implementing and using Inventory Replenishment.

Implementation Checklist

You can use the following checklist to set up Inventory Replenishment.
1. Run an Integrity Check — see “Running an Integrity Check” on page 105.
2. Confirm past usage transaction and purchase order transactions are in place, or manually entering estimates — see “Getting Up and Running Quickly” on page 105.
3. As needed, run Process Manager — see “Running Process Manager Before Generating Planned Orders” on page 108.
4. Set up Inventory Replenishment — see “Setting Up and Configuring Inventory Replenishment Parameters” on page 56.

After you have set up Inventory Replenishment, you can refer to the following list as you use it. Planning replenishment orders and managing Inventory Replenishment processes should be performed concurrently. Measuring performance and profitability should be performed at the end of the fiscal year or as often as needed.

Note: If Customer Priority Scheduling is turned on in Order Management, you must run Process Manager before you generate planned orders to ensure that transaction information is ready to be captured.

- Plan replenishment orders — see “Planning Replenishment Orders” on page 77.
- Manage Inventory Replenishment processes — see “Managing Inventory Replenishment” on page 94.
- Measure performance and profitability — see “Measuring Performance and Profitability” on page 100.

Running an Integrity Check

Before you set up Inventory Replenishment, confirm that an integrity check was run at the end of the last fiscal period. If you have not already run an integrity check, use IN Integrity Check (10.990.00) to run an integrity check before you set up Inventory Replenishment. Running an integrity check ensures that you have a solid baseline on which to begin Inventory Replenishment calculations. For instructions, see the Inventory help or user guide.

Getting Up and Running Quickly

Confirming that you have past usage transactions and purchase order transactions in place before you set up Inventory Replenishment ensures that you have a solid baseline upon which to build an Inventory Replenishment history and promotes accuracy in future calculations. If you are unable to confirm these transactions, you can manually enter estimates so that you get Inventory Replenishment up and running quickly. However, it is in your best interest to use calculated values from actual past transactions as soon as possible.

Structuring Site ID Codes and Inventory ID Codes

See the Inventory user guide or help for instructions on how to structure Site ID codes and Inventory ID codes.
Deciding Which Replenishment Policy to Use

The following sections explain how to compare the calculations that result from various replenishment policies and how to select a replenishment policy.

Comparing Replenishment Policy Calculations

Use the information in the following table to compare the replenishment quantities and replenishment points that result from various replenishment policies.

<table>
<thead>
<tr>
<th>Replenishment Policy</th>
<th>Replenishment Quantity</th>
<th>Replenishment Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder Point</td>
<td>Lead time demand</td>
<td>Safety stock plus lead time demand</td>
</tr>
<tr>
<td>Line Point</td>
<td>Target order requirement</td>
<td>Safety stock plus lead time demand plus review cycle demand</td>
</tr>
<tr>
<td>EOQ</td>
<td>Economic order quantity</td>
<td>Safety stock plus lead time demand</td>
</tr>
<tr>
<td>MAX/MIN</td>
<td>Maximum minus the replenishment position</td>
<td>Minimum + Safety stock</td>
</tr>
<tr>
<td>Order to Replenish</td>
<td>Maximum minus the replenishment position</td>
<td>Maximum</td>
</tr>
</tbody>
</table>

Inventory Replenishment enables you to determine how replenishment values are calculated by enabling you to specify one of five replenishment policies, formerly known as replenishment methods in Inventory.
Selecting an Appropriate Replenishment Policy

You specify a replenishment policy based on the demand for the inventory item, its usage patterns, and other factors such as its cost and the importance of the inventory item to your business. The following table provides guidelines for selecting a policy.

<table>
<thead>
<tr>
<th>Replenishment Policy</th>
<th>When used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder Point</td>
<td>The Reorder Point replenishment policy can be used for inventory items that have no target order requirements and for which you do not want to calculate an economic order quantity or manually set maximum and/or minimum replenishment points.</td>
</tr>
<tr>
<td>Line Point</td>
<td>The Line Point replenishment policy should be used for inventory items that have target order requirements specified by the vendor.</td>
</tr>
</tbody>
</table>
| EOQ                    | The EOQ replenishment policy can be used for most moderate to fast-moving inventory items. Because the EOQ formula assumes constant demand, it can be used for:  
                          |   - Inventory items with total demand that exceeds the number of units most commonly sold to a single customer during most inventory periods.  
                          |   - Non-seasonal inventory items that have been in stock for at least five months.  
                          |   - Seasonal inventory items that have been in stock for at least 12 months.     |
| MAX/MIN                | The MAX/MIN replenishment policy can be used for:                                                                                       |
|                        |   - Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage.       |
|                        |   - Slow-moving items are sold infrequently.                                                                                             |
|                        |   - Inventory items with highly variable usage patterns.                                                                                  |
|                        |   - New inventory items with no usage histories.                                                                                         |
| Order to Replenish     | The Order to Replenish replenishment policy can be used for inventory items for which the MAX/MIN replenishment policy does not provide enough inventory to meet actual needs during the lead time period. This policy can be used for:  
                          |   - Slow-moving inventory items, that is, those items for which the normal sales quantity is greater than the average monthly usage. Slow-moving items are sold infrequently.  
                          |   - Inventory items with highly variable usage patterns. Small, generic items.                                                            |
Running Process Manager Before Generating Planned Orders

If Customer Priority Scheduling is turned on in Order Management, you must run Process Manager before you generate planned orders to ensure that transaction information is ready to be captured. For information about Process Manager, see the Order Management help or user guide.

Including a Purchase Order in Lead Time Calculations

You control whether or not a purchase order is included in Inventory Replenishment lead time calculations by selecting or deseleting Include in Lead Time Calc on Purchase Orders (04.250.00), Line Items tab.

Including a Transaction in Demand Calculations

You control whether or not a transaction is included in demand calculations. This section explains how to include regular transactions and how to include drop shipments, which require special handling.

Including Regular Transactions in Demand Calculations

Before a transaction is captured by Inventory Replenishment, there are three ways to tell Inventory Replenishment to include the transaction in demand calculations for an inventory site. To include a transaction in demand calculations:

- When you create a sales order, select Include in Demand on Sales Orders (40.100.00), Other Information tab, or
- When you create a sales order, select Include in Demand on Sales Orders (40.100.00), Line Items tab.
- When you create a shipper, select Include in Demand on Shippers (40.110.00), Line Items tab.

If the transaction does not involve a drop shipment and you do not select Include in Demand, then Inventory Replenishment does not include the transaction in the demand calculations for the inventory site.

After a transaction has been captured by Inventory Replenishment, you can tell Inventory Replenishment to include the transaction in demand calculations by selecting Include in Usage on Usage Transaction Maintenance (41.470.00). Any change you make using Usage Transaction Maintenance (41.470.00) overrides the selections made on Sales Orders (40.100.00) or on Shippers (40.110.00).

Including Drop Shipments in Demand Calculations

When you identify a transaction as a drop shipment, Inventory Replenishment excludes the drop shipment from demand calculations unless you tell it otherwise. You can tell Inventory Replenishment to include a drop shipment in demand calculations by selecting Include in Demand after you select drop shipment.

To include a drop shipment in demand calculations before the transaction is captured by Inventory Replenishment:

- When you create a sales order, select Include in Demand on Sales Orders (40.100.00), Other Information tab, or
- When you create a sales order, select Include in Demand on Sales Orders (40.100.00), Line Items tab.
- When you create a shipper, select Include in Demand on Shippers (40.110.00), Line Items tab.

To include a drop shipment in demand calculations after the transaction is captured by Inventory Replenishment, select Include in Usage on Usage Transaction Maintenance (41.470.00). Any change
you make using Usage Transaction Maintenance (41.470.00) overrides the selections made on Sales Orders (40.100.00) or on Shippers (40.110.00).

**Setting Up Transfer Relationships**

Before you can specify that an inventory item stored in a dependent site should be replenished by an OM Warehouse Transfer from a central distribution site, you must tell Inventory Replenishment how to supply the central distribution site for the inventory item. You do this by selecting either Purchase Order or OM Kit Assembly type as the Replenishment Source Code using Sites (10.310.00), Replenishment tab. For further information, see “Handling Transfer Relationships to Ensure Accurate Usage Calculations” on page 47.

**Viewing Planned Orders**

You can use the Planned Order Report (41.080.00) to view all of the planned orders that were generated when you ran Generate Planned Orders (41.400.00). This report is sorted by Planned Order Number. You can filter the report based on the status of the planned order.

You can view and adjust individual planned orders using Planned Order Maintenance (41.100.00). You can open Planned Order Maintenance (41.100.00) from the Inventory Replenishment menu. You can also open Planned Order Maintenance (41.100.00) by drilling down to a specific transaction in the Planned Transactions area displayed on Transaction Order Creation (41.440.00).

If you selected Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you must use Planned Order Maintenance (41.100.00) to change the planned order status for any planned orders that you placed in the Planned Transactions area on Transaction Order Creation (41.440.00) and then selected before you click Create Transaction on Transaction Order Creation (41.440.00).

If you did not select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you do not need to use Planned Order Maintenance (41.100.00) to change the status to Firmed. In this case, Inventory Replenishment converts Firmed and Unfirmed planned orders that you place in the Planned Transactions area on Transaction Order Creation (41.440.00) when you select the planned order(s) and click Create Transaction on Transaction Order Creation (41.440.00).

All required fields on Planned Order Maintenance (41.100.00) are populated when you generate the planned orders.

**Handling Planned Orders for Partial Units**

On occasion, Inventory Replenishment calculates a planned order with an order quantity for partial units. For example, you might get a planned order for 10.5 units. This occasional error occurs when Quantities (Decimal Places) in IN Setup (10.950.00), Options is set to a value greater than zero. To manually correct this occasional error, you can adjust the order quantity using Quantity on Planned Order Maintenance (41.100.00). For instructions, see “Adjusting Planned Orders” on page 88. Future versions of Inventory Replenishment will automatically correct this occasional error.

**Using Customer Service Level as Safety Stock Policy**

When Use Service Level has been selected as the Safety Stock Policy, the number of fiscal periods that Inventory Replenishment uses to calculate safety stock is determined by the demand formula that you specify using Demand Formula Maintenance (41.220.00).

If you select Use Service Level as the Safety Stock Policy and you do not specify a demand formula for an inventory site, or for the inventory item, site, or material type associated with that inventory site, then Inventory Replenishment defaults to using the number of fiscal periods that you specified in Number of Demand Periods on IR Setup (41.950.00), Options tab. The value is usually from three to six months.

*Note:* The Number of Service Level Periods shown on IR Setup (41.950.00), Options tab is not active in this version of Inventory Replenishment.
Sales Orders (40.100.00)

The following information describe Inventory Replenishment fields you will find on the Order Management module’s Sales Orders (40.100.00), Other Information tab and Line Items tab if Inventory Replenishment is installed and registered. These fields are disabled if Inventory Replenishment is not registered. For descriptions of other fields and tabs on this screen, see the Order Management help or user guide.

Sales Orders, Line Items Tab

![Image of Sales Orders (40.100.00), Line Items tab]

Following are the field descriptions related to Inventory Replenishment for Sales Orders (40.100.00), Line Items tab.

Include in Demand (check box)

Select Include in Demand when you want to include the transaction in demand calculations for the inventory site. If you do not select Include in Demand, then Inventory Replenishment will not include this transaction in demand calculations. You can also select this same field using Sales Orders (40.100.00), Other Information tab, or Shippers (40.110.00), Line Items tab. Any change you make to Include in Demand on one of these screens is reflected on all three tabs.

Demand Inv. ID

Demand Inv. ID is the inventory identification number of the inventory item that was originally requested by the customer. It may or may not be the same as the Inventory ID on this sales order.

- If the inventory item is the inventory item that was originally requested by the customer, then Inventory Replenishment will use the Inventory ID from this sales order as the value of Demand Inv. ID.
• If the inventory item on this sales order is not the inventory item that was originally requested by the customer, you should select the inventory item identification number for the inventory item that was originally requested by the customer.

**Note:** You can also select this identification number later by using Shippers (40.110.00), Line Items tab.

**Demand Site ID**

*Demand Site ID* is the site identification number for the original site from which the inventory item was shipped.

• If the inventory item is shipped from its original inventory item site, then Inventory Replenishment will use the *Site ID* as the value of *Demand Site ID*.

• If the inventory item has not been shipped from its original inventory item site, you should select the site identification number for the original site from which the inventory item was shipped.

**Note:** You can also select this identification number later by using Shippers (40.110.00), Line Items tab.

**Sales Orders, Other Information Tab**

![Image](Image)

**Figure 24: Sales Orders (40.100.00), Other Information tab**

Following is the field description related to Inventory Replenishment for Sales Orders (40.100.00), Other Information tab.

**Include in Demand (check box)**

Select *Include in Demand* when you want to include the transaction in demand calculations for the inventory site. If you do not select *Include in Demand*, then Inventory Replenishment will not include this transaction in demand calculations. You can also select this same field using Sales Orders (40.100.00), Line Items tab, or Shippers (40.110.00), Line Items tab. Any change you make to *Include in Demand* on one of these screens is reflected on all three tabs.
Shippers (40.110.00)

The following information describes Inventory Replenishment fields you will find on the Order Management module’s Shippers (40.110.00), Line Items tab if Inventory Replenishment is installed and registered. These fields are disabled if Inventory Replenishment is not registered. For descriptions of other fields and tabs, see the Order Management help or user guide.

Shippers, Line Items Tab

Figure 25: Shippers (40.110.00), Line Items tab

Following are the field descriptions related to Inventory Replenishment for Shippers (40.110.00), Line Items tab.

Include in Demand (check box)

Select Include in Demand when you want to include the transaction in demand calculations for the inventory site. If you do not select Include in Demand, then Inventory Replenishment will not include this transaction in demand calculations. You can also select this same field using Sales Orders (40.100.00), Line Items tab, or Sales Orders (40.100.00), Other Information tab. Any change you make to Include in Demand on one of these tabs is reflected on all three screens.

Demand Inventory ID

Demand Inventory ID is the inventory identification number of the inventory item that was originally requested by the customer. It may or may not be the same as the Inventory ID on this sales order. When there is a Sales Order for this Shipper, this field is display-only on this tab. When there is no Sales Order for this Shipper, this field is enabled and the following are true:

- If you have not already selected an inventory item identification number for Demand Inv. ID on Sales Orders (40.100.00), Line Items tab; you can do so here.
- If this inventory item is the inventory item that was originally requested by the customer, Inventory Replenishment will use the Inventory ID for this sales order as the value of Demand Inventory ID.
- If this inventory item is different from the inventory item that was originally requested by the customer, you should select the inventory item identification number for the inventory item that was originally requested by the customer.
Demand Site ID

Demand Site ID is the site identification number for the original site from which the inventory item was shipped. When there is a Sales Order for this Shipper, this field is display-only on this tab. When there is no Sales Order for this Shipper, this field is enabled and the following are true:

- If you have not already selected a site identification number for Demand Site ID on Sales Orders (40.100.00), Line Items tab; you can do so here.
- If the inventory item is shipped from its original inventory site, leave this field blank. Inventory Replenishment will use the Site ID as the value of Demand Site ID.
- If the inventory item is shipped from a different site, select the site identification number for the original site.
Planned Order Maintenance (41.100.00)

You can use Planned Order Maintenance (41.100.00) to view and adjust the planned orders you have generated using the Generate Planned Orders (41.400.00) process. You can view and adjust individual planned orders before you use Transaction Order Creation (41.440.00) by opening Planned Order Maintenance (41.100.00) from the Inventory Replenishment menu. You can also open Planned Order Maintenance (41.100.00) while using Transaction Order Creation (41.440.00) by drilling down to a specific transaction in the grid displayed on Transaction Order Creation (41.440.00).

If you selected Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you must use Planned Order Maintenance (41.100.00) to change the planned order status for any planned orders that you want to convert to firmed before you click Create Transaction on Transaction Order Creation (41.440.00).

If you did not select Convert Firmed Planned Orders Only on IR Setup (41.950.00), Options tab, you do not need to use Planned Order Maintenance (41.100.00) to change the status to Firmed. In this case, Inventory Replenishment converts all Firmed and Unfirmed planned orders when you click Create Transaction on Transaction Order Creation (41.440.00).

All required fields on Planned Order Maintenance (41.100.00) are populated when you generate the planned orders.

You can use Planned Order Maintenance (41.100.00) change the quantity, vendor, dates, and status as needed before you convert planned orders to purchase orders, assembly orders, or transfer orders. You can also change the document type. For example, you could change a purchase order to a transfer order.

You can also use Planned Order Maintenance (41.100.00) to manually enter additional planned orders.

Figure 26: Planned Order Maintenance (41.100.00)

Following are the field descriptions related to Inventory Replenishment for Planned Order Maintenance (41.100.00).

Planned Order Number

Planned Order Number is unique to this record and is a required field. The number is assigned by Inventory Replenishment when you generate planned orders.
Status

Status specifies whether the planned order is Firmed, Unfirmed, or Converted.

- **Firmed** — A Firmed Status means that the planned order is ready to be converted to a purchase order, assembly order, or warehouse transfer order. If you do not select a planned order with a status of Firmed for conversion before you click **Create Transaction** on Transaction **Order Creation** (41.440.00), then that Firmed planned order remains in the Inventory Replenishment system when you generate planned orders the next time.

- **Unfirmed** — A planned order with an Unfirmed status is not ready to be converted to a purchase order, assembly order, or warehouse transfer order. Inventory Replenishment deletes Unfirmed planned orders the next time you generate planned orders.

- **Converted** — A planned order with a Converted status has already been converted to a purchase order, assembly order, or warehouse transfer order. Planned orders with a converted status remain in Inventory Replenishment for your reference.

You can select Firmed or Unfirmed as the **Status** of a planned order. If you do not select a status, Inventory Replenishment uses Unfirmed.

Inventory Replenishment changes the status of a planned order to Converted when you place that planned order in the Planned Transactions area, select it, and then click **Create Transaction** on **Transaction Order Creation** (41.440.00).

You determine how Inventory Replenishment uses **Status** when you configure system parameters for Inventory Replenishment. Selecting **Convert Planned Orders Only** on **IR Setup** (41.950.00), **Options** tab, tells Inventory Replenishment to convert only Firmed planned orders. Deselecting **Convert Planned Orders Only** on **IR Setup** (41.950.00), **Options** tab, tells Inventory Replenishment to convert any Firmed planned orders and Unfirmed planned orders. Planned orders can be converted when you place them in the Planned Transactions area, select them, and then click **Create Transaction** on **Transaction Order Creation** (41.440.00).

**Firmed Date**

**Firmed Date** is display-only and displays the date when the **Status** was changed to Firmed.

**Company ID**

**Company ID** displays the name of the company database you are using.

**Inventory ID**

**Inventory ID** is the identification number of the inventory item and is a required field.

**Inventory Description**

**Inventory Description** describes the inventory item and is display-only.

**Site ID**

**Site ID** is the site identification number for this transaction. It is a required field that is populated by Inventory Replenishment when you generate planned orders. You can change **Site ID** as needed when you review **Planned Order Maintenance** (41.100.00).

**Site ID Description**

**Site ID Description** is a description of the site identification number. It is display-only.

**Quantity**

**Quantity** is a required field and must be assigned a value greater than zero. Use **Quantity** to change the quantity ordered by this planned order.
UOM
Use **UOM** to change the unit of measure specified for the planned order. It can be a monetary amount, or as weight, volume, or the number of units, cartons, or packages. **UOM** is a required field and is populated by Inventory Replenishment when you generate planned orders.

Start Date
Use **Start Date** to select the date on which the planned order should be converted to a transaction order and sent to Purchasing or Order Management. **Start Date** is a required field.

Lead Time
Use **Lead Time** to type the number of business days between the date an order is placed and the date that the inventory items are expected to be received in the inventory site. This value comes from **PO Lead Time** for purchase orders, **Manuf Lead Time** for assembly orders, and **Ship Via ID** for transfer orders. It is used to calculate the promise date and date required for purchase orders, the date requested for transfer orders, and date available assembly orders. If you change the lead time date, you should change the end date also.

End Date
Use **End Date** to type the date when the inventory produced by the planned order should be ready to ship. It is calculated by adding the average lead time to the start date.

IR Doc Type
Use **IR Doc Type** to change the type of order that results from the planned order. Possible values are Purchase Order, OM Kit Assembly, and OM Warehouse Transfer. This is a required field and the type of order is assigned by Inventory Replenishment when you generate planned orders.

Vendor ID
If desired, you can use **Vendor ID** to enter or change the identification code of the vendor that will receive a purchase order. **Vendor ID** is available and required when Purchase Order has been selected from **IR Doc Type**. **Vendor ID** is populated by Inventory Replenishment when you generate planned orders and can be changed as needed when you review the **Planned Order Maintenance** (41.100.00) report.

You can change **Vendor ID** another way also. You can navigate to the planned order itself and, from the planned order, open **Transaction Order Creation** (41.440.00). Then you can change **Vendor ID** on **Transaction Order Creation** (41.440.00).

Description
**Description** is the vendor’s name and is display-only.

Transfer from Site ID
Use **Transfer from Site ID** to change the identification number of the inventory site from which the inventory items on the planned order will be transferred. This field is required when you have selected OM Warehouse Transfer as the **IR Doc Type**.

Ship Via ID
Use **Ship Via ID** to change the identification number for the carrier being used to deliver the inventory items. It is available and mandatory when OM Warehouse Transfer has been selected from **IR Doc Type**. If you do not select a number, then Inventory Replenishment will use the **Ship Via ID** that you specified when you set up Inventory Replenishment using one of the following:

- **Inventory Sites** (10.255.00), **Replenishment Parameters** tab
- **Sites** (10.310.00), **Replenishment** tab
- **Inventory Items** (10.250.00), **Replenishments** tab
If you do not specify the **Ship Via ID** for the inventory site, site, or inventory item, then Inventory Replenishment defaults to using the **Ship Via ID** specified for that material type on *Material Type Maintenance* (21.370.00), **Replenishment** tab.

**Planner**

Use **Planner** to change the name of the material planner that generated the planned order. If you do not select a name, then Inventory Replenishment will use the name of the current user when a new planned order is generated.

**Buyer**

**Buyer** is the name of the buyer that purchased the inventory items on the planned order. When a new planned order is generated, Inventory Replenishment uses the name of the buyer that you specified in **Buyer** on *Inventory Sites* (10.255.00), **Replenishment Parameters** tab. You can select another name from the possible values list when you review *Planned Order Maintenance* (41.100.00).

**Document ID**

After a planned order is converted to a replenishment order using *Transaction Order Creation* (41.440.00), **Document ID** displays the identification number of the replenishment order. If the replenishment order is a purchase order, then **Document ID** displays a purchase order number. If the replenishment order is an assembly order or transfer order, then **Document ID** displays a sales order number. **Document ID** is display only.
Collaborative Forecast (41.110.00)

Collaborative Forecast (41.110.00) enables you to specify additional safety stock for an inventory site for a specific day to meet the needs of your customers as predicted by collaborative forecasting. For information, see “Collaborative Forecasting” on page 35. Specify additional safety stock when you anticipate demand for an inventory site that is not reflected in its past usage.

Note: Before you can specify additional safety stock, you must confirm that an inventory site has already been created.

Note: Run Calculate Replenishment Values (41.450.00) after making any changes in Collaborative Forecast (41.110.00). For more information, see “Calculating Replenishment Values for Inventory Sites” on page 84.

Following are the field descriptions related to Inventory Replenishment for Collaborative Forecast (41.110.00).

Inventory ID
Inventory ID is the identification number of the inventory item that requires additional safety stock. An inventory identification number must exist in Inventory Replenishment before it can be selected from the possible values list in Inventory ID on Collaborative Forecast (41.110.00). This is a required field.

Inventory ID Description
Inventory ID Description is the description of the inventory item and is display-only.

On Date
On Date is the date that the additional safety stock must be present in the inventory site. Inventory Replenishment will include this additional safety stock when it calculates replenishment quantities only during the fiscal period in which the On Date occurs. On Date is a required field.

Site ID
Site ID is the identification number of the site where the inventory item is stored. It is a required field. When Site ID contains an entry, a description of that entry appears below the field.
Qty Desired
Using the unit of measure for this inventory item, type the quantity that you need in Qty Desired. It is a required field and its value must be a number greater than zero.
Fiscal Work Days (41.200.00)

Fiscal Work Days (41.200.00) enables you to specify how many business days there were in the previous fiscal periods. This enables Inventory Replenishment to calculate past usage on a daily basis and to calculate more accurate replenishment quantities for the current fiscal period.

Note: To ensure accurate calculations, update Fiscal Work Days (41.200.00) for each fiscal period.

Figure 28: Fiscal Work Days (41.200.00)

Following are the field descriptions related to Inventory Replenishment for Fiscal Work Days (41.200.00).

Period

Period is a required field. Select the fiscal period just prior to the current fiscal period. For example, if your fiscal period is monthly and this is the first of the month, Period is last month.

Work Days

Work Days is the number of business days in Period. This is a required field.

Note: If you do not specify Work Days here, Inventory Replenishment will use the number of business days in the fiscal period that you specified using Period Fiscal Days on IR Setup (41.950.00), Options tab.
Maintenance and Inquiry Screens

Purchase Orders (04.250.00), Line Items Tab

Inventory Replenishment enables you to control which transactions are included in lead time calculations. If Inventory Replenishment is installed, Include in Lead Time Calc appears on the Purchasing module's Purchase Orders (04.250.00), Line Items tab.

When the transaction associated with this purchase order is not a drop shipment, Include in Lead Time Calc. is enabled. Because purchase orders, by default, are included in lead time calculations, Include in Lead Time Calc. is selected. If you want to exclude this purchase order from lead time calculations for this inventory site, deselect Include in Lead Time Calc.

When the transaction associated with this purchase order is a drop shipment, Include in Lead Time Calc. is disabled and deselected. Drop shipments are not included in lead time calculations.

![Figure 29: Purchase Orders (04.250.00), Line Items tab](image)

Following is a field description related to Inventory Replenishment for Purchase Orders (04.250.00), Line Items tab.

Include in Lead Time Calc. (check box)

To exclude this purchase order from lead time calculations, deselect Include in Lead Time Calc.
Replenishments (10.220.06)

Replenishments (10.220.06) is a subscreen attached to Inventory Status Inquiry (10.220.00) in the Inventory module. You gain access to Replenishments (10.220.06) by selecting Replenishment on to Inventory Status Inquiry (10.220.00).

![Replenishments (10.220.06)](image)

Figure 30: Replenishments (10.220.06)

Following are the field descriptions for Replenishments (10.220.06).

**PO Lead Time**

PO Lead Time is the number of business days used for purchase order lead time.

**Manufacturing Lead Time**

Manufacturing Lead Time is the number of business days used for assembly order lead time for this inventory item.

**Replenishment Method**

Replenishment Method in Inventory is the same as Replenishment Policy in Inventory Replenishment. It determines how Inventory Replenishment calculates replenishment values for this inventory site. Possible values are:

- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

**Reorder Quantity**

Reorder Quantity is the replenishment quantity for this inventory item when the EOQ, Reorder Point, or Line Point replenishment policy is selected.

**Reorder Point**

Reorder Point is the manual or calculated value for the reorder point when the Reorder Point or EOQ replenishment policy is selected for this inventory item.

**Safety Stock**

Safety Stock is the safety stock quantity to be maintained in an inventory site for this inventory item.
Primary Vendor
Primary Vendor is the name of the primary vendor for the inventory item in this inventory site.

Secondary Vendor
Secondary Vendor is the name of the secondary vendor for the inventory item in this inventory site.
Inventory Transaction Inquiry (10.223.00)

Inventory Transaction Inquiry (10.223.00) in the Inventory module enables you to verify that a transaction made in another module has been posted to Inventory Replenishment.

![Inventory Transaction Inquiry (10.223.00)](image)

Following are the field descriptions related to Inventory Replenishment for Inventory Transaction Inquiry (10.223.00). For descriptions of other tabs and fields, see the Inventory help or user guide.

Processed by I.R. (check box)

Processed by I.R., when selected, means that this transaction has been posted to Inventory Replenishment. Inventory Replenishment captures information from past sales orders, purchase orders, work order issues, and transfer orders and calculates the replenishment values that become the basis for future orders. This check box is for display. It is disabled when Inventory Replenishment is not registered.

PO Date

PO Date displays the date of the purchase order.

PO Lead Time

PO Lead Time displays the number of business days between the item being ordered and the item’s expected delivery date. PO Lead Time is used by the Reorder Point, Line Point, and EOQ replenishment policies.
Inventory Items (10.250.00)

Inventory Replenishment uses two tabs on Inventory Items (10.250.00). These are Replenishments and Seasonality. For information about other tabs, see the Inventory help or user guide.

Inventory Items, Replenishments Tab

You can use Inventory Items (10.250.00), Replenishments tab, to define parameters for specific inventory items at the inventory item level of control. You do this for expensive inventory items and for critical inventory items that you must monitor closely.

When you define parameters for an inventory item on Inventory Items (10.250.00), Replenishments tab, Inventory Replenishment uses these values to calculate replenishment points, safety stock, usage patterns, and lead times for all inventory sites associated with this inventory item.

As a general rule, parameters defined at the site level override parameters defined at the inventory item level. Replenishment Source Code and Transfer From Site are exceptions to this rule. When you define Replenishment Source Code and Transfer From Site at the inventory item level, those values override the values of Replenishment Source Code and Transfer From Site that you define at the site level.

Parameters defined at the inventory item level of control override parameters defined at the material type level of control.

Replenishment Source Code

Replenishment Source Code is a required field when a replenishment policy has been selected. It is the type of document you want Inventory Replenishment to generate from the planned order. Possible values are Purchase Order, OM Kit Assembly, and Work Order. This field is disabled when Inventory Replenishment is not installed.
Replenishment Policy

*Replenishment Policy* is the method you want Inventory Replenishment to use to calculate replenishment values for the inventory sites associated with this inventory item. For information about the policies in the possible value list, see “Replenishment Calculations” on page 37. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

**Note:** *Replenishment Policy* is used by Inventory Replenishment when it calculates replenishment quantities for inventory sites. If you do not select a replenishment policy for the inventory site, Inventory Replenishment will look for a replenishment policy associated with the site. If it does not find a replenishment policy for the site, Inventory Replenishment will look for the replenishment policy for the inventory item or the material type associated with the inventory site. If it finds no replenishment policy for the inventory site, or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment will not calculate a replenishment quantity for that inventory site and will not generate a planned order.

Target Order Method

*Target Order Method* is a required field when Line Point has been selected as the *Replenishment Policy*. *Target Order Method* enables you to select the unit of measure specified by the target order requirement associated with this inventory item. Possible values are:

- None
- Monetary Amount
- Unit of Measure
- Weight
- Cubic Volume

When you do not select a method, *Target Order Method* defaults to None and Inventory Replenishment looks for the target order method for the material type associated with this inventory item.
Calculation Policy

**Calculation Policy** determines whether Inventory Replenishment calculates replenishment values for inventory sites that belong to this inventory item or uses the values you enter manually. Parameters controlled by **Calculation Policy** include:

- PO Lead Time
- Reorder Quantity
- Reorder Point
- EOQ
- Safety Stock
- Line Point
- Review Cycle Days
- Projected Daily Demand

**Calculation Policy** can be set to None, Automatic, or Manual.

- If you select None, Inventory Replenishment uses the calculation policy set at the material type level of control.
- If you select Automatic, Inventory Replenishment uses calculated values.
- If you select Manual, Inventory Replenishment uses values you enter manually. In this case, it does not calculate values for parameters controlled by **Calculation Policy**.
- If you do not select a policy, Inventory Replenishment defaults to None and looks for the calculation policy set for the material type associated with the inventory item.

Future Replen. Eff. Date

**Future Replen. Eff. Date** is the date when the future replenishment policy will take effect. When you run Generate Planned Orders (41.400.00) on or after the date that you specified in **Future Replen. Eff. Date**, the replenishment policy for this inventory item becomes the policy you specified in Future Replenishment Policy. At that time, the **Future Replen. Eff. Date** and Future Replenishment Policy parameters are cleared.

Future Replenishment Policy

**Future Replenishment Policy** enables you to select the replenishment policy that Inventory Replenishment will use to calculate replenishment values for this inventory item on and after the date when the **Future Replen. Eff. Date** is reached. Possible values are:

- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

**Future Replenishment Policy** is a required field when a **Future Replen. Eff. Date** has been set. When no **Future Replen. Eff. Date** has been set, **Future Replenishment Policy** is disabled.

Model After Inventory ID

**Model After Inventory ID** is the inventory identification number of an inventory item similar to the current inventory item and having past usage patterns that you want to use as a model to forecast demand for the current inventory item.

You can use **Model After Inventory ID** when the current inventory item does not have a past usage history long enough to use as a basis for forecasting its demand. This is an optional field. If you do not specify a **Model After Inventory ID**, then Inventory Replenishment uses the transaction history
associated with this inventory item only. **Model After Inventory ID** is not available for sites or for material types.

**Model After Inventory ID** is enabled when Inventory Replenishment is registered.

**Note:** The **Site ID** for the current inventory item should be the same as the **Site ID** for the **Model After Inventory ID**.

**Example:** Let’s say that Inventory Item A is replacing Inventory Item B and that you expect future usage of Inventory Item A to be similar to past usage of Inventory Item B. When you enter the inventory identification number of Inventory Item B in **Model After Inventory ID**, Inventory Replenishment uses past usage patterns for both inventory items to forecast demand for Inventory Item A.

**Transfer From Site**

Use **Transfer from Site** to enter the identification number of the site from which the inventory items were transferred. **Transfer From Site** is enabled and is a required field when OM Warehouse Transfer has been selected from **Replenishment Source Code**. This field is disabled when Inventory Replenishment is not registered.

**Transfer From Site** behaves differently than other parameters. The **Transfer From Site** value you specify for an inventory site overrides the **Transfer From Site** value assigned at the Inventory Item and site levels of control. The **Transfer From Site** value you specify for the inventory item overrides the **Transfer From Site** value specified for the site. **Transfer From Site** cannot be specified for material types. This different behavior enables you to define the site relationships for the inventory site, and then enter exceptions for specific inventory items using **Inventory Items** (10.250.00), **Replenishments** tab. This avoids the need to enter all exceptions for the inventory site on **Inventory Sites** (10.255.00), **Replenishment Parameters** tab.

**Primary Vendor**

Use **Primary Vendor** to enter the name of the primary vendor for this inventory item. It is a required field when Purchase Order has been selected as the **Replenishment Source Code**. The name you enter here is used as the default with Inventory Replenishment creates planned orders for which Purchase Order has been selected from **IR Doc Type**. Otherwise, it is disabled.

**Note:** This field is also used by inventory and Orders to Purchase.

**Secondary Vendor**

**Secondary Vendor** is not used by Inventory Replenishment. You can enter a secondary vendor name here, if desired.

**Buyer**

Use **Buyer** to enter the name of the buyer for this inventory item. It is an optional field when Purchase Order has been selected as the **Replenishment Source Code**. If you do not enter a name here, the field is blank.
Target Order Requirement

Target Order Requirement is the amount needed to fulfill the vendor’s order requirement. It is a required field when the Line Point replenishment policy has been selected. The number of decimal places depends on the values entered on IN Setup (10.950.00), Options tab, and is as follows:

- **Monetary Amount** depends on the currency selected and is specified in Price/Cost in the Decimal Places area of IN Setup (10.950.00), Options tab.
- **Unit of Measure** is displayed in the number of decimal places determined by the value entered in Quantities in the Decimal Places area on IN Setup (10.950.00), Options tab.
- **Weight** is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

Note: The decimal precision used in Weight matches the decimal precision in the user-defined field Weight UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

- **Cubic Volume** is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

Note: The decimal precision used in Cubic Volume matches the decimal precision in the user-defined field Volume UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

Target Order Requirement is disabled when the Line Point replenishment policy is not selected.

If you do not enter a Target Order Requirement on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If this field is left blank at all levels of inventory control, meaning if no Target Order Requirement is defined, then the Line Point and the Reorder Point will be the same and the number of Review Cycle Days will be zero.

Auto PO Policy

If desired, you can use Auto PO Policy to select an automatic purchase order policy.

Auto PO Policy supports Orders to Purchase functionality by determining whether or not a purchase order is to be generated during order entry in Order Management.

Possible values for Auto PO Policy are:

- None — No action is specified. If the Auto Create PO check box is selected on the Sales Orders (40.100.00), Line Items or Shipping Information tabs, and none is selected here, a purchase order is created.
- Auto PO Always — A purchase order is always created, regardless of inventory availability.
- Auto PO If No Inventory — If sufficient inventory is available, a purchase order is not created.

The default value for this field is None. If it is changed, upon saving, you are prompted to apply this change to all sites for the item. You can respond with Yes or No.

Auto PO Policy is disabled if Orders to Purchase is not installed and registered or if the inventory item is a non-stock item. Also, this field serves as a default for Auto PO Policy on Inventory Sites (10.255.00), Replenishment Parameters tab.
Auto Drop Ship (check box)
If desired, you can select Auto Drop Ship to have this inventory item automatically drop shipped. It is disabled if Orders to Purchase is not installed. If you do not select a policy here, then Inventory Replenishment uses the policy that you selected in Orders to Purchase.

Auto Drop Ship supports Orders to Purchase functionality by providing the default status for Drop Ship check boxes on the Sales Orders (40.100.00), Line Items and Shipping Information tabs.

If Auto Drop Ship is selected here, then it will also be checked on the Sales Orders (40.100.00), Line Items tab, when this particular item/site combination is entered on the sales order line. However, if Auto PO Policy is set to Auto PO If No Inventory and there is sufficient inventory to satisfy the sales order schedule quantity, then the sales order schedule ships from inventory. A sales order schedule cannot be made a drop shipment if it can be filled from warehouse inventory. Therefore, in this case, the Auto Drop Ship default is overridden.

Also, this field serves as a default for Auto Drop Ship on Inventory Sites (10.255.00), Replenishment Parameters tab.

Calculate Trend % (check box)
If desired, you can select Calculate Trend %. When this check box is selected, Inventory Replenishment calculates the Trend % in generating planned inventory. For more information, see “Calculate Trend %” on page 38.

PO Lead Time
PO Lead Time is the number of business days used for purchase order lead time. You should enter a manual default value in PO Lead Time if you selected Manual from Calculation Policy for this inventory item. PO Lead Time is used by the Reorder Point, Line Point, and EOQ replenishment policies.

Manuf. Lead Time
Manuf. Lead Time is the number of business days used for assembly order lead time for this inventory item. This is a required field because Inventory Replenishment does not calculate the number of days used for kit assembly order or work order lead time. Manuf. Lead Time is used by the Reorder Point, Line Point, and EOQ replenishment policies.

Reorder Quantity
Reorder Quantity is the replenishment quantity for this inventory item. You should enter a value greater than zero in Reorder Quantity if you selected Manual from Calculation Policy for this inventory item. Reorder Quantity is used by the Reorder Point, Line Point, and EOQ replenishment policies.

Reorder Point
Reorder Point is the manual value for the reorder point when the Reorder Point replenishment policy is selected for this inventory item. You should enter a value in Reorder Point if you selected Manual from Calculation Policy for this inventory item. Reorder Point is used by the Reorder Point and EOQ replenishment policies.

EOQ
Economic Order Quantity is the replenishment quantity that results in the lowest total cost of inventory rather than the lowest cost per unit.

Safety Stock
Safety Stock is the safety stock quantity to be maintained in an inventory site for this inventory item. You should enter a safety stock quantity here if you selected Manual as the Calculation Policy for this inventory item. Safety Stock is used by all replenishment policies.
Minimum on Hand

Minimum on Hand is the minimum quantity of this inventory item. Inventory Replenishment does not calculate Minimum on Hand. You should enter a value here when you select MAX/MIN as the Replenishment Policy for this inventory item. Minimum on Hand is not specified for sites or for material types.

Maximum on Hand

Maximum on Hand is the maximum quantity of this inventory item. Inventory Replenishment does not calculate Maximum on Hand. You must enter a value here if you select MAX/MIN or Order to Replenish as the Replenishment Policy for this inventory item. Maximum on Hand is not specified for sites or for material types.

Safety Stock Policy

Use the Safety Stock Policy to select the method that Inventory Replenishment will use to calculate safety stock for the inventory sites that belong to this inventory item. It is recommended that you specify a safety stock policy here if you selected Automatic as the Calculation Policy for this inventory item. If you do not specify a policy here, Inventory Replenishment will look for the policy you specified for the material type associated with this inventory item. For more information about various safety stock policies, see “Safety Stock” on page 31.

Possible values are:

- Do Not Use Safety Stock
- Use Service Level
- Use Days Supply
- Use % of Lead time demand

If you do not select a Safety Stock Policy on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If you do not define a safety stock policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment will default to using no safety stock.

Safety Stock Days

Safety Stock Days is enabled and is a required field when Use Days Supply has been selected as the Safety Stock Policy. Use Safety Stock Days to enter the number of days that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate the number of days based on your own business needs.

Safety Stock Percent

Safety Stock Percent is enabled and is a required field when Use % of Lead time demand has been selected as the Safety Stock Policy. Use Safety Stock Percent to enter the percentage that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate this percentage based on your own business needs.
Service Level

Service Level is enabled and is a required field when Use Service Level has been selected as the Safety Stock Policy. Use Service Level to select the customer service level that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. Possible values are:

- 50%
- 75%
- 80%
- 85%
- 90%
- 92%
- 94%
- 96%
- 97%
- 98%
- 99%
- 99.5%
- 99.9%

Demand Form. ID

Use Demand Form. ID to select the demand formula that Inventory Replenishment will use to weight inventory usage from prior fiscal periods to determine the daily demand for the inventory sites that belong to this inventory item.

When Demand Form. ID contains an entry. A description of that entry appears below the field.

Note: Inventory Replenishment looks for a demand formula when it calculates replenishment values for inventory sites. If you do not select a Demand Form. ID on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab. If you did not specify a demand formula at any of these levels, then Inventory Replenishment calculates current period demand using no weight factors, no trend factor, and the number of fiscal periods that you specified in Number of Demand Periods on IR Setup (41.950.00), Options tab.
Lead Time Form. ID

Use Lead Time Form. ID to select the lead time formula that Inventory Replenishment will use to weigh lead times from prior purchase order receipts for the inventory sites that belong to this inventory item. When Lead Time Form. ID contains an entry. A description of that entry appears below the field.

Note: If you do not select a lead time formula, Inventory Replenishment will look for the formula you selected for the site, inventory item, or material type associated with this inventory site. If you do not select a lead time formula at any of these levels, then Inventory Replenishment calculates purchase order lead time using the number of lead time receipts in Number of Lead Time Receipts specified on IR Setup (10.950.00), Options tab, and no weight factors and no tolerance ranges.

Line Point

Line Point is the value of the replenishment point for this inventory item when the Line Point replenishment policy has been selected.

Review Cycle

Review Cycle is used to calculate replenishment quantities when the Line Point replenishment method is selected. Review Cycle is the number of days in the review cycle. This is the number of days between the date you reach a replenishment point and the date you reach a point where you can place an order that meet a vendor’s target order requirement for this inventory item.

Ship Via ID

Ship Via ID is an identification number for the carrier being used to deliver the items. If you do not select a Ship Via ID for this inventory item, then Inventory Replenishment looks for the identification number for the carrier that you specified in Ship Via ID on Material Type Maintenance (21.370.00), Replenishment tab.
Inventory Items, Seasonality Tab

*Inventory Items* (10.250.00), **Seasonality** tab, enables you to define the seasonal dates associated with the inventory item. The **Seasonality** tab fields are for report purposes only and do not affect replenishment calculations.

![Inventory Items (10.250.00), Seasonality tab](image)

*Figure 33: Inventory Items (10.250.00), Seasonality tab*

Following are the field descriptions related to Inventory Replenishment for *Inventory Items* (10.250.00), **Seasonality** tab.

**Season Start Month**

Use the **Season Start Month** possible values list to select the month when the season begins.

**Season Start Day**

**Season Start Day** is enabled when a **Season Start Month** has been selected. Use **Season Start Day** to enter the date within the start month when the season begins.

**Season End Month**

Use the **Season End Month** possible values list to select the month when the season ends.

**Season End Day**

**Season End Day** is enabled when a **Season End Month** has been selected. Use **Season End Day** to enter the date within the end month when the season ends.
Inventory Sites (10.255.00)

Inventory Replenishment uses two tabs on Inventory Sites (10.255.00): Replenishment Parameters and Replenishment Values tabs. For information about other tabs, see the Inventory help or user guide.

Inventory Sites, Replenishment Parameters Tab

Inventory Replenishment calculates replenishment values at the inventory site level. You can use Inventory Sites (10.255.00), Replenishment Parameters tab, to define the parameters that Inventory Replenishment uses to determine replenishment values for an inventory site. If you choose not to define parameters at this level, Inventory Replenishment will look for and use values that you defined at other levels of control.

Inventory Replenishment treats each parameter independently. If you choose not to define a parameter at the inventory site level, as a general rule Inventory Replenishment looks for its value at the site level first. If it does not find a value there, it looks next at the inventory item level. If it does not find a value there, it looks finally at the material type level. It stops looking as soon as it finds a value and then uses that value to calculate replenishment values for the inventory site. Replenishment Source Code and Transfer From Site are exceptions to this rule. If you choose not to define either of these parameters at the inventory site level, Inventory Replenishment looks for their values first at the inventory item level and then at the site level. It does not look for values for Replenishment Source Code and Transfer From Site at the material type level because the material type level does not contain these parameters.

Parameters defined at the inventory site level override parameters defined at all other levels of control. You can use the inventory site level of control for the most expensive and most critical items in your inventory when you need to track a specific group of an item within the location in which it is stored.

![Inventory Sites (10.255.00), Replenishment Parameters tab](image)

Following are the field descriptions related to Inventory Replenishment for Inventory Sites (10.255.00), Replenishment Parameters tab. For descriptions of other fields and tabs, see the Inventory help or user guide.
Replenishment Source Code

Replenishment Source Code is a required field when a replenishment policy has been selected. It is the type of transaction order you want Inventory Replenishment to generate from the planned order. At the inventory site level of control, possible values are Purchase Order, OM Kit Assembly, and OM Warehouse Transfer. This field is disabled when Inventory Replenishment is not registered.

Replenishment Policy

Replenishment Policy is the method that you want Inventory Replenishment to use to calculate replenishment values for this inventory site. For more information, see “Replenishment Calculations” on page 37. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

If you select None or if you do not select a Replenishment Policy on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If you do not select a replenishment policy for the inventory site and you do not select a replenishment policy for the site, inventory item, or material type associated with the inventory site, then Inventory Replenishment does not calculate a replenishment quantity for the inventory site.

Note: When Inventory Replenishment does not calculate a replenishment quantity for an inventory site, it does not generate a planned order for that inventory site. You can manually enter a planned order using Planned Order Maintenance (41.100.00).

Target Order Method

Target Order Method enables you to select the unit of measure specified by the target order requirement associated with this inventory site. When the Line Point replenishment policy has been selected, it is a required field. Possible values are:

- None
- Monetary Amount
- Unit Of Measure
- Weight
- Cubic Volume

If you select None or if you do not select a Target Order Method on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

Future Replen. Eff. Date

Future Replen. Eff. Date is the date when the future replenishment policy is to take effect. When you run Generate Planned Orders (41.400.00) on or after the date that you specified in Future Replen. Eff. Date, the replenishment policy for this inventory item becomes the policy you specified in Future Replenishment Policy. At that time, the Future Replen. Eff. Date and Future Replenishment Policy parameters are cleared.
Future Replenishment Policy

Future Replenishment Policy enables you to select the replenishment policy that Inventory Replenishment will use to calculate replenishment values for this inventory item on and after the date when the Future Replen. Eff. Date is reached. Possible values are:

- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

Future Replenishment Policy is a required field when a Future Replen. Eff. Date has been set. When no Future Replen. Eff. Date has been set, Future Replenishment Policy is disabled.

Model After Inventory ID

Model After Inventory ID is the inventory identification number of an inventory item similar to the inventory item stored in this inventory site and having past usage that you want to use as a model to forecast demand for this inventory site. Use Model After Inventory ID when the inventory item in this inventory site does not have a past usage history long enough to use as a basis for forecasting its demand.

Model After Inventory ID is enabled when Inventory Replenishment is registered.

Model After Inventory ID is an optional field. If you do not enter an identification number in Model After Inventory ID on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Inventory Items (10.250.00), Replenishments tab. If you do not enter an identification number in Model After Inventory ID on either of these screens, Inventory Replenishment uses the transaction history of the current Inventory ID.

Note: The Site ID for current inventory item should be the same as the Site ID for the Model After Inventory ID.

Example: Let’s say that Inventory Item A is replacing Inventory Item B and that you expect future usage of Inventory Item A to be similar to past usage of Inventory Item B. When you enter the inventory identification number of Inventory Item B in Model After Inventory ID, Inventory Replenishment uses past usage patterns for both inventory items to forecast demand for Inventory Item A.

Transfer From Site

You can use Transfer From Site to enter the identification number of the original site from which the inventory items were transferred. Transfer From Site is enabled and is a required field when OM Warehouse Transfer has been selected from Replenishment Source Code.

Transfer From Site is disabled when Inventory Replenishment is not registered.

Primary Vendor

Use Primary Vendor to enter the name of the primary vendor for the inventory item in this inventory site. It is a required field when Purchase Order has been selected as the Replenishment Source Code. Otherwise, it is disabled.

If you do not define Primary Vendor on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

Secondary Vendor

Secondary Vendor is a display-only field that is not used by Inventory Replenishment calculations.
Buyer

Use **Buyer** to enter the name of the buyer for this inventory item.

If you do not define **Buyer** on **Inventory Sites (10.255.00)**, **Replenishment Parameters** tab, Inventory Replenishment looks for its value on **Inventory Items (10.250.00)**, **Replenishments** tab. If you do not define it on either of these screens, it is blank.

**Demand Form. ID**

Use **Demand Form. ID** to select the demand formula that Inventory Replenishment will use to weight inventory usage from prior fiscal periods to determine the daily demand for this inventory site.

When **Demand Form. ID** contains an entry. A description of that entry appears below the field.

**Note:** Inventory Replenishment looks for a demand formula when it calculates replenishment values for inventory sites. If you do not select a value for **Demand Form. ID** on **Inventory Sites (10.255.00)**, **Replenishment Parameters** tab, Inventory Replenishment looks for its value on **Sites (10.310.00)**, **Replenishment** tab, then on **Inventory Items (10.250.00)**, **Replenishments** tab, and finally on **Material Type Maintenance (21.370.00)**, **Replenishment** tab. If you did not specify a demand formula at any of these levels, then Inventory Replenishment calculates current period demand using no weight factors, no trend factor, and the number of fiscal periods that you specified in **Number of Demand Periods** on **IR Setup (41.950.00)**, **Options** tab.

**Lead Time Form. ID**

Use **Lead Time Form. ID** to select the lead time formula that Inventory Replenishment will use to weight lead times from prior fiscal periods for the inventory site.

When **Lead Time Form. ID** contains an entry. A description of that entry appears below the field.

**Note:** If you do not select a **Lead Time Form. ID** on **Inventory Sites (10.255.00)**, **Replenishment Parameters** tab, Inventory Replenishment looks for its value on **Sites (10.310.00)**, **Replenishment** tab, then on **Inventory Items (10.250.00)**, **Replenishments** tab, and finally on **Material Type Maintenance (21.370.00)**, **Replenishment** tab. If you do not define a lead time formula on any of these screens, then Inventory Replenishment calculates lead time using the number of lead time receipts that you specified in **Number of Lead Time Receipts** on **IR Setup (10.950.00)**, **Options** tab, and using no weight factors and no tolerance ranges.

**Auto PO Policy**

If desired, you can use **Auto PO Policy** to select an automatic purchase order policy.

**Auto PO Policy** supports Orders to Purchase functionality by determining whether or not a purchase order is to be generated during order entry in Order Management. **Auto PO Policy** is disabled if Orders to Purchase is not installed or if the inventory item is a non-stock item.

Possible values for **Auto PO Policy** are:

- **None** — No action is specified. If the **Auto Create PO** check box is selected on the **Sales Orders (40.100.00)**, **Line Items** or **Shipping Information** tabs, and none is selected here, a purchase order is created.
- **Auto PO Always** — A purchase order is always created, regardless of inventory availability.
- **Auto PO If No Inventory** — If sufficient inventory is available, a purchase order is not created.

The default value for this field is **None**. If it is changed, upon saving, you are prompted to apply this change to all sites for the item. You can respond with **Yes** or **No**.

**Calculate Trend %**

When this check box is selected, Inventory Replenishment calculates the trend % in generating planned inventory. For more information, see “Calculate Trend %” on page 38.
Auto Drop Ship (check box)
If desired, you can select Auto Drop Ship to have this inventory item automatically drop shipped. It is disabled if Orders to Purchase is not installed. If you do not select a policy here, then Inventory Replenishment uses the policy that you selected in Orders to Purchase.

Auto Drop Ship supports Orders to Purchase functionality by providing the default status for Drop Ship check boxes on the Sales Orders (40.100.00), Line Items and Shipping Information tabs.

If Auto Drop Ship is selected here, then it will also be checked on the Sales Orders (40.100.00), Line Items tab, when this particular item/site combination is entered on the sales order line. However, if Auto PO Policy is set to Auto PO If No Inventory and there is sufficient inventory to satisfy the sales order schedule quantity, then the sales order schedule ships from inventory. A sales order schedule cannot be made a drop shipment if it can be filled from warehouse inventory. Therefore, in this case, the Auto Drop Ship default is overridden.

Target Order Requirement
Target Order Requirement is the amount needed to fulfill the vendor’s order requirement. It is a required field when the Line Point replenishment policy has been selected. The number of decimal places is determined by the values entered on IN Setup (10.950.00), Options tab, and is as follows:

- Monetary Amount depends on the currency selected and is specified in Price/Cost in the Decimal Places area of IN Setup (10.950.00), Options tab.
- Unit of Measure is displayed in the number of decimal places determined by the value entered in Quantities in the Decimal Places area on IN Setup (10.950.00), Options tab.
- Weight is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

Note: The decimal precision used in Weight matches the decimal precision in the user-defined field Weight UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

- Cubic Volume is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

Note: The decimal precision used in Cubic Volume matches the decimal precision in the user-defined field Volume UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

If you do not enter a Target Order Requirement on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If this field is left blank at all levels of inventory control, meaning if no Target Order Requirement is defined, then the Line Point and the Reorder Point will be the same and the number of Review Cycle Days will be zero.

Ship Via ID
Ship Via ID is an identification number for the carrier being used to deliver the inventory items in this inventory site. It is a required field when OM Warehouse Transfers has been selected as the Replenishment Source Code. Otherwise, it is disabled.

If you do not select a Ship Via ID on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab. If it does not find a value on any of these screens, Inventory Replenishment uses the default value that you specified in Warehouse Transfer Ship Via ID on IR Setup (41.950.00), Options tab.
Safety Stock Policy

Use Safety Stock Policy to select the method that Inventory Replenishment will use to calculate safety stock for this inventory site. For explanations of the concepts behind these safety stock policies, see “Safety Stock” on page 31.

Possible values are:

- Do Not Use Safety Stock
- Use Service Level
- Use Days Supply
- Use % of Lead time demand

If you do not select a Safety Stock Policy on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If you do not define a safety stock policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment will default to using no safety stock.

Safety Stock Days

Safety Stock Days is enabled and is a required field when Use Days Supply has been selected as the Safety Stock Policy for this inventory site. Use Safety Stock Days to enter the number of days that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate the number of days based on your own business needs.

Safety Stock Percent

Safety Stock Percent is enabled and is a required field when Use % of Lead time demand has been selected as the Safety Stock Policy for this inventory site. Use Safety Stock Percent to enter the percentage that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate this percentage based on your own business needs.

Service Level

Service Level is enabled and is a required field when Use Service Level has been selected as the Safety Stock Policy for this inventory site. Use Service Level to select the customer service level that that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. For an explanation of the concepts behind this policy, see “Service Level” on page 33. Possible values are:

- 50%
- 75%
- 80%
- 85%
- 90%
- 92%
- 94%
- 96%
- 97%
- 98%
- 99%
- 99.5%
- 99.9%

Note: When Use Service Level has been selected as the Safety Stock Policy, the number of fiscal periods that Inventory Replenishment uses to calculate safety stock is determined by the demand formula that you specify using Demand Formula Maintenance (41.220.00). If you do not specify a demand formula for an inventory site, or for the inventory item, site, or material type associated with that inventory site, then Inventory Replenishment defaults to using the number of fiscal periods that you specified in Number of Demand Periods on IR Setup (41.950.00), Options tab. The value is
usually from three to six months. **Number of Service Level Periods** on **IR Setup** (41.950.00), **Options** tab, is not active in this version of Inventory Replenishment.

**Season Start Month**
Use the **Season Start Month** possible values list to select the month when the season begins.

**Season Start Day**
**Season Start Day** is enabled when a **Season Start Month** has been selected. Use **Season Start Day** to enter the date within the start month when the season begins.

**Season End Month**
Use the **Season End Month** possible values list to select the month when the season ends.

**Season End Day**
**Season End Day** is enabled when a **Season End Month** has been selected. Use **Season End Day** to enter the date within the end month when the season ends.
Inventory Sites, Replenishment Values Tab

*Inventory Sites* (10.255.00), **Replenishment Values** tab, displays the replenishment values associated with the inventory site. When an inventory site is created and Manual has been selected as the **Calculation Policy** for the site, inventory item, or material type associated with the inventory site, Inventory Replenishment copies manual default values specified for the inventory item from *Inventory Items* (10.250.00), **Replenishments** tab, to the **Active** field of *Inventory Sites* (10.255.00), **Replenishment Values** tab.

When an inventory site is created and Automatic has been selected as the **Calculation Policy** for the site, inventory item, or material type associated with the inventory site, the **Active** field is disabled. You can enable the **Active** field by selecting **Manual Override** for any parameter. When you select Manual Override, you can enter a new value in the **Active** field you have enabled. For example, to enable the **Active** field for **Reorder Quantity**, you select **Manual Override** in the **Reorder Quantity** row. Inventory Replenishment enables the **Active** field.

![Figure 35: Inventory Sites (10.255.00), Replenishment Values tab](image)

The *Inventory Items* (10.250.00), **Replenishments** tab, enables you to enter manual override values specific to the inventory site. Inventory Replenishment treats each value independently. At any time, you can define a manual override value for any of the following values. When you define a manual override value at the inventory site level, Inventory Replenishment uses this value rather than the manual default value or the calculated value for the inventory item associated with this inventory site.

- **Reorder Quantity**
- **Reorder Point**
- **EOQ (economic order quantity)**
- **Safety Stock**
- **PO Lead Time**
- **Projected Daily Demand**
- **Review Cycle Days**
- **Line Point**
Inventory Replenishment also enables you to enter manual default values at the inventory site level for any of the following replenishment values. Any manual default values you enter here will be used rather than the manual default values you entered at the inventory item level of control.

- **Maximum on Hand**
- **Minimum on Hand**
- **Manuf. Lead Time**

You can use the following table to identify the replenishment values associated with the replenishment policy that you selected for this inventory site.

<table>
<thead>
<tr>
<th>Replenishment Value</th>
<th>Policies using this Replenishment Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reorder quantity</td>
<td>Reorder Point</td>
</tr>
<tr>
<td>Reorder point</td>
<td>EOQ and Reorder Point</td>
</tr>
<tr>
<td>Line point</td>
<td>Line Point</td>
</tr>
<tr>
<td>EOQ (reorder quantity for EOQ)</td>
<td>EOQ</td>
</tr>
<tr>
<td>Safety stock</td>
<td>Reorder Point, Line Point, EOQ, and MAX/MIN</td>
</tr>
<tr>
<td>Purchase order lead time</td>
<td>Reorder Point, Line Point, and EOQ</td>
</tr>
<tr>
<td>Review cycle days</td>
<td>Line Point</td>
</tr>
<tr>
<td>Minimum on hand</td>
<td>MAX/MIN</td>
</tr>
<tr>
<td>Maximum on hand</td>
<td>MAX/MIN and Order to Replenish</td>
</tr>
<tr>
<td>Manufacturing lead time</td>
<td>Reorder Point, Line Point, and EOQ</td>
</tr>
<tr>
<td>Projected daily demand</td>
<td>Reorder Point, Line Point, and EOQ</td>
</tr>
</tbody>
</table>

Following are the field descriptions related to Inventory Replenishment for Inventory Sites (10.255.00), **Replenishment Values** tab. For descriptions of other fields and tabs, see the Inventory help or user guide.

**Manual Override (check boxes)**

If a Manual Override check box is selected, manual override value is used, instead of the manual default value or the calculated value, to determine the corresponding parameter. When you select a Manual Override check box, you must specify a manual override quantity equal or greater than zero.

There may be business reasons to use manual override rather than manual default values or calculated values at any given point in time. For example, you may not have enough past usage information for a new inventory item to calculate its replenishment value, or you may know that future usage for an existing inventory item will be different than past usage for reasons not accounted for by past usage. For example, you may know that your business has just acquired a new customer who placing an order for an unusually large quantity of a certain inventory item. On these occasions, you can have Inventory Replenishment use manual override rather than calculated values.

When Manual is selected as the Calculation Policy at the inventory item, site, or material type level, then Manual Override is disabled and the fields in the Active column are enabled.

**Active**

The Active column provides a data entry field that you can use to enter a manual override value for each replenishment parameter. You can enter manual override values for none, any, or all of these parameters or you can leave these manual override values undefined. Inventory Replenishment treats each parameter independently. When you do not define a manual override value for a parameter here, Inventory Replenishment uses the existing manual default or existing calculated value for this parameter. This existing manual default value is displayed on Inventory Items (10.250.00), **Replenishments** tab. The existing calculated value is displayed in the Calculated field on Inventory Sites (10.255.00), **Replenishment Values** tab.

The Active field is disabled when Inventory Replenishment is not installed.
For **PO Lead Time**, you can select **Manual Override** and type the manual override value for the number of business days to be used for purchase order lead time. This is the number of days you need, on average, to replenish inventory from the normal source of supply, or the average number of days between the date that you place a purchase order and the date that you receive the inventory items in inventory from your customary or usual vendor.

For **Projected Daily Demand**, you can select **Manual Override** and type the manual override value for the projected daily demand. This is the average number of units you expect to use per day between the date you order and the date when you receive the inventory item. If you select **Manual Override** you must specify an integer greater than zero in **Projected Daily Demand**.

For **Review Cycle Days**, you can select **Manual Override** and type the manual override value for the number of business days in the review cycle. This is the number of days between the time that the inventory item site reaches its replenishment point and the date when you can meet the vendor’s target order requirement. **Review Cycle Days** is one of the factors used to calculate the line point when Inventory Replenishment calculates replenishment quantities using the Line Point replenishment policy.

The manual default values you enter for **Minimum on Hand** and **Maximum on Hand** are used by the MAX/MIN replenishment policy.

The manual default value you enter for the number of business days needed for manufacturing lead time is used to calculate assembly order lead time for kit assemblies and work orders. **Manuf. Lead Time** is used by the Reorder Point, Line Point, and EOQ replenishment policies. If you do not enter a manual default value for **Manuf Lead Time** on **Inventory Sites** (10.255.00), **Replenishments** tab, Inventory Replenishment uses the value in **Manuf Lead Time** on **Inventory Items** (10.250.00), **Replenishments** tab.

**Note:** The lead time used for warehouse transfers is the default transit time in days that is associated with the **Ship Via ID** specified on **Inventory Sites** (10.255.00), **Replenishment Parameters** tab.

**Calculated**
The **Calculated** column contains display-only fields showing the calculated value for each parameter. These calculated values were determined by the replenishment parameters you specified at the inventory site, inventory item, site, or material type level of control.

- The calculation for **Reorder Quantity** is based on the parameters you defined for the inventory item using the Reorder Point.
- The calculation for **Reorder Point** is based on the parameters you defined for the inventory item using the Reorder Point or EOQ replenishment policy.
- The calculation for **EOQ** is based on the parameters you defined for the inventory item. EOQ is used by the EOQ replenishment policy as the reorder amount.
- The calculation for **Safety Stock** is based on the parameters you defined for the inventory item. All replenishment policies use **Safety Stock** except Order to Replenish.
- The calculation for **PO Lead Time** is based on the parameters you defined for the inventory item. **PO Lead Time** is used by the Reorder Point, Line Point, and EOQ replenishment policies.
- The calculation for **Projected Daily Demand** is based on the parameters you defined for the inventory item. **Projected Daily Demand** is used by the Reorder Point, Line Point, and EOQ replenishment policies.
- The calculation for **Review Cycle Days** is based on the parameters you defined for the inventory item. **Review Cycle Days** is used by the Line Point replenishment policy.
- The calculation for **Line Point** is based on the parameters you defined for the inventory item. **Line Point** is used by the Line Point replenishment policy.

**Low Limit %**
**Low Limit %** displays a data entry field that you can use to enter the lower percentage tolerance limit for each replenishment parameter. If the calculated value for a parameter is lower than this
percentage of its existing value, then Inventory Replenishment will use the existing value rather than the calculated value and will log a message in the process log file. You can view this log file with the Event Log Viewer screen in the Utility menu.

**Example:** Let’s say that you know that you need at least 70% of the existing purchase order lead time. You set the lower tolerance limit for **PO Lead Time** to 70%. If the calculated purchase order lead time is below 70% of the existing purchase order lead time for the previous fiscal period, Inventory Replenishment will use continue to use the existing value rather than the calculated value.

**High Limit %**

**High Limit %** displays a data entry field that you can use to enter the high percentage tolerance limit for each replenishment parameter. If the calculated value for a parameter is higher than this percentage of its existing value, then Inventory Replenishment will use the existing value rather than the calculated value and will log a message in the process log file. You can view this log file with the Event Log Viewer screen in the Utility menu.

**Date of Last Calculation**

**Date of Last Calculation** is the date that you last calculated replenishment values.
Sites (10.310.00)

Inventory Replenishment uses two tabs on Sites (10.310.00): Replenishment and Seasonality tabs. For information about other tabs, see the Inventory help or user guide.

Sites, Replenishment Tab

You can use the Sites (10.310.00), Replenishment tab to define parameters for all inventory items stored at a particular site.

As a general rule, parameters defined at the site level override parameters defined at the inventory item level and material type level. Replenishment Source Code and Transfer From Site are exceptions to this rule. When you define Replenishment Source Code and Transfer From Site at the inventory item level, those values override the values of Replenishment Source Code and Transfer From Site that you define at the site level.

Figure 36: Sites (10.310.00), Replenishment tab

Following are the field descriptions related to Inventory Replenishment for Sites (10.310.00), Replenishment tab. For descriptions of other fields and tabs on Sites (10.310.00), see the Inventory help or user guide.

Replenishment Source Code

Replenishment Source Code is a required field when a replenishment policy has been selected. It is the type of transaction order you want Inventory Replenishment to generate from the planned order. At the site level of inventory control, possible values are Purchase Order, OM Kit Assembly, and OM Warehouse Transfer. This field is disabled when Inventory Replenishment is not installed.

Replenishment Policy

Replenishment Policy is the method you want Inventory Replenishment to use to calculate replenishment values for the inventory sites associated with the inventory items stored at this site. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

**Note: Replenishment Policy** is used by Inventory Replenishment when it calculates replenishment quantities for inventory sites. If you do not select a replenishment policy for the inventory site, Inventory Replenishment will look for a replenishment policy associated with the site. If it does not find a replenishment policy for the site, Inventory Replenishment will look for the replenishment policy for the inventory item or the material type associated with the inventory site. If it finds no replenishment policy for the inventory site, or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment does not calculate a replenishment quantity for that inventory site and does not generate a planned order.

**Target Order Method**

Use **Target Order Method** to select the unit of measure specified by the target order requirement associated with the inventory items stored at this site. When the Line Point replenishment policy has been selected, it is a required field. Possible values are:
- None
- Monetary Amount
- Unit of Measure
- Weight
- Cubic Volume

When you do not select a method, **Target Order Method** defaults to None for the site.

**Calculation Policy**

**Calculation Policy** determines whether Inventory Replenishment calculates replenishment values for inventory items stored at this site or uses the manual default values you enter. Parameters controlled by **Calculation Policy** include:
- PO Lead Time
- Reorder Quantity
- Reorder Point
- EOQ
- Safety Stock
- Projected Daily Demand
- Line Point
- Review Cycle Days

**Calculation Policy** can be set to None, Automatic, or Manual. If you select None or do not make any selection for the site, then Inventory Replenishment looks for the calculation policy set for the inventory item. If it does not find a calculation policy set for the inventory item, Inventory Replenishment looks for the calculation policy set for the material type. If it does not find a calculation policy for the inventory site or for the site, inventory item, or material type associated with the inventory site, then Inventory Replenishment defaults to using calculated values.

**Note:** The following bullets summarize how Inventory Replenishment looks for a calculation policy.

- If you select **Manual Override** in the parameter row on **Inventory Sites** (10.255.00), **Replenishment Values** tab, Inventory Replenishment uses the manual override value.
- If you do not select **Manual Override** in the parameter row on **Inventory Sites** (10.255.00), **Replenishment Values** tab, Inventory Replenishment looks for and uses the calculation policy you select for the site associated with the inventory site. This site value is selected from **Calculation Policy** on **Sites** (10.310.00), **Replenishment** tab.
Inventory Replenishment

- If Inventory Replenishment does not find a calculation policy associated with the inventory site, it looks for and uses the calculation policy you selected for the inventory item using Calculation Policy on Inventory Items (10.250.00), Replenishments tab.
- If Inventory Replenishment does not find a calculation policy associated with the inventory item, it looks for and uses the calculation policy you selected for the material type using Calculation Policy on Material Type Maintenance (21.370.00), Replenishment tab.
- If it does not find a calculation policy for the inventory site or for the site, inventory item, or material type associated with the inventory site, then Inventory Replenishment defaults to using calculated values.

Target Order Requirement

Target Order Requirement is the amount needed to fulfill the vendor’s order requirement. It is a required field when the Line Point replenishment policy has been selected. Because Inventory Replenishment does not calculate the target order requirement, you must manually enter the value. The number of decimals is determined by the values entered on IN Setup (10.950.00), Options tab, and is as follows:

- Monetary Amount depends on the currency selected and is specified in Price/Cost in the Decimal Places area of IN Setup (10.950.00), Options tab.
- Unit of Measure is displayed in the number of decimal places determined by the value entered in Quantities in the Decimal Places area on IN Setup (10.950.00), Options tab.
- Weight is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.
  
  Note: The decimal precision used in Weight matches the decimal precision in the user-defined field Weight UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

- Cubic Volume is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.
  
  Note: The decimal precision used in Cubic Volume matches the decimal precision in the user-defined field Volume UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

Primary Vendor

Use Primary Vendor to enter the name of the primary vendor for the inventory items stored at this site. It is a required field when Purchase Order has been selected as the Replenishment Source Code.

Safety Stock Policy

Use the Safety Stock Policy to select the method that Inventory Replenishment will use to calculate safety stock for the inventory sites that belong to the inventory items stored at this site.

Possible values are:

- Do Not Use Safety Stock
- Use Service Level
- Use Days Supply
- Use % of Lead time demand

If you do not select a Safety Stock Policy on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If you do not define a safety stock policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment will default to using no safety stock.
Safety Stock Days

Safety Stock Days is enabled and is a required field when Use Days Supply has been selected as the Safety Stock Policy. Use Safety Stock Days to enter the number of days that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate the number of days based on your own business needs.

Safety Stock Percent

Safety Stock Percent is enabled and is a required field when Use % of Lead time demand has been selected as the Safety Stock Policy. Use Safety Stock Percent to enter the percentage that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. You must estimate this percentage based on your own business needs.

Service Level

Service Level is enabled and is a required field when Use Service Level has been selected as the Safety Stock Policy. Use Service Level to select the customer service level that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this inventory item. Possible values are:

- 50%
- 75%
- 80%
- 85%
- 90%
- 92%
- 94%
- 96%
- 97%
- 98%
- 99%
- 99.5%
- 99.9%

Effective Date

Effective Date is the date when the future replenishment policy is to take effect. When you generate planned orders, on or after the date that you specified in Effective Date, the replenishment policy for the inventory items stored at this site becomes the policy you specified in Replenishment Policy. At this time, the Effective Date and Replenishment Policy parameters are both cleared.

Replenishment Policy

Replenishment Policy enables you to select the replenishment policy that Inventory Replenishment will use to calculate replenishment values for the inventory items stored at this site. Replenishment Policy is used on and after the date when the Effective Date is reached. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

If you do not select a future replenishment policy for the site, Inventory Replenishment will look for a future replenishment policy associated with the inventory item.

Replenishment Policy is a required field when a Effective Date has been set. When no Effective Date has been set, Replenishment Policy is disabled.

Transfer From Site

Use Transfer From Site to enter the site identification number of the site from which the inventory items were transferred. Transfer From Site is enabled and is a required field when OM Warehouse Transfer has been selected from Replenishment Source Code. This field is disabled when Inventory Replenishment is not registered.
Transfer From Site behaves differently than other parameters. The Transfer From Site value you specify on Inventory Items (10.250.00), Replenishments tab, overrides the Transfer From Site value specified on Sites (10.310.00), Replenishment tab.

Ship Via ID

Ship Via ID is an identification number for the carrier being used to deliver the items. It is a required field when OM Warehouse Transfers has been selected as the Replenishment Source Code. Otherwise, it is disabled.

Demand Formula ID

Use Demand Form. ID to select the demand formula that Inventory Replenishment will use to weight inventory usage from prior fiscal periods to determine the daily demand for the inventory sites that belong to this site.

Note: Inventory Replenishment looks for a demand formula when it calculates replenishment values for inventory sites. If you do not select a Demand Form. ID on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab. If you did not specify a demand formula at any of these levels, then Inventory Replenishment calculates current period demand using no weight factors, no trend factor, and the number of fiscal periods that you specified in Number of Demand Periods on IR Setup (41.950.00), Options tab.

Lead Time Formula ID

Use Lead Time Formula ID to select the lead time formula that Inventory Replenishment will use to weight lead times from prior fiscal periods for the inventory sites that belong to the inventory items stored at this site.

When Lead Time Formula ID contains an entry, a description of that entry appears below the field.

Note: If you do not select a Lead Time Formula ID on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab. If you do not define a lead time formula on any of these screens, then Inventory Replenishment calculates lead time using the number of lead time receipts that you specified in Number of Lead Time Receipts on IR Setup (10.950.00), Options tab, and using no weight factors.
Sites, Seasonality Tab

The **Seasonality** tab of the Sites (10.310.00) screen enables you to define the seasonal dates associated with the inventory item. These fields are for report purposes only and do not affect replenishment calculations.

![Image of Sites (10.310.00) screen with Seasonality tab](image)

*Figure 37: Sites (10.310.00), Seasonality tab*

Following are the field descriptions related to Inventory Replenishment for Sites (10.310.00), **Seasonality** tab.

**Season Start Month**

Use the **Season Start Month** possible values list to select the month when the season begins.

**Season Start Day**

**Season Start Day** is enabled when a **Season Start Month** has been selected. Use **Season Start Day** to enter the date within the start month when the season begins.

**Season End Month**

Use the **Season End Month** possible values list to select the month when the season ends.

**Season End Day**

**Season End Day** is enabled when a **Season End Month** has been selected. Use **Season End Day** to enter the date within the end month when the season ends.
Bill of Material Structure (11.320.00)

*Bill of Material Structure* (11.320.00) in the Bill of Material module provides an indented view of components on a bill of material and their related information.

In the folder items area, all components of the bill are displayed on a multi-level basis. Folders may be expanded or collapsed to drill down into subassemblies and return back to higher levels.

Detailed information relating to the component having focus is displayed in the right side panel of the form.

Clicking *Component List* opens *Bill of Material Structure Component List* (11.320.02), which displays a list of the components for the BOM ID’s entire bill of material.

To access this screen, select *Bill of Material Structure* under *Inquiries* on the Bill of Material application pane, or click *View Structure* in *Bill of Material Maintenance* (11.250.00).

Bill of Material Structure, Item Site Info Tab

The *Bill of Material Structure* (11.320.00), *Item Site Info* tab contains information about inventory sites associated with a Bill of Material structure.

![Bill of Material Structure (11.320.00), Item Site Info tab](image)

*Figure 38: Bill of Material Structure (11.320.00), Item Site Info tab*

Following are the field descriptions related to Inventory Replenishment for *Bill of Material Structure* (11.320.00), *Item Site Info* tab. For descriptions of other fields and tabs on *Bill of Material Structure* (11.320.00), see the Bill of Material help or user guide.
Replenishments Policy

Replenishments Policy is the replenishment policy that Inventory Replenishment uses to calculate replenishment values for the inventory site. Bill of Material uses the term item site rather than inventory site. The term item site as used in Bill of Material the same thing as the term inventory site as used in Inventory Replenishment. Replenishments Policy is display-only. When Inventory Replenishment is installed, possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish
Component Where-Used (11.330.00)

The purpose of Component Where-Used (11.330.00) in the Bill of Material module is to allow you to inquire “up” the bill of material, displaying all parents one level higher than the selected component. If the component is also a component of another bill, its parent is displayed when the folder is clicked on in the folder items list.

In the folder items area, a display is presented of all assemblies that contain the target component. Some of these assemblies may be subassemblies on other bills. As a result, this component exists in effect on the parents of the subassemblies as well. The folders of parent subassemblies may be expanded to see all of the bills on which these subassemblies exist. This expansion process may be performed until the ultimate top-level finished goods assembly is reached.

Note: When you specify a component to a different target location, the costs associated with the component are calculated from the target site, not the original site.

Example: If a component is built in Los Angeles and then sent to Malaysia for assembly, the part’s cost will reflect the cost to build the component in Malaysia, not the Los Angeles cost.

Detailed information relating to the highlighted item is displayed in the right side panel of the form. Clicking Component List opens the Component Where-Used List (11.330.02), which presents in text form the information displayed in the folder items area.

To access Component Where-Used (11.330.00), select Component Where-Used under Inquiries on the Bill of Material application pane.
Component Where-Used, Item Site Info Tab

Component Where-Used (11.330.00), Item Site Info tab, displays information about inventory sites associated with a Bill of Material structure. Bill of Material uses the term item site rather than inventory site. The term item site as used in Bill of Material the same thing as the term inventory site as used in Inventory Replenishment.

![Component Where-Used (11.330.00), Item Site Info tab](image)

**Figure 39: Component Where-Used (11.330.00), Item Site Info tab**

Following is a field description related to Inventory Replenishment Component Where-Used (11.330.00), Item Site Info tab. For descriptions of other fields and tabs on Component Where-Used (11.330.00), see the Bill of Material help or user guide.

**Replenishments Policy**

When Inventory Replenishment is installed, Replenishments Policy displays the replenishment policy that Inventory Replenishment will use to calculate replenishment values for this inventory item. It is display-only. When Inventory Replenishment is installed, possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish
Material Type Maintenance (21.370.00)

Following are the tab descriptions for Material Type Maintenance (21.370.00).

Material Type Maintenance, Replenishment Tab

You can use Material Type Maintenance (21.370.00), Replenishment tab, to specify parameter values for inventory items associated with each material type. When considering whether to use the material type level of control for an inventory item, keep in mind that:

- The material type level of control is suitable for non-critical inventory items that do not need to be closely monitored.
- OM Warehouse Transfers are not handled at the material type level.
- Parameters defined at the material type level are overridden by parameters defined at other levels of inventory control.

Material Type Maintenance (21.370.00), Replenishment tab, is disabled when Inventory Replenishment is not registered.

Figure 40: Material Type Maintenance (21.370.00), Replenishment tab

Following are the field descriptions related to Inventory Replenishment for Material Type Maintenance (21.370.00), Replenishment tab. For descriptions of other fields and tabs on Material Type Maintenance (21.370.00), see the Shared Information help or user guide.

Replenishment Source Code

Replenishment Source Code is a required field when a replenishment policy has been selected. It is the type of transaction order you want Inventory Replenishment to generate from the planned order. At the material type level of inventory control, possible values are Purchase Order and OM Kit Assembly. This field is disabled when Inventory Replenishment is not registered.
Replenishment Policy

Replenishment Policy enables you to select the replenishment policy that Inventory Replenishment will use to calculate replenishment values for the inventory sites that belong to inventory items associated with this material type. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

Note: Replenishment Policy is used by Inventory Replenishment when it calculates replenishment quantities for inventory sites. If you do not select a replenishment policy for the inventory site, Inventory Replenishment will look for a replenishment policy associated with the site. If it does not find a replenishment policy for the site, Inventory Replenishment will look for the replenishment policy for the inventory item or the material type associated with the inventory site. If it finds no replenishment policy for the inventory site, or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment does not calculate a replenishment quantity for that inventory site and does not generate a planned order. You can manually enter a planned order using Planned Order Maintenance (41.100.00).

Target Order Method

Target Order Method enables you to select the unit of measure specified by the target order requirement associated with this material type. When the Line Point replenishment policy has been selected, it is a required field. Possible values are:

- None
- Monetary Amount
- Unit of Measure
- Weight
- Cubic Volume

When you do not select a method, Target Order Method defaults to None.

Calculation Policy

Calculation Policy determines whether Inventory Replenishment calculates replenishment values for inventory items belonging to this material type or uses the values you enter manually. Parameters controlled by Calculation Policy include:

- PO Lead Time
- Reorder Quantity
- Reorder Point
- EOQ
- Safety Stock
- Projected Daily Demand
- Line Point
- Review Cycle Days

At the material type level of control, Calculation Policy can be set to Automatic or Manual.

- If you select Automatic, Inventory Replenishment uses calculated values.
- If you select Manual, Inventory Replenishment uses values you enter manually.

Target Order Requirement

Target Order Requirement is the amount needed to fulfill the vendor’s order requirement for this material type.
Target Order Requirement is a required field when the Line Point replenishment policy has been selected. Because Inventory Replenishment does not calculate target order requirements, you must manually enter the value. The number of decimal places is determined by the values entered on IN Setup (10.950.00), Options tab, and is as follows:

- **Monetary Amount** depends on the currency selected and is specified in Price/Cost in the Decimal Places area of IN Setup (10.950.00), Options tab.
- **Unit of Measure** is displayed in the number of decimal places determined by the value entered in Quantities in the Decimal Places area on IN Setup (10.950.00), Options tab.
- **Weight** is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

  - **Note:** The decimal precision used in Weight matches the decimal precision in the user-defined field Weight UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

- **Cubic Volume** is displayed in the number of decimal places specified in Quantities in the Decimal Places area of IN Setup (10.950.00), Options tab.

  - **Note:** The decimal precision used in Cubic Volume matches the decimal precision in the user-defined field Volume UOM on the Inventory Items (10.250.00), Size/Style/Color tab.

If you do not enter a Target Order Requirement on Inventory Sites (10.255.00), Replenishment Parameters tab, Inventory Replenishment looks for its value on Sites (10.310.00), Replenishment tab, then on Inventory Items (10.250.00), Replenishments tab, and finally on Material Type Maintenance (21.370.00), Replenishment tab.

If this field is left blank at all levels of inventory control, meaning if no Target Order Requirement is defined, then the Line Point and the Reorder Point will be the same and the number of Review Cycle Days will be zero.

### Calculate Trend % (check box)

If desired, you can select Calculate Trend %. When this check box is selected, Inventory Replenishment calculates the Trend % in generating planned inventory. For more information, see “Calculate Trend %” on page 38.

### Future Replen. Eff. Date

**Future Replen. Eff. Date** is the date when the future replenishment policy is to take effect. When you run Generate Planned Orders (41.400.00) on or after the date that you specified in Future Replen. Eff. Date, the replenishment policy for this inventory item becomes the policy you specified in Future Replenishment Policy. At that time, the Future Replen. Eff. Date and Future Replenishment Policy parameters are both cleared.

### Future Replenishment Policy

**Future Replenishment Policy** enables you to select the replenishment policy that Inventory Replenishment will use to calculate replenishment values for this inventory item on and after the date when the Future Replen. Eff. Date is reached. Possible values are:

- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

**Future Replenishment Policy** is a required field when a Future Replen. Eff. Date has been set. When no Future Replen. Eff. Date has been set, Future Replenishment Policy is disabled.
Effective Date

**Effective Date** is the date when the future replenishment policy is to take effect. When you have Inventory Replenishment generate planned orders on or after the date that you specified in **Effective Date**, the replenishment policy for this material type becomes the policy you specified in **Replenishment Policy**. At this time, the **Effective Date** and **Replenishment Policy** parameters are both cleared.

Replenishment Policy

**Replenishment Policy** enables you to select the replenishment policy that Inventory Replenishment uses to calculate replenishment values for inventory sites that belong to inventory items associated with this material type. **Replenishment Policy** is used on and after the date when the **Effective Date** is reached. Possible values are:

- None
- EOQ
- MAX/MIN
- Line Point
- Reorder Point
- Order to Replenish

If you do not select a future replenishment policy for an inventory site, or for the site, inventory item, or material type associated with the inventory site, then Inventory Replenishment does not calculate a replenishment quantity for that inventory site. When Inventory Replenishment does not calculate a replenishment quantity for an inventory site, it does not generate a planned order.

**Replenishment Policy** is a required field when **Effective Date** has been set. When no **Effective Date** has been set, **Replenishment Policy** is disabled.

Primary Vendor

Use **Primary Vendor** to enter the name of the primary vendor for this material type. It is a required field when Purchase Order has been selected as the **Replenishment Source Code**. Otherwise, it is disabled.

Ship Via ID

Use **Ship Via ID** to specify how transfers are shipped. It is a required field when OM Warehouse Transfers has been selected as the **Replenishment Source Code**. Otherwise, it is disabled. At the material type level of inventory control, **Ship Via ID** is used as the default source for the number of days needed for transfer order lead time.

Demand Formula ID

Use **Demand Formula ID** to select the demand formula that Inventory Replenishment will use to weight inventory usage from prior fiscal periods to determine the daily demand for the inventory sites that belong to this inventory item.

**Note:** Inventory Replenishment looks for a demand formula when it calculates replenishment values for inventory sites. If you do not select a **Demand Form. ID** on **Inventory Sites** (10.255.00), **Replenishment Parameters** tab, Inventory Replenishment looks for its value on **Sites** (10.310.00), **Replenishment** tab, then on **Inventory Items** (10.250.00), **Replenishments** tab, and finally on **Material Type Maintenance** (21.370.00), **Replenishment** tab. If you did not specify a demand formula at any of these levels, then Inventory Replenishment calculates current period demand using no weight factors, no trend factor, and the number of fiscal periods that you specified in **Number of Demand Periods** on **IR Setup** (41.950.00), **Options** tab.

When **Demand Formula ID** contains an entry, a description of that entry appears below the field.
Lead Time Formula ID

Use **Lead Time Formula ID** to select the lead time formula that Inventory Replenishment will use to weight lead times from prior fiscal periods for the inventory sites that belong to the inventory items associated with this material type.

If you do not select a **Lead Time Formula ID** on *Inventory Sites* (10.255.00), *Replenishment Parameters* tab, Inventory Replenishment looks for its value on *Sites* (10.310.00), *Replenishment* tab, then on *Inventory Items* (10.250.00), *Replenishments* tab, and finally on *Material Type Maintenance* (21.370.00), *Replenishment* tab. If you do not define a lead time formula on these screens, Inventory Replenishment calculates lead time using the number of lead time receipts that you specified in **Number of Lead Time Receipts** on *IR Setup* (10.950.00), *Options* tab, using no weight factors.

When **Lead Time Formula ID** contains an entry, a description of that entry appears below the field.

Safety Stock Policy

Use the **Safety Stock Policy** possible values list to select the method that Inventory Replenishment will use to calculate safety stock for the inventory sites that belong to inventory items associated with this material type. Possible values are:
- Do Not Use Safety Stock
- Use Service Level
- Use Days Supply
- Use % of Lead time demand

If you do not select a **Safety Stock Policy** on *Inventory Sites* (10.255.00), *Replenishment Parameters* tab, Inventory Replenishment looks for its value on *Sites* (10.310.00), *Replenishment* tab, then on *Inventory Items* (10.250.00), *Replenishments* tab, and finally on *Material Type Maintenance* (21.370.00), *Replenishment* tab.

If you do not define a policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment defaults to using no safety stock.

Safety Stock Days

**Safety Stock Days** is enabled and is a required field when **Use Days Supply** has been selected as the **Safety Stock Policy**. Use **Safety Stock Days** to enter the number of days that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this material type. You must estimate the number of days based on your own business needs.

Safety Stock Percent

**Safety Stock Percent** is enabled and is a required field when **Use % of Lead time demand** has been selected as the **Safety Stock Policy**. Use **Safety Stock Percent** to enter the percentage that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this material type. You must estimate this percentage based on your own business needs.

Service Level

**Service Level** is enabled and is a required field when **Use Service Level** has been selected as the **Safety Stock Policy**. Use **Service Level** to select the customer service level that that Inventory Replenishment will use to calculate how much safety stock to maintain for inventory sites of this material type. Possible values are:

- 50%
- 80%
- 90%
- 94%
- 97%
- 99%
- 99.5%
- 99.9%
Material Type Maintenance, Seasonality Tab

*Material Type Maintenance* (21.370.00), *Seasonality* tab, enables you to define the seasonal dates associated with the material type. These fields are for report purposes only and do not affect replenishment calculations.

![Image of Material Type Maintenance (21.370.00), Seasonality tab]

*Figure 41: Material Type Maintenance (21.370.00), Seasonality tab*

Following are the field descriptions related to Inventory Replenishment for *Material Type Maintenance* (21.370.00), *Seasonality* tab.

**Season Start Month**

Use the *Season Start Month* possible values list to select the month when the season begins.

**Season Start Day**

*Season Start Day* is enabled when a *Season Start Month* has been selected. Use *Season Start Day* to enter the date within the start month when the season begins.

**Season End Month**

Use the *Season End Month* possible values list to select the month when the season ends.

**Season End Day**

*Season End Day* is enabled when a *Season End Month* has been selected. Use *Season End Day* to enter the date within the start month when the season begins.
**Item Usage Maintenance (41.210.00)**

Before you have Inventory Replenishment calculate replenishment values, you can use *Item Usage Maintenance (41.210.00)* to review and adjust the past usage information captured from other modules. You may need to adjust the past usage information to account for unusual sales activity, for irregularities due to insufficient inventory, or for other factors. You may also need to correct for known errors or manual adjustments.

If you do not enter a manual value in *Period Usage Adjustment*, Inventory Replenishment calculates item usage by adding an adjustment factor to actual usage. Non-recurring usage is not included in usage when calculating demand. In formula form, item usage can be expressed as:

\[(\text{Actual Usage} + \text{Actual Usage Adjustment})\]

If you enter a manual value in *Period Usage Adjustment*, Inventory Replenishment calculates item usage by adding an adjustment factor to actual usage and then subtracting non-recurring usage. In formula form, item usage can be expressed as:

\[(\text{Actual Usage} + \text{Actual Usage Adjustment} + \text{Period Usage Adjustment})\]

Following are the field descriptions related to Inventory Replenishment for *Item Usage Maintenance (41.210.00)*.

**Inventory ID**

*Inventory ID* is the identification number of the inventory item. To view usage for an inventory site, you must select an *Inventory ID* and *Site ID* for that site. When *Inventory ID* contains an entry, a description of that entry appears below the field.
Site ID

Site ID is the identification number for the site where the inventory item is stored. To view usage for an inventory site, you must select an Inventory ID and Site ID for that site. This field is required. When Site ID contains an entry, a description of that entry appears below the field.

UOM is display-only and displays the stocking unit of measure.

Period

Select the number of the fiscal period for which you want to make an adjustment. This field is required. You will get a warning message if the period you select is not the current fiscal period.

Actual Usage

Actual Usage is display-only and is the raw number of units of past usage captured from another module. It has not been adjusted by Inventory Replenishment calculations.

Actual Usage Adjustment

Actual Usage Adjustment is display-only and displays the adjusted number of units of past usage after Inventory Replenishment sums up Usage Transaction quantity adjustments for the inventory site in the selected fiscal period.

Note: If you manually enter an adjustment to any transaction(s) using Adjustment to Usage on Usage Transaction Maintenance (41.470.00), Inventory Replenishment will take your adjustment(s) to the transaction(s) into account when calculating the value of Actual Usage Adjustment.

Non Recurring Usage

Non Recurring Usage is display-only and displays a calculated value supplied by Inventory Replenishment for the amount of sales activity that will not be repeated. It sums the usage transactions for which Include in Usage was not selected. The amount of each transaction that is not selected is subtracted from Actual Usage and added to Non Recurring Usage.

Projected Demand

Projected Demand is display-only and displays the demand quantity that Inventory Replenishment calculated for the current fiscal period when you ran Calculate Replenishment Values (41.450.00). This value is the quantity of the inventory item that Inventory Replenishment determines you will need based on the usage information captured from other modules and adjusted according to Inventory Replenishment parameters.

Rolled Up Demand

Rolled Up Demand is display-only. It displays the rolled up demand quantity for the inventory site identified by Site ID for the fiscal period displayed in Period. Rolled Up Demand is the sum of all the projected demand from the inventory sites that this inventory site supplies by OM Warehouse Transfer orders. Inventory Replenishment calculates Rolled Up Demand when you select Use Central Distribution Sites on IR Setup (41.950.00), Options tab.

Rolled Up Demand is an adjusted demand quantity calculated by Inventory Replenishment using:

- A trend percentage you specify in Trend % on Demand Formula Maintenance (41.220.00).
- Known future usage that is not reflected in past usage calculations. You can adjust projected demand calculations to reflect known future needs using Period Usage Adjustment on Item Usage Maintenance (41.210.00).

Inventory Replenishment displays Rolled Up Demand on Item Usage Maintenance (41.210.00) if you selected Use Central Distribution Sites on IR Setup (41.950.00). For more information, see “Rolled Up Demand for Central Distribution Site Environments” on page 49.
Period Usage Adjustment

Period Usage Adjustment is an optional field. If you find that the calculated value supplied by Inventory Replenishment in Actual Usage needs to be adjusted, you can use Period Usage Adjustment to enter the number of units that should be added or subtracted from Actual Usage. When you enter a value in Period Usage Adjustment, Inventory Replenishment calculates period usage by summing the values in Period Usage Adjustment, Actual Usage, and Actual Usage Adjustment.

Reason Code

Reason Code is required when Period Usage Adjustment contains a value greater than zero. Possible selections are:

- Unusual Sales Activity
- Error Correction
- Insufficient Inventory
- Manual Adjustment

Notes/Attachments (icon)

Notes/Attachments allows the entry of or attaching a source document regarding the usage/demand. Click the Notes/Attachments icon to choose to enter either a note or attach source documents. For more information, see to “Attaching Notes and Source Documents to Data Items” in the Quick Reference user’s guide or help.

Usage Transactions (button)

When you click Usage Transactions, Inventory Replenishment displays Usage Transaction Maintenance (41.470.00) showing all transactions that belong to the inventory site you specified in Site ID for the fiscal period you specified in Period.
Demand Formula Maintenance (41.220.00)

For an explanation of the demand formula, see “Using Formulas to Project Demand” on page 26.

Figure 43: Demand Formula Maintenance (41.220.00)

Following are the field descriptions related to Inventory Replenishment for Demand Formula Maintenance (41.220.00).

**Formula ID**
Use Formula ID to select which demand formula to use. This field is required.

**Notes/Attachments (Icon)**
Notes/Attachments allows the entry of or attaching a source document regarding the demand formula. Click the Notes/Attachments icon to choose to enter either a note or attach source documents. For more information, see to “Attaching Notes and Source Documents to Data Items” in the Quick Reference user’s guide or help.

**Description**
Description is an optional field and can be used to enter a description of the formula selected.

**Trend %**
Use Trend % to enter the percentage trend factor that you want to use to skew weighted usage calculations up or down. The percentage you enter depends on how much overall increase or decrease in usage you anticipate for the inventory sites that use this formula.

Trend % is an optional field. If you do not specify a trend percentage, then Inventory Replenishment uses 0%.

**Note:** If you selected the Service Level formula to use to calculate safety stock for this inventory item, do not use a trend percentage to skew demand. Using a trend percentage and a safety stock service level for the same inventory item may result in double counting past demand trends and result in overstocking this inventory item.

**Period Number**
Period Number is an offset number. It starts at one and auto-increments by one for every new record you add to the demand formula.
Weight

Use **Weight** to enter the weight factor to apply to the period shown in **Period Number**. **Weight** is required. If usage in the previous fiscal period was atypical, you can enter a zero in **Weight** to exclude this period from demand formula calculations. If you do not enter a weight factor for a fiscal period, Inventory Replenishment uses a weight factor of 1 for that period.

**Notes/Attachments (Icon)**

**Notes/Attachments** allows the entry of or attaching a source document regarding the demand formula. Click the **Notes/Attachments** icon 📌 to choose to enter either a note or attach source documents. For more information, see “Attaching Notes and Source Documents to Data Items” in the Quick Reference user’s guide or help.
Lead Time Formula Maintenance (41.230.00)

You use **Number of Lead Time Receipts** on **IR Setup (41.950.00), Options** tab, to specify how many receipts Inventory Replenishment will use to calculate lead time. This is a required field. When you open **IR Setup (41.950.00), Options** tab, Inventory Replenishment displays six receipts in this field. You use **Lead Time Formula Maintenance (41.230.00)** to define the other formulas that Inventory Replenishment can use to calculate lead time.

At this time, Inventory Replenishment uses the lead time formula to calculate purchase order lead time. Inventory Replenishment does not calculate transfer lead time or assembly order lead time. Transfer order lead time is determined by the carrier you select from Ship Via ID at one of the four levels of inventory control. You enter assembly order lead time manually using **Manuf. Lead Time on IR Setup (41.950.00), Options** tab.

![Lead Time Formula Maintenance (41.230.00)](image)

*Figure 44: Lead Time Formula Maintenance (41.230.00)*

Following are the field descriptions related to Inventory Replenishment for **Lead Time Formula Maintenance (41.230.00)**.

**Formula ID**

Use **Formula ID** to select which lead time formula to use. This field is required.

**Notes/Attachments (Icon)**

**Notes/Attachments** allows the entry of or attaching a source document regarding the lead time formula. Click the **Notes/Attachments** icon to choose to enter either a note or attach source documents. For more information, see to “Attaching Notes and Source Documents to Data Items” in the Quick Reference user’s guide or help.

**Description**

**Description** is an optional field and can be used to enter a description of the formula selected.

**Unusual Low %**

Use **Unusual Low %** to enter the low percentage limit. If the lead time on a transaction is less that the low percentage of the lead time currently being used, Inventory Replenishment will not use this transaction to calculate lead time. When an unusual transaction is identified, Inventory Replenishment flags this transaction and writes a message in its log file. You should view this log file. You can also run the **Unusual Purchase Order Lead Time (41.010.00)** report to view of list of unusual transactions.
Example: Let’s say that your experience indicates that any lead time less than 80% of the current lead time is unusual. You set **Unusual Low %** to 80%. Any transaction with a lead time that is less than 80% of the current lead time will not be used to calculate future lead times.

**Unusual High %**

Use **Unusual High %** to enter the high percentage limit. If the lead time on a transaction is longer than the high percentage of the lead time currently being used, Inventory Replenishment will not use this transaction to calculate lead time.

Example: Let’s say that your experience indicates that any lead time longer than 120% of the current lead time is unusual. You set **Unusual High %** to 120%. Any transaction with a lead time that is longer than 120% of the current lead time will not be used to calculate future lead times.

**Receipt Number**

**Receipt Number** is display-only and displays the receipt number for the last receipt. It is automatically incremented by one each time you enter a new receipt record. A receipt number of one indicates the last receipt, a receipt number of two indicates the second to last receipt, etc.

**Weight**

Use **Weight** to enter the weight factor to apply to the lead time on this transaction. **Weight** is required. Use the following guidelines to enter weight factors:

- If usage in the previous fiscal period was atypical, enter a zero in **Weight** to exclude this period from past usage calculations.
- If you do not enter a weight factor for a fiscal period, Inventory Replenishment defaults to a weight factor of 1 for that receipt.
- Until you determine how best to weight the lead times, you can set up Inventory Replenishment by weighting each lead time at twice the weight of the preceding lead time as shown in the following example.

**Example:** In the following table, six receipts are considered. Receipt 6, the receipt for the last prior period, is given a weight of 1. Receipt 5, is given a weight of 2 and so forth so that the number of lead time days for each period is weighted at twice the weight of the preceding lead time.

<table>
<thead>
<tr>
<th>Prior Receipt</th>
<th>Lead Time Days</th>
<th>Suggested Weight</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>32</td>
<td>320</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>16</td>
<td>112</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

Lead time is calculated by taking the sum of the extensions and multiplying it by the sum of the weights as follows: \((564 \div 63) = 8.9\) days. Because partial days cannot be used 8.9 days is rounded up to 9 days lead time.
Process Screens

Generate Planned Orders (41.400.00)

Use Generate Planned Orders (41.400.00) to generate planned orders for inventory sites. These sites must have a replenishment policy and replenishment source code selected or must belong to a material type, an inventory item, or a site for which a replenishment policy and replenishment source code have been selected.

**Note:** Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

When you generate planned orders, Inventory Replenishment compares the replenishment position of each inventory site with its replenishment point (reorder point). If the replenishment position is less than or equal to its replenishment point, then Inventory Replenishment creates a planned order for the replenishment quantity. The type of planned order is determined by the Replenishment Source Code associated with the inventory site. The Replenishment Source Code can be purchase order, assembly order, or transfer order.

When Customer Priority Scheduling is turned on for Inventory and Order Management, you must run Process Manager to ensure that all transaction information is ready to be captured before you generate planned orders. This will ensure that the replenishment position of each inventory site is accurate prior to running Generate Planned Orders (41.400.00). For information about Process Manager, see the Order Management help or user guide.

When you click **Begin** on Generate Planned Orders (41.400.00), Inventory Replenishment clears any existing Unfirmed planned orders and then uses current levels of inventory and the parameters you defined to generate new planned orders.
After using Generate Planned Orders (41.400.00) to generate planned orders, you can review the Event Log to see the various pieces of information that contributed to generating the planned orders. The Event Log shows:

- Inventory ID, Site ID and replenishment method
- Lead time
- Planned through Date, which is the current date plus lead time
- Quantity Available calculated from the information in the SOPlan table
- Sum of quantity on firmed planned orders
- Net quantity available
- Planned Order Qty, if planned order is generated

Following are the field descriptions related to Inventory Replenishment for Generate Planned Orders (41.400.00).

**Calculate Replen. Values**

`Calculate Replen. Values` is display-only and shows the date when replenishment values were last calculated.

**Generate Planned Orders**

`Generate Planned Orders` is display-only and shows the date when planned orders were last generated.

**Begin (button)**

Click `Begin` to generate planned orders.
Usage Capture Process (41.460.00)

At least once each fiscal period, you should use Usage Capture Process (41.460.00) to bring usage transactions from other modules into Inventory Replenishment. These transactions include inventory issues due to sales invoices, transfer orders, kit assembly orders, and work orders. Usage capture takes adjusted quantities from the transactions and summarizes them by item site and fiscal period. In environments with high inventory turnover, it is recommended that you run Usage Capture Process (41.460.00) once a week or even once a day to keep the run times down.

**Note:** As usage capture copies transactions that are to be included in Inventory Replenishment calculations, it searches for transactions that have their Include in Demand flag set to false. When these transactions were created, they were marked to be excluded from future Inventory Replenishment calculations. After usage capture is complete, you can use Usage Transaction Maintenance (41.470.00) to review usage from inventory issues due to sales invoices, transfer orders, kit assembly orders, and work orders. You can also adjust the transaction quantity and include the transaction if desired.

![Usage Capture Process (41.460.00)](image)

*Figure 46: Usage Capture Process (41.460.00)*

**Note:** Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

Following are the field descriptions related to Inventory Replenishment for Usage Capture Process (41.460.00).

**Last Run Date**

Before you run the usage capture process, use Last Run Date to verify when the usage capture process was last run.

**Begin (button)**

Click Begin to capture usage transactions from other modules. Inventory Replenishment collects transactions from Inventory and Order Management and displays a status screen showing which Record ID is currently being processed.
Transaction Order Creation (41.440.00)

You use Transaction Order Creation (41.440.00) to:

- Select and convert planned orders to transaction orders
- Send transaction orders that require purchases to Purchasing where they are converted to purchase orders
- Send transaction orders that require kit assemblies to Order Management where they are converted to OM kit assembly orders
- Send transaction orders that require transfers to Order Management where they are converted to OM warehouse transfer orders

Figure 47: Transaction Order Creation (41.440.00)

Note: Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

Following are the field descriptions related to Inventory Replenishment query fields at the top of Transaction Order Creation (41.440.00). Inventory Replenishment uses the information you enter in these query fields to search for the planned orders that it displays at the bottom of the screen in the Planned Transactions area.

Company ID
Select the identification number for the company database you are using.

Inventory ID
Select the identification number of the inventory item used in this transaction.

Vendor ID
If the transaction type is Purchase Order, Vendor ID is a required field and is populated by Inventory Replenishment when planned orders are generated.
**Transaction Type**
Select the type of replenishment order to create from the planned order. Selections include Purchase Order, Kit Assembly, or OM Warehouse Transfer.

Following are the field descriptions in the Planned Transactions area at the bottom of Transaction Order Creation (41.440.00).

**Plan Order Nbr**
Select a planned order number for this transaction from the possible values list displaying the numbers of all planned orders that have not been converted.

**Site ID**
Select the identification number of the site where the inventory items are currently stored.

**From Site ID**
Select the identification number of the site from which the inventory items were transferred.

**Status**
Unfirmed orders are not ready to be converted to transaction orders. When you run Generate Planned Orders (41.400.00), Inventory Replenishment deletes Unfirmed planned orders.

**Planner**
Select the name of the planner who handles this transaction from the possible values list displaying the names of authorized users. This is an optional field. If you do not select a planner, then Inventory Replenishment defaults to using nothing in this field.

**Start After**
Use Start After to enter a date that Inventory Replenishment can use to select which planned orders to display in the Planned Transactions area. Inventory Replenishment will display planned orders that have start dates on or after the Start After date you enter.

**Start Before**
Use Start Before to enter a date that Inventory Replenishment can use to select which planned orders to display in the Planned Transactions area. Inventory Replenishment will display planned orders that have start dates on or before the Start Before date you enter.

**Finish After**
Use Finish After to enter a date that Inventory Replenishment can use to select the planned orders that Inventory Replenishment displays in the Planned Transactions area. Inventory Replenishment will display planned orders that have finish dates on or after the Finish After date you enter.

**Finish Before**
Use Finish Before to enter a date that Inventory Replenishment can use to select which planned orders to display in the Planned Transactions area. Inventory Replenishment will display planned orders that have finish dates on or before the Finish Before date you enter.

**Buyer**
Select the name of the buyer for this inventory item.

**Refresh**
Click Refresh to display the planned order(s) matching the criteria you have entered in the query fields of Transaction Order Creation (41.440.00). Inventory Replenishment displays the planned order(s) in the Planned Transactions area.
Clear All
Click **Clear All** to clear all query fields in the top half of Transaction Order Creation (41.440.00).

Drill Down
To view details of one of the planned orders displayed in the grid on Transaction Order Creation (41.440.00), highlight the planned order and click **Drill Down**. Inventory Replenishment displays that planned order in a separate window using Planned Order Maintenance (41.100.00).

Plan Order Nbr
**Plan Order Nbr** (planned order number) is display-only and displays the planned order number for this transaction.

Selected (check box)
Click **Selected** if you want to create a replenishment order from this planned order. If you do not clear the check box, Inventory Replenishment will generate the replenishment order.

Inventory ID
**Inventory ID** is display-only and displays the identification number of the inventory item used in this transaction. When **Inventory ID** contains an entry, a description of that entry appears below the field.

Start Date
**Start Date** is display-only and displays the date when the replenishment order should be created from the planned order.

Finish Date
**Finish Date** is display-only and displays the date when the inventory items procured by the replenishment order should be available for use in your inventory. **Finish Date** is calculated by adding the number of lead time days to the start date.

Qty
**Qty** is display-only and is a required field. It displays the amount of inventory items in the planned order using the stocking unit of measure, **UOM**.

From Site ID
**From Site ID** is displayed as a display-only field when the planned order type is OM Warehouse Transfer. **From Site ID** shows the identification number of the site from which inventory items were transferred.

Vendor ID
**Vendor ID** is display-only and displays the identification number of the vendor to whom the purchase order will be sent. When **Vendor ID** contains an entry, a description of that entry appears next to the field.

Ship Via ID
**Ship Via ID** is display-only and is displayed when the planned order type is OM Warehouse Transfer. **Ship Via ID** is the identification number of the carrier that will transport the inventory items.

Site ID
**Site ID** is display-only and displays the identification number of the site where the inventory items are stored. When **Site ID** contains an entry, a description of that entry appears below the field.
Status (Planned Transactions)

Status is display-only and lists Firmed or Unfirmed planned orders. Converted orders are not shown.

Firmed Date

Firmed Date is display-only and displays the date on which the planned order was firmed.

Lead Time

Lead Time is display-only and indicates the number of business days between the date that the replenishment order is created and the date that the inventory items become available for use in your inventory.

IR Doc Type

IR Doc Type is display-only and indicates the type of order that will be created from the planned order. Possible values are Purchase Order, OM Kit Assembly, and OM Warehouse Transfer.

Select All (button)

Click Select All to select all of the planned orders displayed in the grid on Transaction Order Creation (41.440.00). When you create transactions, Inventory Replenishment will create transactions for all that are selected.

Select None (button)

Click Select None to select none of the planned orders displayed in the grid on Transaction Order Creation (41.440.00). Inventory Replenishment deselects Selected and the planned orders remain on the Planned Transactions area.

Create Transaction (button)

Click Create Transaction to convert the selected planned orders to transaction orders. Inventory Replenishment converts the orders, changes the order status from Firmed to Converted, and sends the order to Purchasing or Order Management for processing.
Calculate Replenishment Values (41.450.00)

Use Calculate Replenishment Values (41.450.00) to calculate replenishment values for all inventory sites that you have marked to be included in replenishment calculations. For information about the concepts behind these values, see “Concepts: How Inventory Replenishment Works” on page 3

These values include:

- Lead time
- Reorder Quantity
- Reorder Point
- Economic Order Quantity
- Safety Stock
- Daily Usage
- Review Cycle Days
- Line Point

Inventory Replenishment will display the calculated values on Inventory Sites (10.255.00), Replenishment Values tab, so that you can compare them with any manually entered values that you entered on Inventory Items (10.250.00), Replenishments tab, and adjust them as needed.

Note: Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

When planned orders are generated, Inventory Replenishment will use the calculated value for a parameter if you did not

- Select Manual Override on Inventory Sites (10.255.00), Replenishment Values tab
- Select Manual from Calculation Policy on:
  - Material Type Maintenance (21.370.00), Replenishment tab
  - Inventory Items (10.250.00), Replenishments tab
  - Sites (10.310.00), Replenishment tab

If you run Calculate Replenishment Values with Use Central Distribution Sites selected on the Replenishment Values tab of Inventory Sites (10.255.00), and you then view replenishment values for a central distribution site, in the Active column of the tab you will see rolled up values for the central distribution site and all the sites it supplies. The Calculated column lists the replenishment values for the central distribution site alone. For a site that is not a central distribution site, the Active and Calculated columns reflect only that single site’s values.

![Image of Calculate Replenishment Values (41.450.00)](image-url)

Figure 48: Calculate Replenishment Values (41.450.00)
Following are the field descriptions related to Inventory Replenishment for *Calculate Replenishment Values* (41,450.00).

**Usage Capture**

*Usage Capture* is display-only and shows the date when transactions were last captured from other modules.

**Calculate Replen. Values**

*Calculate Replen. Values* is display-only and shows the date when replenishment values were last calculated.

**Begin Processing (button)**

Click *Begin Processing* to calculate replenishment values.
Usage Transaction Maintenance (41.470.00)

You can use Usage Transaction Maintenance (41.470.00) to view individual transactions after they have been copied over to Inventory Replenishment. You can also use Include in Usage to exclude irregular transactions or use Adjustment to Usage to adjust the amount or quantity to reflect the true demand for the inventory item. Such corrections enable Inventory Replenishment to calculate replenishment quantities more accurately.

**Note:** Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

When you include a transaction in usage calculations, the transaction amount or transaction quantity is the sum of actual usage plus any value you enter in Adjustment to Usage. If you do not enter an adjustment, Inventory Replenishment sets Adjustment to Usage at zero. In formula form, the transaction amount or transaction quantity can be expressed as:

\[(\text{Usage} + \text{Adjustment to Usage})\]

**Example:** Let’s say that Customer A ordered 500 units of Inventory Item B but you were only able to supply 450 units. Usage shows the 450 units actually sold to Customer A. You can enter 50 units in Adjustment to Usage so that Inventory Replenishment uses a transaction quantity that reflects the true demand of 500 units to calculate past usage. You can also enter a reason in Reason, a free-form text field.

![Usage Transaction Maintenance (41.470.00)](image)

Following are the field descriptions related to Inventory Replenishment for Usage Transaction Maintenance (41.470.00).

**Inventory ID**

Select the identification number for the inventory item. When Inventory ID contains an entry, a description of that entry appears next to the field.

**Site ID**

Select the identification number for the inventory site where the inventory item is stored. This field is required. When Site ID contains an entry, a description of that entry appears next to the field.
Period
Select the number of the fiscal period for which you want to view past usage transactions. This field is required.

UOM
UOM is display-only and displays the unit of measure used to quantify the inventory item. This field is required. UOM is the stocking unit of measure. For example, if a monetary amount is used to quantify the value of an inventory item, then the monetary amount is the stock unit of measure.

Transaction Type
Transaction Type is display-only and displays the type of inventory transaction. Possible values are Invoice Issue, Kit Assembly Issue, Work Order Issue, and Inventory Transfer.

Usage
Usage is display-only and displays the number of units in the actual transaction.

Include in Usage (check box)
To exclude this transaction from usage calculations, clear Include in Usage.

Adjustment to Usage
You can use Adjustment to Usage to enter the amount or quantity that you want Inventory Replenishment to add to or subtract from Usage to adjust the transaction amount or transaction quantity to reflect true demand for this transaction. If you do not enter an amount or quantity, Inventory Replenishment will use zero as the default.

Adjustment to Usage is an optional field.

Reason
Reason is an optional field. You can use Reason to enter a statement explaining why you unchecked Include in Usage or why you entered a value in Adjustment to Usage. Reason is a free-form text field.

Transaction Date
Transaction Date is display-only and displays the date the transaction was made.

Last Update
Last Update is display-only and displays the date that the transaction record was last modified.
Delete old IR Records/Transactions (41.480.00)

Use Delete old IR Records/Transactions (41.480.00) to purge old records from IRItemUsage and IRDemandTran in accordance with the retention period specified in IR Setup (41.950.00). After purging old records sufficient history remains to calculate the forecast and trend %.

Note: Whenever you run this or any process, the process affects all records for all companies in a multi-company database.

![Image](delete-old-ir-records-transactions.png)

Figure 50: Delete old IR Records/Transactions (41.480.00)

Following are the field descriptions related to Inventory Replenishment for Delete old IR Records/Transaction (41.480.00).

Current Fiscal Period

Current Fiscal Period is display-only and displays the current fiscal period number, as specified in IN Setup (10.950.00).

Delete Detail From

Delete Detail From is display-only and displays the period from which to delete detail when Begin Processing is clicked. All detail will be deleted from this period and any earlier periods. Here is how Inventory Management arrives at this period. It starts with the value in Current Period Number in IN Setup (10.950.00), subtracts the value in Number of Periods Retained in IR Setup (41.950.00), and then subtracts 1.

Example: In the screen shown above, the retention period value was 36. So the calculation for Delete Detail From is (12-1999 – 36 – 1) = 11-1996.

Begin Processing (button)

Click Begin Processing to delete all the records from IRItemUsage and IRDemandTran in which the value of Period is less than or equal to the value of Delete Detail From.
Setup Screens

IR Setup (41.950.00)

Before you can use Inventory Replenishment to calculate replenishment quantities, you must use IR Setup (41.950.00), Options tab, to specify parameters for the Inventory Replenishment system. These system parameters are shared by all of the material types, inventory items, sites, and inventory sites and include such things as the default values for some of the factors used to calculate replenishment quantities. You can update these parameters at any time. As you use Inventory Replenishment, you can use IR Setup (41.950.00), Process Run Dates tab, to determine when Inventory Replenishment processes were last run. The following sections explain the fields on these tabs.

IR Setup, Options Tab

![IR Setup (41.950.00), Options tab](image)

Following are the field descriptions for IR Setup (41.950.00), Options tab.

Next Planned Order Number

Use Next Planned Order Number to select the next available planned order number. Planned order numbers are used to uniquely identify planned orders that are created when you generate planned orders.

Defaults

The Defaults area of IR Setup (41.950.00), Options tab, contains the system default values for some of the parameters that Inventory Replenishment uses to calculate replenishment values.

You can enter system default values when you set up Inventory Replenishment or you can use the system default values supplied by Inventory Replenishment. System default values can be updated at any time.
Period Fiscal Days
Type the number of business days in the fiscal period. If you do not enter a default value here, Inventory Replenishment will use 22 days as the default.

Note: Because the number of days in the fiscal period is used to calculate average daily demand for inventory items, an accurate number of days is critical to ensuring accurate calculations of replenishment quantities.

Number of Demand Periods
Type the number of fiscal periods that will be used to calculate average daily demand. If you do not enter a default value here, Inventory Replenishment will use six fiscal periods as the default.

When Use Service Level has been selected as the Safety Stock Policy and no demand formula has been specified for an inventory site or for the inventory item, site, or material type associated with the inventory site, Number of Demand Periods is used to determine the default number of fiscal periods that Inventory Replenishment uses to calculate safety stock.

Number of Lead Time Receipts
If desired, type the number of purchase order receipts that will be used to calculate purchase order lead time for the current fiscal period. If you do not type a system default value here, Inventory Replenishment will use six purchase order receipts. Inventory Replenishment displays six receipts when you open IR Setup (41.950.00), Options tab, for the first time.

Number of Trend Periods
Type the number of periods on which to base trend calculations. The default value is 4.

Use Bookings Instead of Shipments (check box)
Use Bookings Instead of Shipments is currently disabled. It is planned to be enabled in future versions of Inventory Replenishment.

Include Drop Shipments in Demand (check box)
When a drop shipment is associated with a transaction, Include Drop Shipments in Demand contains the default value that will be used when you do not select Include in Demand on Sales Orders (40.100.00), Other Information tab. It is currently disabled. It is planned to be enabled in future versions of Inventory Replenishment.

Exclude Non Recurring Transfers (check box)
Select Exclude Non Recurring Transfers to exclude transfers of an inventory item that does not come from the site that you selected for it using Transfer From Site. Transfer From Site is available on:

- Inventory Items (10.250.00), Replenishments tab
- Inventory Sites (10.2550.00), Replenishment Parameters tab
- Sites (10.310.00), Replenishment tab

Use Central Distribution Sites (check box)
Select Use Central Distribution Sites to tell Inventory Replenishment to roll up demand to the central distribution sites. If Use Central Distribution Sites is selected, Inventory Replenishment excludes all inventory transfers from past usage calculations.

With Use Central Distribution Sites selected, when you view the Active column on the Inventory Sites (10.255.00), Replenishment Values tab for a central distribution site, you will see rolled up replenishment values for the central distribution site and all its associated sites. The Calculated column for the central distribution site lists the replenishment values for that site alone. For a site that is not the central distribution site, Active and Calculated reflect only that site’s values.
Note:

- Run *Calculate Replenishment Values* (41.450.00) to update replenishment values.
- At least once each fiscal period, you should use *Usage Capture Process* (41.460.00) to bring usage transactions from other modules into Inventory Replenishment. Usage capture takes adjusted quantities from the transactions and summarizes them by item site and fiscal period. If you have high inventory turnover, it is recommended that you run this process at least once a week to minimize run time.

**Convert Firmed Planned Orders Only (check box)**

Select **Convert Firmed Planned Orders Only** to tell Inventory Replenishment to convert Firmed planned orders to purchase orders, transfer orders, and assembly orders when you place these orders in the Planned Transactions area, select them, and click **Create Transaction** on *Transaction Order Creation* (41.440.00).

If you select **Convert Firmed Planned Orders Only** on *IR Setup* (41.950.00), **Options** tab, you must use *Planned Order Maintenance* (41.100.00) to change the status of any Unfirmed planned order to Firmed before you can convert it.

If you do not select **Convert Firmed Planned Orders Only** on *IR Setup* (41.950.00), **Options** tab, you do not need to use *Planned Order Maintenance* (41.100.00) to update Firmed orders. If you do not select **Convert Firmed Planned Orders Only** on *IR Setup* (41.950.00), **Options** tab, then Inventory Replenishment converts the Firmed and Unfirmed planned orders that you have placed in the Planned Transactions area and then selected for conversion on *Transaction Order Creation* (41.440.00). These planned orders are converted when you click **Create Transactions** on *Transaction Order Creation* (41.440.00).

**Daily Demand**

Use **Daily Demand** to determine how many decimal places Inventory Replenishment uses in its average daily demand calculations.

The value you enter in **Daily Demand** must be at least two decimal places longer than the value you entered **Quantities** on *IN Setup* (10.950.00), **Options** tab, when you set up your Inventory module. If you do not use a value that is at least two decimal places longer than the value you entered when you set up your Inventory, then slow moving inventory items will have their daily demand set to zero due to decimal truncation.

**Carrying Cost Percentage**

**Carrying Cost Percentage** is the inventory carrying cost percentage used to calculate replenishment values when the EOQ replenishment policy is selected. This is also used in the *Gross and Adjusted Margin Report* (41.150.00) when calculating the adjusted margins. Typically, carrying cost is about 30%.

**Reorder Cost**

**Reorder Cost** is the cost of reordering inventory. It is used to calculate replenishment values when the EOQ replenishment policy is selected.

**Number of Periods Retained**

Type the number of fiscal periods of past usage history that Inventory Replenishment will retain for each inventory item. If you do not enter a default value here, Inventory Replenishment will retain 24 fiscal periods of past usage history for each inventory item. Use *Delete old IR Records/Transactions* (41.480.00) to purge residual Inventory Replenishment records and transactions. For more information, see “Delete old IR Records/Transactions (41.480.00)” on page 182.

**Note:** The value in **Number of Demand Periods** must be at the same as or greater than the values in **Number of Demand Periods** and **Trend Periods**. Otherwise, the software will not save your changes.
Warehouse Transfers
Use Warehouse Transfers to select the type of sales order to be created by Transaction Order Creation (41.440.00) when OM Warehouse Transfer is selected as the Replenishment Source Code. This is a required field.

Kit Assemblies
Use Kit Assemblies to select the type of sales order to be created by Transaction Order Creation (41.440.00) when OM Kit Assembly is selected as the Replenishment Source Code. This is a required field.
IR Setup, Process Run Dates Tab

Following are the field descriptions for IR Setup (41.950.00), **Process Run Dates** tab.

**User**

User displays the user names when the following processes were last run:

- Usage Capture Process (41.460.00)
- Calculate Replenishment Values (41.450.00)
- Generate Planned Orders (41.400.00)

**Date**

Date displays the finish dates when the following processes were last run:

- Usage Capture Process (41.460.00)
- Calculate Replenishment Values (41.450.00)
- Generate Planned Orders (41.400.00)

**Time**

Time displays the finish times when the following processes were last run:

- Usage Capture Process (41.460.00)
- Calculate Replenishment Values (41.450.00)
- Generate Planned Orders (41.400.00)

**Start Date**

Start Date displays the **Start Date** you entered on Generate Planned Orders (41.400.00). This **Start Date** is placed on the planned orders that result from this process.
Inventory Valuation (10.620.00)

The Inventory Valuation (10.620.00) report lists item ID, description, valuation method, and stocking unit of measure and then by site lists the quantity on hand, site cost, and the receipts for each site — with receipt number, quantity, cost, and extended cost. This report is commonly used to analyze the book value of inventory items by site or to compare to the Trial Balance (01.610.00) report from General Ledger before period closings.

You have the option to include or exclude items with zero balances. Other sort/select options that might be meaningful are by Product Class or Inventory Site.

The Inventory Valuation (10.620.00) report provides a valuation of inventory by site or by:

- Selected or all ABC Classes within a site
- Selected or all Movement Classes within a site
- Selected or all Product Classes or Product Lines within a site

You can also use it to identify all items in a site that have had no sales within the past number of months you specified. You specify how many months to consider using the text box labeled “number of periods to check for 0 quantity” on Inventory Valuation (10.620.00), Options tab.
Unusual Purchase Order Lead Time (41.010.00)

The *Unusual Purchase Order Lead Time* (41.010.00) report displays any purchase order receipt transactions that fall outside the lead time formula’s low and high percentage tolerances, provided that the inventory site has a lead time formula associated with it. This lead time formula can be specified at the inventory site level or at the Site, Inventory Item, or material type level that is associated with the inventory site.

*Inventory Sites* (10.255.00), *Replenishment Values* tab, contains the calculated and manually-entered lead times. If you selected *Manual Override* for *PO Lead Time*, then Inventory Replenishment uses the manual value to calculate purchase order lead time. Otherwise, it uses the calculated value.

![Figure 54: Unusual Purchase Order Lead Time (41.010.00) report](image)
Expediting Report (41.020.00)

Use the *Expediting Report* (41.020.00) to identify purchase orders and inventory items that require attention from the buyer or the vendor. The *Expediting Report* (41.020.00) lists by vendor or buyer:

- All open purchase order lines.
- Purchase orders with late delivery.
- Purchase orders with a quantity delivered that does not equal the quantity ordered.
- Inventory items using the Reorder Point, Line Point, or EOQ replenishment policies that have stock levels that have fallen below the safety stock quantity.
- Inventory items using the MAX/MIN replenishment policy that have stock levels that have fallen below one quarter of the minimum stock level.

Report formats include:

- Quantity below safety stock organized by buyer or vendor
- Purchase orders beyond lead time organized by buyer or vendor

![Expediting Report (41.020.00)](image-url)
New Item Performance Report (41.030.00)

New Item Performance Report (41.030.00) enables you to review monthly sales information for inventory items that have been a part of your inventory for less than one year. For each new inventory item, this monthly report lists the:

- Product number and description
- Current sales volume in units for that month
- Total sales volume in units to date
- Current quantity on hand
- Manually set minimum stock quantity
- Manually set maximum stock quantity

Figure 56: New Item Performance Report (41.030.00)
Current Replenishment Needs (41.040.00)

Use the Current Replenishment Needs (41.040.00) report to determine which sites, vendors, or companies require attention.

The Current Replenishment Needs (41.040.00) report:

- Summarizes all replenishment needs by site, vendor, or company.
- Classifies replenishment needs by purchase order, transfer order, and assembly order.
- Displays the number of inventory items that have replenishment positions that have fallen below their replenishment points.
- Identifies the number of inventory items that have met their target order requirements.

Report formats include:

- By Item
- By Site
- By Transfer Site
- By Vendor

Figure 57: Current Replenishment Needs (41.040.00) report
Suggested Target Purchase Order (41.050.00)

The Suggested Target Purchase Order (41.050.00) report provides separate views for purchase orders, assembly orders, and transfer orders. The report lists inventory items that have target order requirements and current replenishment positions that fall below:

- The manually set minimum for inventory items using the MAX/MIN replenishment policy
- The replenishment point for inventory items using the Reorder Point or EOQ replenishment policy
- The line point for inventory items using the Line Point replenishment policy
- The manually set maximum for inventory items using the Order to Replenish replenishment policy

Suggested Target Order - Purchase Order

Use this report format to identify inventory items for which purchase orders that meet the target order requirements specified by vendors can be placed.

Suggested Target Order - Assembly Order

Use this report format to identify pre-assembled kits for which assembly orders can be placed.
Suggested Target Order - Transfer Order

Use this report format to identify inventory items for which transfer orders can be placed.

![Figure 60: Suggested Target Order - Transfer Order (41.050.00) report](image)
Inventory Analysis (41.060.00)

The Inventory Analysis (41.060.00) report lists performance and profitability measures for the inventory items you specify. Performance and profitability measures include:

- Customer Service Level
- Inventory Turnover
- Gross Margin and Adjusted Gross Margin
- Return on Investment

Inventory items you select for the report can include:

- All inventory items within a particular site
- Selected ABC Classes or all ABC Classes
- Selected Movement Classes or all Movement Classes
- Selected Product Classes or all Product Classes
- Selected Product Lines or all Product Lines

For more information about classes and lines, see the Inventory help or user guide.

This report is available in detailed and summary form. The detailed form provides individual performance and profitability measures for each inventory item. The summary form provides aggregate performance and profitability measures for the items you specified for the report.

![Inventory Analysis (41.060.00) report](image)

**Figure 61: Inventory Analysis (41.060.00) report**
Unusual Usage Report (41.070.00)

Use the *Unusual Usage Report (41.070.00)* to identify unusual usage that may have occurred in the previous fiscal period. Unusual usage might result from a stock-out or unusually high sales activity. If usage of an inventory item appears unusual and these are not the reasons, you may be using the wrong replenishment policy for this inventory item.

The *Unusual Usage Report (41.070.00)* shows the actual usage and the forecast demand for each inventory item for one fiscal period. The inventory item may require attention if the actual usage is less than the low percentage tolerance limit or more than the high percentage tolerance limit.

![Unusual Usage Report (41.070.00)](image_url)

*Figure 62: Unusual Usage Report (41.070.00)*
Planned Order Report (41.080.00)

The Planned Order Report (41.080.00) shows all of the planned orders that were generated when you ran Generate Planned Orders (41.400.00). This report is sorted by Planned Order Number. You can filter the report based on the status of the planned order.

Figure 63: Planned Order Report (41.080.00)
Replenishment Parameters Used (41.090.00)

The Replenishment Parameters Used (41.090.00) report shows the replenishment parameters that are being used for each inventory site. It can be sorted by inventory item and then by inventory site.

Figure 64: Replenishment Parameters Used (41.090.00) report
Customer Service Level (41.120.00)

The Customer Service Level (41.120.00) report displays the customer service level, the number of orders for each inventory item, and number of complete and on time shipments for each inventory item.

The Customer Service Level (41.120.00) report only includes inventory items that are supplied from warehouse inventory. It does not include special order items, direct shipments, or drop shipments.

![Customer Service Level (41.120.00) report]

Figure 65: Customer Service Level (41.120.00) report
Inventory Turnover (41.130.00)

The Inventory Turnover (41.130.00) report shows how many times each inventory item has turned over during the previous fiscal year. An inventory item “turns over” every time an amount is sold that equals the average amount invested in that inventory item in the last fiscal year. In other words, inventory turnover is calculated by dividing the cost of goods sold by the average investment during the past 12 months. The average investment is calculated by averaging the book values on record at the end of each of the last 12 months.

![Inventory Turnover Report](image)

Figure 66: Inventory Turnover (41.130.00) report
Return On Investment (41.140.00)

The Return On Investment (41.140.00) report shows the return on investment for each inventory item for the last month. Return on investment is calculated by multiplying the inventory turnover rate by the gross margin.

![Figure 67: Return On Investment (41.140.00) report](image-url)
Gross and Adjusted Margin (41.150.00)

The Gross and Adjusted Margin (41.150.00) report shows the gross margin and adjusted gross margin for inventory items.

![Gross and Adjusted Margin (41.150.00) report]

Figure 68: Gross and Adjusted Margin (41.150.00) report
Glossary of Terms

Average Daily Demand
Average daily demand is a forecasted inventory quantity that you expect to need on a daily basis during the current fiscal period. It is calculated by dividing the average demand per period by the number of days in the fiscal period. It can be calculated using the demand formula you specify on Demand Formula Maintenance (41.220.00) or calculated using the system default you specify in Number of Demand Periods on IR Setup (41.950.00), Options tab.

Average Demand Per Period
Average demand per period is a forecasted inventory quantity that you expect to need for the current fiscal period. It is a weighted average of adjusted past usage quantities for a specified number of previous periods. It can be computed using the demand formula you specify on Demand Formula Maintenance (41.220.00) or calculated using the system default you specify in Number of Demand Periods on IR Setup (41.950.00), Options tab.

Book Quantity
Book quantity is the quantity in stock according to inventory records.

Current Transaction
A current transaction has a requested date on or before today's date plus the number of days to determine the average lead time and then adding the number of review cycle days (if any). Lead time can be measured as purchase order lead time, transfer order lead time, or assembly order lead time.

Demand
Demand is the forecasted inventory need for some part of the current fiscal period. It can be measured as average demand per period, average daily demand, review cycle demand, or lead time demand.

EOQ
Economic Order Quantity is the replenishment quantity that results in the lowest total cost of inventory rather than the lowest cost per unit.

Inventory Items
Inventory Items are products or OM assembly kits that are carried as single line items in Inventory.

Inventory Sites
Inventory sites are groups of the same inventory item stored at the same location or warehouse. Orders are placed at the inventory site level of control.

Items
See Inventory Items.

Kits
OM Kit Assemblies are one of the types of replenishment orders generated by the planned order process. Kits are combinations of two or more related products in a single line item in inventory.

Lead Time
Lead time is the number of days between the date you place a replenishment order and the date the inventory items become available for use in inventory. Lead time can be measured as purchase order lead time, transfer order lead time, or assembly order lead time.
Lead Time Demand
Lead time demand is the forecasted inventory quantity that you expect to need during the lead time period. It is calculated by multiplying average daily demand by the number of lead time days.

Line Point
The Line Point is a replenishment policy that should be used for inventory items with target order requirements specified by the vendor. Line point equals safety stock, plus lead time demand and review cycle demand.

Material Types
Material types supported by Inventory Replenishment include Component Part, Labor, Finished Goods, Machine Overhead, Other Direct Costs, Other Item, Raw Material, and Subassembly. The material type level of inventory control provides the most basic level of control. Parameters defined at this level are overridden by parameters defined at other levels of control.

Order Cycle
An order cycle is called a review cycle in Inventory Replenishment. Review cycle is the number of days between the date that you reach a replenishment point and the date you reach a point where you can place an order that meet a vendor’s target order requirement.

Parameters
Parameters are variables and constants that Inventory Replenishment uses to calculate replenishment values. Some parameters can only be set manually. Parameters that must be set manually, for example, include but are not limited to:

- **Manufacturing Lead Time** the number of days lead time needed for an assembly order on Inventory Items (10.250.00), Replenishments tab, and on Inventory Sites (10.255.00), Replenishment Parameters tab.
- **Minimum on Hand** and **Maximum on Hand** used by the MAX/MIN replenishment policy.

Period
Also known as a fiscal period, a period is the unit of time needed for one inventory cycle. It is usually a calendar month.

Projected lead time
Projected lead time is the average number of days estimated to replenish inventory from the normal source of supply. In Inventory Replenishment, projected lead time is calculated as purchase order lead time, manually entered as transfer order lead time, or manually entered as assembly order lead time.

Quantity Committed
Quantity committed equals the quantity that is scheduled to be shipped before the next inventory order is received. Quantity committed can include quantities on current sales orders, and assembly orders.

Quantity on Order
Quantity on current purchase orders plus the net quantity on current transfer orders.

Reorder Cycle
The industry term “reorder cycle” is called “review cycle” in Inventory Replenishment. A review cycle is the number of days between the date that you reach a replenishment point and the date you reach a point where you can place an order that meet a vendor’s target order requirement. Review cycle is used to calculate review cycle demand.

Reorder Point
When the Reorder Point replenishment policy is used, the replenishment point is referred to as the reorder point, which is the level of inventory in an inventory site equal to safety stock plus the quantity
needed for lead time demand. Informally, the terms replenishment point and reorder point are used interchangeably.

**Replenishment Parameters**

Replenishment parameters are used to calculate the replenishment values that values Inventory Replenishment uses to calculate the replenishment quantities for inventory sites. Most replenishment parameters are available at all levels of inventory control. They include such things as the Replenishment Source Code and Replenishment Policy. Replenishment parameters follow a hierarchy of control.

**Replenishment Point**

A replenishment point is the level of inventory in an inventory site equal to safety stock plus the quantity needed for lead time demand. It is known as the reorder point when the Reorder Point replenishment policy is used.

**Replenishment Policy**

A replenishment policy determines how Inventory Replenishment calculates the replenishment quantity and reorder point for an inventory site. You can select one of the following replenishment policies for an inventory site, a site, an inventory item, or a material type: EOQ, MAX/MIN, Reorder Point, Line Point, Order to Replenish.

If you do not select a replenishment policy for an inventory site or for the site, inventory item, or material type associated with that inventory site, then Inventory Replenishment does not calculate a replenishment quantity for that inventory site nor does it generate a planned order for that inventory site.

**Replenishment Position**

Replenishment position is a key concept in Inventory Replenishment. You reorder an inventory item when its replenishment position reaches a replenishment point determined by the replenishment policy you selected.

The replenishment position is the quantity you expect to need before the next order arrives plus the safety stock you need to keep on hand. Replenishment position is based on three quantities:

- **Book quantity** — The quantity in stock according to inventory records.
- **Quantity committed** — The quantity that is scheduled to be shipped before the next Inventory Replenishment order is received. Quantity committed can include quantities on current sales orders, work order issues, and kit assemblies.
- **Quantity on order** — Quantity on current purchase orders plus the net quantity on current transfer orders.
- **Current orders** have requested by dates that are on or before the date when you receive the next Inventory Replenishment order from your suppliers.

In formula form, replenishment position can be expressed as:

\[(\text{Book quantity} - \text{Quantity committed} + \text{Quantity on order})\]

**Example:** Let’s say that the book quantity is 12 units, that the quantity committed is 2 units, and that the quantity on order is 10 units. The replenishment position can be calculated as \((12 \text{ units} - 2 \text{ units} + 10 \text{ units}) = 20 \text{ units}\).

**Note:** Replenishment position in Inventory Replenishment is not the same as **Quantity Available** as it is calculated in Inventory and not the same as **Available** as it is calculated in Order Management. In Inventory, **Quantity Available** is the quantity of an item that is considered available for sale. In Order Management, **Available** is the total quantity of the item that is available for immediate shipment. Although replenishment position, **Quantity Available**, and **Available** are related, they provide different kinds of information. Their values are different. See the Inventory and Order Management help or user guides for further information.
Note: When the Work Order module is installed:

- Work orders going into inventory will be included as available.
- Quantity committed will include components on work orders.
- For further information, see the Work Order help or user guide.

**Replenishment Quantity**

A replenishment quantity is how much inventory you order to replenish an inventory site. It is calculated using replenishment values.

**Replenishment Values**

Replenishment values are available at the inventory item and inventory site levels of control. The following replenishment values can be calculated or can be defined by manual defaults at the inventory item level of control or manual overrides at the inventory site level of control: Reorder quantity, Reorder point, Line point, Economic order quantity, Safety stock, Purchase order lead time, Review cycle days. The following replenishment values can be defined by manual default at the inventory item level of control or by manual override at the inventory site level of control: Minimum on Hand, Maximum on Hand, Manuf Lead Time (used for assembly order lead time and work order lead time). The following replenishment value can be calculated or can be defined by manual override at the inventory site level of control: Projected Daily Demand.

**Review Cycle**

A review cycle is the number of days between the date that you reach a replenishment point and the date you reach a point where you can place an order that meet a vendor’s target order requirement. Review cycle is used to calculate review cycle demand. Other industry terms for review cycle are order cycle and reorder cycle.

**Review Cycle Demand**

Review cycle demand is the forecasted quantity you need to keep in the inventory site during the review cycle. It is calculated by multiplying the number of review cycle days by average daily demand.

**Settings**

Settings are variables and constants that Inventory Replenishment uses to calculate replenishment values. Some of them are manually set. Others are calculated by Inventory Replenishment. The Inventory Replenishment help or user guide uses the word “parameters” rather than settings.

**Sites**

A site is a warehouse or a subsegment of a warehouse (warehouse within a warehouse) where an inventory item is stored. The software supports an unlimited number of sites for an inventory item. A warehouse location is a specific bin or location used to store inventory items within a site.

**Target Order Requirement**

Target order requirement is the amount of inventory required by the vendor before an order can be placed. A target order requirement can be specified in number of units. It can also be specified as a monetary amount or by total weight or cubic volume. You must specify a target order requirement when you select the Line Point replenishment policy.

**Transfers**

An inventory transfer is a transaction where a specified quantity of inventory items is moved from one site to another site. When the transaction occurs, Inventory transfers the value of the units transferred to the new site.

**Usage**

Usage is the past historical inventory activity and includes the quantity of inventory sold to customers, used in kit assembly issues, and used in work order issues. Inventory Replenishment captures usage by collecting information from past sales orders, purchase orders, work order issues, kit assembly issues, and transfer orders and uses this information to calculate the replenishment values that
become the basis for future orders. Usage sometimes includes transfers to other sites. Usage is calculated at the inventory site level.
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