PeopleSoft®

EnterpriseOne Xe Sales Configurator PeopleBook

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J.D. Edwards World Source Company
7601 Technology Way
Denver, CO 80237

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Industry Overview

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- Idea to Action: The Competitive Advantage

Industry Environment and Concepts for Sales Configurator

Customers today are requiring manufacturers to build complex product configurations that follow their detailed specifications. Manufacturers build this basic product to customer specifications and may even provide some level of customization.

Configured items are products specified by the customer and are not a make-to-stock item that can be bought off-the-shelf. Since configured products are specified by a customer, features and options are associated with the final product. Thus, technically speaking, infinite combinations of the end item could exist.

In addition, customers want improved service, in terms of detailed, real-time information at order entry, as well as shorter lead times from order to delivery of the product.

Manufacturers are trying to respond to the pressure and opportunities presented by their customers' configuration and customization needs. Currently, the industry struggles with manual paperwork, slow response times, lack of systems integration, and product volume versus complexity. Manufacturers need the agility to provide specialized (configured) products at a competitive price.

In order to be agile, manufacturers require assistance inputting customer specifications that create a valid configuration of an end product. Manufacturers then need to communicate the customers' requirements to the rest of their organization. A company's sales, manufacturing, and service organizations need a fast, accurate, and flexible system to rely on.

Methods Used Today

Basically, three different approaches are employed to handle complex product configurations. The first approach is to create unique end part numbers. This approach creates a part number for every combination of features and options

that build a viable end item product. This method can be cumbersome and not conducive to change because there are just too many numbers to effectively manage.

The second approach is to create generic end part numbers with extended manual descriptions. Critical information about the features and options included on a final product is embedded in the text. All inventory records in the system appear as the same product because it bears the same part number even though the features and options may be different on each end item. Thus, this technique leaves a poor audit trail for parts, priority and capacity planning are limited, and costs are distorted. These results occur because the (software) system has no way to retrieve and use the embedded text information.

The third approach is to use a configurator, a tool developed to handle complex products.

Definition of a Configurator

The configurator is a tool that automates the selection and configuration of highly complex products. Highly complex products have related features and options. A relationship results when an association or correlation between the features and options or associated parts exists within its subassemblies. A configurator allows a manufacturer to configure its existing product to customers' detailed and specific requests. It guides users to create a customized end item product through product definition (features and options), rules, and calculations. The result is a valid, highly configured product.

The configurator was historically termed a "product configurator" because it configured an end item product to customer specifications. Although the configurator performs the same function, the new terminology for a configurator is "sales configurator" because configurators are fast becoming a vital part of automating the sales process.

Configurators are used to assist sales order entry personnel during the sales process. The information gathered and generated during sales order entry is then communicated to the organization to support manufacturing and distribution processes.

Using a Configurator in Your Business

It is important to understand your business environment. Configurators are suited to to-order manufacturing environments. The basic to-order environments are:

- Pick-To-Order: The pick-to-order environment is basically the selection of kits (parts list of components). The pick-to-order environment can use kit processing or a configurator. The tool used depends on the product specifications. In general, kit processing should be able to process features and options. Usually, no relationship exists between the kits or

the parts in each individual kit. All combinations of kits and parts are allowed. Thus, the kit processing technique can be used for validation. Kit processing may not be appropriate for complex specifications or conditional part requirements.

An example of a pick-to-order environment is the computer industry. When a monitor, printer, and other items are chosen, kits are selected to include the appropriate cable, user guides, packaging materials, and so on that are required to ship with the customer's product.

- Assemble-To-Order: Assemble-to-order manufacturing is where the customer is met after the features and options have been fabricated, but before final assembly of the product. Thus, the raw material and components are built up to some subassembly level called features and options. After the customer has communicated specifications, the subassemblies are built up into the final end product.

  An example of an assemble-to-order environment is the touch-free car wash machine. Although there are relationships between the features and options, the individual features, options, and frame can be sub-assembled. After the customer's specifications are identified, the feature and option subassemblies can be mounted to the frame to build the final complete machine.

- Make-To-Order: In make-to-order manufacturing, the customer communicates specifications before production at any level in the product structure begins. No subassemblies exist in this manufacturing method, only raw material and components. Production begins once customer specifications are identified.

  Examples of this production method are building products (lumber), windows, and doors. These are make-to-order products because the customer must specify the length, width, thickness, finish, style, and other attributes of these products before any production can begin.

- Engineer-To-Order: Engineer-to-order starts at the raw material and component level, and builds to the end item. No features and options exists at all in an engineer-to-order environment. Usually, engineer-to-order products are so specialized and for such a specific use that only one end item is ever built. However, the use of the processes to build the product and some common components may be prevalent.

  Examples of engineer-to-order end item products are space shuttles, satellites, custom homes, and architectural projects such as buildings and bridges. These products are usually built to special specifications only once.

  A configurator is best suited for assemble-to-order and make-to-order manufacturing environments. Kit processing is usually better suited to pick-to-order environments as long as there are no relationships between

kits or components within kits. An engineer-to-order environment produces one-of-a-kind items that may never be built again. Thus, investing in a configurator and the associated setup would not be cost effective.

Understanding Your Product

You need to understand your product and manufacturing processes. To assist you in better understanding your product and manufacturing processes, you should do extensive data gathering and product analysis.

To understand your manufactured product, gather and review sales and marketing materials. Determine the sales and marketing understanding of your product's features, options, final product, and relationships. What is presented to the customer?

Review engineering drawings and bills of material. Also, review manufacturing routings for manufactured items and assemblies (features, options, final product). Determine how engineering and manufacturing view the product. How is the product defined and manufactured?

Conduct interviews with sales and marketing, sales order entry, manufacturing, assembly, and engineering personnel to better define and understand the features, options, final assembled product and the relationships between these components. Determine whether everyone has the same understanding of the product, and if not, clarify discrepancies.

Assessing the Need for a Configurator

After you determine your business manufacturing environment and gained an understanding of your product's features, options, final assembled product, and, most importantly, the relationships that may exist between them, you can determine if you need a configurator.

If a product with no relationship between the features and options or associated parts within those subassemblies is manufactured in a to-order environment, then kit processing may be the best tool. However, a configurator is not a cost effective tool for complex, one-of-a-kind end items manufactured in an engineer-to-order environment.

A basic decision point in determining the need for a configurator is that the final manufactured product is complex and is based on customer specifications. There is also a relationship between features and options where some may not be compatible with others. Manufacturing routings and product pricing also changes based on the final end item configured product.

If the relationships between features and options need to be defined to prevent invalid product configurations in your to-order manufacturing environment, then a configurator may be the tool for your company.

Benefits of a Configurator

Although a sales configurator requires an intensive, detailed front-end setup, it provides the following benefits. You can:

- Specify features and options
- Establish relationship(s) between features and options
- Generate a configured parts list
- Create a configured routing
- Establish a configured price
- Reduce order lead time
- Improve customer service
- Create fewer end part numbers
- Produce a configuration audit trail

When selling complex, highly configurable manufactured products, the presentation and quoting assistance provided by a configurator can be a powerful sales tool. From a sales order entry standpoint, personnel do not need to know the product intimately to be able to enter a sales order. The configurator leads them through the configuration and provides error messages so that the customer can order a valid configured product. Personnel also have the ability to communicate real-time information such as price and weight to customers.

After an order is complete and accepted by the customer, the sales order communicates appropriate and correct information to manufacturing and distribution. An integrated system facilitates a correct product build in a timely manner.

Although a configurator requires detailed setup, as well as timely and careful maintenance for product changes, it is a powerful tool whose benefits cannot be overlooked. A sales configurator communicates accurate customer specifications and product requirements throughout the entire organization.

Idea to Action: The Competitive Advantage

The following list contains examples of typical problems with the configuration process, the Idea to Action that will resolve each problem, and the return on investment.

We can't change fast enough to respond to our customer's customization needs and multiconfigurations.

The Sales Configurator system is a business enabler for configuring manufactured and assembled end item products. The Sales Configurator system features seamless integration to the Inventory Management system, Sales Order Management system, and the Manufacturing and Distribution modules. The Sales Configurator system allows you to create configured bills of material, routings, pricing, and other important business information. Customer service levels are increased by providing real-time configured product specifications and information at sales order entry. Seamless integration from the front office to the back office improves communication with other departments within the company, which, in turn, improves product quality by reducing errors.

High Tech/Electronics Industry – We can't change fast enough to respond to customer's customization needs and multiconfigurations.

The Sales Configurator system is a business enabler for configuring manufactured and assembled end item products. The Sales Configurator system features seamless integration to the Inventory Management system, Sales Order Management system, and the Manufacturing and Distribution modules. As design-to-market speed becomes increasingly important, the rules-based Sales Configurator system becomes a staple in the electronics industry. For example, Gateway stocks assemblies but does not configure a computer until it is ordered by the customer.

The Industrial Commercial Equipment (ICE) usually incorporates complex assemblies and mechanisms and sophisticated control systems. They are usually highly engineered and highly customized with many modifications.

The Sales Configurator system is a business enabler for configuring manufactured and assembled end item products. The Sales Configurator system features seamless integration to the Inventory Management system, Sales Order Management system, and the Manufacturing and Distribution modules. The Sales Configurator system provides the ability to expand customers' choices while reducing order lead times. The rules-based Sales Configurator system decreases engineering involvement in the front end. Use of status codes integrated with the Sales Order Management system allows changes to be made up to a specified point in the manufacturing process.

We have so many relationships between our product features and options that our sales order entry personnel are not always able to order them properly. We find many problems when we build the products on the manufacturing floor.

The Sales Configurator system is a business enabler which can be used to solve this problem. You can define the features and options, as well as the relationship and limitations between those features and options. Sales order entry personnel do not need in-depth product knowledge. The Sales Configurator system communicates the validity of a customer's choice of features and options through error messages and other visual cues. Upon completion of order entry, you have a configured bill of material and routing to use in manufacturing the product.

High Tech/Electonics Industry – Our product pricing structure for configured items is so complex that we are unable to give our customers real-time pricing at order entry.

Use the Advanced Pricing system in conjunction with the Sales Configurator system to create accurate and timely pricing at sales order entry. Because configurations are determined at the time of order, electronics industry companies use advanced pricing to provide customers with automatic price quotes at the time of ordering.

IFA – We can build our product to a certain point and then stock it. We can then customize the stocked item to customer specifications at the last operation. How can we communicate this information to manufacturing?

Use the Store and Forward feature in the Sales Configurator system to enable communication of customer requirements when it fits your process. The IFA industry is moving towards a to-order/postponement environment whereby standard configurations are built and inventoried, and then customized at the last possible point in the manufacturing process. Store and Forward, used with the Sales Configurator system, allows sales reps to work with the client on-site and transfer the data at a later time.

We have special calculations that need to be run when creating a new order.

Use the Advanced Assembly Inclusion Rule features in the Sales Configurator system to enable your order entry. You can take advantage of segment referencing, algebraic formulas, trigonometric and logarithmic functions, substrings, concatenations, external field references, external business function references, configured tables, and smart parts. You can perform calculations during product configuration validation. Thus, calculated values are available for use by sales order entry personnel and the customer.

When we create sales orders, all the detail information is included. In most cases, the customer doesn't need to see the information and it just crowds the sales order. We want to print only the pertinent lines on the customer sales order.

Use the Assembly Inclusion Rule feature in the Sales Configurator system to customize the sales order. Use P Assembly Inclusion Rules to add parts to the sales order and work order parts list and use Q Assembly Inclusion Rules to add parts to the work order parts list only. These assembly inclusion rules allow you to customize your sales order and work order parts list to communicate appropriate information.

Increased customization of products for customers increases process simplification with production.

One way to simplify production processes is to use the Sales Configurator system, which creates configured bills of material and routings. Seamless integration from the front office to the back office improves communication between sales order entry and manufacturing. This integration improves product quality and reduces errors. This process, in turn, can increase throughput and allow for process simplification.

Sales Configurator Overview

Many manufacturers sell configured items. A configured item is a product that is assembled from an arrangement of features and options. Features and options might include size, capacity, power rating, color, materials used, and so on. For example, a forklift is a configured item assembled from an arrangement of features and options that might include the power source, counterweight, paint type and color, as well as the boom assembly, the engine type, the hydraulics system, and so on.

Additional examples of configured items include:

- Furniture and fixtures
- Paper products
- Building products
- Commercial printing
- Control and measurement equipment
- Transportation equipment
- Windows, doors, and other dimensional products

When customers place orders for configured items, they expect to be able to specify features and options about the items. The J.D. Edwards' Sales Configurator system allows you to respond to complex customer orders for configured items. Using the Sales Configurator system, you can assemble a large variety of configured items from relatively few components. You can set up configurations of features and options that constitute the configured items that you want to have available for sale, based on your best business practices and the needs of your customers.

When you enter a sales order for a configured item, the Sales Configurator system will query you about the features and options of the item that has been requested. After you respond to the query about the configured item, the system verifies the information that you provide against the setup information that you previously defined. If the configuration is valid, the system processes the order.

J.D. Edwards also offers kit processing that enables feature and option processing. However, kit processing might not be appropriate for features or complex specifications such as conditional part requirements. The Sales Configurator system is appropriate for items that:

- Are complex

- Require routings that change based on features or options
- Include features that are not compatible with other features
- Require multiple work orders to define an assembly

Using the Sales Configurator system, you can do the following to facilitate your best business practices:

- Use fewer end-part numbers
- Create dynamic work order parts lists and routings
- Create order history and configuration audit trails
- Improve order accuracy
- Shorten lead times
- Provide better margin information
- Improve customer service

System Integration

The Sales Configurator system is a front office to back office product. It integrates sales to manufacturing, from sales order entry to work order generation and shipping the product to the customer.

The Sales Configurator system is a business enabler for configuring manufactured and assembled end-item products. The Sales Configurator system features seamless integration to the Inventory Management, Sales Order Management, Manufacturing and Distribution systems.

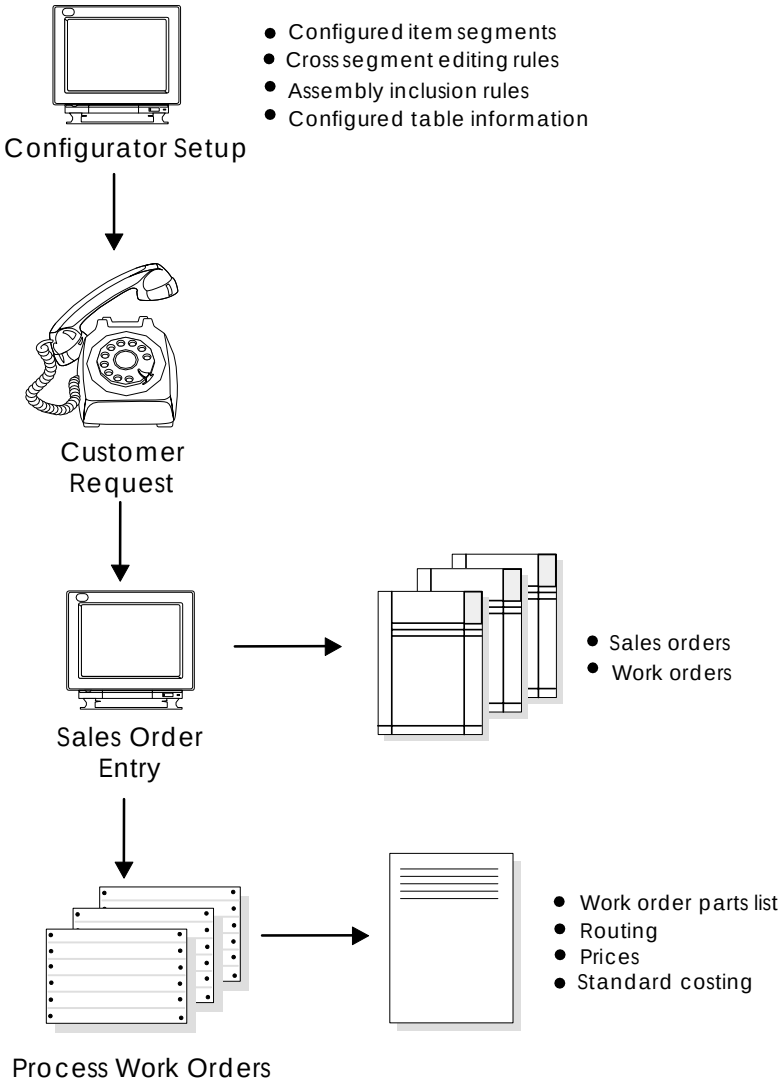
With the Sales Configurator system you can define the features and options, as well as the relationship and limitations between those features and options. Sales order entry personnel do not need in-depth product knowledge. The configurator will communicate the validity of a customer's choice of features and options through error messages and other visual cues. Upon completion of order entry, you have a configured bill of material and routing to use in manufacturing the product.

The Sales Configurator system works with other J.D. Edwards systems to generate the following:

- Sales orders
- Parts lists
- Routings
- Work orders
- Price information

- Work order costing
- Invoices

The following illustration shows the integration of the Sales Configurator system:

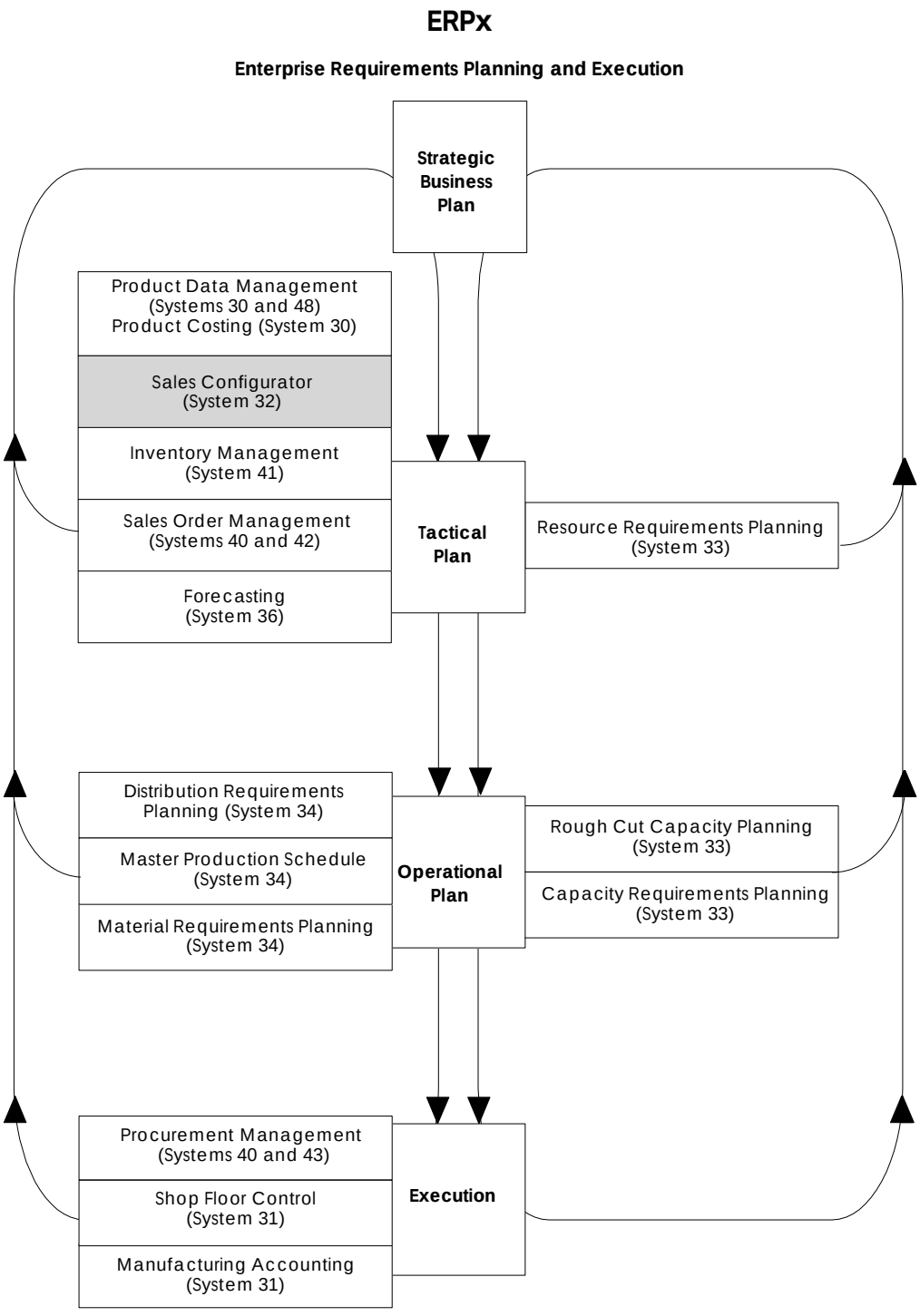


Enterprise Requirements Planning and Execution Review

The Sales Configurator system is one of many systems in the Enterprise Requirements Planning and Execution solution.

Use the Enterprise Requirements Planning and Execution system to coordinate your inventory and labor resources to deliver products according to a managed schedule. It is a closed-loop manufacturing system that formalizes company and operations planning, and the implementation of those plans.

The Enterprise Requirements Planning and Execution system includes the following J.D. Edwards systems:



Terms and Concepts

Configured item

A configured item is a product that is assembled from an arrangement of features and options. Features and options might include size, capacity, power type, color, materials used, and so on.

Segment

You can specify the features and options that constitute a configured item. These features and options are referred to as segments in the Sales Configurator system. Each segment represents a characteristic of the configured item. For example, the forklift used in the demo data (configured item 6000) includes the following segments:

- Forklift rating (segment 10)
- Power Type (segment 20)
- Boom height (segment 30)
- Paint (segment 40)

You can further specify the options available within each segment. For example, the following are available options within the forklift rating segment:

- 2000 pounds
- 4000 pounds
- 6000 pounds

Configured string

When you enter a sales order for a configured item, the system joins the segments and displays the configuration as a string of values separated by delimiters. Each value represents a segment. For example, a configured string for item 6000 (forklift) might be:

2000/PROPANE/08/STD/3587.4659217

- 2000 (pounds) is the forklift rating
- PROPANE is the power type
- 08 (feet) is the boom height
- STD is the paint type and color
- 3587.4659217 (pounds) is the calculated counterweight

Multilevel configured item

You can create configured subassemblies within a configured item. A configured item, such as a forklift, is sometimes referred to as multilevel configured item because it includes subassemblies such as the boom, engine, hydraulics and so on. Each subassembly can also include a subassembly, such as the carburetor assembly within the engine. You can think of a multilevel configured item as having a tree structure or hierarchy, for example:

1. Forklift

    2. Engine

        3. Carburetor

The Sales Configurator system validates subassemblies the same way it does for end-product configured items. The segments included in each subassembly must be valid when the system queries against the setup information that you provided.

See the graphic at the end of this overview for an example of a multilevel configured item.

Cross-segment editing rules

Cross-segment editing rules are logic statements that you use to establish the relationships among the segments of a configured item. For example:

If segment 10 (forklift rating) = 6000 pounds, then segment 30 (boom height) must = 12 (feet) else segment 30 must be <= 10 (feet).

By using cross-segment editing rules, you can avoid invalid configurations, and end-users will be less likely to enter invalid sales orders. The system validates the segments on the sales order against the cross-segment editing rules. Error messages appear for configurations that violate the rules.

Assembly inclusion rules

Assembly inclusion rules translate requested features and options from the sales order into the specific values, components, operations, and calculated values that are necessary to build and price the configured item. For example:

If segment 10 = 6000 and segment 30 >= 10, then use part F170, else use part F175.

Analyzing Your Configured Items

Before you work with the Sales Configurator system, ensure that you can answer the following questions about your configured items:

- How do your customers order the configured item?
- How will you price the configured item?
- Which features and options make up the configured items?
- Which routings do the configured items require?
- Which calculations are required to support prices, features and options, components, and routing steps?

The answers to these questions (and similar questions as they arise) help you determine which features and options to consider for possible inclusion in the configured items that you intend to make available to your customers. You will also have solid information from which to develop the best strategy for assembling the configured items. Determining your strategy for assembling configured items can save time during the initial system setup and facilitate subsequent adjustments.

Problem to Solve

Industrial Commercial Equipment (ICE) usually incorporates complex assemblies and mechanisms, and sophisticated control systems. They are usually highly engineered and highly customized with many modifications.

Solution

The Sales Configurator system provides the ability to expand customers' choices while reducing order lead times. The rules-based Configurator decreases engineering involvement in the front end. Use of status codes integrated with the Sales Order Management system allows changes to be made up to a specified point in the manufacturing process.

Features

The Sales Configurator system enables you to perform the following functions:

- Specify a variety of features and options within configured items
- Establish relationships among segments to prevent invalid product configurations
- Define multilevel configured items
- Define multiple work orders resulting from and associated to each level of multilevel configured items

- Establish default values or ranges for options and features
- Calculate values for options with algebraic definitions
- Create generic rules to use across branch/plants
- Create assembly inclusion rules that control price adjustments, routings, and parts
- Define a table of values that is referenced by assembly inclusion rules

The Sales Configurator system creates configured bills of material, routings, pricing, and other important business information. Customer service levels are increased by providing real-time configured product specifications and information at sales order entry. Seamless integration from the front office to the back office improves communication with other departments within the company. This process, in turn, improves product quality by reducing errors.

Tables

The Sales Configurator system uses the following tables:

Configured Item Segments (F3291)	Contains the segments for the configured items defined on the Item Master and Branch/Plant
Cross-Segment Editing Rules (F3292)	Defines the relationships among the segments of configured items
Configurator Constants (F3209)	Stores constants that you define to control processing at the branch/plant level
Values Detail (F32921)	Stores the *VALUES definitions for cross-segment editing rules and assembly inclusion rules
Range Detail (F32922)	Stores the *RANGE definitions for cross-segment editing rules and assembly inclusion rules
Assembly Inclusion Rules (F3293)	Stores the components, routings, calculations, and price adjustments for configured items
Configured String History (F32943)	Stores the history for the configured items of all the configurations ordered
Configured String Master (F32944)	Contains the configured string identifier for each multilevel configuration
Configured String Segments (F32942)	Stores the configured string for each multilevel segment
Configured String Detail (F32945)	Stores the segment values for each configured string. It is also used to identify the segment level in the configuration.
Rules Table Definition (F3281)	Stores table information such as description, table type, number of segments, and return values
Configured Item/Rules Table Cross-Reference (F3282)	Defines which segment values will be used as keys to refer to tables for each configured item
Rules Table Value Definition (F32821)	Defines calculated segments, which will be populated with the returned values

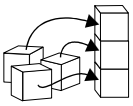
Table Detail (F3283)	Stores the actual table values (parts, prices, and so on) for each combination of segment key values that you define for the table
Item Master (F4101)	Stores basic information about each item in inventory, such as item numbers, description, category codes, and units of measure
Branch/Plant (F4102)	Stores branch/plant information, such as quantities and branch level category codes
Item Location (F41021)	Stores primary and secondary locations for an item
Cost Ledger (F4102)	Stores cost information for an item
Base Price (F4106)	Stores base price information for an item
Sales Order Detail (F4211)	Defines which level of the configured item is related to a component and defines complete information for each line of the sales order
Sales Order Header (F4201)	Maintains the billing instruction, address, and delivery information for a customer order
Configurator Store and Forward Segments (F3294Z)	Defines the answers to each segment question recorded during store-and-forward order entry
Configurator Level Sequence (F3296)	Defines relationships between sales order components and the configuration hierarchy
Configured Level Sequence Tag (F3296T)	Defines sales order components that were added by the user and not from the rules-based processing (OneWorld usage only)
Configured Price/Cost Adjustment (F32961)	Defines the relationships between (x) rules based price/cost adjustments and detail sales order line items. This table is a summarized table by line type.
Configurator Detail Price/Cost Adjustment (F329611)	Defines the relationships between rules based detailed price and cost adjustments, summarized adjustments, and detail sales order line items. The table also indicates price and cost adjustments added by the user and not from rules-based processing (OneWorld usage only).

Menu Overview

The J.D. Edwards Sales Configurator system uses the following menus:

Menu Overview – Sales Configurator

Configurator G320



System Setup

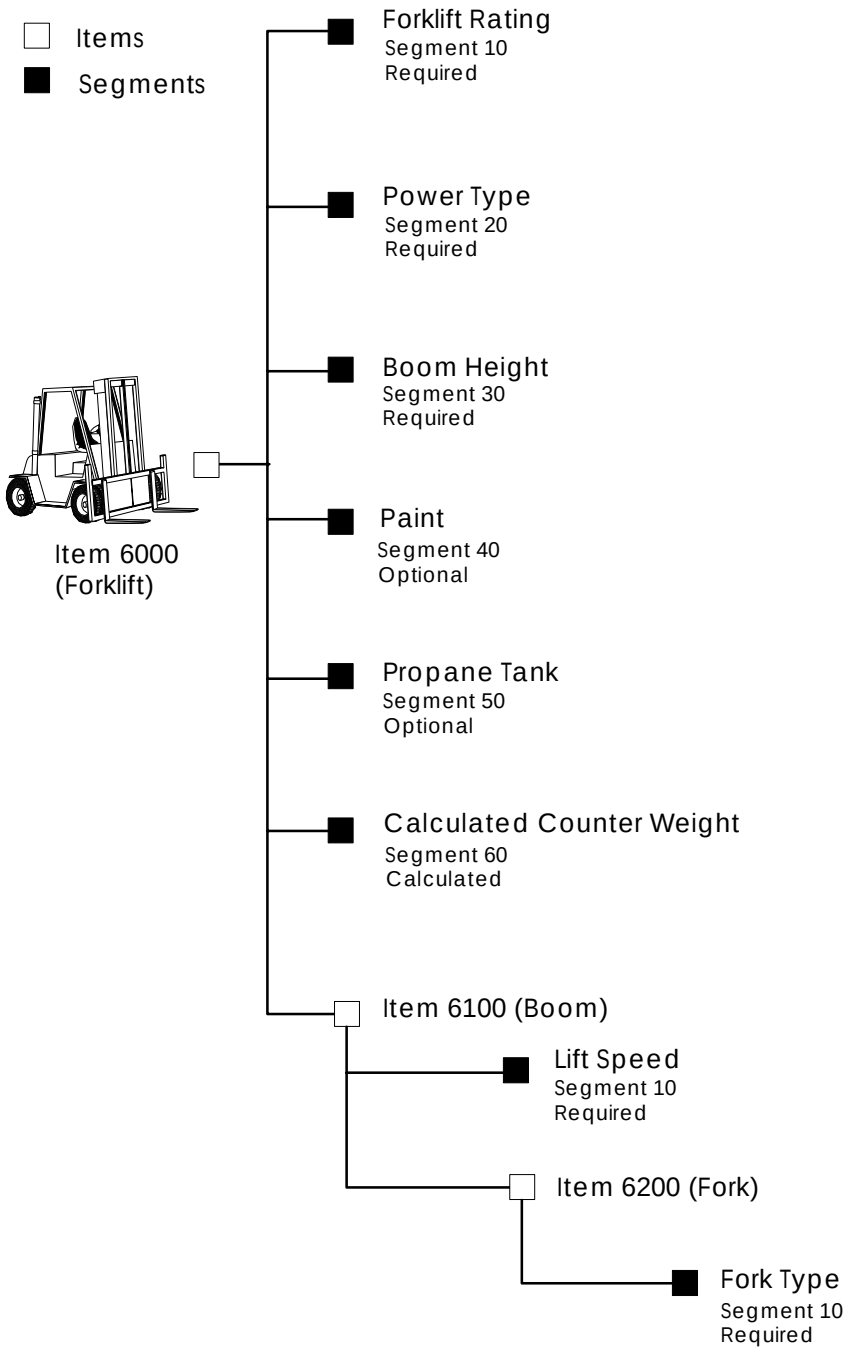
- Configurator Setup G3241

Daily Processing

- Configurator G32

Example: Multilevel Configured Item

The graphic below is an example of a multilevel configured item, a forklift (item 6000). Its subassemblies include the boom (item 6100) and fork (item 6200). For the forklift item and its subassemblies, segments represent features and options.



Setup

Sales Configurator Setup

You must set up the Sales Configurator system before you can enter sales orders for configured items.

Setting up the Sales Configurator system consists of the following tasks:

- ❑ Understanding setup prerequisites
- ❑ Setting up constants
- ❑ Setting up segments
- ❑ Setting up cross-segment editing rules
- ❑ Understanding assembly inclusion rules
- ❑ Setting up assembly inclusion rules
- ❑ Setting up tables

You set up the following information for the Sales Configurator system:

- Configured item information
- Constants
- Segments
- Cross-segment editing rules
- Assembly inclusion rules
- Tables

The Sales Configurator system constants control processing for your business. For example, you use constants to control:

- Branch/plant-specific information about work order processing
- Sales quote processing
- Availability checking
- Whether calculated segments appear

Segments are the features and options of a configured item. Segments represent product characteristics such as color, material, or size. You assign numbers to each segment of the configured item for clarification purposes. Information from the Display Order field determines the order in which you specify the segment value during sales order entry.

You set up cross-segment editing rules with logic statements to establish the relationship between the segments. Use these rules to prevent invalid configurations during sales order entry. You can define custom error messages for a cross-segment editing rule.

Assembly inclusion rules process requested features from sales order entry into the specific components and routing operations necessary to build the configured item. Different types of assembly inclusion rules allow you to define:

- Components
- Price/cost adjustments
- Routings
- Calculated values
- Hot spot values

You can also set up tables for assembly inclusion rules to reference information based on segment values.

You can define tables for components, prices, and calculated values. Using tables reduces the number of required rules, simplifies rule maintenance, and improves processing time.

Understanding Setup Prerequisites

The Sales Configurator system works with other J.D. Edwards systems. Before you set up the Sales Configurator system, you should be familiar with the following systems:

- Inventory Management
- Sales Order Management
- Product Data Management

Note: The information provided here is specific to setting up the Sales Configurator system. For more information regarding set up of these systems, please refer to the respective guides.

Inventory Management

The Inventory Management system stores item information, sales and purchasing costs, and quantities available by location. Within the Sales Configurator system, you use Inventory Management to set up item information for configured items and their components and configured subassemblies. Programs in the Inventory Management system define your configured item information, such as how the item is identified and stocked.

You enter Item Master information that is unique to the item across all branch/plants such as stocking and pricing information. You also enter branch/plant information that is unique to an item for a specific branch/plant, such as lot and lead time information.

When processing Item Master Revisions, select C for configured item in the Stocking Type field.

You have several options for pricing a configured item. Choose from the following pricing methods:

- Total the list prices of components to determine the configured item price
- Use the list price of the configured item
- Use assembly inclusion pricing rules to determine the price
- Total the discounted price of components

Price adjustment, or X assembly inclusion rules, can be used to affect the price for the configured item, regardless of the price method selected.

See Also

For more information on entering item or branch/plant information, see the following chapters in the *Inventory Management Guide:*

- *Entering Basic Item Information*
- *Entering Branch/Plant Information*

Sales Order Management

The Sales Order Management system controls all aspects of processing sales orders. The Sales Configurator system works with the Sales Order Management system to customize the way that you enter and process sales orders.

Before you can enter sales orders for configured items, you must provide information that is specific to your business to the Sales Order Management programs within the Distribution system.

You set up new line types to generate work orders (in addition to sales orders) for configured items during sales order entry. For example, the W line type generates a work order.

You also set up order activity rules to define the specific steps in the sales order processing cycle for your business. A typical sales order cycle includes sales order entry, packing, shipping, and invoicing. For a work order-generated line item and sales order document type, you can add steps to the cycle for creating the work order parts lists and completing work orders for configured items. Both of these manufacturing processes can, optionally, update associated sales order activity.

After you have defined the pricing method on Item Master Information, you must define base prices for the components and the configured item. The system uses the base price to price the item. If you define special pricing or discounts for the item, the system bases the calculation of the discounted price on the base price.

For price method codes 1, 2, and 3, you can apply discounts to the configured item. For price method code 4, you can apply discounts to the configured item's components. You can define price adjustment assembly inclusion rules for all price method codes.

The price method code determines whether to price components or parent items. Use base pricing to define prices for:

- An item or group of items
- A specific time period
- Different units of measure
- Different currencies

You can also use advanced pricing schedules for configured items in association with the price method code. However, advanced pricing does not support placing a new line item on the sales order-for example, for free items.

Use pricing groups to group items or customers with similar characteristics. This method streamlines the processes of entering and maintaining base prices.

See Also

For more information on setting up sales orders, see the following chapters in the *Sales Order Management Guide:*

- *Setting Up Order Line Types*
- *Setting Up Order Activity Rules*
- *Setting Up a Base Pricing Structure*
- *Setting Up Customer Price Groups*
- *Working with Standard Price Adjustments*

Product Data Management

The Product Data Management (PDM) system enables you to organize and maintain information about each item you manufacture. The Sales Configurator system further defines the relationship between items and how they can be manufactured.

Although you do not need to create a bill of material for a configured item, you can create a bill of material for the configured item's manufactured components. Use assembly inclusion rules to define component relationships for configured items. The system adds configured components to sales orders and work orders, based on these rules.

During setup, consider creating modular bills of material that group common parts for a specific feature or option. For example, a car might have an interior trim package with two choices: standard or deluxe. Each choice includes specific parts and might represent two different modular bills.

Although planning bills of material are not required for the Sales Configurator system, you can use them to help manage demand for specific features and options.

You can define all possible routings for the configured item and define assembly inclusion rules to choose which routing to attach to the work order. The routing assembly inclusion rule allows you to specify a complete routing or specific routing operation to attach to a configured item work order. You do not need to enter a routing for the configured item unless you also enter a routing inclusion rule.

See Also

- *Entering Routings* in the *Product Data Management Guide*
- *Working With Bills of Material* in the *Product Data Management Guide*

Setting Up Constants

Use constants to control the Sales Configurator system processing for your branch/plants. For each branch/plant, you can:

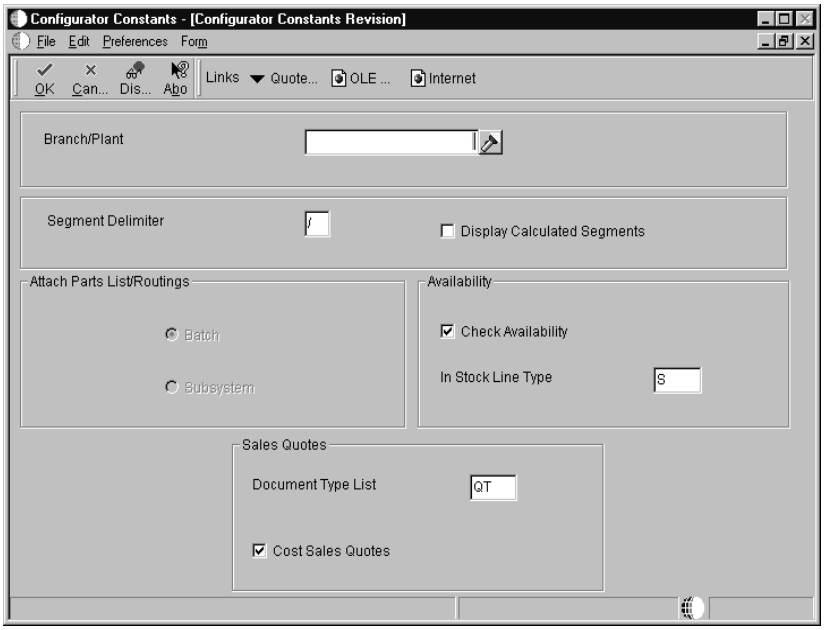
- Define the configured string delimiter
- Define whether the calculated segments appear during sales order entry
- Perform parent availability checking during sales order entry
- Cost sales quotes with manufacturing labor and overhead
- Define which stocked line type to use if the system finds a matching configuration in stock during sales order entry
- Indicate sales quote document types

The system stores constants in the Configured Constants table (F3209).

▶ To set up constants

From the Configurator Setup menu (G3241), choose Configurator Constants.

1. On Work With Configurator Constants, click Add.



2. On Configurator Constants Revision, complete the following fields:
   - Branch/Plant
   - Segment Delimiter
3. Click the following options:
   - Display Calculated Segments
   - Check Availability
   - Cost Sales Quotes
4. Complete the following fields:
   - Document Type List
   - In Stock Line Type

Field	Explanation
Segment Delimiter	A character separator used with configured items in Sales Order Entry. This character must be the same for each branch/plant. The default character is a forward slash (/). Although you can define a different character, J.D. Edwards recommends that you do not use an asterisk (*) and that you do not change the value after you establish it. The segment delimiter should be a character that could never appear within an answer to a segment question.
Display Calculated Segments	Indicates whether calculated segments will display during sales order entry. If this value is N, segments will not display when entering a sales order, however, the value of the segment will be stored in history. If entering a multi-level configured item, levels that have only calculated segments will not display. The default value is N.
Cost Sales Quotes	Indicates which costs are accumulated when the Order Type matches one of the Sales Quote Document Types. Valid values are: Y All costs from all assembly inclusion rules are accumulated. This is the default value. N Only the costs of the P rules are accumulated.

Field	Explanation
Check Availability	Indicates whether the system will verify that a configured parent item is in stock during sales order entry. The default value is Y. The system searches inventory for a configuration that matches the parent item during sales order update. If more than one of the item is located, a form displays all matching locations, lots, and their available quantities. From the form, you can choose an item to hard commit during the update. If only one item is located, the item is hard committed to inventory during the update.
Document Type List	The Sales Quote Document Type List is a user defined code table (32/QL) that is used to define valid document types for sales quotes in your company. For example, you could define sales quote document types by branch/plant or by type of quote, such as corporate or seasonal quotes.
Line Type	A code that controls how the system processes lines on a transaction. It controls the systems with which the transaction interfaces, such as General Ledger, Job Cost, Accounts Payable, Accounts Receivable, and Inventory Management. It also specifies the conditions under which a line prints on reports and is included in calculations. Codes include the following: S Stock item J Job cost N Nonstock item F Freight T Text information M Miscellaneous charges and credits W Work order . . . . . *Form-specific information* . . . . . If check availability is activated, this code defines which line type to return to the sales order if a matching configured item is found in inventory.

Setting Up Segments

A segment is a feature of a configured item, such as color, size, fabric, or power type. You assign segments for the configured item in a numeric sequence. Segments define the features and options of complex configured items.

Each segment is a specific feature or option group within a configured item. Features and options are defined as required, optional, or calculated. A required or optional segment identifies the valid values from which you can choose. Segments define the choices available within a specific feature or option by using user defined codes or ranges of values. Calculated segments have some type of calculation performed to determine information regarding the specific feature.

Item 6000 (forklift) contains the following segments:

- 10 Forklift Rating
- 20 Power Type
- 30 Boom Height
- 40 Paint
- 50 Propane Tank
- 60 Calculated Counterweight

You can define multilevel configured items with up to 10 levels. You use assembly inclusion rules to define item levels and associated work orders.

You use segments to define cross-segment editing rules that ensure valid configurations. During sales order entry, the system checks the combination of features and options to ensure that the item can be manufactured. You also use segments to define assembly inclusion rules that determine configuration-specific prices, components, calculated values, and routing steps.

Setting up segments is the starting point for the Sales Configurator system. You must know information about each segment to determine the configured item's price and the cost to manufacture the item.

Setting up segments consists of the following tasks:

❑ Defining a segment

❑ Setting up user defined codes

- ❑ Copying a configured item
- ❑ Locating segment information

You can define three types of segments:

Required	During sales order entry, you must provide this required information. The system performs edit checking against a user defined code table of values, a range of values, or numeric validation.
Optional	During sales order entry, this information is optional. The system performs edit checking against a user defined code table of values, a range of values, or numeric validation.
Calculated	During sales order entry, the system calculates the value for this segment. You define the calculation with assembly inclusion rules. Calculated segments can be numeric or alpha numeric.

During sales order entry you can enter a value for each segment. You can set up the system to restrict this value by:

- Numeric or alphabetic checking
- Range checking
- User defined code table that contains all valid values

Note: The segment information for a configured item should be the same across branch/plants to allow transfers to other branches.

Common Attributes

A Common Attribute in the Sales Configurator system is a trait or characteristic that is shared by several segments in a configured item. You can set up and define a common attribute in UDC 32/CA. You can then attach the common attribute to a particular segment via the Common Attribute field in Configured Item Segments.

Common Attribute Example:

The furniture industry is a good example of the use of common attributes. In a configuration for a sofa, a common attribute might be Color. The Color common attribute is associated to the segments for the sofa frame, bottom sofa cushions, sofa arm covers, and the decorative pillows. After the customer picks a color, that value can be input in the attribute field on the common attribute form. The color is then applied as the answer to all segments associated to that particular common attribute.

Defining Objects for Display Within Sales Order Entry

Within sales order entry, you can attach media objects to all levels of a configured item. This feature of the Sales Configurator system allows you to include within sales order entry, a visual cue of configured items and segments, including information that might initially exist as a paper-based document. Media objects can be either photos, graphics, or text documents.

User defined code values, which can be used for segment answers, support media objects. Configured segments can also have media object attachments.

The media objects that you define will be displayed on Configured Item Specifications. Within the tree structure displayed on Configured Item Specifications, you can click on a level, and the media object displays the image from the item master for the related configured item number. The segment or segment-answered user defined code will display the media object when a row is selected.

Configurator processing options control whether the media objects are changed real time based on events. Other processing options define which class of media objects to display in the window during sales order entry (text, image, OLE).

Media objects are set up on the Segment Values form. You may also retrieve media objects by using either a form exit (for item master media objects, when the tree control is selected), or a row exit (for segment or user defined code related media objects, when the row is selected).

See Also

- *Media Objects and Imaging* in the *System Administration Guide* for more information on setting up media objects
- *Working With Configured Item Sales Orders* for more information on media object display

Before You Begin

❑ Verify that the stocking type for a configured item is C (configured). For more information, see *Entering Basic Item Information* in the *Inventory Management Guide.*

❑ Verify that the manufactured configured components have bills of material. For more information, see *Entering Bills of Material* in the *Product Data Management Guide.*

❑ Create routings for the configured item and for the components that are manufactured. For more information, see *Entering Routing Instructions* in the *Product Data Management Guide.*

❑ Set the pricing method on Item Master Information. For more information, see *Entering Basic Item Information* in the *Inventory Management Guide.*

Defining a Segment

To begin using the Sales Configurator system, you must define the segments of each configured item. Both cross-segment editing rules and assembly inclusion rules use segments within logic statements.

When adding new segments to a configured item, enter them at the end of the list of existing segments.

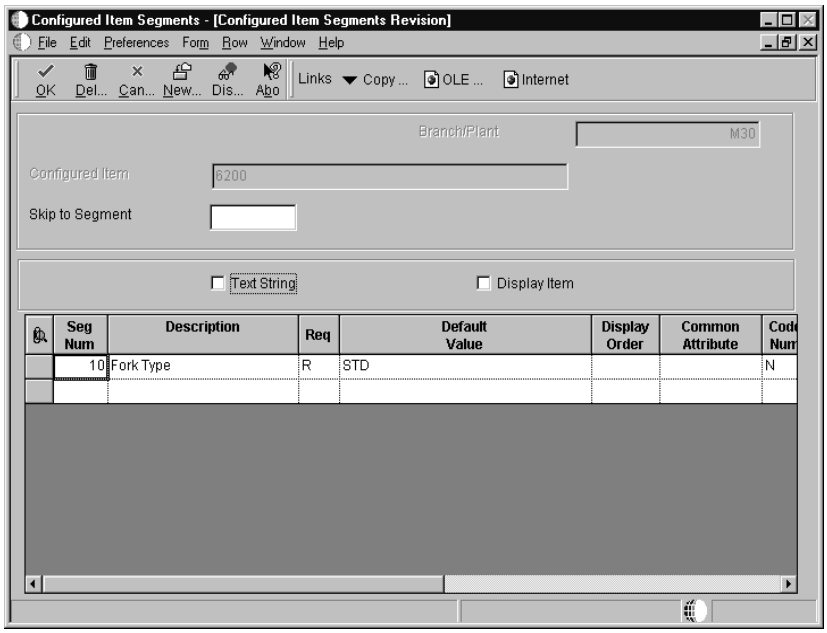
Note: You cannot delete a configured item segment if cross-segment editing or assembly inclusion rules exist for that configured item.

▶ To define a segment

From the Configurator Setup menu (G3241), choose Configured Item Segments.

1. On Work with Configured Items, complete the following field and click Find to locate a configured item:
   - Skip to Branch/Plant

     A blank Branch/Plant field identifies a generic branch/plant. If you define generic branch/plant segments, you must also define generic cross-segment editing and assembly inclusion rules.
2. Choose a configured item and click Select.



3. On Configured Item Segments Revision, click the following options to print segment information on the sales order:

   - Display Item
   - Text String

     You can choose the format for displaying configured item text. You can display the system-generated configured string or use the detail area to create custom text that prints on sales orders, work orders, pick lists, and invoices.

4. To identify the segment, complete the following fields:

   - Number – Parent Segment Number
   - Save Seg
   - Code Num
   - Default Value
   - Req
   - Description
   - Display Order

5. Complete the following optional fields for segment user defined code table values:

   - User Code

     If you define a calculated segment, you do not need to enter a user defined code.

   - Product Code

6. To specify a range of acceptable values, complete the following fields:

   - Upper Limit of Value
   - Lower Limit of Value

     If you define a calculated segment, you do not need to define range checking.

7. To control printing configured item information on sales orders and work orders, complete the following fields:

   - Spaces Before Segment Information
   - Spaces After Segment Information
   - Print Segment Value Description
   - Print Segment Value
   - Print Segment Description
   - Print Segment Number

8. Complete the following optional fields and click OK:

   - Update Category Code

     You can specify which work order category code will be populated with the segment value during sales order entry.

   - Derived Calculation Round

Field	Explanation
Skip to Branch/Plant	A number that identifies a branch, plant, work center, or business unit.

Field	Explanation
Text String	Determines if the configured text string format or a user defined format appears on the sales order (Pick Slip and Invoice Print) and work order (Print Parts List). You can define the format in the detail area of each segment. The segment number, description, value, or value description can be printed in the user defined format. Valid values are: Y or 1 indicates the configured text string N or 0 indicates the user defined format
Display Item	Controls whether the Configured Item Number is printed before the segment value information in the text string format or the user defined format. Valid values are: Y or 1 indicates to print configured item number N or 0 indicates not to print configured item number
Number – Parent Segment Number	The segment number is user defined and establishes the sequence in which the system asks questions about configurator features and options during sales order entry. Cross-segment editing rules reference the segment numbers to ensure that the set of values defines a valid configuration. Assembly inclusion rules reference segment numbers and their associated values to define prices, component parts, routing, and calculated values for configured items.
Description	A description can be: • Brief information about an item • A remark • An explanation
Required or Optional	Indicates whether a segment is required or optional in a configuration, or whether it must be calculated to specification when entering a sales order. Valid codes are: R Segment answer is required during sales order entry. O Segment answer is optional during sales order entry. C Segment is calculated during sales order entry. You define the calculation with assembly inclusion rules.

Field	Explanation
Default Value	Used as the initial value on the data entry screen for the associated data item. The value entered must be the exact same length as the data item size. Place single quotes around the value if it contains any embedded blanks. The keywords *BLANKS and *ZEROS can be used as the default value. When entering a numeric data item with default values, the redisplay of the data item suppresses all leading zeros. CAUTION: If a blank entry is allowed, default values should not be used.
Product Code	A user defined code (98/SY) that identifies a J.D. Edwards system.
User Code	A code that identifies the table that contains user defined codes. The table is also referred to as a UDC type.
Upper Limit of Value	The upper allowed value of this specific segment. If you enter a value here, then you must also enter an lower allowed value.
Lower Limit of Value	Indicates the lowest value a you can enter for a specific segment. If you enter a lower allowed value, then you must enter an upper allowed value.
Spaces Before Segment Information	The number of character spaces that should print before the segment information in the user defined format.
Spaces After Segment Information	The number of spaces that should print after the segment information in the user defined format.
Print Segment Number	Determines if the segment number should print on the sales order (Pick Slip and Invoice Print) and work order (Print Parts List). Valid values are: Y or 1 indicates print on both sales and work order N or 0 indicates do not print on sales and work order
Print Segment Description	Determines if the segment description prints on the sales order (Pick Slip and Invoice Print) and work order (Print Parts List). Valid values are: Y or 1 indicates print on both sales and work order N or 0 indicates do not print on sales and work order

Field	Explanation
Print Segment Value	Determines if the segment value prints on the sales order (Pick Slip and Invoice Print) and work order (Print Parts List). Valid values are: Y or 1 indicates print on both sales and work order N or 0 indicates do not print on sales and work order
Print Segment Value Description	Determines if the segment value description from an associated UDC table prints on the sales order (Pick Slip and Invoice Print) and work order (Print Parts List). Valid values are: Y or 1 – Print on both sales and work order. N or 0 – Do not print on sales and work order.
Update Category Code	Determines which work order category code the system populates with the segment value during sales order entry.
Derived Calculation Round	Indicates how many positions to the right of the decimal a derived calculation should be rounded. For example, • If the result of a derived calculation is 2190.123456789, enter 0 to round to the whole number 2190. • Enter 4 to round up to 2190.1235. • Leave the Derived Calculation Round field blank to avoid rounding. The system rounds up by one any digit followed by 5 through 9. The system does not round any digit followed by 0 through 4.

See Also

- *Setting Up Assembly Inclusion Rules*

Setting Up User Defined Segment Values

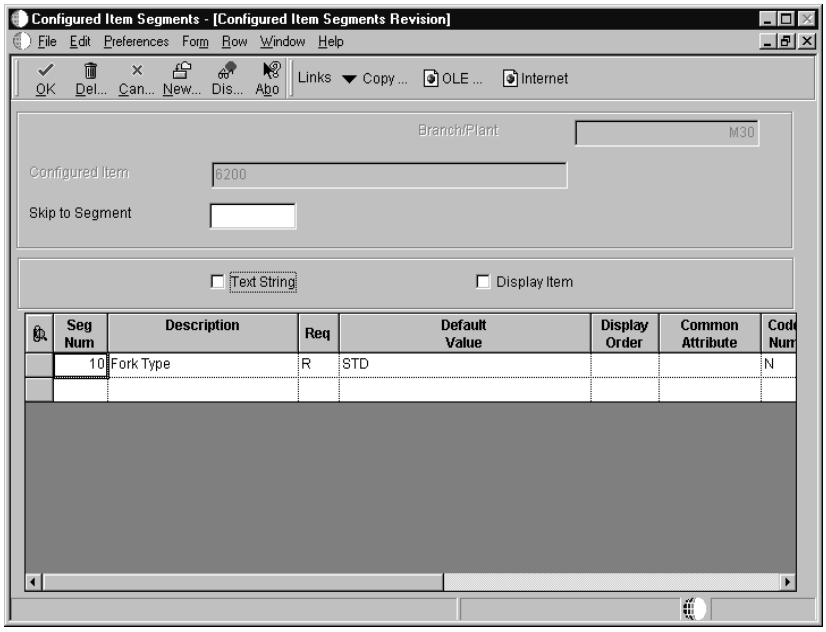
You can create a user defined code table of segment values for a noncalculated segment. The user defined code Table referenced by the segment presents the choices that are available within that particular feature or option. This task is optional.

During sales order entry, if you have associated a required segment with a user defined code table, you must select a value from the table. If you have associated an optional segment with a user defined code table, you can enter either no value or a value from the user defined code table.

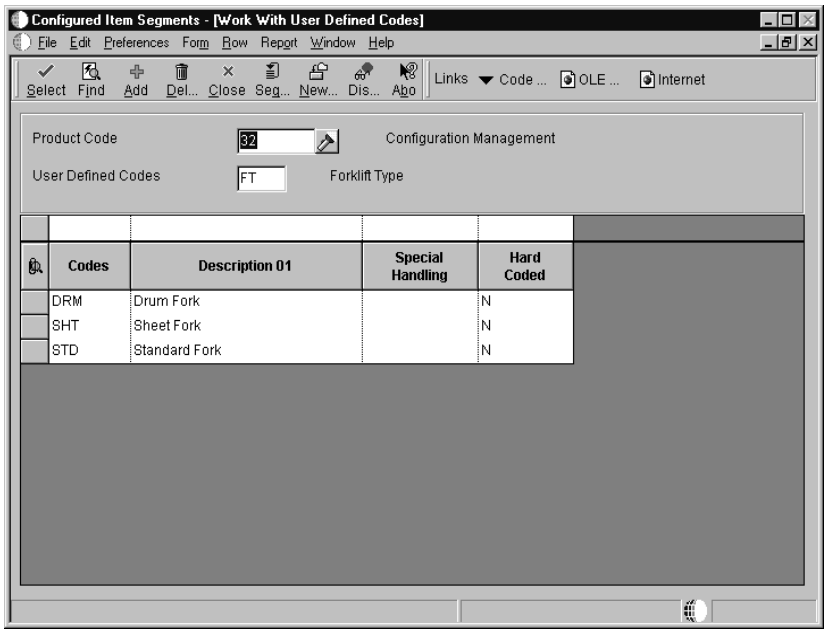
To set up user defined codes

From the Configurator Setup menu (G3241), choose Configured Item Segments.

1. On Work with Configured Items, complete the following field and click Find to locate a configured item:
   - Skip to Branch/Plant
2. Choose a configured item and click Select.

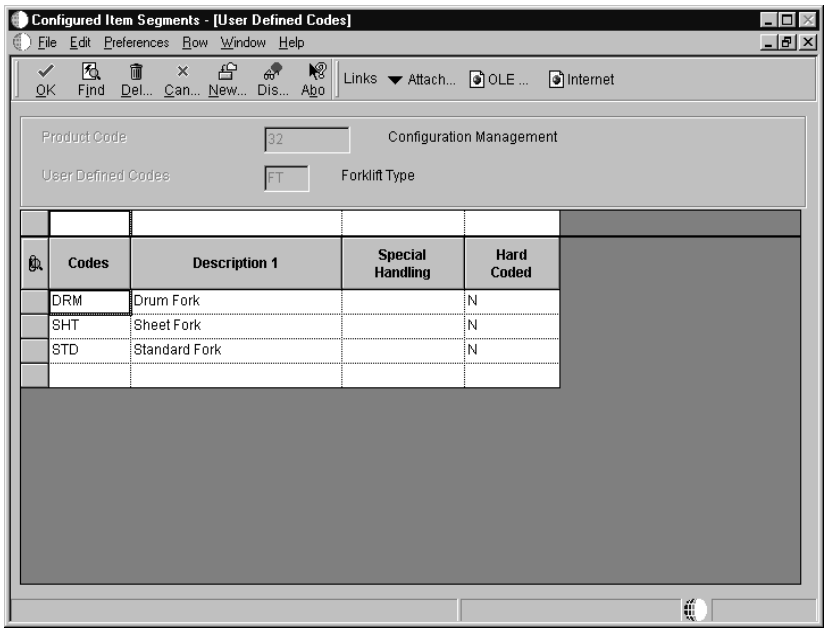


3. On Configured Item Segments Revision, select a row and choose User Defined Codes from the Row menu.



4. On Work With User Defined Codes, complete the following fields and click Add:

   - Product Code
   - User Defined Codes



5. On User Defined Codes, complete the following fields:

   - Codes
   - Description 1

- Special Handling
- Hard Coded

You can use codes 55 through 59 for the Sales Configurator system's user defined code types.

Field	Explanation
Codes	A list of valid codes for a specific user defined code list.
Description 1	Use this field to enter the name or description of an associated segment code. Each segment code represents a specific value in a range of valid values for the associated segment of a configured item.
Special Handling	A code that indicates special processing requirements for certain user defined code values. The value that you enter in this field is unique for each user defined code type. The system uses the special handling code in many ways. For example, special handling codes defined for Language Preference specify whether the language is double-byte or does not have uppercase characters. Programming is required to activate this field.
Hard Coded	A code that indicates whether a user defined code is hard-coded. Valid values are: Y The user defined code is hard-coded N The user defined code is not hard-coded For OneWorld, a check indicates that the user defined code is hard-coded.

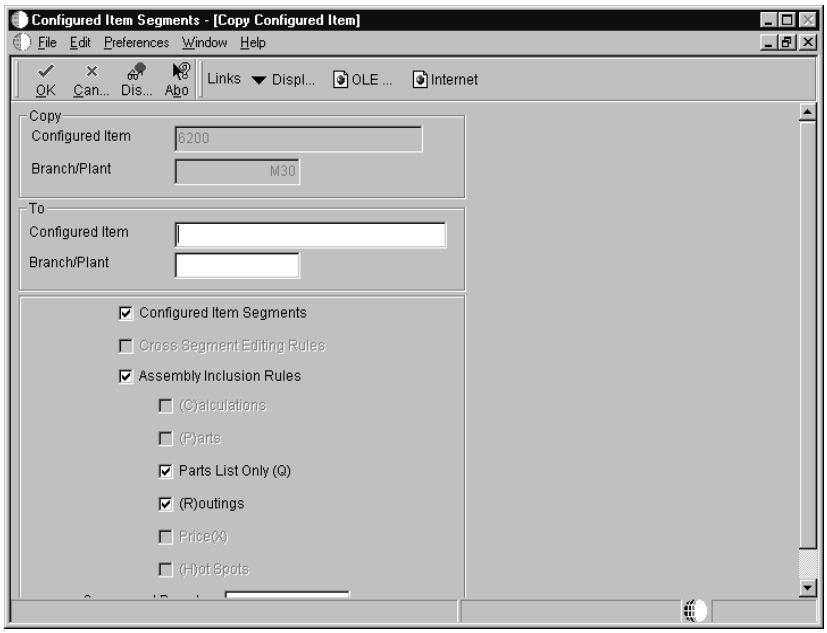
Copying a Configured Item

After you set up a configured item, you can copy its segments, cross-segment editing rules, and assembly inclusion rules to a new or existing configured item. Consider copying configured items to simplify your setup.

▶ To copy a configured item

From the Configurator Setup menu (G3241), choose Configured Item Segments.

1. On Work with Configured Items, complete the following field and click Find to locate a configured item:
   - Skip to Branch/Plant
2. Choose a configured item and click Copy.



3. On Copy Configured Item, complete the following fields under the To heading:
    - Branch/Plant
    - Configured Item
4. To select what to copy from a configured item, click any of the following options:
    - Configured Item Segments
    - Cross Segment Editing Rules
    - Assembly Inclusion Rules
    - (P)arts
    - Parts List Only (Q)
    - (C)alculations
    - (R)outings
    - Price(X)
5. Complete the following field and click OK:
    - Component Branch

Note: When you copy a configured item, you can copy any attribute from the original item. However, you will not be able to copy, for example, a Q assembly inclusion rule if your original item was set up with a P rule.

Field	Explanation
Configured Item	A number that identifies the item number. It can be in any of the three formats (short, long or 3rd item number).
Branch/Plant	A number that identifies a branch, plant, work center, or business unit.
Component Branch	A secondary or lower–level business unit. The system uses the value that you enter to indicate that a branch or plant contains several subordinate departments or jobs. For example, assume that the component branch is named MMCU. The structure of MMCU might be as follows: Branch/Plant – (MMCU) Dept A – (MCU) Dept B – (MCU) Job 123 – (MCU)

Locating Segment Information

For the user defined code table that you specify, you can locate all configured items and segments that reference the table. This procedure is useful for reviewing the effect of table changes on configured items.

▶ To locate segment information

From the Configurator Setup menu (G3241), choose Segment UDC Where Used.

1. On Segment UDC Where Used, complete the following fields and click Find:
   - Branch/Plant
   - System Code
   - User Defined Codes
2. Review the following fields:
   - Configured Item
   - Branch/ Plant
   - Parent Segment
   - Description
   - Required or Optional
   - System Code
   - Us Cd
   - Lower Limit of Value

- Upper Limit of Value
- Default Value
- Parent Item No
- Second Item

Setting Up Cross-Segment Editing Rules

To ensure feature and option compatibility during sales order entry, use cross-segment editing rules. These rules establish the relationships among the configured item segments with Boolean logic statements. The Sales Configurator system uses cross-segment editing rules to validate that the feature and option values chosen create a valid product configuration. This validation enables you to avoid invalid combinations of segments and prevent invalid sales orders. Error messages about invalid configurations appear, based on segment information from the sales order and cross-segment editing rules.

Setting up cross-segment editing rules consists of the following tasks:

- ❑ Setting up cross-segment logic
- ❑ Setting up custom error messages
- ❑ Reviewing cross-segment editing information

Setting Up Cross-Segment Logic

From the Configurator Setup menu (G3241), choose Cross-Segment Editing Rules.

For each cross-segment editing rule, you can define an "if/then/else" logic statement for many conditions. For example, a forklift might require a different value for segment 30 (boom height), depending on the value of segment 10 (lift rating). The following cross-segment editing rule illustrates this situation:

If segment 10 (lift rating) = 6000 pounds, then segment 30 (boom height) must = 12 (feet) else segment 30 must be <= 10 (feet).

The system automatically separates rules by highlighting them with different colors.

Setting up cross-segment logic consists of the following tasks:

- Setting up logic statements
- Setting up values
- Setting up ranges
- Copying a rule

To set up logic statements

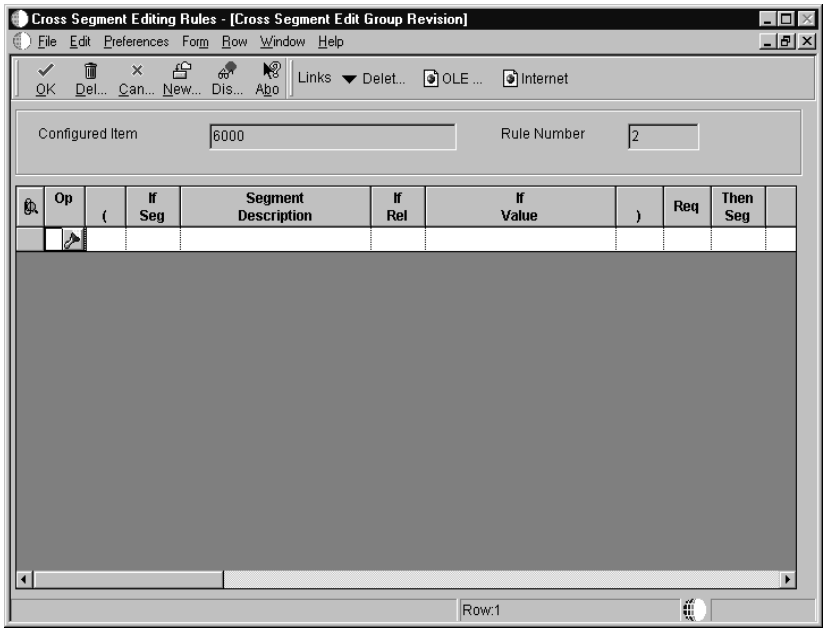
1. On Work With Cross-Segment Editing Rules, complete the following fields and click Find to locate a configured item:

   - Configured Item
   - Branch/Plant

     A blank Branch/Plant field identifies a generic branch plant. If you define segments for a generic branch/plant, you must also define cross-segment editing and assembly inclusion rules for a generic branch.

2. To add the first rule, select revisions from the Form menu.

   For additional rules, select a row and choose Insert Edit Group Before or After from the Row menu.



3. On Cross Segment Edit Group Revision, use one grid row for each conditional logic statement. For each statement, complete the following fields and click OK:

   - And/Or Selection
   - (
   - If Seg
   - Segment Description
   - If Rel
   - If Value

-)
- Req
- Then Seg
- Segment Description
- Then Rel
- Then Value
- Custom Message
- If Segment Item
- If Segment Branch
- Effective From
- Effective Thru

Note: You can reference upper level items in a cross-segment editing rule.

Field	Explanation
And/Or Selection	A code that determines whether compound data selection logic is based on an A = AND condition or an O = OR condition. . . . . . *Form-specific information* . . . . . . For configuration management, additional values include: I If E Else * Then
(	A collection of open and closed brackets you use to group conditional rules. For example, to define the condition (Seg 1 = A OR Seg 2 = B) AND Seg 3 = C, use the following brackets: (Seg 1 = A O Seg 2 = B) A Seg 3 = C
If Seg	The segment number is user defined and establishes the sequence in which the system asks questions about configurator features and options during sales order entry. Cross-segment editing rules reference the segment numbers to ensure that the set of values defines a valid configuration. Assembly inclusion rules reference segment numbers and their associated values to define prices, component parts, routing, and calculated values for configured items.
Segment Description	Use this field to enter the name or description of an associated segment code. Each segment code represents a specific value in a range of valid values for the associated segment of a configured item.

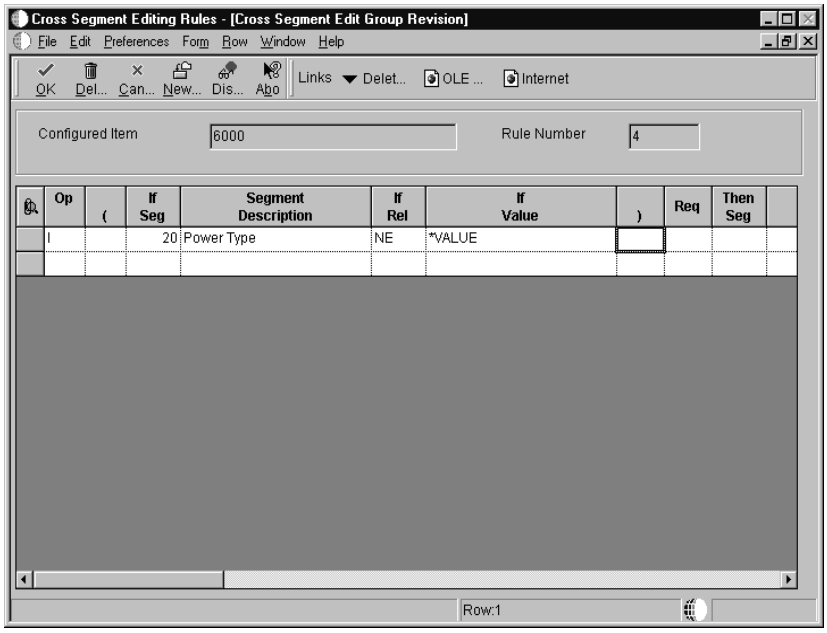
Field	Explanation
If Rel	A code that identifies the operands in Boolean logic. You can specify any of the following codes: EQ Equal to LT Less than LE Less than or equal to GT Greater than GE Greater than or equal to NE Not equal to NL Not less than NG Not greater than
If Value	Indicates an "if" logic relationship for rules. You can enter a specific UDC value or one of the following values: *VALUES Enter up to 45 values on a separate window. When you specify *VALUES in different versions of the original screen, you are prompted for multiple values lists. *BLANKS Search on a blank value. *ZEROS Search for amounts equal to zero. *RANGE Enter a range of values (example: 1 to 50). NOTE: The first value MUST be LESS than the second value. *ALL Select all values. If you leave this field blank, the default value is *ALL.
)	A collection of open and closed brackets you use to group conditional rules. For example, to define the condition (Seg 1 = A OR Seg 2 = B) AND Seg 3 = C, use the following brackets: (Seg 1 = A O Seg 2 = B) A Seg 3 = C
Required or Optional	Indicates whether a segment is required or optional in a configuration, or whether it must be calculated to specification when entering a sales order. Valid codes are: R Segment answer is required during sales order entry. O Segment answer is optional during sales order entry. C Segment is calculated during sales order entry. You define the calculation with assembly inclusion rules.

Field	Explanation
Then Seg	The segment number used by the configurator specification rules. When you define cross segment editing rules, you compare the segment answers to values to determine invalid configurations.
Segment Description	Use this field to enter the name or description of an associated segment code. Each segment code represents a specific value in a range of valid values for the associated segment of a configured item.
Then Rel	A code that identifies the operands in Boolean logic. You can specify any of the following codes: EQ Equal to LT Less than LE Less than or equal to GT Greater than GE Greater than or equal to NE Not equal to NL Not less than NG Not greater than
Then Value	Indicates a "then" logic relationship for rules. You can enter a specific UDC value or one of the following values: *VALUES Enter up to 45 values on a separate window. When you specify *VALUES in different versions of the original screen, you are prompted for multiple values lists. *BLANKS Search on a blank value. *ZEROS Search for amounts equal to zero. *RANGE Enter a range of values (example: 1 to 50). NOTE: The first value MUST be LESS than the second value. *ALL Select all values. If you leave this field blank, the default value is *ALL.
Custom Message	Indicates whether the custom message appears. Valid values are: Y Custom message appears N Custom message will not appear If this value is Y with a segment and condition, the custom message appears when that condition is false instead of the standard cross-segment error message.

Field	Explanation
If Segment Item	A number that the system assigns to an item. It can be in short, long, or third item number format. For process work orders, the item number is the process. . . . . . *Form-specific information* . . . . . . The item number of the segment's parent configured item. Use this number to reference previously selected segments from different levels in the configuration.
If Segment Branch	This branch represents the branch of the segment's configured item number. Use this value to reference a previously selected segment from a different configuration level.
Effective From	A date that indicates one of the following: • When a component part goes into effect on a bill of material • When a routing step goes into effect as a sequence on the routing for an item • When a rate schedule is in effect The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.
Effective Thru	A date that indicates one of the following: • When a component part is no longer in effect on a bill of material • When a routing step is no longer in effect as a sequence on the routing for an item • When a rate schedule is no longer active The default is December 31 of the default year defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.

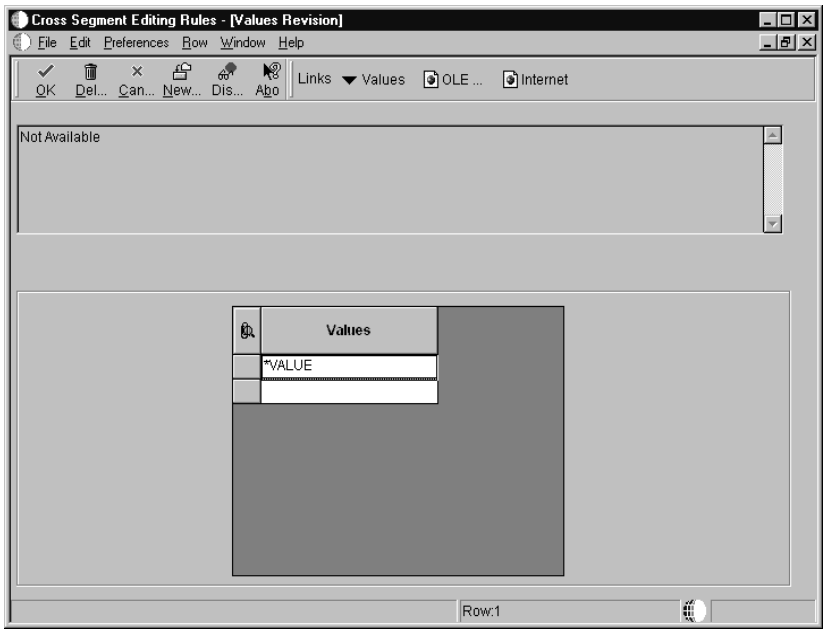
To set up values

1. On Work With Cross-Segment Editing Rules, complete the following fields and click Find to locate a configured item:
   - Configured Item
   - Branch/Plant
2. Choose a record and choose Insert Edit Group Before or After from the Row menu.



3. On Cross-Segment Edit Group Revision, complete one of the following fields with *VALUE.
   - Then Value
   - If Value
4. Choose Values from the Row menu.

   The system prompts you for the valid values for the rule.



5. On Values Revision, complete the following field and click OK:
   - Values

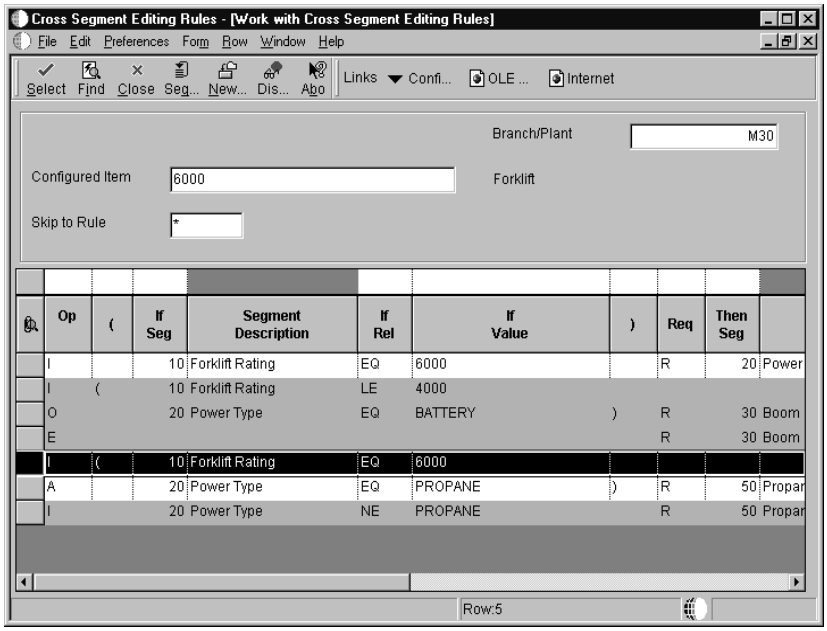
Field	Explanation
Values	The data selection value. A special facility has been provided to allow selection of multiple specific values. By entering '*VALUES' in the selection field, a special display screen will be displayed allowing the entry of up to 45 specific values. If you specify '*VALUES' in multiple selections of the original display, you will be prompted for multiple values lists. Enter the value '*BLANKS' if you are searching on a blank value. You cannot leave the values field blank to search on blanks, it will default to '*ALL'. Enter the value '*ZEROS' when searching for amounts equal to zero. The '*RANGE' keyword will display a special display screen which will allow the entry of a range of values (i.e., from 1 to 50). The first value MUST be LESS than the second value. If it is equal or greater than, it will not work. If you want to select all values for a field, enter '*ALL'.

▶ To set up ranges

1. On Work with Cross Segment Editing Rules, complete the following fields and click Find to locate a configured item:

- Branch/Plant
- Configured Item

2. Select a record and choose Insert Edit Group Before or After from the Row Menu.

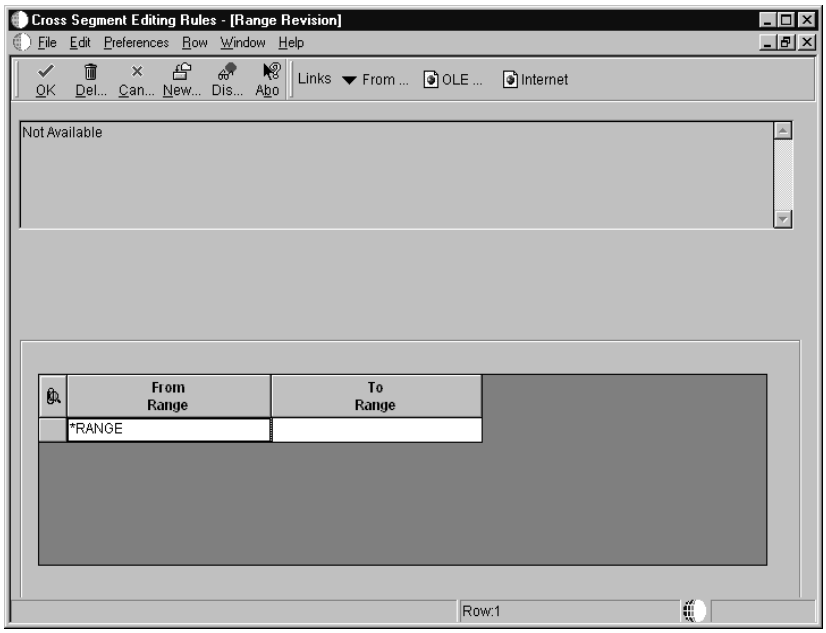


3. On Cross-Segment Edit Group Revision, complete one of the following fields with *RANGE:

- Then Value
- If Value

4. Choose Range from the Row menu.

The system prompts you for range from and to values.



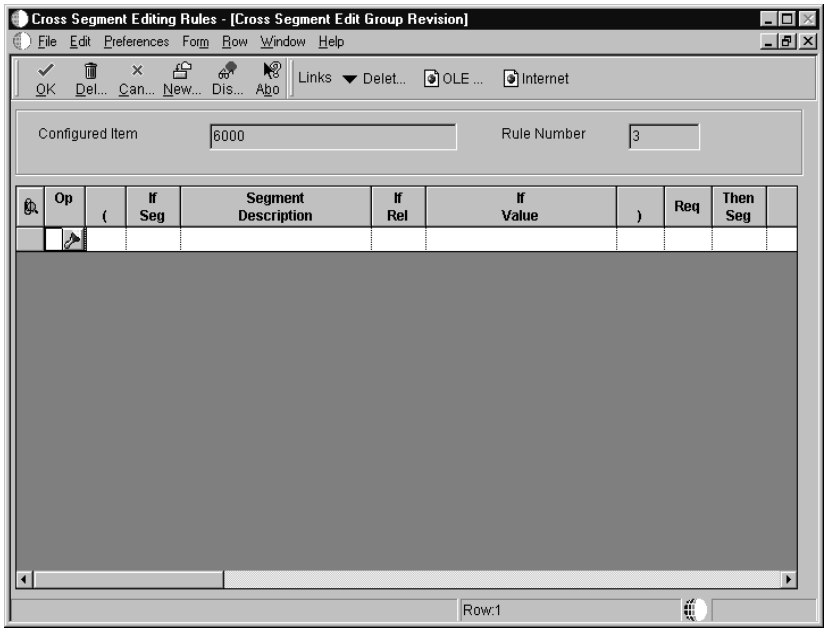
5. On Range Revision, complete the following fields and click OK:
   - From Range
   - To Range

Field	Explanation
From Range	The starting value of a range of numbers. In Sales Configurator, the *Range variable is used in the If Value and Then Value fields associated with the cross-segment editing rules and assembly inclusion rules. Entering *Range in either of these fields calls the Range Revision (From Range and To Range) form. The *Range values represent answers to the segment referenced by the rule. You can use a UDC table to act as a filter to narrow the possible valid values the logic statement will return.
To Range	The ending value of a range of numbers. In Sales Configurator, the *Range variable is used in the If Value and Then Value fields associated with the cross-segment editing rules and assembly inclusion rules. Entering *Range in either of these fields calls the Range Revision (From Range and To Range) form. The *Range values represent answers to the segment referenced by the rule. You can use a UDC table to act as a filter to narrow the possible valid values the logic statement will return.

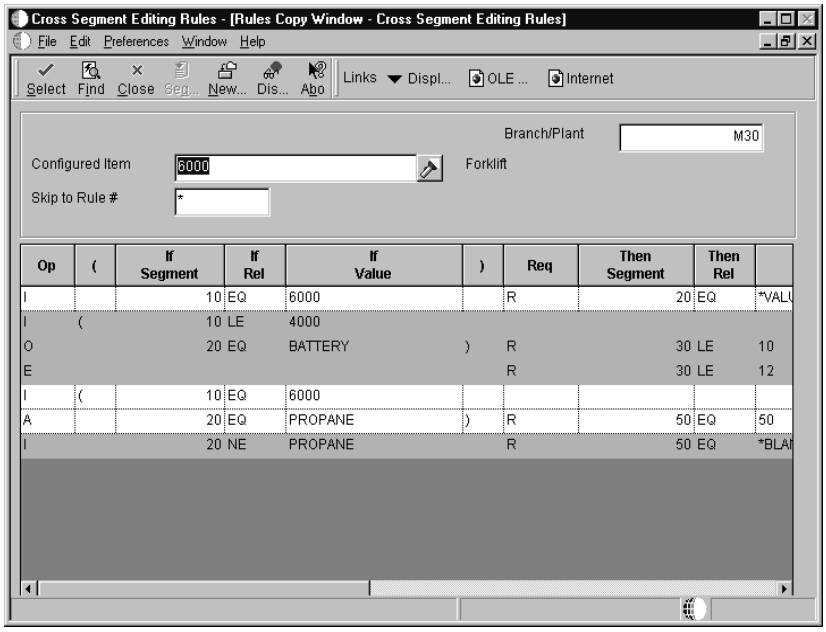
To copy a rule

To save time during setup, you can copy a cross-segment editing rule from one configured item to another. To copy the entire configured item, including cross-segment editing rules, see *Copying a Configured Item.*

1. On Work with Cross Segment Editing Rules, complete the following fields and click Find to locate a configured item:
   - Configured Item
   - Branch/Plant
2. Select a record and choose Insert Edit Group Before or After from the Row Menu.



3. On Cross Segment Edit Group Revision, choose Copy from the Row menu.



4. On Rules Copy Window – Cross Segment Editing Rules, locate the configured item from which you want to copy a rule.
5. Choose a rule and click Select.

See Also

- *Working with Error Messages*

Setting Up Custom Error Messages

As you enter a sales order, error messages appear for invalid combinations that are defined by cross-segment editing rules. You have two options for controlling how error messages appear. You can define custom messages, or the system can generate an error message. You can use custom error messages to include more detail or to simplify the content to make the error message easier to understand. System-generated error messages appear as calculated segment values (Boolean logic).

Custom messages

Create error messages for your rules that contain specific or custom information instead of the system-generated message. If a custom message exists for a rule, the system highlights the option column. For example:

A 6000 LB capacity forklift requires a gas or propane engine.

System messages — A system-generated message contains the cross-segment editing rule that has been violated. For example:

IF Power Type {Seg. 020} is not equal to PROPANE THEN Propane Tank {Seg. 050} should be equal to *BLANK. Power Type {Seg. 020} is BATTERY. Propane Tank {Seg. 050} is 50LBTK.

Hard or soft error messages might appear:

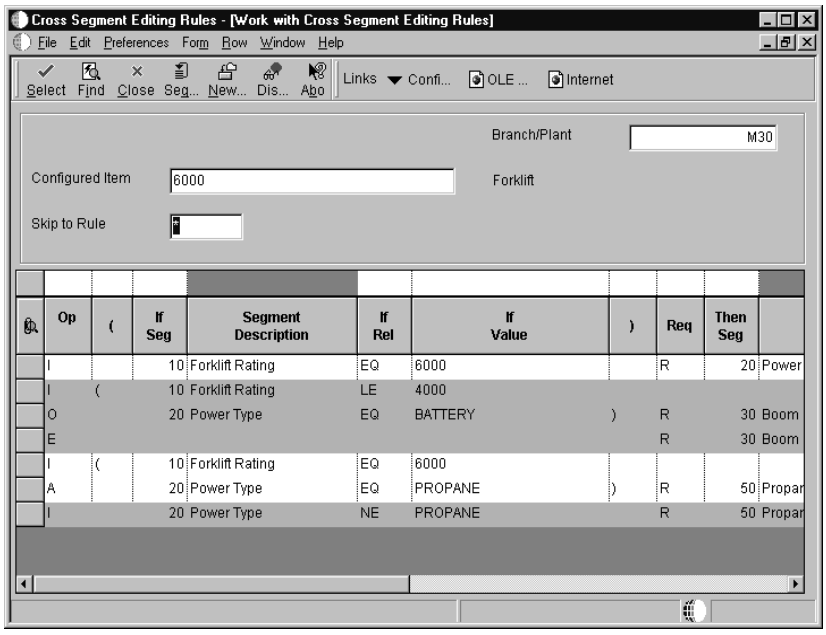
Hard error message — For an invalid combination with a required condition, a hard error message appears. To proceed, you must correct the problem by changing segment values.

Soft error message — For an invalid combination with an optional condition, a soft error message appears. You can either correct the segment value or override the error message, and continue configuring the item.

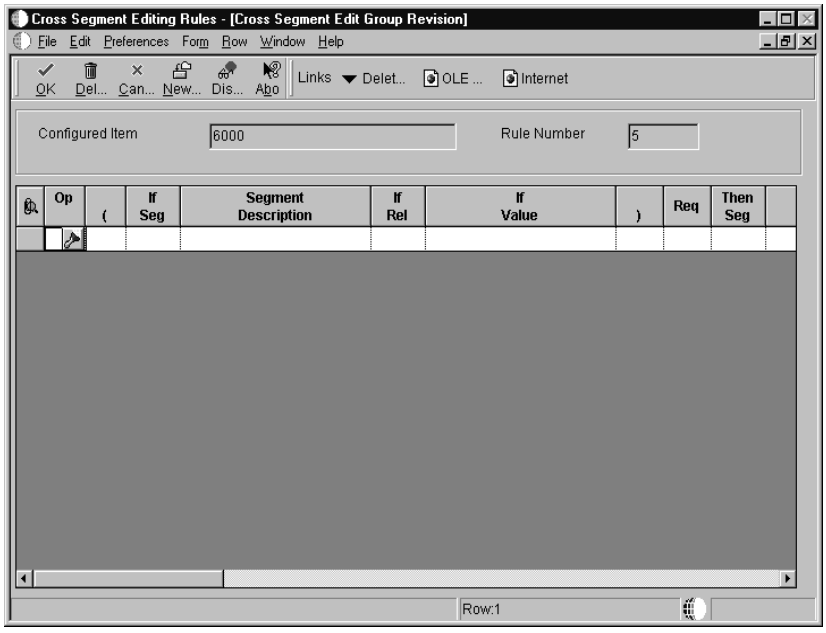
▶ To set up custom error messages

From the Configurator Setup menu (G3241), choose Cross-Segment Editing Rules.

1. On Work with Cross Segment Editing Rules, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Configured Item



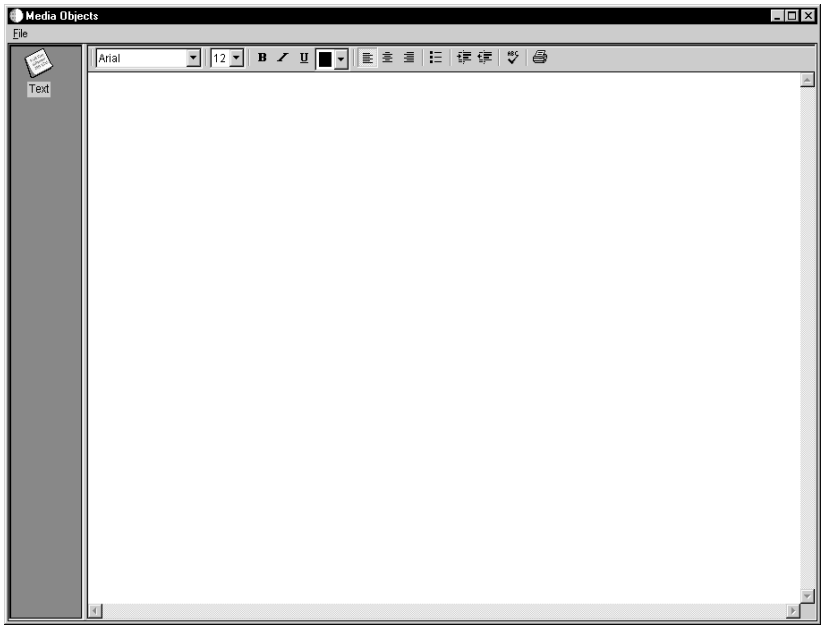
2. On Work with Cross Segment Editing Rules, choose a record and choose Insert Edit Group Before or After from the Row Menu.



3. On Cross Segment Edit Group Revision, complete the following field with Y:

   - Custom Message

4. Choose Custom Message from the Row menu.



5. On Media Objects, choose File, New, Text.
6. Enter the text for the error message.
7. Select Save & Exit from the File menu.

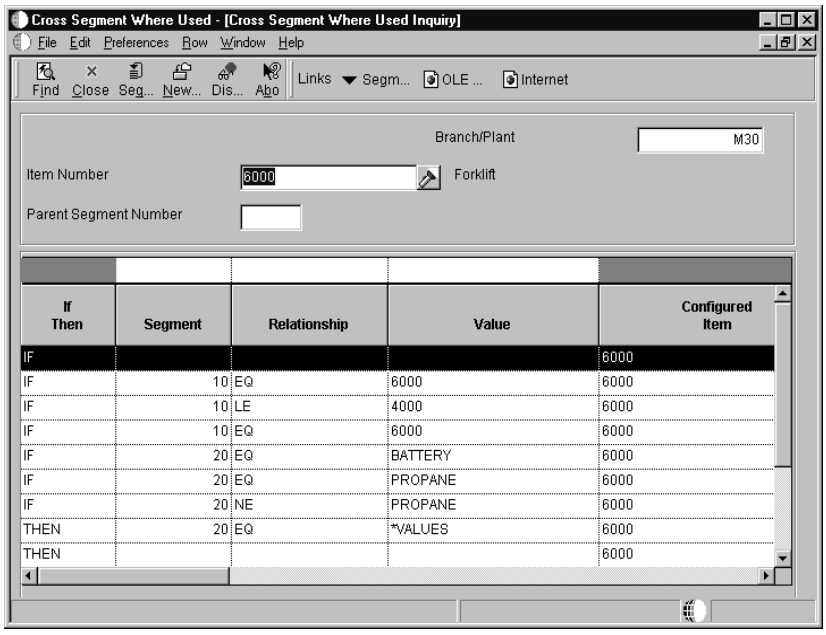
Reviewing Cross-Segment Editing Information

Review cross-segment editing information to help you maintain the rules. For the item number and segment that you specify, you can review rule logic and segment values.

▶ To review cross-segment editing information

From the Configurator Setup menu (G3241), choose Cross Segment Where Used.

1. On Cross Segment Where Used Inquiry, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Item Number
   - Parent Segment Number



2. On Cross Segment Where Used Inquiry, review the following fields:
   - If Then
   - Segment
   - Relationship
   - Value
   - Rule #
   - SEQ #

Field	Explanation
Rule #	The number that indicates the order in which rules were input in the system for a particular configured item. It also indicates the order in which rules are processed by the system.
SEQ #	The sequence number is the rule number within an edit group of cross-segment editing rules or assembly inclusion rules. It is assigned to lines within a rule based on the order in which that line of the rule was input for a configured item. You can insert a line within a rule to assign a new sequence number. The sequence number also indicates the order in which each line within a rule will be processed.

Understanding Assembly Inclusion Rules

Assembly inclusion rules translate requested options and values from sales order entry into the specific components, operations, user display information and calculated values that are necessary to build and price a configured item. An assembly inclusion rule includes logic statements and optional advanced information.

To understand assembly inclusion rules, you must understand the following concepts:

- Logic Statements
- Advanced Assembly Inclusion Rules

The six types of assembly inclusion rules include:

Component Part (P) Rules	Define the component parts to include on the sales order and work order parts list. You also define multilevel configured items with these rules. For example, if segment 10 equals 6000 and segment 30 is greater than or equal to 10, then use part F170, else use part F175.
Work Order Component Part (Q) Rules	Define the components to include on the work order parts list. The Process Work Orders program attaches the parts list. For example, if segment 10 equals standard, then include part R100 and part R105.
Calculation (C) Rules	Define the mathematical calculation for a configured item's calculated segments. You must first define the segment as calculated on Configured Item Segments. You can use a calculated segment value in derived calculations for other rules.
Hot Spot (H) Rules	Define information and messages about a configured item that are processed for display purposes only. This information is displayed on the order entry form in a Hot Spot field. H rules are calculated like C rules. However, the results will not affect the configured string.

Pricing (X) Rules

Define the price and cost adjustments. The system processes X rules independently based on the kit pricing method that you have selected. Typically, you should not set up cost adjustments when using work order-generated line types. X rule cost adjustments only affect the sales order. Work Order Generation will recalculate the cost without the X rule.

For example, if segment 40 equals CUS, then adjust the price by $650.00.

Based on whether the rules roll-up flag is checked, adjustments will either be reflected in the parent item's price or be a new extended sales order detail line.

Routing (R) Rules

Define the work order routing and routing operations. The Process Work Orders program attaches work order routings. You must first define the routings on Enter/Change Routing before you define routing rules.

For example, if segment 40 equals STD, then use the routing for standard paint, else use the routing for custom paint.

Business Case: Assembly Inclusion Rules

Problem to Solve

When we create sales orders, all of the detail information shows up on the sales order. In most cases, the customer doesn't need to see the information, and it just crowds the sales order. Also, there is some detailed information that we just don't want the customer to see. We only want to print pertinent lines on the customer sales order.

Solution

Use the Assembly Inclusion Rule features in the Sales Configurator system to customize the sales order. Use P Assembly Inclusion Rules to add parts to the sales order and work order parts list, and use Q Assembly Inclusion Rules to add parts to the work order parts list only. These assembly inclusion rules allow you to customize your sales order and work order parts list to communicate the appropriate information.

Logic Statements

For each assembly inclusion rule, you define a logic statement for many conditions. This statement can determine which parts to include or how to price an item. Logic statements can be either conditional or unconditional.

Unconditional statements are identified by an asterisk (a "then" condition) in the And/Or Selection field. Unconditional rules are useful when you want the same rule applied, regardless of the segment answers. Unconditional rules must be defined first-before conditional rules. Unconditional rules are used, for example, when a part is always included as a component or when a price adjustment is always performed.

Conditional rules use boolean logic to control or condition an action based on segment answers. You can also create conditional rules that are compound statements of logic by using and/or operators. The following P assembly inclusion rule is an example of a compound logic statement:

If Segment 10 equals 6000, and segment 30 is greater than 10, then include part F170, else include part F175.

Conditional logic statements use the following operators:

- If (required)
- Or (optional)
- Else (optional)
- Then (required)
- And (optional)

You set up logic statements on the Work With Assembly Inclusion Rules form.

Advanced Assembly Inclusion Rules

In addition to the logic statements, you can set up the following kinds of optional advanced assembly inclusion rules:

- Derived Calculations
- External Business Function References
- Configured Tables
- Smart Parts

You set up advanced assembly inclusion rules on the Advanced Rule Functions form.

Advanced assembly inclusion rule features varies according to the type of assembly inclusion rule you set up, as seen in the following table:

	P Rules	Q Rules	C Rules	H Rules	X Rules	R Rules
External Program References	•	•	•	•	•	•
Configured Tables	•	•	•	•	•	
Smart Parts	•	•				
Derived Calculations	•	•	•	•	•	•

Business Case: Advanced Assembly Inclusion Rules

Problem to Solve

We have special calculations that need to be run when creating a new sales order.

Solution

Use the Advanced Assembly Inclusion Rule features in the Sales Configurator system to enable your order entry to take advantage of segment referencing, algebraic formulas, trigonometric and logarithmic functions, substrings, concatenations, external field references, external business function references, configured tables, and smart parts. This allows calculations to be performed during product configuration validation. Thus, calculated values are available for use by sales order entry personnel and the customer.

Derived Calculations

For each rule type, you can define calculations that refer to the values of one or more segments. You can use the following functions within a derived calculation:

- Segment references
- Algebraic formulas
- Trigonometric and logarithmic functions
- Substrings
- Concatenations
- External field references

You can define a derived calculation on either Assembly Inclusion Rules or Advanced Rules, or within sales order entry.

The system checks derived calculations for accuracy when the user chooses calculation during sales order entry. The system also verifies changes to segment values within a configuration. Derived calculations can be changed in revisions forms without affecting the database.

Segment References

You can reference any segment within a formula. To reference a segment within the same configured item, enter S and the segment number. For example:

S3	Indicates segment three

To reference a segment from a different configured item, enter S, the segment number, and the configured item name. Enclose the item name within equal signs. For example:

S3=Piston=	Indicates segment three of item Piston

Algebraic Formulas

Use algebraic formulas to combine different mathematical operations with the following operators: + , – , * , and /. You can embed calculations by enclosing them in parentheses. You might want to embed segment numbers in the formula to include segment values as part of the calculation.

For example, the following formula calculates the counterweight that is necessary to keep the forklift from tipping over when its boom is fully extended with a full load:

Derived Calculation	S10/(4*COS(2*S30*3.1416/360*2*3.1416))

Trigonometric and Logarithmic Functions

You can use trigonometric or logarithmic functions independently, or as part of a complex formula.

The following trigonometric functions are available (values expressed in radians):

SIN(1.5)	Indicates the sine of 1.5
COS(S3)	Indicates the cosine of segment three

TAN(S3)	Indicates the tangent of segment three
ARC(S3)	Indicates the arctangent of segment three

The following logarithmic functions are available:

LOG	Indicates log to base 10
LN	Indicates natural log
**	Indicates an exponent. 2**5 represents 2 to the fifth power

Substrings

You can use the SUBSTR (substring) function to include a portion of a larger string of characters in a formula.

To calculate a substring, you must provide the following references: the segment from which you want to take the substring, the starting position within the string where you want to begin referencing values, and the length of the string that you want to reference. For example, if segment 10 is 400012, then:

SUBSTR(S10,1,4)	Indicates that the substring from segment 10 starts at the first position of the string and includes the next 4 positions. The substring value is 4000.
SUBSTR(S10,5,2)	Indicates that the substring from segment 10 starts at the fifth position of the string and includes the next 2 positions. The substring value is 12.

Concatenations

You can use the CONCAT (concatenate) function to combine the values of two different segments. For example:

CONCAT(S3,S4)	Combines the values of segments 3 and 4. If the segment value of segment 3 is 1001 and the value of segment 4 is WH (white), the concatenated value is 1001WH.

External Field References

You can select field values from the External Files Reference form to use in derived calculations.

Choose a field from the following tables:

F4101	Item Master
F4102	Item Branch
F41021	Item Location
F4105	Cost Ledger
F4106	Base Price
F0101	Address Book Master
F03012	Customer Master
F41002	Unit of Measure Conversion
F41092	Supplemental Database
F46011	Item/Unit of Measure Profile

After you reference a field value, the information appears in the Derived Calculation field preceded by an ampersand (&). You can use the field independently or within a complex expression.

You can also include field values on External Files Reference. For example, a pricing assembly inclusion rule for item 6000 (forklift) uses a field reference to retrieve a base price from the Base Price table (F4106).

The system uses the component item number and branch from the rule to retrieve the appropriate tables. It also uses the Address Book number to retrieve data from the Address Book or Billing Instructions tables.

To reference a Supplemental Database field, you must also specify the data type. Enter the data type after the field as follows:

&T2AMTU(WD)	Indicates an amount field on the item supplemental database table and the WD data type.

When you reference the Unit of Measure in Unit of Measure Conversion tables, you must specify the unit of measure in the same manner.

External Business Function References

You can use an external business function to define a calculation. Enter the name of the external business function. You must also indicate EXTVAR in the Derived Calculations field. After the system runs the external function, it places the results in EXTVAR, a 30-character variable in the inclusion rule.

You can refer to an external custom business function for special calculations, which is useful if the calculation is particularly complex or involved. For R, P and Q rules, the external business function refers to the component number, component branch, and sold-to number. For H, C or X rules, the external business function refers to the configured item number, branch/plant, and sold-to number.

The external business function can also access and use the values of previously entered segments sorted in cache. The system passes the B3200000 data structure to the external business function.

Configured Tables

Configured tables are set up to simplify assembly inclusion rules. Although they take time to set up, tables reduce the number of rules and reduce processing time. Each table uses an assembly inclusion rule to reference return calculated segment values, prices, parts, and display information to the sales or work order.

See Also

- *Setting Up Tables*

Smart Parts

Depending on your item numbering scheme and your need for reducing assembly inclusion rules, you can set up smart parts, or customized item numbers, to derive defined variable segments. Using smart parts is a simplified version of using assembly inclusion rules.

For example, a manufacturer might have 100 different paint options for a configured item. Rather than set up 100 different assembly inclusion rules to allow for variations in paint color, the manufacturer might want to set up customized item numbers, or smart parts, to keep track of the different paint values. These smart parts combine the segment item and the paint color into one item number as defined in the smart part field on the Advanced Rule Functions form.

Smart parts work with P and Q rules. You can build smart part numbers using the segment values from sales order entry. The system calculates smart parts in a similar manner to derived calculations. However, the resulting smart part is an alphanumeric string. You must define item numbers that are the result of smart part calculations in the Item Master (F4101) and Branch/Plant (F4102) tables.

Smart part formulas can define short, second, or third part numbers. Smart parts use the part numbering symbol conventions defined in Branch/Plant Constants. For example, if the smart part formula uses the symbol to identify the third part number, the system places the second part number on the sales order and work order detail line.

You can build a smart part number using the following functions:

Segment referencing To reference segments that have already been entered on a different level, specify the item number of that level with the segment number. For example, the notation for Segment 4 of Piston is: Derived Calculation S4=Piston=

Substring To remove a particular string within a larger string use the substring function. It removes a string when you define the segment, beginning position, and length. For example, if Segment 4 equals 1234, the last three positions (234) can be used with the notation: SUBSTR(S4,2,3) where 2 is the beginning position and 3 is the length of the substring.

Concatenation To combine two fields, use the concatenation function–for example, CONCAT(S3,S1) which will combine the values of Segment 3 and 1 into one field.

Literal text To name a smart part with existing segment names, use the part number, which, in this example, consists of the literal 'P' and the value of segment 4. If the smart part calculation and the value of Segment 4 is 2000, then the smart part would be P2000.

Setting Up Assembly Inclusion Rules

You must set up assembly inclusion rules that process requested options and features from sales order entry into the specific components, operations, display information and calculated values that are necessary to build and price the configured item.

Depending on the features that you need from your assembly inclusion rule, you can choose from the following rule options:

Component (P and Q) Rules	Quantity multiplier (similar to quantity per assembly)
Calculation (C) Rules	Value for a calculated segment
Hot Spot (H) Rules	User-defined calculations for display purposes only.
Pricing (X) Rules	Price multiplier
Routing (R) Rules	Run or machine hours multiplier for a routing or routing step

Setting up assembly inclusion rules consists of the following tasks:

- ❑ Defining assembly inclusion rules
- ❑ Locating assembly inclusion rule information

During sales order entry, the system processes each assembly inclusion rule independently by rule type from top to bottom in the following order:

- C rules
- Cross-segment editing rules
- P rules
- Q rules (if necessary)
- R rules (if necessary)
- X rules

- H rules

Defining Assembly Inclusion Rules

From the Configurator Setup menu (G3241), choose Assembly Inclusion Rules.

Defining assembly inclusion rules consists of the following tasks:

- Defining unconditional rules
- Defining conditional rules
- Defining values
- Defining ranges
- Setting up advanced rules
- Copying rules

Note: Before you can define H, or Hot Spot, assembly inclusion rules, you must define the Hot Spot user defined code value in user defined code table 32/HS.

The default value for hot spots is non-numeric. If the Description 02 column is blank or the value is N, then the hot spot formula is treated as a string (it will show the formula rather than a calculated number). If the expected answer is numeric and the hot spot is not hard coded, then the Description 02 column should contain YX, where Y shows that the result is numeric and X is the number of the decimal places to be rounded. You set up hot spots on the Hot Spot Description form (P0004A) on the G3241 menu.

Example 1

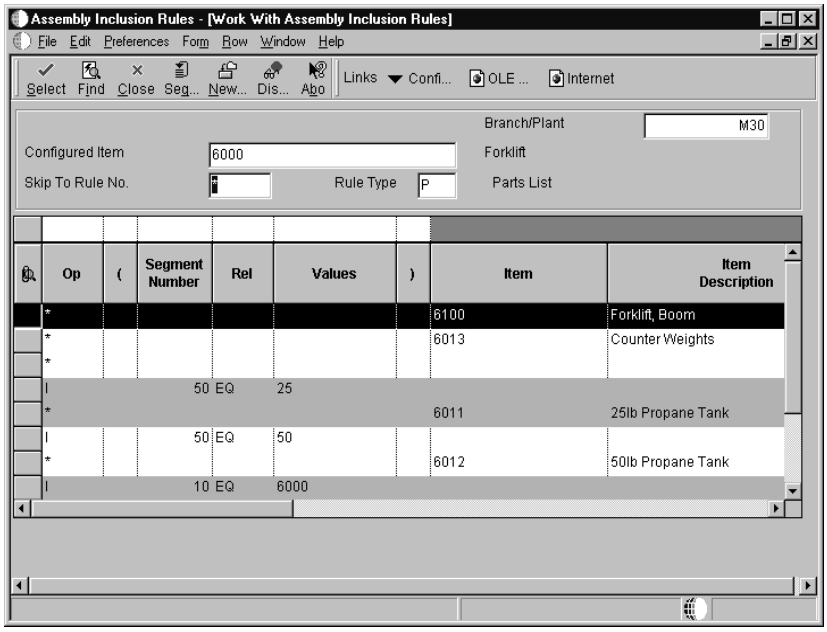
A numeric hot spot rounded to four decimal places should be set up as Y4 in the Description 02 column.

Example 2

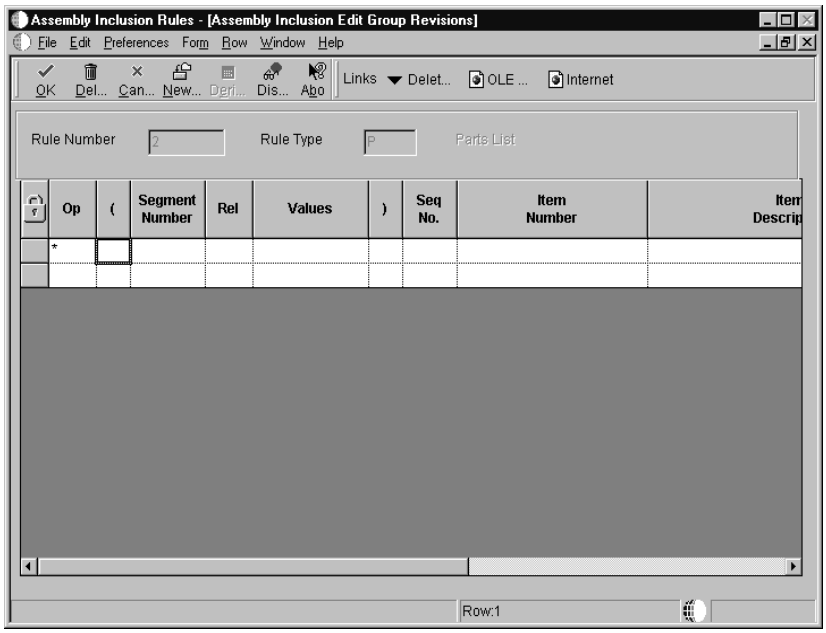
Suppose that a user-defined hot spot that is not hard coded exists, and has a value of 002. When the configurator is called during Sales Order Entry, you can select the hot spot, 002, to display. However, because there is no H rule defined for the particular configured item referencing hot spot 002, the hot spot will display 0.

To define unconditional rules

Before you define conditional rules, you can define unconditional rules to include parts, adjustments, calculated values, display values or routing steps regardless of the segment values.



1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Configured Item
   - Rule Type
2. Choose Insert Edit Group After from the Row menu.



3. On Assembly Inclusion Edit Group Revisions, complete the following field with an asterisk:

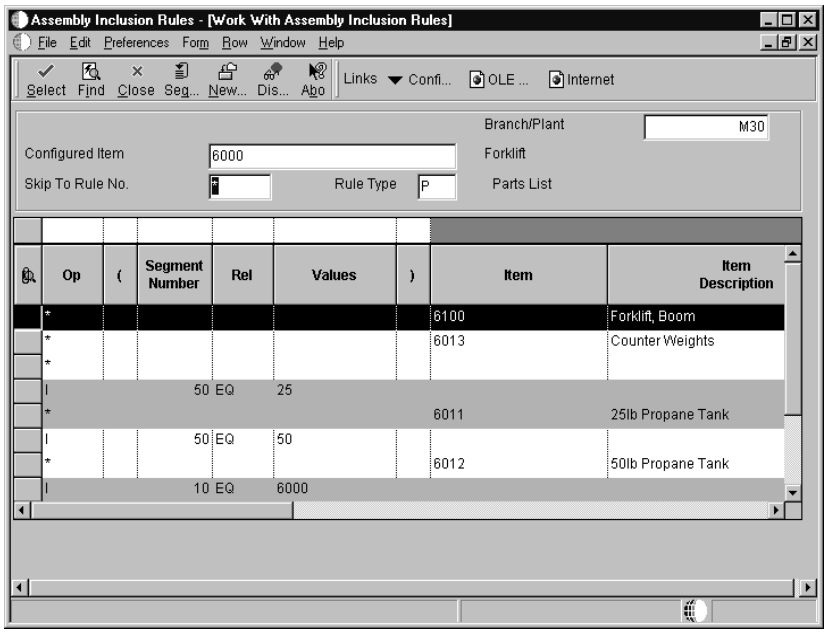
   - Op

4. Complete the following fields and click OK:

   - Segment
   - *SAME
   - Segment Branch/Plant

Field	Explanation
Rule Type	A value that identifies whether the resulting value of the assembly inclusion rule is a part number, price, routing operation, or calculated value. The valid values are: P Part List Q Work Order Component C Calculation H Hot Spot X Price/Cost Adjustment R Route Sheet

To define conditional rules

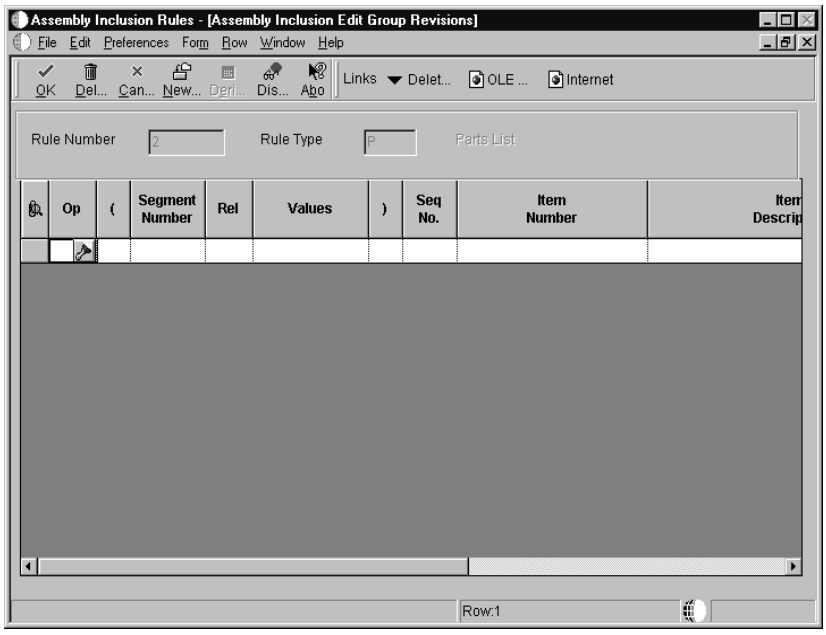


1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:

   - Branch/Plant
   - Configured Item
   - Rule Type

2. To add the first rule, select Revision from the Form menu.

   For additional rules, choose Insert Edit Group Before or After from the Row menu.



3. On Assembly Inclusion Edit Group Revisions, use one grid row for each phrase of the conditional logic statement. To define a logic statement, complete the following fields:
    - Op
    - (
    - Segment Number
    - Rel
    - Values
    -)
4. Complete the following fields with rule information:
    - Seq No.
    - Rule Number
    - Rule Type
5. Complete the following fields with segment information:
    - Description
    - Number
    - Operation Seq No.
    - Segment
    - Segment Branch/Plant

6. For pricing rules, complete the following fields:
   - Unit Price
   - Unit Cost
7. Complete the following fields to determine a range of effectivity:
   - Effective Thru
   - Effective From
8. Complete the following optional fields and click OK:
   - Component Branch
   - Issue Type
   - Print Part
   - Derived Calculation
   - Smart Part
   - Rule Table
   - External Program

   The system separates different groups of logic statements with colored grid rows.

Note: You can use the insert line option and the delete line option to revise the assembly inclusion rules.

Field	Explanation
And/Or Selection	A code that determines whether compound data selection logic is based on an A = AND condition or an O = OR condition. . . . . . *Form-specific information* . . . . . . For configuration management, you can include parts, prices, costs, or routings with the configured item. Additional values include: I If E Else * Then For example: I Seg 1 = A * Part B E Part C E Part D If Seg 1 is A, include part B. If Seg 1 is not A, include part C and part D.

Field	Explanation
Bracket Selection Beginning	A collection of open and closed brackets you use to group conditional rules. For example, to define the condition (Seg 1 = A OR Seg 2 = B) AND Seg 3 = C, use the following brackets: (Seg 1 = A O Seg 2 = B) A Seg 3 = C
Number – Parent Segment Number	The segment number is user defined and establishes the sequence in which the system asks questions about configurator features and options during sales order entry. Cross-segment editing rules reference the segment numbers to ensure that the set of values defines a valid configuration. Assembly inclusion rules reference segment numbers and their associated values to define prices, component parts, routing, and calculated values for configured items.
Rel	A code that identifies the operands in Boolean logic. You can specify any of the following codes: EQ Equal to LT Less than LE Less than or equal to GT Greater than GE Greater than or equal to NE Not equal to NL Not less than NG Not greater than
Configurator If Selection Value	Indicates an "if" logic relationship for rules. You can enter a specific UDC value or one of the following values: *VALUES Enter up to 45 values on a separate window. When you specify *VALUES in different versions of the original screen, you are prompted for multiple values lists. *BLANKS Search on a blank value. *ZEROS Search for amounts equal to zero. *RANGE Enter a range of values (example: 1 to 50). NOTE: The first value MUST be LESS than the second value. *ALL Select all values. If you leave this field blank, the default value is *ALL.

Field	Explanation
Bracket Selection Ending	A collection of open and closed brackets you use to group conditional rules. For example, to define the condition (Seg 1 = A OR Seg 2 = B) AND Seg 3 = C, use the following brackets: (Seg 1 = A O Seg 2 = B) A Seg 3 = C
Seq No.	The sequence number is the rule number within an edit group of cross-segment editing rules or assembly inclusion rules. It is assigned to lines within a rule based on the order in which that line of the rule was input for a configured item. You can insert a line within a rule to assign a new sequence number. The sequence number also indicates the order in which each line within a rule will be processed.
Rule Number	The number that indicates the order in which rules were input in the system for a particular configured item. It also indicates the order in which rules are processed by the system.
Configurator Rule Type	A value that identifies whether the resulting value of the assembly inclusion rule is a part number, price, routing operation, or calculated value. The valid values are: P Part List Q Work Order Component C Calculation H Hot Spot X Price/Cost Adjustment R Route Sheet
Description	A description can be: • Brief information about an item • A remark • An explanation
Number	A number that the system assigns to an item. It can be in short, long, or third item number format. For process work orders, the item number is the process.

Field	Explanation
Operation Seq No.	A number used to indicate an order of succession. In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation. In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process. In engineering change orders, a number that sequences the assembly steps for the engineering change. For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced. Skip To fields allow you to enter an operation sequence that you want to begin the display of information. You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.
Segment	A number that the system assigns to an item. It can be in short, long, or third item number format. For process work orders, the item number is the process.
Segment Branch/Plant	This branch represents the branch of the segment's configured item number. Use this value to reference a previously selected segment from a different configuration level.
Unit Price	The price charged for the unit of measure in the adjoining field. Use these fields, for example, if your primary unit of measure is EA (each), but you typically use a list price per box.
Unit Cost	A user-defined cost the system uses based on information that you supply, which includes the name of the costing method and the method of calculation.

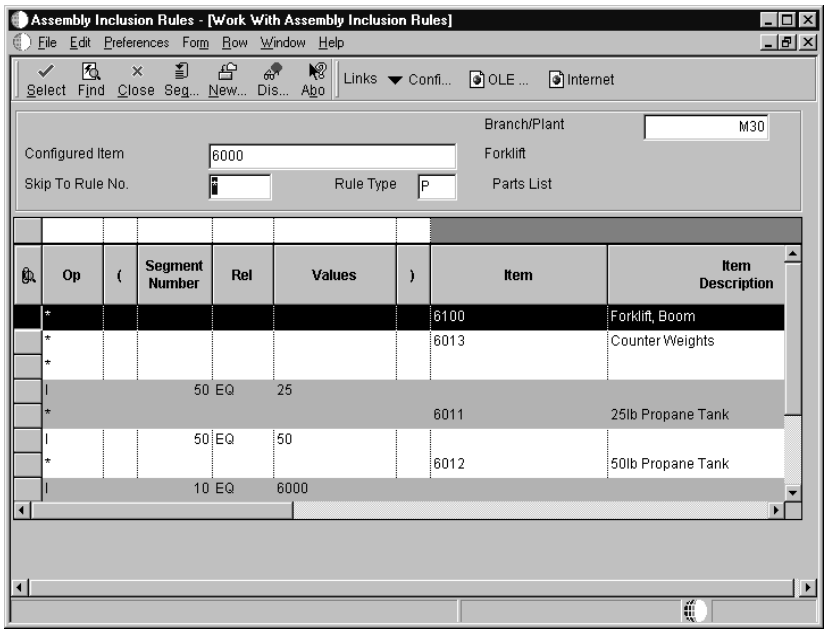
Field	Explanation
Effective From	A date that indicates one of the following: • When a component part goes into effect on a bill of material • When a routing step goes into effect as a sequence on the routing for an item • When a rate schedule is in effect The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.
Effective Thru	A date that indicates one of the following: • When a component part is no longer in effect on a bill of material • When a routing step is no longer in effect as a sequence on the routing for an item • When a rate schedule is no longer active The default is December 31 of the default year defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.
Issue Type	A code that indicates how the system issues each component in the bill of material from stock. In Shop Floor Management, it indicates how the system issues a part to a work order. Valid values are: I Manual issue F Floor stock (there is no issue) B Backflush (when the part is reported as complete) P Preflush (when the parts list is generated) U Super backflush (at the pay-point operation) S Sub-contract item (send to supplier) Blank Shippable end item You can issue a component in more than one way within a specific branch/plant by using different codes on the bill of material and the work order parts list. The bill of material code overrides the branch/plant value.

Field	Explanation
Print Part	A code that specifies whether the system prints the configurator part on the sales order and the work order. The system uses the value that you enter in programs such as Pick Slip, Invoice Print, Bill of Lading, and Print Parts List. Valid values are: 0 Do not print the configurator part on both the sales order and the work order. 1 Print the configurator part on either the sales order or the work order. 2 Print the configurator part on the sales order only. 3 Print the configurator part on the work order only. Note: You can type Y to represent the 1 value and N to represent the 0 value.

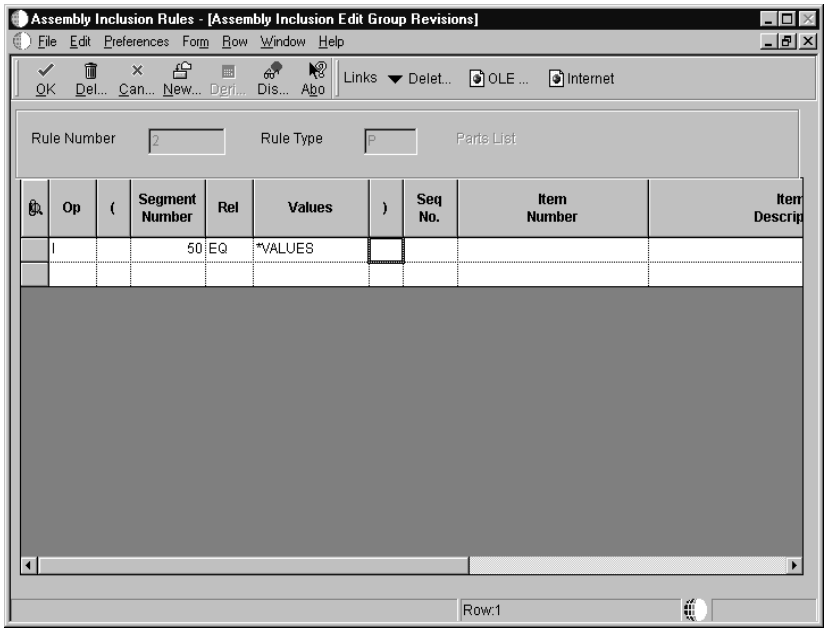
Field	Explanation
Derived Calculation	Defines an algebraic formula that calculates the quantity, price, hours, or a value associated with a rule. The following examples illustrate the syntax for possible derived calculations: Segment References • S3 indicates segment 3. • S3=Piston= indicates segment 3 in item Piston. Trigonometric and Logarithmic Functions • SIN(20) indicates the sine of 20. • COS(S3) indicates the cosine of segment 3. • TAN(S4) indicates the tangent of segment 4. • ARC(S3) indicates the arctangent of segment 3. • LOG indicates log to base 10. • LN indicates natural log. • 2**5 indicates an exponent, 2 to the fifth power. Substring • SUBSTR(S10,1,4) indicates that the substring from segment 10 starts at the first position of the string and includes the first 4 positions. Concatenations • CONCAT(S3,S4) combines the values of segments 3 and 4. External Fields • Specifies the fields from non-configurator tables that you want the system to access as part of a calculation. Use the character "&" followed by the field name. For example, &T2AMTU(WD) indicates an amount field in the Item Supplemental Database table, and the WD data type. External Programs • Specifies a program external to OneWorld is to be used for the calculation. Enter the name of the external program and EXTVAR in the Derived Calculations field. Smart Parts • PS4 indicates a smart part number P2000 when the value of segment 4 is 2000.

Field	Explanation
Smart Part	Defines a formula that calculates the part number associated with a rule. A smart part formula consists of a literal value (constant) and a segment answer (variable). The literal value must be in single quotes. For example, • The part number consists of the literal 'P' and the value of segment 4. If the smart part calculation and the value of Segment 4 is 2000, then the smart part would be P2000. • To reference segments that have already been entered on a different level, specify the item number of that level with the segment number. For example, the notation for Segment 4 of Piston is: Derived Calculation S4=Piston= • To remove a particular string within a larger string use the substring function. It removes a string when you define the the segment, beginning position, and length. For example, if Segment 4 equals 1234, the last three positions (234) can be used with the notation: SUBSTR(S4,2,3) where 2 is the beginning position and 3 is the length of the substring. • To combine two fields, use the concatenation function. For example, CONCAT(S3,S1) which will combine the values of Segment 3 and 1 into one field.
Rule Table	You must define table names in user defined code table 32/TN. A rule table is a collection of data that is set up to minimize the number of assembly inclusion rules you need for a configured item. A rule table can be accessed by 1 to 6 keys and can return up to 99 values. When you reference a rule table in an Assembly Inclusion Rule, the system uses the rule keys to read the rule table and retrieve the values associated with the table For example, if you defined segment 10 to be the color of an item, you could set the table to retrieve item Red Component if the customer enters Red for segment 10. In this example, the table would be: Item Color = Value Red = RED COMPONENT The table would read: If the color segment value = red, then use item number RED COMPONENT on the configured item sales order and work order parts list.
External Program	The name of the external program from your MIS department that provides values for external variables.

To define values



1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Configured Item
   - Rule Type
2. Choose Insert Edit Group Before or After from the Row menu.

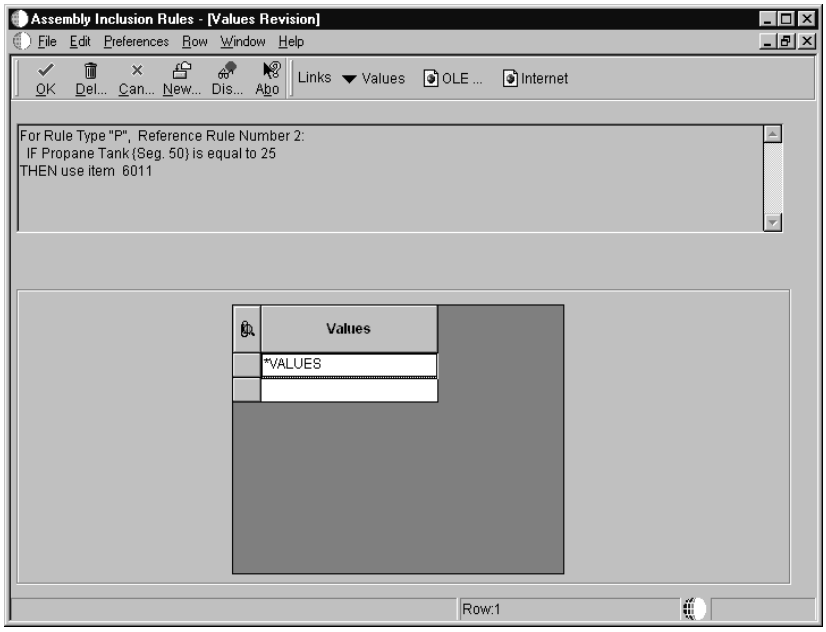


3. On Assembly Inclusion Edit Group Revisions, complete the following field with *VALUES:

   - Values

4. Choose Values from the Row menu.

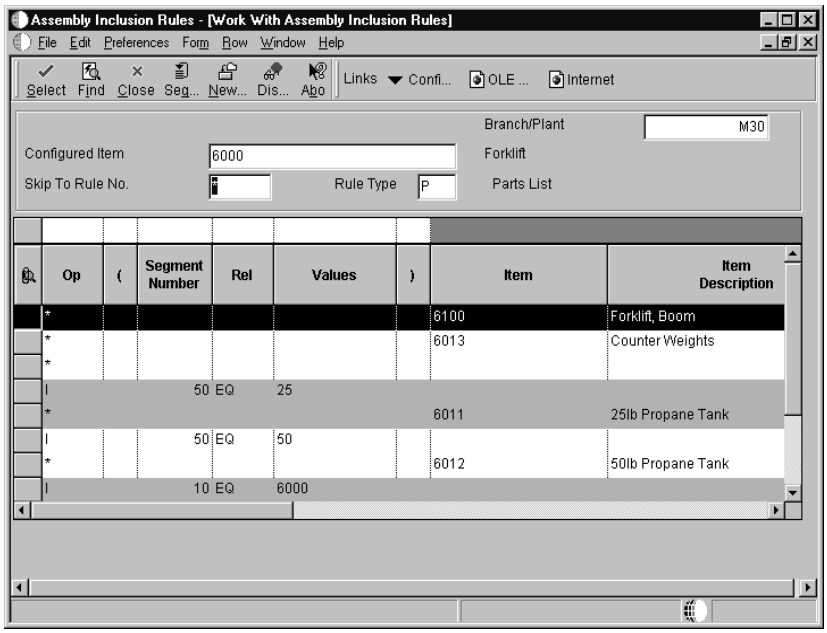
   The system prompts you for the valid values for the rule.



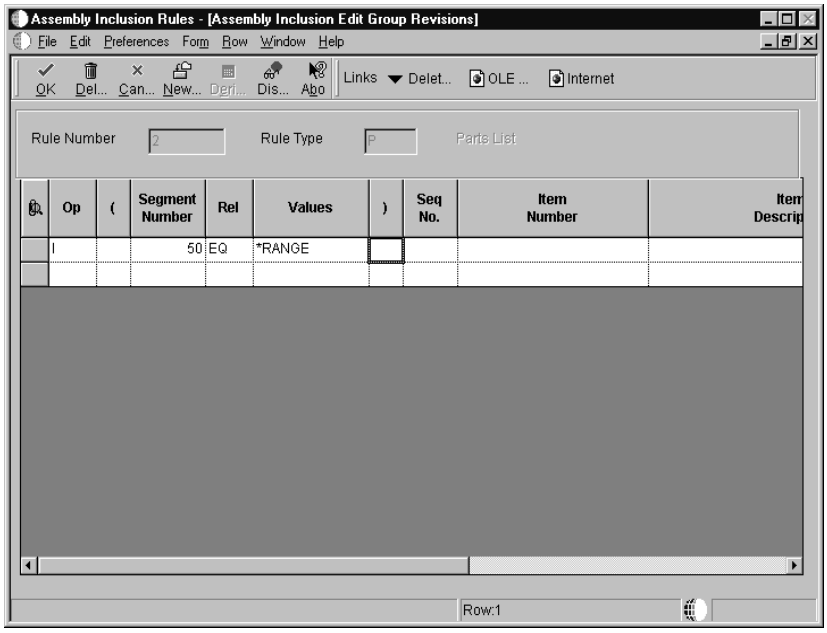
5. On Values Revision, complete the following field and click OK:

   - Selection value

To define ranges



1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:
   - Configured Item
   - Rule Type
   - Branch/Plant
2. Choose Insert Edit Group Before or After from the Row menu.

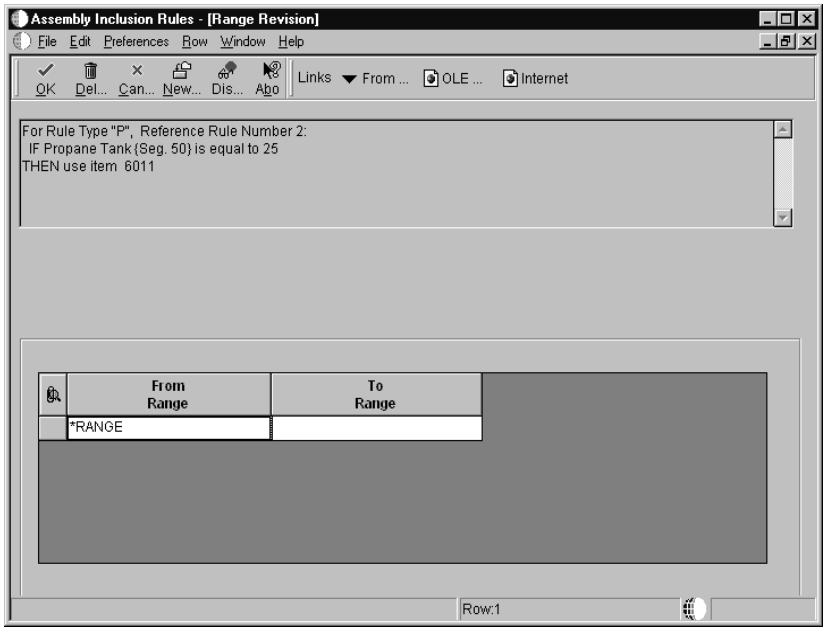


3. On Assembly Inclusion Edit Group Revisions, complete the following field with *RANGE:

   - Values

4. Choose Range from the Row menu.

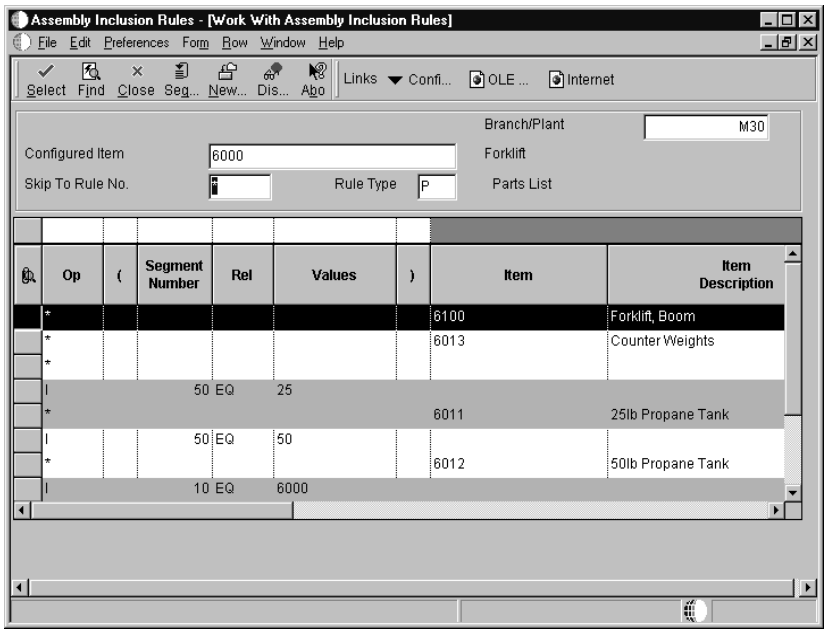
   The system prompts you for range from and to values.



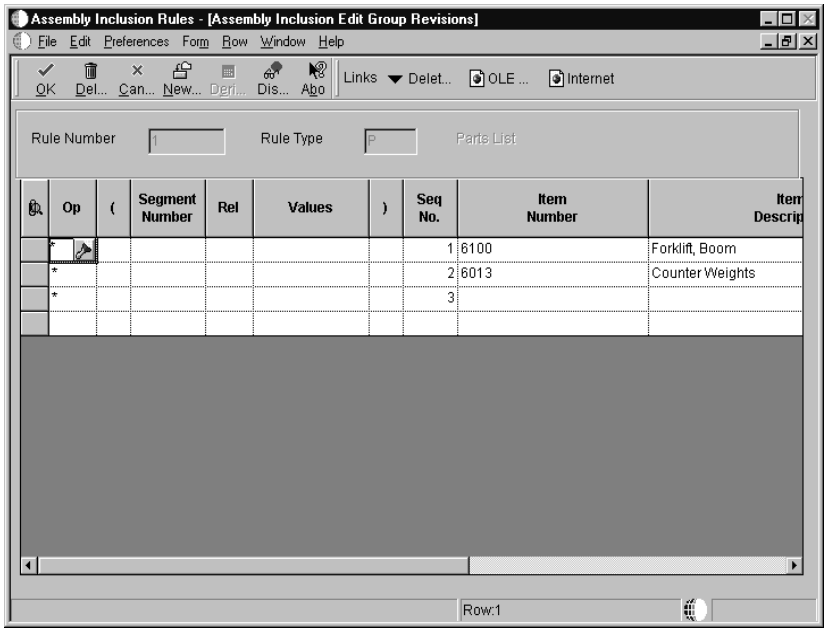
5. On Range Revision, complete the following fields and click OK:

   - From Range
   - To Range

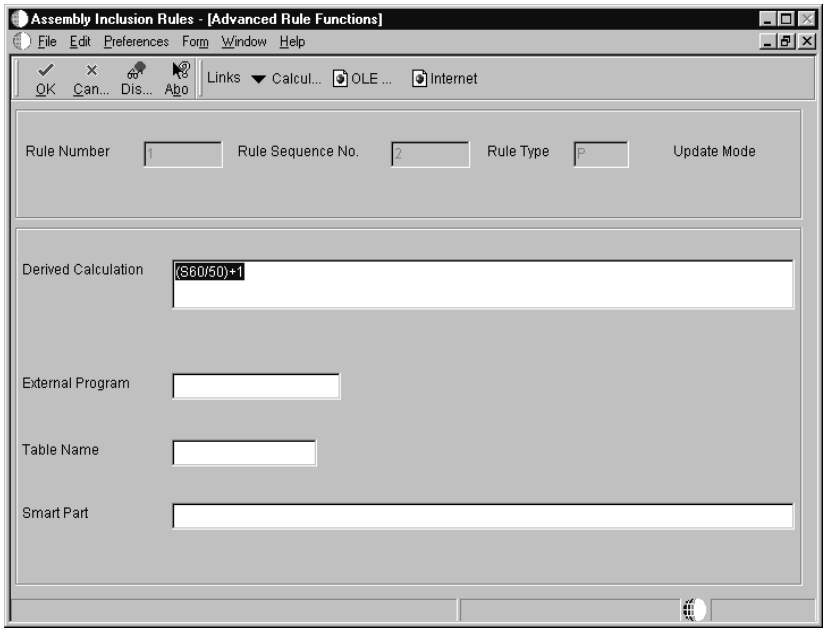
To set up advanced rules



1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Configured Item
   - Rule Type
2. Choose a rule and click Select.



3. On Assembly Inclusion Edit Group Revisions, choose a rule and choose Advanced Rules from the Row menu.

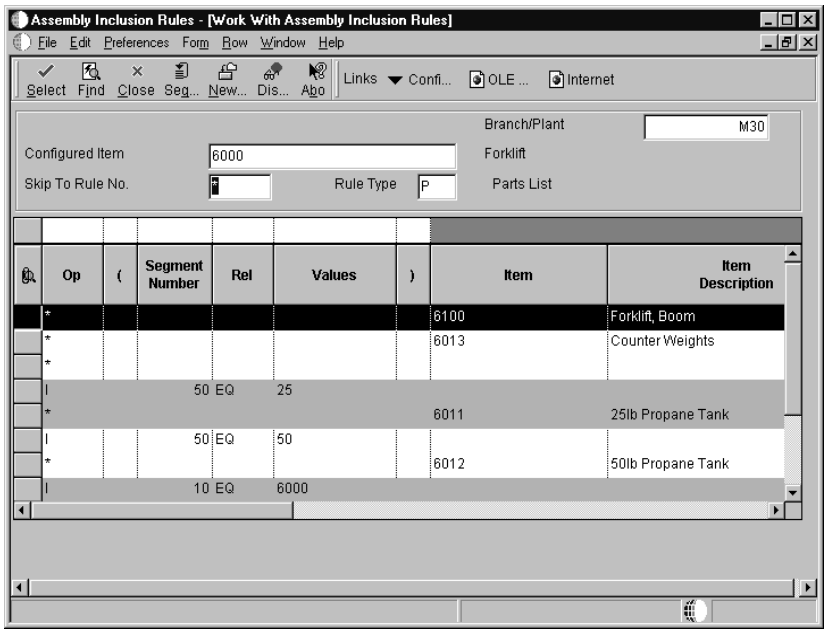


4. On Advanced Rule Functions, complete one or more of the following fields and click OK:

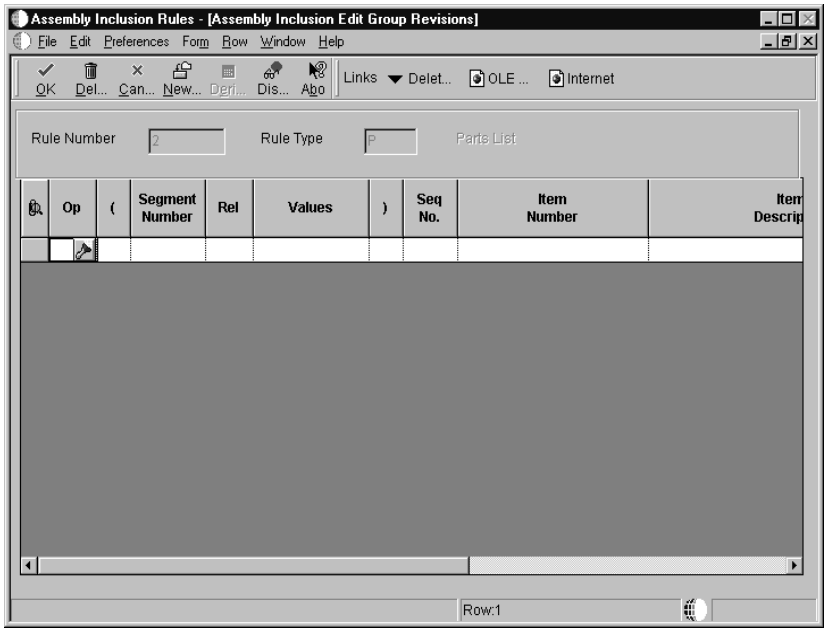
   - Derived Calculation
   - External Program
   - Table Name
   - Smart Part

▶ To copy rules

To save time during setup, you can copy an assembly inclusion rule from one configured item to another. To copy the entire configured item, including assembly inclusion rules, see *Copying a Configured Item.*

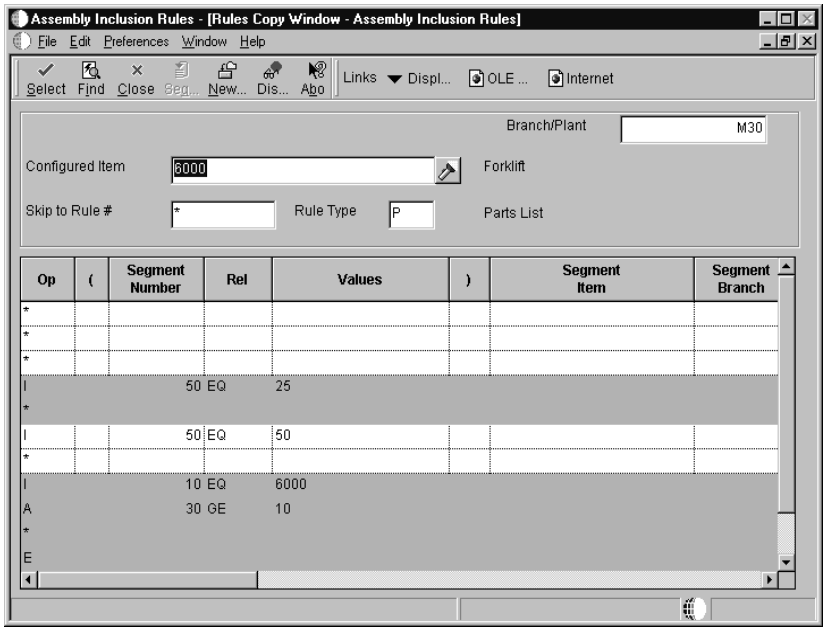


1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate a configured item:
   - Configured Item
   - Branch/Plant
   - Rule Type
2. Choose Insert Edit Group Before or After from the Row menu.



3. On Assembly Inclusion Edit Group Revisions, select a blank line.

4. Choose Copy from the Row menu.



5. On Rules Copy Window - Assembly Inclusion Rules, locate the configured item from which you want to copy a rule.
6. Choose one or more lines and click Select.

Locating Assembly Inclusion Rule Information

You review assembly inclusion rule information to help you maintain these rules. Rules and tables can be very complex. Using inquiry programs can help you pinpoint segments and components within the many rules and tables that you might set up. You can determine the effect of component changes such as shortages and substitutions, and determine the effect of changes to valid segment values. For example, if a vendor discontinues a paint color, you can determine how many configurations are affected.

Locating assembly inclusion rule information consists of the following tasks:

- Locating component information
- Locating segment information
- Locating configured table information

▶ To locate component information

From the Configurator Setup menu (G3241), choose Component Where Used.

1. On Work With Component Where Used, complete the following fields and click Find to locate a component:
    - Branch/Plant
    - Configurator Rule Type
    - Component Item
2. Review the following fields:
    - Rule Number
    - Rule Sequence
    - Line Type

▶ To locate segment information

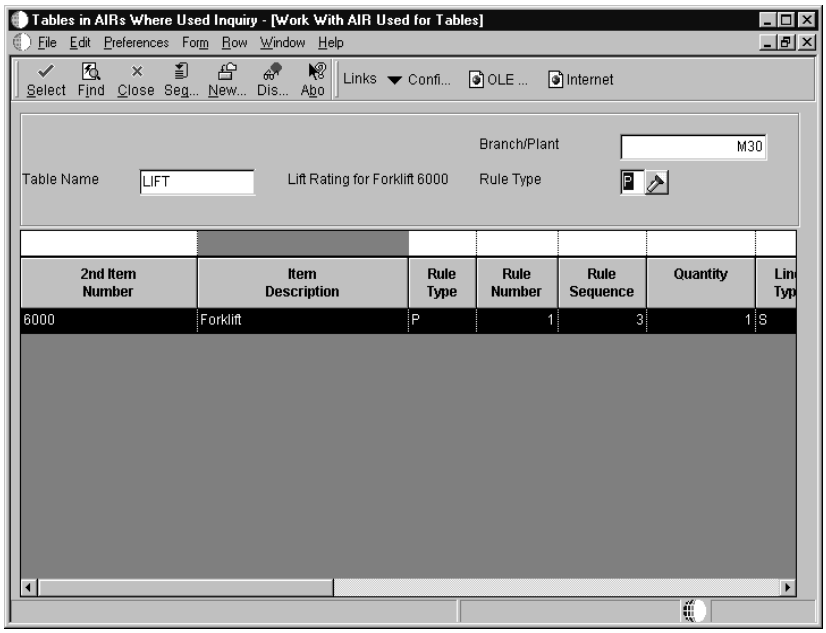
From the Configurator Setup menu (G3241), choose AIR Segment Where Used Inquiry.

1. On Work With AIR Segment Where Used Inquiry, complete the following fields and click Find to locate an assembly inclusion rule:
    - Rule Type
    - Branch/Plant
    - Item Number
    - Segment Number
2. Review the following fields:
    - Segment Branch
    - Segment Item
    - Rule Type
    - Effective From
    - Effective Thru
    - Line Type
    - Sequence Number
    - Rule Number
    - Branch/Plant
    - Item Number

To locate configured table information

From the Configurator Setup menu (G3241), choose Tables in AIRs Where Used Inquiry.

On Work With AIR Used for Tables,



1. Complete the following fields and click Find:
   - Branch/Plant
   - Table Name
   - Rule Type
2. Review the following fields:
   - 2nd Item Number
   - Description
   - Rule Type
   - Rule Number
   - Rule Sequence
   - Quantity
   - Line Type
   - Effective From
   - Effective Thru
   - Oper Seq#

- Issue Code
- Branch/ Plant
- Table Name
- Short Item No
- 3rd Item Number

Setting Up Tables

A configured rules table is a collection of data that you define for a configured item. When the system processes rules during sales order entry and work order generation, assembly inclusion rules can refer to tables to retrieve component parts, calculated values, price adjustments, or display information.

Tables are commonly used to reduce the number of assembly inclusion rules that are required when segment answers vary greatly. Assembly inclusion rules refer to tables to return calculated segment values, prices, display information and component parts. The table type should be the same as the assembly inclusion rule type that refers to it.

Setting up tables adds time to the setup process. However tables can dramatically reduce the number of assembly inclusion rules and their complexity, thus improving processing time and simplifying setup.

Setting up tables consists of the following tasks:

- ❑ Defining table names
- ❑ Setting up configured tables
- ❑ Linking a table to an assembly inclusion rule
- ❑ Copying a configured item table
- ❑ Reviewing a configured table
- ❑ Printing table information

Defining Table Names

You define tables that correspond to the matching assembly inclusion rule types:

P Table (Quantity/Parts)	Defines part tables that can return multiple part numbers. P tables return part numbers to the sales order and, eventually, to the work order parts list to produce the configured item.
Q Table (Quantity/Parts)	Defines part tables that can return multiple part numbers. Conceptually similar to P tables, Q tables return part numbers only to the work order parts list. They do not return values to the sales order.
C Table (Calculated values)	Defines a calculated segment table that can return numeric or alphanumeric values as defined on Configured Item Segments. C tables return calculated values to segments. These values may then be used by other rule types to control or affect actions.
H Table (Hot Spots)	Defines numeric information about a configured item to be returned to the sales order entry form for display purposes only. H tables are conceptually similar to C tables. Examples of Hot Spot information include price, foreign price, domestic price, cost, foreign cost, domestic cost, and weight.
X Table (Pricing)	Defines a price table that returns one numeric value. X tables return prices to the sales order, based on one or more segment answers.

No table corresponds to the assembly inclusion rule for routing.

Because a table might contain many segments (keys) and values, you must decide how the table information appears before you can review table information. As you work with table information, you can set a processing option for copying rows of data to speed data entry.

Note: The tables used for rules processing within the Sales Configurator system are not user defined codes.

Before You Begin

- ❑ You must define the names for the tables that you plan to use. Table names are user defined values and are stored in user defined code table

32/TN. See *Adding or Changing a User Defined Code Value* in the *OneWorld Foundation Guide*.

Setting Up Configured Tables

Depending on the values that you define for each segment, you can specify the information that is returned to the sales order and the work order. You must define the values for each segment as a key to the table.

Setting up configured tables consists of the following tasks:

- Defining dimensions for configured tables
- Linking a table to a configured item
- Defining values for configured tables

X tables return prices to the sales order. Because only one value can be returned, the system limits setup options when you specify the return dimensions for an X table.

Similarly, H tables return user defined information about the configured item that displays in the Hot Spot field on the order entry form. H tables are also limited to one return value.

For setup, H and X tables differ from P, Q, and C tables in that only one value can be returned to the sales order.

When you enter a sales order for a configured item, you select answers for the segments that are defined for the item. For example, for a forklift, you might select a value of 4000 for segment 10 (Lift Rating), and a value of PROPANE for segment 20 (Power type).

Defining Dimensions for Configured Tables

Tables can have the following dimensions:

- One segment and one return
- One segment and multiple returns
- Multiple segments and one return
- Multiple segments and multiple returns

You should have an idea of what you want your table to do prior to defining its dimensions. A one segment, one return table is particularly helpful when you want to define price, cost, hot spot values, or other specific information.

You might choose to create a one-segment, multiple return table when one segment can return multiple information consistently. Many component item numbers may be related to a specific segment answer. For example, a paper manufacturer might configure a certain size of letterhead to return a corresponding size envelope and response card.

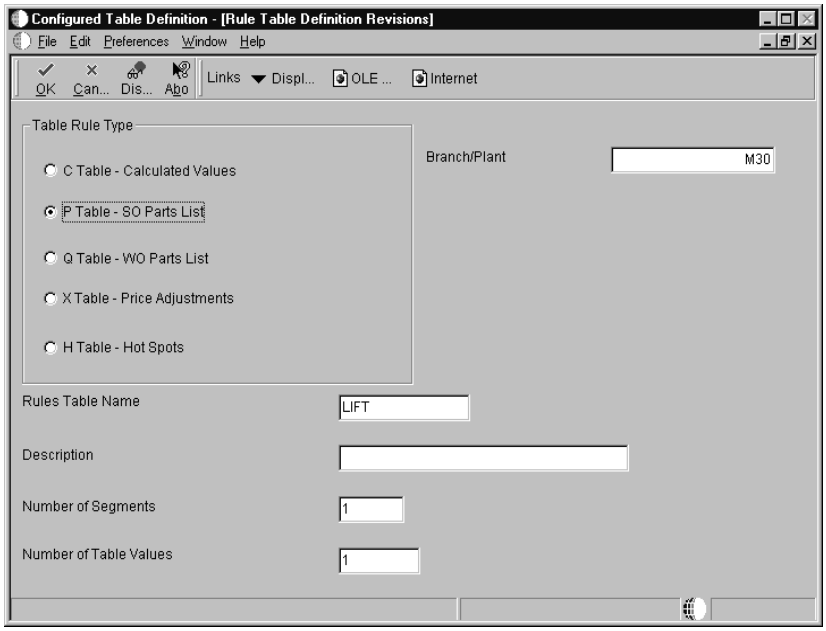
You might choose to create a multiple-segment, multiple return table when using P or Q tables. P and Q tables are based on P and Q assembly inclusion rules, which return parts to the sales or work order.

Note: When working with tables with multiple segments and multiple returns, remember that the form displays segment information in columns and values in rows.

▶ To define dimensions for configured tables

From the Configurator Setup menu (G3241), choose Configured Table Definition.

1. On Work with Configured Table Definitions, click Add.



2. On Rule Table Definition Revisions complete the following fields:
   - Branch/Plant
   - Rules Table Name

- Description

3. To select the type of table, click one of the following options under the Table Rule Type heading:
   - C Table – Calculated Values
   - P Table – SO Parts List
   - Q Table – WO Parts List
   - H Table – Hot Spots
   - X Table – Price Adjustments
4. Complete the following fields and click OK:
   - Number of Segments
   - Number of Table Values

     With H and X tables, the Number of Table Values field is automatically populated with a 1.

Field	Explanation
Branch/Plant	A number that identifies a branch, plant, work center, or business unit.
Table Name	You must define table names in user defined code table 32/TN. A rule table is a collection of data that is set up to minimize the number of assembly inclusion rules you need for a configured item. A rule table can be accessed by 1 to 6 keys and can return up to 99 values. When you reference a rule table in an Assembly Inclusion Rule, the system uses the rule keys to read the rule table and retrieve the values associated with the table For example, if you defined segment 10 to be the color of an item, you could set the table to retrieve item Red Component if the customer enters Red for segment 10. In this example, the table would be: Item Color = Value Red = RED COMPONENT The table would read: If the color segment value = red, then use item number RED COMPONENT on the configured item sales order and work order parts list.
Description	A description can be: • Brief information about an item • A remark • An explanation

Field	Explanation
Table Rule Type	A value that identifies the type of rule table. Valid values are: P Part list (on sales order and work order) Q Work order component (on work order only) C Calculated values H Hot Spot X Price/Cost adjustment
Number of Segments	Indicates how many keys (segments) are used to access the table. Key values must be on the current level or a previous level of the configured item.
Number of Table Values	Specifies how many values the system returns from the rules table when a match is found on the table keys. If you enter more than one return value for a C (calculated) rule, you must indicate the segment numbers to return the values to.

Linking a Table to a Configured Item

After you define a table, you associate it with a configured item and define the specific segments that access it. To create a cross-reference, the number of segments that you specify must equal the number of segments that you defined for the table. You can also specify a segment that accesses a different configuration level.

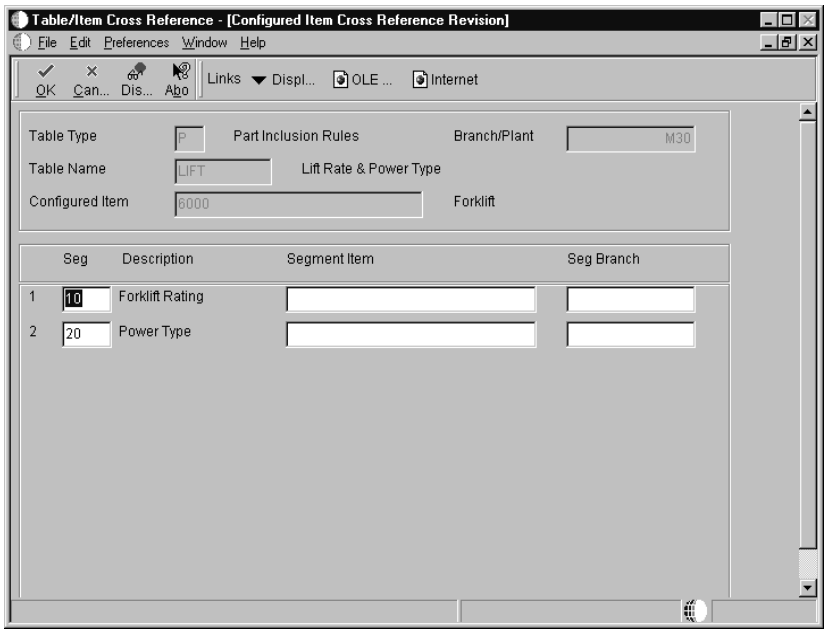
Multiple configured items can refer to a single table, and a single configured item can refer to multiple tables.

Note: You can enter an item *ALL to define a generic cross-reference for all configured items. If you use *ALL, you must use the same segment numbers across all configured items.

▶ To link a table to a configured item

From the Configurator Setup menu (G3241), choose Table/Item Cross-Reference.

1. On Work with Configured Item Cross-Reference, complete the following fields and click Add:
   - Branch/ Plant
   - Table Type
   - Table Name
   - Configured Item



2. On Configured Item Cross Reference Revision, click OK.
3. To define the segment that accesses the table, complete the following fields and click OK:
   - Seg
   - Segment Item
   - Seg Branch

   When creating C tables that return multiple values, you must define destination segment numbers during the Table/Item Cross Reference step.

Field	Explanation
Seg	A description can be: • Brief information about an item • A remark • An explanation . . . . . *Form-specific information* . . . . . The number of the segment that will be used as a key for the table.
Segment Item	A number that the system assigns to an item. It can be in short, long, or third item number format. For process work orders, the item number is the process.
Seg Branch	Table Segment Branch

Processing Options for Table/Item Cross-Reference

```
Defaults

Defaults for the Work With Cross
    Reference form.

      Default Rule Table Type.                    _____________
```

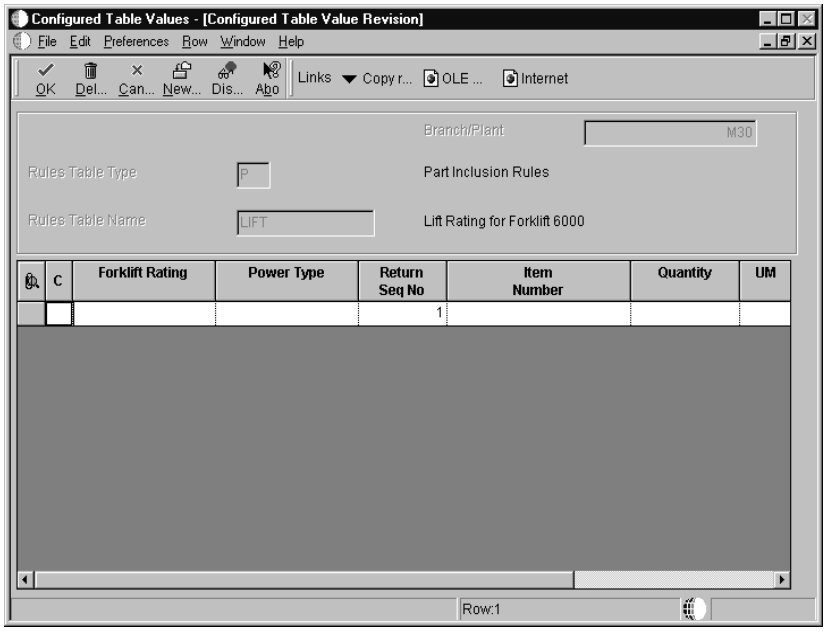
Defining Values for Configured Tables

After you have defined dimensions and linked your table to a configured item, you are ready to define values.

▶ To define values for configured tables

From the Configurator Setup menu (G3241), choose Configured Table Values.

1. On Work with Configured Table Values, complete the following fields and click Add:
   - Branch/Plant
   - Rules Table Type
   - Rules Table Name



2. On Configured Table Value Revision, complete the following field with segment information:
   - Segment Value 1

- Segment Value 2

You complete as many segment value fields as you defined on the Rule Table Definition Revisions form when defining dimensions for your table. The names of your segment value fields are defined when you link your table to a configured item.

3. Complete the following fields and click OK:
   - Item Number
   - Quantity
   - UM
   - Return Seq No

   Each time that you enter a value for a segment and the associated item number, a new blank row appears.

Note: To speed the setup process, you can use one of two methods to copy rows. The first method is to select a row and then choose Copy Row from the Row menu. You can then change the row data as necessary for your table. The second method is to put a 1 in the C field of the row that you want to copy. After you complete the fields in a row and press the Enter key, that row is copied into the next row. When you no longer want to automatically copy a row or if you need to make changes, clear the C field.

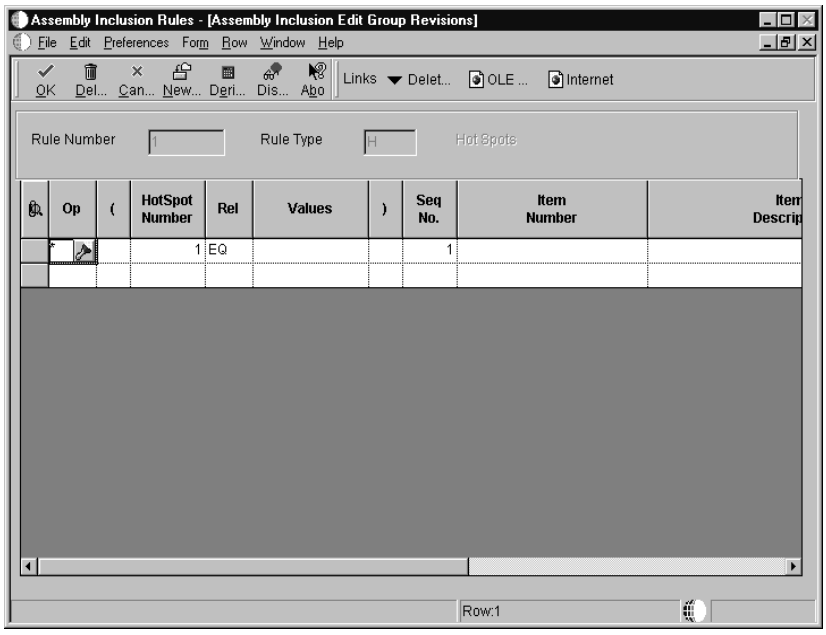
Linking a Table to an Assembly Inclusion Rule

After you define a table and the segment that accesses its values, you must link the table to the assembly inclusion rule for that segment. Each table refers to an assembly inclusion rule to return calculated segment values, prices, and parts to the sales or work order.

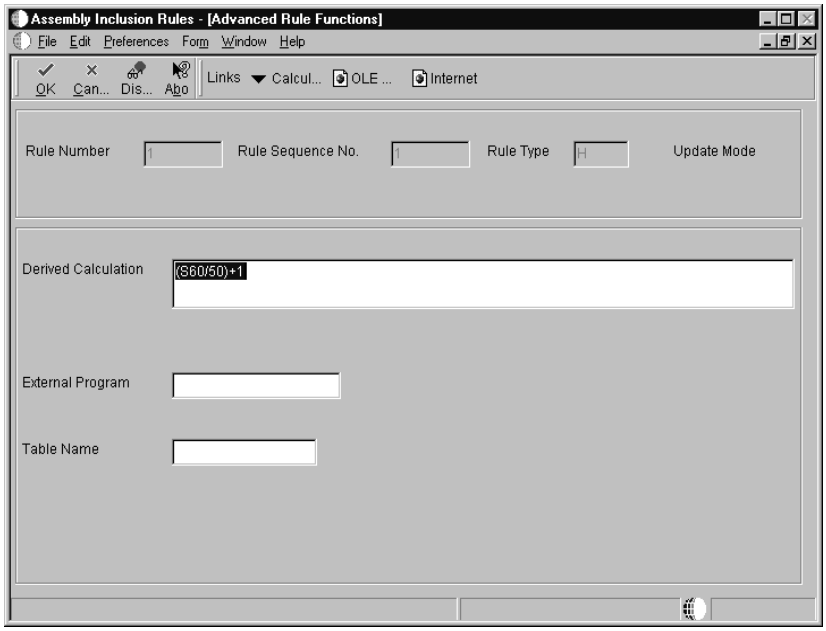
▶ To link a table to an assembly inclusion rule

From the Configurator Setup menu (G3241), choose Assembly Inclusion Rules.

1. On Work With Assembly Inclusion Rules, complete the following fields and click Find to locate the assembly inclusion rule for your configured item:
   - Configured Item
   - Branch/Plant
   - Rule Type
2. Select a row and choose Edit Group from the Row menu.



3. On Assembly Inclusion Edit Group Revisions, select a row and choose Advanced Rules from the Row menu.



4. On Advanced Rule Functions, complete the following field:
   - Rules Table Name

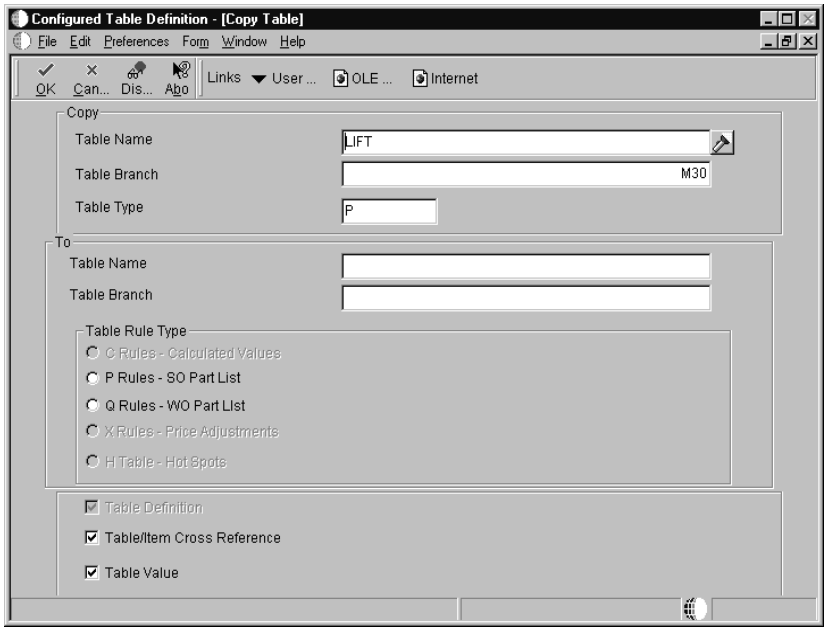
Copying a Configured Item Table

After you set up a configured item table, you can copy its definition, cross reference, and values to a new or existing table. Copying existing tables reduces setup time.

▶ To copy a configured item table

From the Configurator Setup menu (G3241), choose Configured Table Definition.

1. On Work with Configured Table Definitions, complete the following field to locate an existing table:
   - Branch/Plant
2. To select the type of Table that you want to copy, complete the following field and click Find:
   - Rules Table Type
3. Select a configured table and click Copy.



4. On Copy Table, to name the new table, complete the following fields under the To heading:
   - Table Branch
   - Table Name

5. To select which parts of the configured table to copy, click the following options and click OK:
   - Table/Item Cross Reference
   - Table Definition
   - Table Value

Field	Explanation
Table Branch	A number that identifies a branch, plant, work center, or business unit.

Reviewing a Configured Table

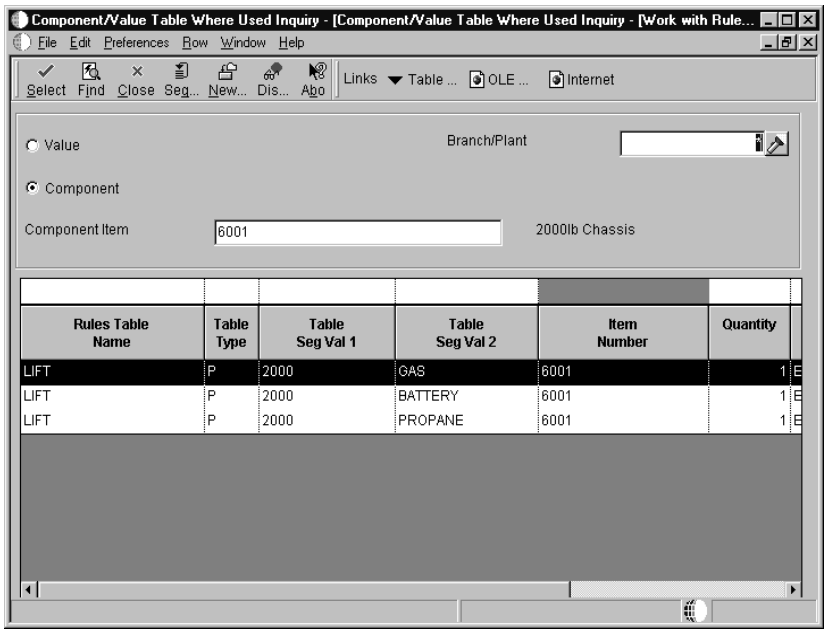
You can search for components or values used within configured tables by using the Component/Value Table Where Used Inquiry. You can search for returned values or for specific components. The system will show you where the values or components exist within your configured tables.

▶ To review configured tables

From the Configurator Setup menu (G3241), choose Component/Value Table Where Used Inquiry.

1. On Work with Rules Table Detail, complete the following fields to search for a component:
   - Component
   - Component Item
2. To search for a value returned by a table, complete the following fields:
   - Value
   - Table Value
3. Click Find.

   The fields available to you will be different, depending upon whether you search for a component or a returned value.



4. For each table, review the following fields:
    - Rules Table Name
    - Table Type
    - Table Seg Val 1
    - Table Seg Val 2
    - Table Value
    - Branch Plant
    - Item Number
    - Quantity
    - UM

Field	Explanation
Component	This is the ASI (Application Specific Instructions) flag for the Data Dictionary.
Component Item	A number that the system assigns to an item. It can be in short, long, or third item number format. For process work orders, the item number is the process. . . . . . *Form-specific information* . . . . . . The item number of the component for which you are searching.
Value	This is the ASI (Application Specific Instructions) flag for the Data Dictionary.

Field	Explanation
Table Value	A value that is assigned to a component and is stored in, and returned from, a rules table.
Rules Table Name	You must define table names in user defined code table 32/TN. A rule table is a collection of data that is set up to minimize the number of assembly inclusion rules you need for a configured item. A rule table can be accessed by 1 to 6 keys and can return up to 99 values. When you reference a rule table in an Assembly Inclusion Rule, the system uses the rule keys to read the rule table and retrieve the values associated with the table For example, if you defined segment 10 to be the color of an item, you could set the table to retrieve item Red Component if the customer enters Red for segment 10. In this example, the table would be: Item Color = Value Red = RED COMPONENT The table would read: If the color segment value = red, then use item number RED COMPONENT on the configured item sales order and work order parts list.
Table Type	A value that identifies the type of rule table. Valid values are: P Part list (on sales order and work order) Q Work order component (on work order only) C Calculated values H Hot Spot X Price/Cost adjustment
Table Seg Val 1	A value used as a key to a table.
Table Seg Val 2	A value used as a key to a table.

Printing Table Information

From the Configurator Setup menu (G3241), choose Table Report.

Print the Table Report to review the table segments and values for the table name and table type that you specify.

See Also

- *R3283P, Configured Rules Table Values* in the *Reports Guide* for a report sample

Sales Orders

Configured Item Sales Orders

After you have set up the segments, cross-segment editing rules, and assembly inclusion rules for a configured item, you can enter a sales order for the configured item.

When you enter a sales order for a configured item, the Sales Configurator system allows you to enter values for the segments of that configured item.

The system edits each segment value against user defined code tables, ranges, and numeric specifications. The Sales Order Entry program also processes cross-segment editing rules to validate feature and option compatibility. If no errors exist, the system processes the assembly inclusion rules according to the segment values.

You can also create sales proposals within the Sales Order Entry program. Sales proposals contain information such as sales configuration, quotation, company's financial highlights, product information, pricing and discount information, and product availability. You can use an automated document generation system to pull the various pieces of information from different departments, such as Sales, Accounting, Marketing, Inventory.

Working with configured item sales orders consists of the following topics:

- ❑ Working with configured item sales orders
- ❑ Understanding partial shipments for configured items
- ❑ Undersanding duplicate components
- ❑ Storing and forwarding sales orders for configured items

See Also

For more information about sales orders and sales proposals, see the following chapters in the *Sales Order Management Guide.*

- *Working with Detail Information*
- *Generating a Proposal*

Working with Configured Item Sales Orders

After you set up the segments, cross-segment editing rules, assembly inclusion rules, and configured tables, the Sales Configurator system is ready to process sales orders for your configured items. Within sales order entry, the Sales Configurator system performs rule checking, and processes sales and work orders.

Working with configured item sales orders consists of the following tasks:

- ❑ Entering a sales order for a configured item
- ❑ Reviewing a sales order for a configured item
- ❑ Adding nonstandard components and price adjustments
- ❑ Assigning common attributes to configured items
- ❑ Working with error messages
- ❑ Converting a sales quote for a configured item
- ❑ Revising a sales order for a configured item
- ❑ Reviewing configured text

You can view the multi-level nature of your configured item with the tree structure that appears on the sales order entry form. The tree is controlled by user defined processing options and can display the following information on each level:

- Item number
- Description
- Branch/Plant
- Unit of Measure
- Quantity

Many configured sales order line items may share a common attribute. A common attribute used in a configured item can be set at the start of an order. The chosen value can be applied as the default to each subsequent line item entered. This feature is useful in a high attribute selection and high line item sales order environment. The feature can save a great amount of time and labor

during the sales order entry process. It also prevents unnecessary errors during sales order entry. The common attribute can then be revised in the middle of order entry to accommodate changes in customer specifications.

The Common Attribute can be set to automatically prompt at the beginning of sales order entry (between Sales Order form and Configured Item Specifications form). It can also be manually selected from a form exit within Configured Item Specifications.

The furniture industry is a good example of the use of common attributes. In a configuration for a sofa, a common attribute might be Color. The Color common attribute is associated to the segments for the sofa frame, bottom sofa cushions, sofa arm covers, and the decorative pillows. After the customer picks a color, that value can be input in the attribute field on the common attribute form. The color will then be applied as the answer to all segments associated to that particular common attribute.

The tree structure also displays errors and changes in segment answers by each level.

Within the order entry process, you use the calculation feature to process your configured answers as they are entered. The calculation feature expands the multi-level structure of the configured item. This feature is set up to calculate when you reset the configuration to the default segment answers from a form exit, when you return string history, or by manually clicking the Calc button on the tool menu.

During sales order entry, the calculation feature verifies Configurator processes level by level in the following order:

- Segment agreement (includes user defined code validation, range checking, alpha versus numeric checking, length checking, and required versus option checking)
- C assembly inclusion rules
- Cross-Segment Editing rule validation by level
- P assembly inclusion rules
- Q, H, or X assembly inclusion rules as needed

The Sales Configurator system also calculates the weight of a configured item based on the multilevel items that comprise the parent item. You can choose to designate a base weight for the configured item. The weight is calculated as the item is entered within sales order entry. You will need to enter the same weight units of measure for each segment that comprises the configured parent item. Weight is calculated using P rule components only.

Derived calculations and assembly inclusion rules are verified for accuracy during calculation. Changes in segment values are evaluated in each configuration.

When all of the above processes are verified, the sales order can be completed. At this point, Hot Spot values, processed by H assembly inclusion rules, appear.

Note: The Sales Configurator system supports most preference profiles. However, it does not support preference profiles for multibranch commitments.

Technical Considerations

Multicurrency

The system applies pricing (X) rules to foreign currency sales orders. The system processes price adjustments as a base currency amount and converts the amount to a different currency amount, if necessary.

During setup, you must define the pricing (X) rule in domestic currency. During sales order entry, the system converts the domestic price to the foreign currency.

Commitments

The Process Work Orders program commits component parts related to the configured parent. The system supports sales order commitments for work order line types for the parent item only.

Additional order processing

For configured items, the Sales Order Management system does not support the following additional order processing:

- Blanket orders
- Transfer orders
- Drop ship orders

Before You Begin

❑ Set the Sales Order Entry (P4210) processing option for the work order line type to create work orders, or define the W line type in each configured item's branch/plant record. If you leave the processing option blank, the system supplies the line type from the branch/plant.

❑ Set the processing options for the Sales Configurator system (P32942). Use the Interactive Versions application (GH9011) to define versions and set processing options. Sales Order Entry refers to a version of the Sales Configurator system. These processing options control media objects, cross-segment editing rule processing, form and tree display characteristics, initial hot spot selections, defaults for nonstandard components and price adjustments, defaults for the display of common attributes among configured items, and Component Revision form options.

Entering a Sales Order for a Configured Item

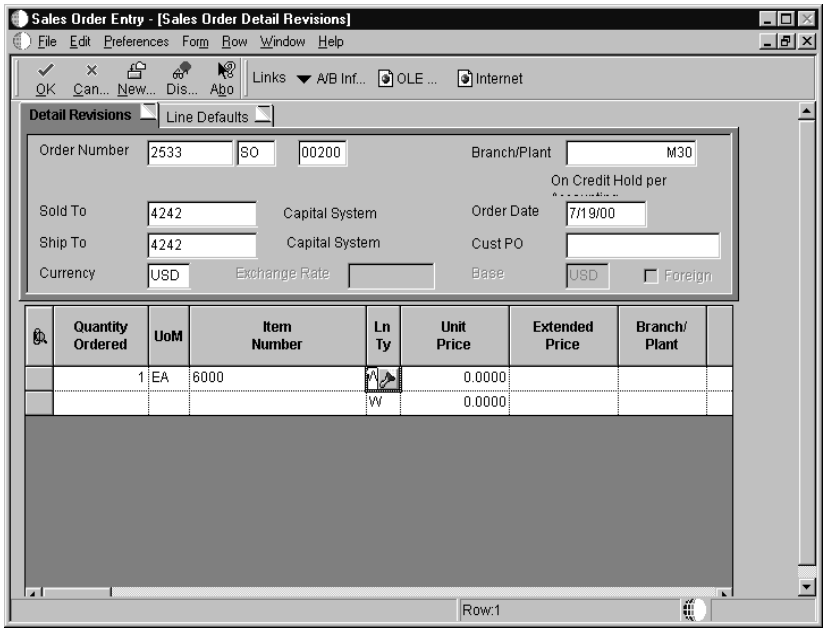
Entering a sales order consists of the following tasks:

- Entering a sales order for a configured item
- Entering a sales order for a previously ordered configured item

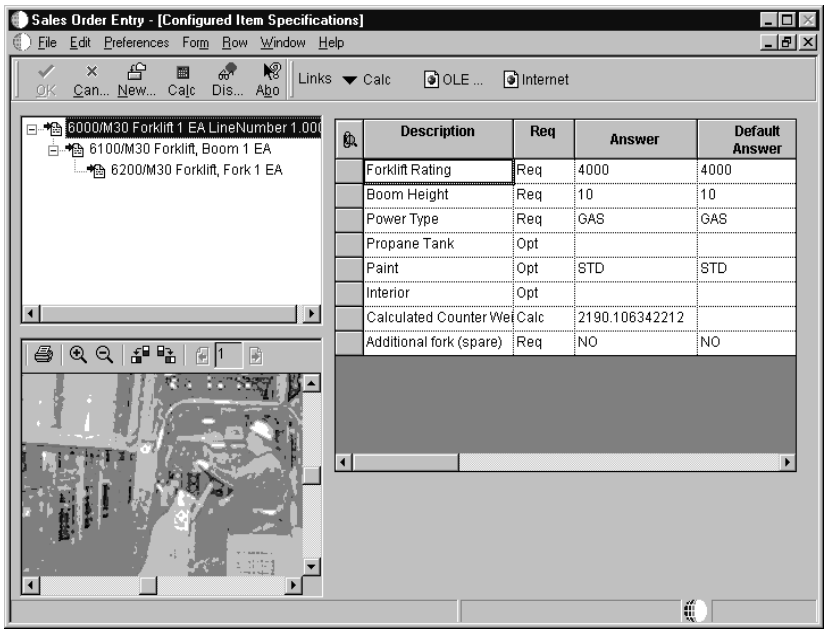
▶ To enter a sales order for a configured item

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.

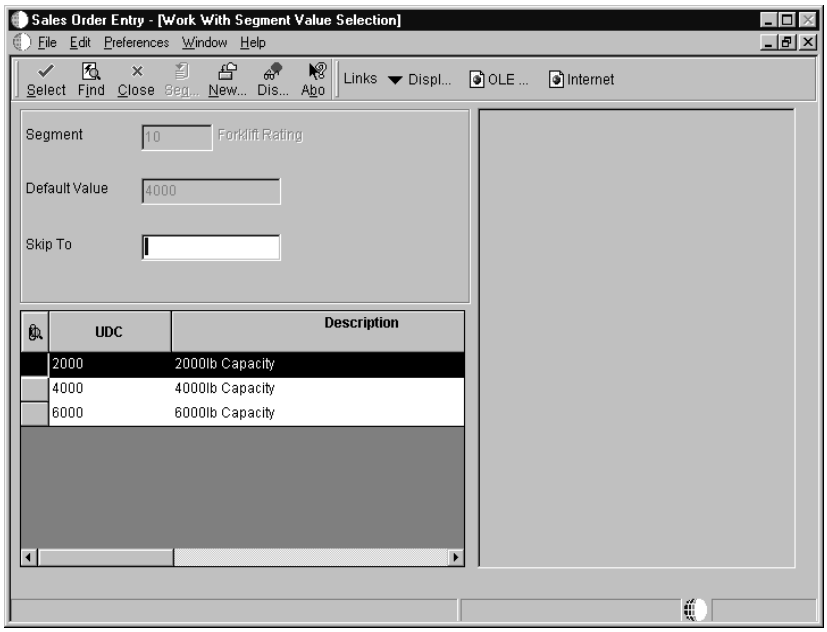
1. On Customer Service Inquiry, click Add.



2. On Sales Order Detail Revisions, complete the following required fields with information about the customer:
   - Branch/Plant
   - Sold To
   - Ship To
   - Order Date
3. Complete the following required fields with information about the configured item and click OK:
   - Quantity Ordered
   - UoM
   - Item Number



4. On Configured Item Specifications, to accept the default values, click the Calc button and go to step 8.
5. To change values for the segments, click the Answer field.



6. On Work with Segment Value Selection, choose a row and click Select.

   Do this for every segment that you want to change within your configured item.

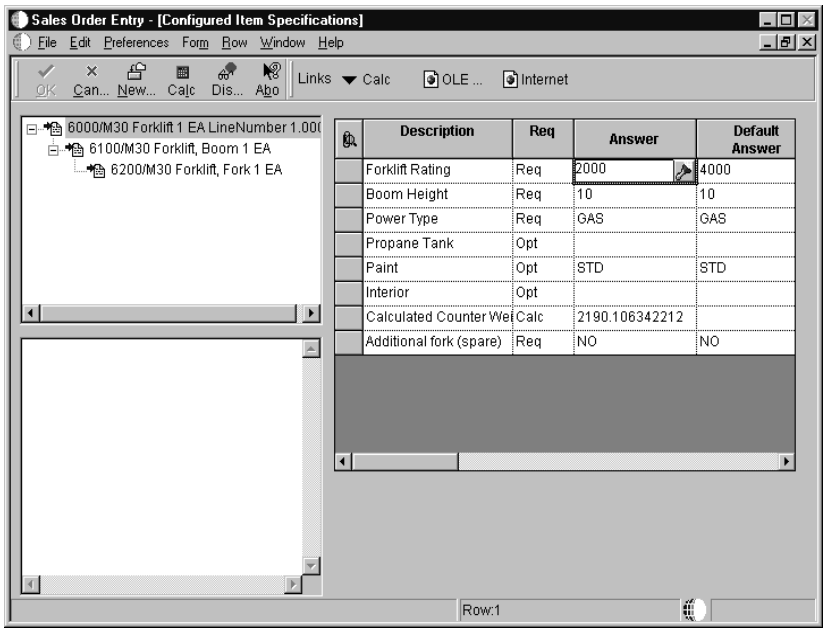
7. When you have finished configuring your item, click the Calc button.
8. If you do not receive any errors, click OK.

   You will not be able to complete your sales order unless all hard error messages are corrected. For more information on error messages, see *Working With Error Messages.*

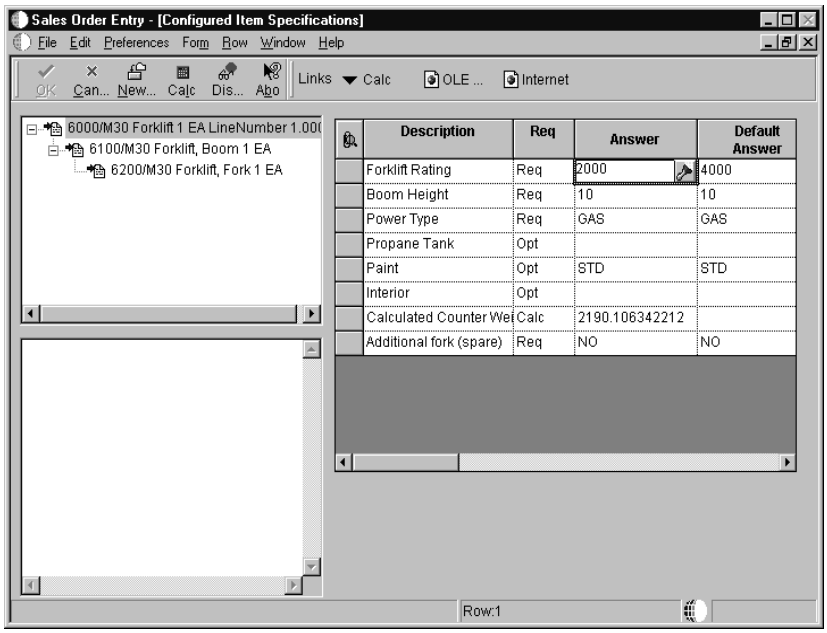
Example: Completed Sales Order

After the calculation has processed successfully, the sales order entry form display changes to include hot spot values. You can display up to three different hot spot values on the sales order entry form. To select other hot spot values, click on the hot spot icon and choose another hot spot user defined code.

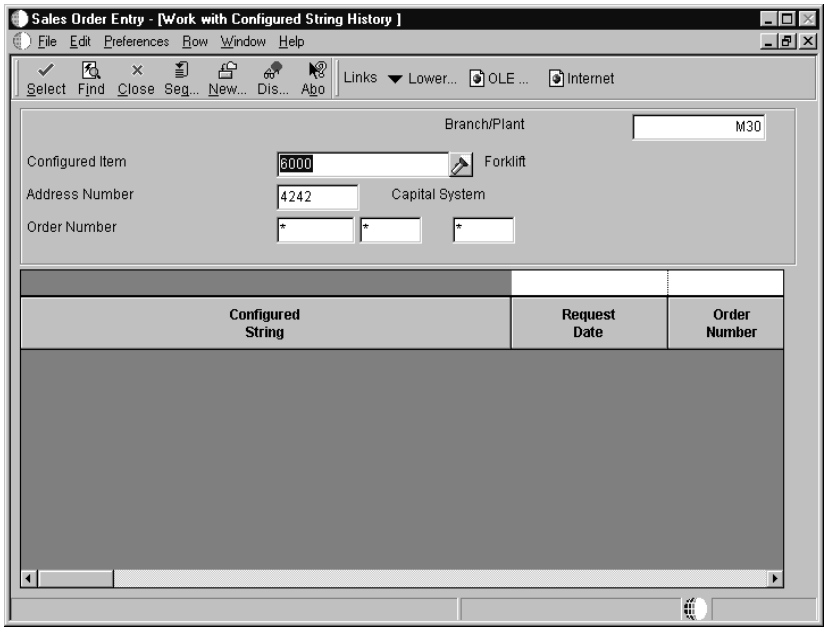
The form also displays icons within the tree structure of your configured item which indicate by level that the configuration agrees with cross-segment editing rules.



To enter a sales order for a previously ordered configured item



1. On Configured Item Specifications, select a row and choose String History from the Row menu.



2. On Work with Configured String History, click Find.
3. Choose a configured string and click Select.
4. On Sales Order Detail Revisions, revise the string as necessary and click OK.

Note: When you cancel a sales order for a configured item, the system cancels the item's subassemblies and lower-level segments.

See Also

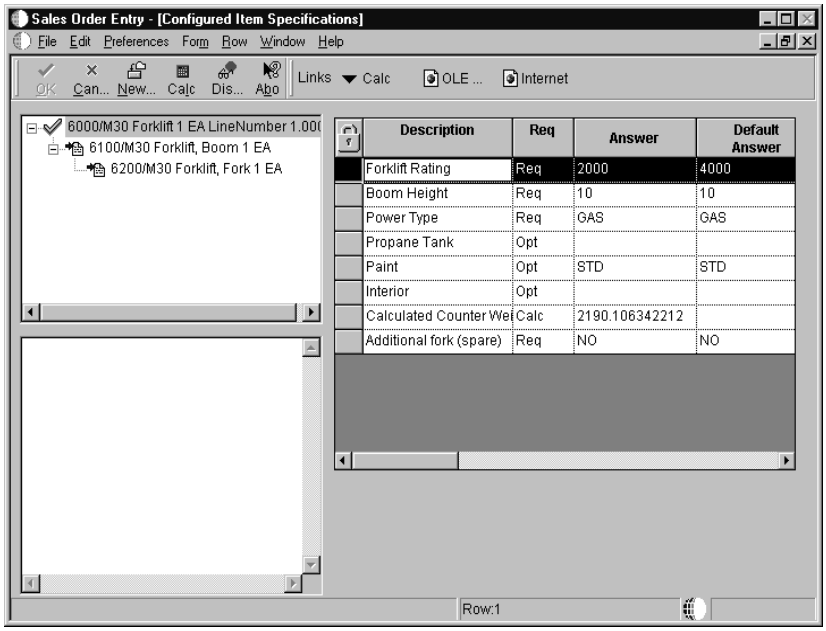
- *Working With Preferences* in the *Sales Order Management Guide* for more information about preference profiles

Reviewing a Sales Order for a Configured Item

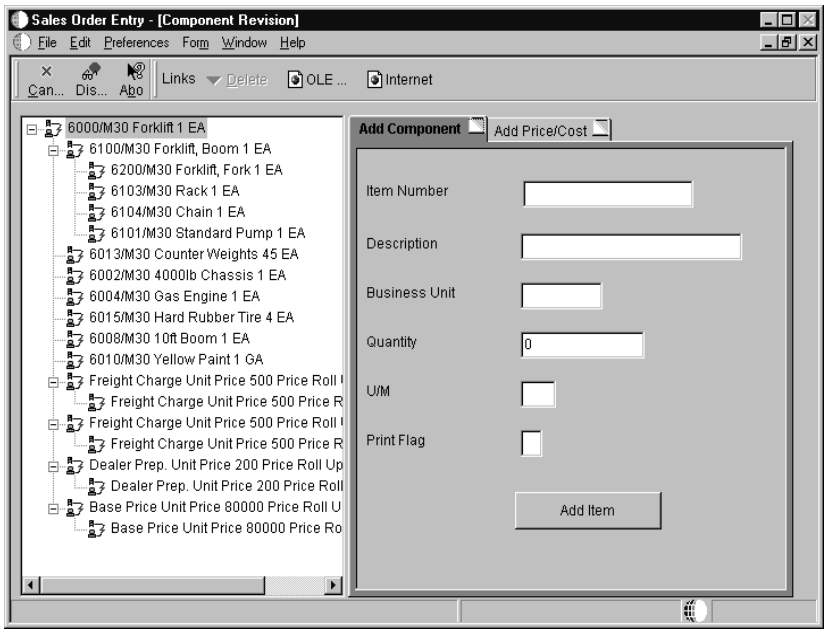
After you enter a sales order, you can review the multilevel structure of your configured item in a tree structure format.

▶ To review a sales order for a configured item

From the Configurator Daily Processing menu (G32), choose Sales Order Entry,



1. On Configured Item Specifications, choose Component Revision from the Form menu.



2. On Component Revisions, review the tree structure of your configured item.
3. To accept the structure, click Cancel.
4. On Configured Item Specifications, click the Calc button. When the calculation function completes processing without errors, click OK.

Adding Nonstandard Components and Price Adjustments

When you need to add special parts or prices to further customize a configured item, you can enter nonstandard configured components and price adjustments. Entering nonstandard components and price adjustments allows you to customize your configured item without creating new assembly inclusion rules, tables, or smart parts.

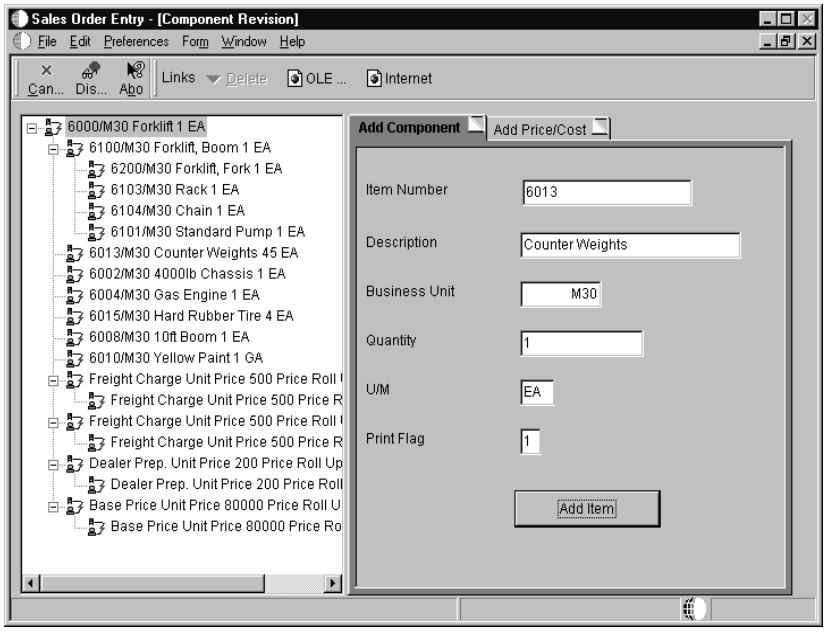
Nonstandard components are priced according to the configured parent item's price method code. Price or cost adjustments are similar to the X assembly inclusion rules set up for the configured item. They affect only the sales order, not the work order.

Nonstandard components and price adjustments are added on the Component Revisions form. This form allows you to review all sales order components and prices before the line item is confirmed.

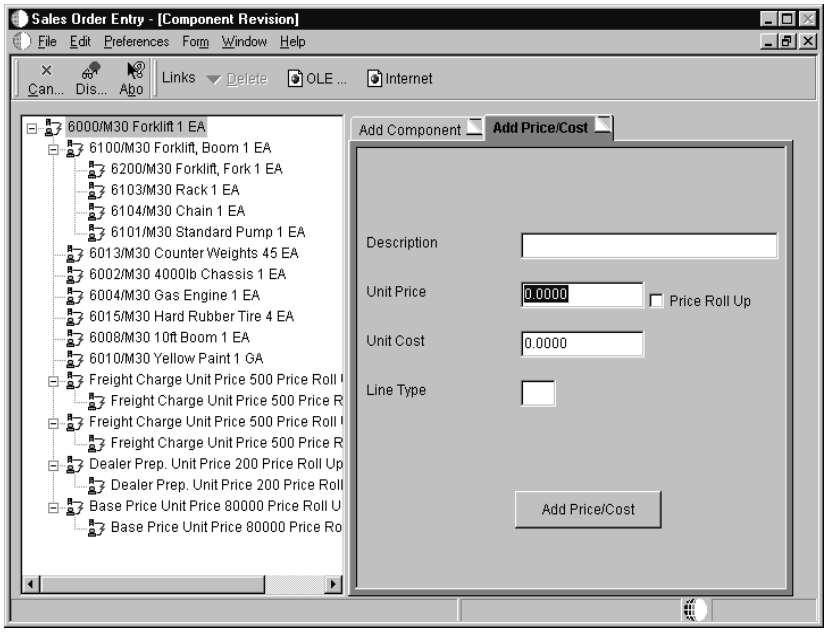
To add nonstandard components or price adjustments

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.

1. On Customer Service Inquiry, click Add.
2. On Sales Order Detail Revisions, complete the following fields and click OK:
   - Branch/Plant
   - Sold To
   - Ship To
   - Order Date
   - Quantity Ordered
   - UoM
   - Item Number
3. On Configured Item Specifications, choose Component Revision from the Form menu.
4. On Component Revisions, click the Add Component tab.



5. Complete the following fields on the Add Component tab with segment information:
    - Item Number
    - Description
    - Business Unit
    - Quantity
    - U/M
    - Print Flag
6. Click the Add Price/Cost tab, and complete the following fields:
    - Description
    - Unit Price
    - Price Roll Up
    - Unit Cost
    - Line Type



7. To review your nonstandard configuration, choose Refresh Tree from the Forms menu.

Note: You can delete nonstandard components or price adjustments of your configured parent item. Standard components and price adjustments cannot be deleted. Nonstandard segments can be distinguished from standard configured segments by the icon that precedes it on the tree display on the Component Revision form.

Field	Explanation
Print Flag	A code that specifies whether the system prints the configurator part on the sales order and the work order. The system uses the value that you enter in programs such as Pick Slip, Invoice Print, Bill of Lading, and Print Parts List. Valid values are: 0 Do not print the configurator part on both the sales order and the work order. 1 Print the configurator part on either the sales order or the work order. 2 Print the configurator part on the sales order only. 3 Print the configurator part on the work order only. Note: You can type Y to represent the 1 value and N to represent the 0 value.
Unit Price	The list or base price to be charged for one unit of this item. In sales order entry, all prices must be set up in the Base Price table (F4106).
Price Roll Up	Determines whether the price/cost is rolled up into the parent item. The extended price/cost will be zero if the flag is set to roll up to the parent. Y or 1 – Roll up price or cost to parent. N or 0 – Separate price/cost add-on.
Unit Cost	The amount per unit, derived by dividing the total cost by the unit quantity.
Line Type	A code that controls how the system processes lines on a transaction. It controls the systems with which the transaction interfaces, such as General Ledger, Job Cost, Accounts Payable, Accounts Receivable, and Inventory Management. It also specifies the conditions under which a line prints on reports and is included in calculations. Codes include the following: S Stock item J Job cost N Nonstock item F Freight T Text information M Miscellaneous charges and credits W Work order

Assigning Common Attributes to Configured Items

To better organize your configured items and to simplify configurations entered during sales order entry, you can assign common attributes to configured item segments. Common attributes are assigned on the Configured Common Attributes form.

Common attribute values operate as default answers for each configuration level. For example, a common attribute code defined as color may have a value returned as red. With common attributes activated, each configured level with the color common attribute code will automatically return the red value.

You can either view common attributes for all configured items or view them as they apply within the current configuration. Additionally, you can change common attribute values during sales order entry.

Before You Begin

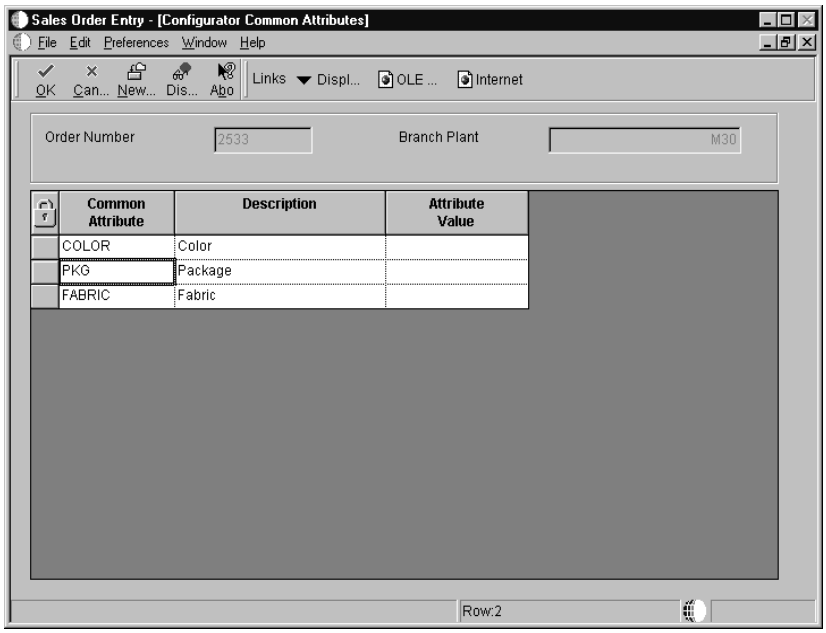
Set the processing option for Configured Item Specifications (P32942) to automatically prompt for the display of common attributes.

▶ To assign common attributes to configured items

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.

1. On Customer Service Inquiry, click Add.
2. On Sales Order Detail Revisions, complete the following fields and click OK:
   - Branch/Plant
   - Sold To
   - Ship To
   - Order Date
   - Quantity Ordered
   - UoM
   - Item Number

   Because you set the processing options for Configured Item Specifications to automatically display common attributes, the Configurator Common Attributes form appears.



3. On Configurator Common Attributes, complete the following fields and click OK:

   - Common Attribute
   - Description
   - Attribute Value

   When you click OK, the Configured Item Specifications form appears, and you can continue to enter the sales order.

Working with Error Messages

During the calculation process within sales order entry, the system checks the segment values that you enter against the cross-segment editing rules and configured item segments. The system verifies that you have not entered any values that violate the editing rules. If a segment value violates an editing rule, either a hard or a soft error message appears.

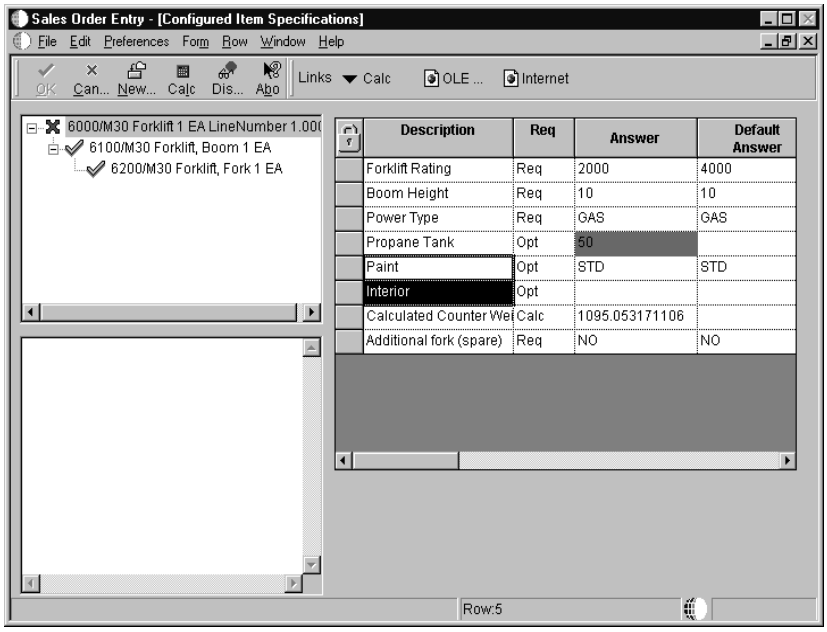
Hard error messages indicate significant errors from cross-segment error checking. When you receive a hard error message, you are unable to proceed with the sales order until you correct the error.

Soft error messages do not prevent you from completing the sales order, but provide error information. You can choose either to correct the error, or leave it as is. The sales order processes either way.

If the system finds errors in cross-segment editing rules, you will receive notification of error messages after the calculation has been processed.

▶ To work with error messages

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.



1. On Configured Item Specifications, click the Display Errors button to view your cross segment editing error.
2. To change segments, click the Answer field.
3. On Configured Item Specifications, click the Calc button to verify that the error has been corrected.

See Also

- *Setting Up Cross-Segment Editing Rules*

Converting a Sales Quote for a Configured Item

You can enter a sales quote for a configured item and later convert the sales quote into a sales order.

You enter a sales quote in the same way that you enter a sales order, except that the document type is set for sales quotes by a processing option.

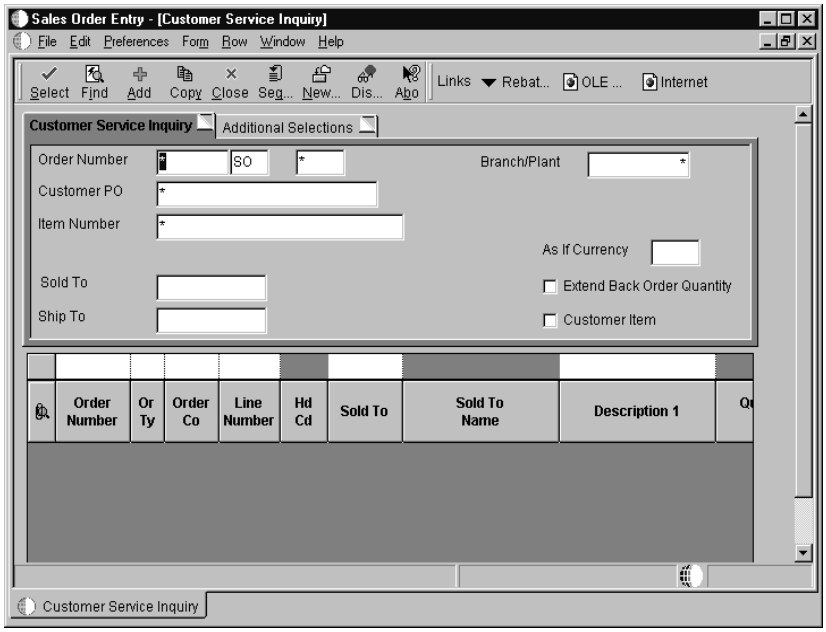
Before You Begin

❑ Set the order type processing option to SQ.

- ❑ Set the duplication order type to a non-quote document type.
- ❑ Specify the document type for sales quotes in the Document Type List field in Configurator Constants.
- ❑ Select the Cost Sales Quote flag on Configurator Constants if you want the costing to be based on R, Q or P rules at the time of sales order entry. If you do not select this flag, costing will only be done by the Work Order Processing program, based on R, Q or P rules.

▶ To convert a sales quote for a configured item

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.



1. On Customer Service Inquiry, locate the sales quote.
2. Select the sales quote and click Copy.
3. Process the sales order.

See Also

- *Setting Up Constants*

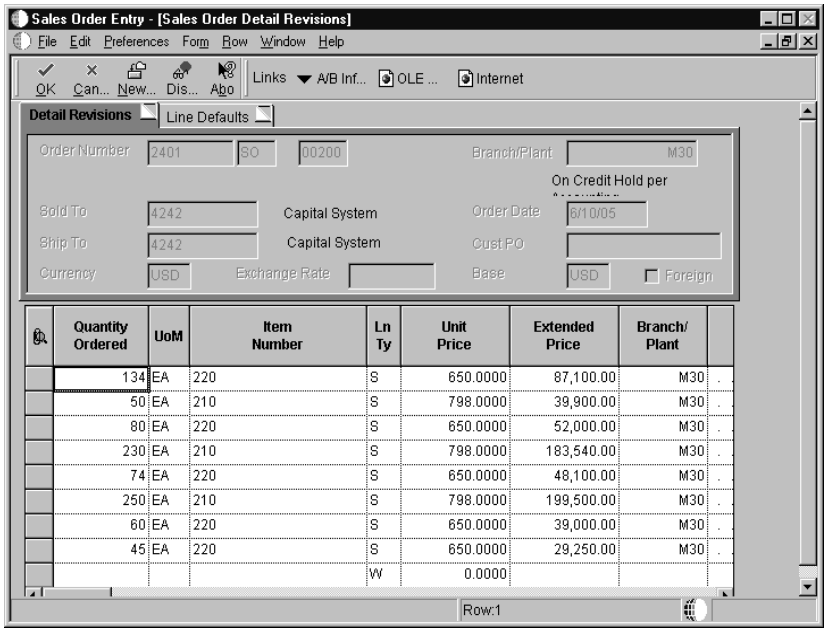
Revising a Sales Order for a Configured Item

If a customer calls and needs to add or change information on a sales order, you can revise the sales order for a configured item. The Sales Configurator system also allows you to revise the work order for a configured item.

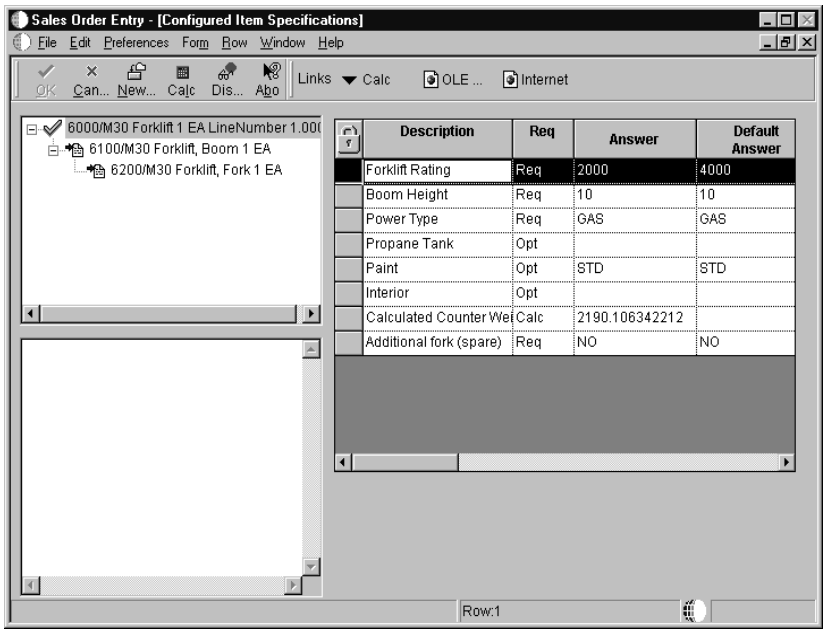
▶ To revise a sales order for a configured item

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.

1. On Customer Service Inquiry, locate the sales order for the configured item and click Select.



2. On Sales Order Detail Revisions, select a row and choose Kits/Configurator from the Row menu.



3. On Configured Item Specifications, revise the answers and click the Calc button.
4. If you do not receive any errors, click OK.

   The changes appear on the sales order entry form.

Revising sales orders can also include the following:

Changing quantity	The system changes the sales order quantity and, if you set a processing option, also changes the quantity on the work order.
Changing segment value	The system changes the segment values on the sales order and, if you set a processing option, also changes the segment values on the work order. Changing a segment value may produce new configured components or prices. You may need to run work order processing again.
Changing pick date	The system recalculates work order start dates based on lead times. When you change a sales order's pick date, the system supports multi-level back scheduling for the associated work orders.
Purging sales order lines	The system purges sales order lines for components that are no longer required after the change.

Calculating new sales order line numbers

The system uses the configured item's base line number and increments by .001 for each configured component.

Reassigning work order numbers

The system retains work orders that are still valid after revising the sales order. The system may cancel work orders no longer required after the change by changing the status code of the work order.

Changing the work order cutoff status code

When working with work order entry program (P48013), if the work order status is less than the cutoff status, the system changes the work order. If the begin status code is not blank, the system updates the status to what is defined in the processing option.

If the work order status is greater than or equal to the cutoff status, the system does not change the work order. If the change status code is not blank, the work order status is updated to what you defined in the processing option.

Placing the sales order on hold (hold status code)

If the work order status in work order entry (P48013) is less than the cutoff status and the hold status code is not blank, the system updates the work order status to the hold status code defined in the processing option.

If the work order status is greater than or equal to the cutoff status, the system does not update the work order.

Cancelling the sales order (cancel status code)

If the work order status is less than the cutoff status and the cancel status code is not blank, the work order entry system (P48013) updates the work order status to the cancel status code defined in the processing option.

If the work order status is greater than or equal to the cutoff status, the system does not update the work order.

Creating new work orders

The program creates a new work order if required after the change.

See Also

- *Setting Up Constants*

Reviewing Configured Text

You can review the configured text that you defined on Configured Item Segments. Configured text can include:

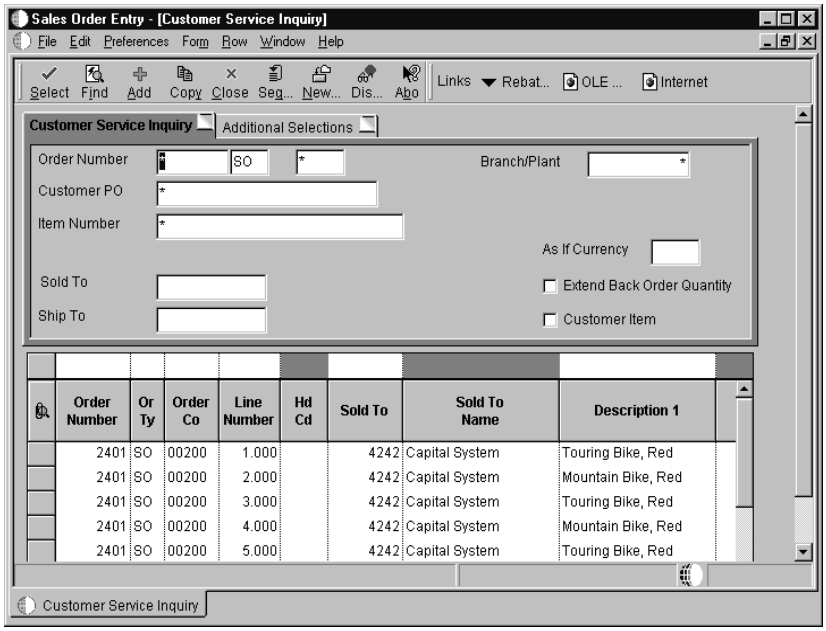
- Part number of the configured parent
- Segment number
- Segment description
- Segment value
- Associated user defined code table value description

The system adds the configured text from the sales order to the work order.

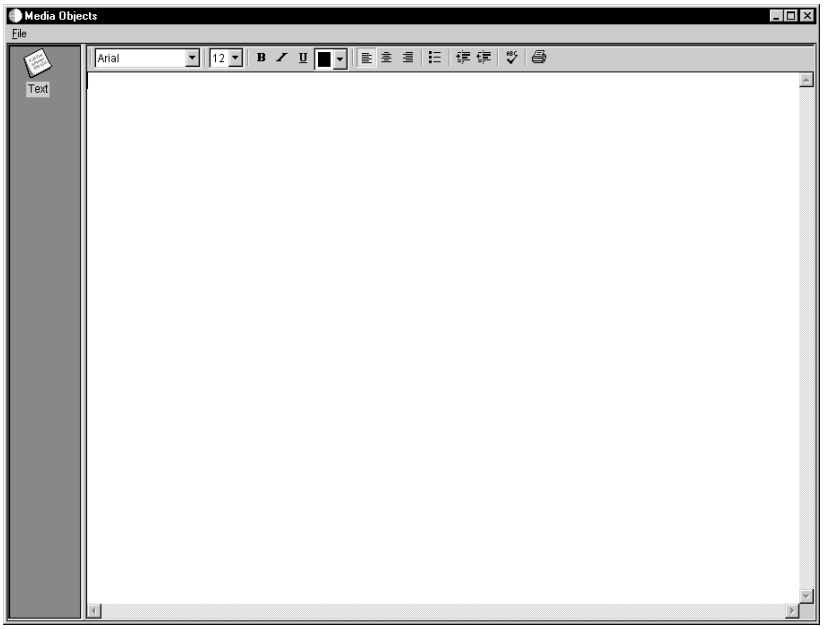
▶ To review configured text

From the Configurator Daily Processing menu (G32), choose Sales Order Entry.

1. On Customer Service Inquiry, complete the following field and click Find to locate a sales order for the configured item:
   - Item Number



2. Select an order in the detail area.
3. From the Row menu, choose Order.
4. From the Order drop–down list, choose Attachments and then Detail Attachments.



5. On Media Objects, review the text.

See Also

- *Working with Detail Information* in the *Sales Order Management Guide* for more information about working with associated text.
- *Processing Options for Sales Order Entry* in the *Sales Order Management Guide*

Processing Options for Configured Item Specifications

Defaults Tab

These processing options define the default information that the system uses during Configured Item Specifications (P32942).

1. Hot Spot Selection

A user defined code stored in table 32/HS that indicates the type of information that appears in the Hot spot field–for example, the domestic price, foreign price, or weight.

2. Configurator Print Flag

Use this processing option to determine whether configured parts print on sales orders and work orders. This processing option is used in the Pick Slip, Invoice Print, Bill of Lading, and Print Parts List programs.

Valid values are:

Y Print on the sales and work order. You can also use 1.
N Do not print on the sales and work order. You can also use 0.
2 Print on the sales order only.
3 Print on the work order only.

3. Line Type

Use this processing option to control how the system processes lines on a transaction. The line type controls the systems with which the transaction interfaces (General Ledger, Job Cost, Accounts Payable, Accounts Receivable, and Inventory Management). It also specifies the conditions under which a line prints on reports and is included in calculations.

This processing option uses line type to group X rule prices added on the fly.

Valid values are:

S Stock item
J Job cost
N Non-stock item
F Freight
T Text information
M Miscellaneous charges and credits
W Work order

Processing Tab

These processing options control how the system processes and displays values within Configured Item Specifications (P32942).

4. Error Display

Use this processing option to specify whether to process and display all cross-segment editing errors from the calculation.

Valid values are:

1 Continue cross-segment editing processes and display all errors.
Blank Stop cross-segment editing processes at the first error.

5. Pre-expand Tree

Use this processing option to control the tree display of a configured item on the Component Revisions form.

Valid values are:

1 Load the component revisions tree pre-expanded.
Blank Load the component revisions tree without expanding.

6. Media Object Display

Use this processing option to specify whether to display media objects on the Configured Item Specifications form. This option controls context sensitive display of media objects related to items, segments, and user defined code values.

Valid values are:

1 Display media objects.
Blank Do not display media objects.

7. Media Object Display Order

Use this processing option to specify the order in which media objects appear on the Configured Item Specifications form, if there is more than one media object type attached to a configured item or segment. If there is more than one media object of the same type, the first attached object in the selected type will be displayed.

Valid values are:

1 Text
2 Image
3 OLE
Blank Image

8. Primary Item Number

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the primary item number on the tree structure.
Blank Do not suppress the primary item number on the tree structure.

9. Branch/Plant

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress branch/plant on the tree structure.
Blank Do not suppress branch/plant on the tree structure.

10. Item Description

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the item description on the tree structure.
Blank Do not suppress the item description on the tree structure.

11. Quantity

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the quantity on the tree structure.
Blank Do not suppress the quantity on the tree structure.

12. Unit of Measure

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the unit of measure on the tree structure.
Blank Do not suppress the unit of measure on the tree structure.

13. Price/Cost Description

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the price/cost description on the tree structure.
Blank Do not suppress the price/cost description on the tree structure.

14. Unit Price

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the unit price on the tree structure.
Blank Do not suppress the unit price on the tree structure.

15. Price Rollup Flag

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the price rollup flag on the tree structure.
Blank Do not suppress the price rollup flag on the tree structure.

16. Unit Cost

Use this processing option to control how the tree structure appears on the Configured Item Specifications form.

Valid values are:

1 Suppress the unit cost on the tree structure.
Blank Do not suppress the unit cost on the tree structure.

17. Component Revision Price

Use this processing option to specify whether to display a particular price such as domestic, foreign, or order mode, on the Component Revision form.

Valid values are:

1 Suppress the price.
2 Display only foreign price.
3 Display only order mode price.
4 Display both domestic and foreign prices.
Blank Display domestic price only.

18. Component Revision Cost

Use this processing option to specify whether to display a particular cost, such as domestic, foreign, or order mode, on the Component Revision form.

Valid values are:

1 Suppress the cost.
2 Display the foreign cost only.
3 Display the order mode cost only.
4 Display both the domestic and foreign costs.

Blank Display the domestic cost only.

19. Component Revision Weight

Use this processing option to specify whether the system displays the weight of your configured items on the Component Revision form.

Valid values are:

1 Do not display weight of configured items.
Blank Display weight of configured items.

20. Common Attribute Display

Use this processing option to specify whether the system displays common attributes among configured items.

Valid values are:

1 Display common attributes without automatic prompt.
2 Display common attributes with automatic prompt.
Blank Do not display common attributes.

21. Common Attribute Display Scope

Use this processing option to specify whether to display common attributes specific to the configured item.

Valid values are:

1 Display all common attributes.
Blank Display only common attributes used in configuration.

Understanding Partial Shipments for Configured Items

OneWorld allows you to ship part of an order quantity for configured items so that you can:

- Ship configured items as they are completed
- Reduce inventory handling costs
- Receive payments on shipped quantities of the order

Sales orders for configured items can often have large order quantities, including parts and subassemblies. Typically, as configured items (and their components) are completed, they remain in inventory until the entire order is complete. However, by shipping partial quantities of configured items as they are completed, you can effectively manage inventory and reduce handling costs, and you can periodically bill for the quantity completed instead of waiting for the entire order to be completed.

Note: The back order feature is not available when shipping partial quantities of a configured item.

This topic consists of the following tasks:

- ❑ Shipping a Partial Order Quantity of a Configured Item
- ❑ Shipping a Partial Order Quantity of Components

Shipping a Partial Order Quantity of a Configured Item

When a customer orders a quantity of configured items, you can ship less than the total order quantity as you manufacture the items. For example, a customer might order a large quantity of personal computers. As you complete the computers, you can make multiple shipments of the personal computers until you complete the original order.

The following table illustrates a typical sequence of events that you can follow to ship a partial quantity of a configured item.

Sales Order Entry (P4210)	You enter a sales order for a configured item. The system creates related work orders when the order line type is "W". See Entering a Sales Order for a Configured Item for information about entering a sales order.
Order Processing (R31410)	You run the Order Processing program. The system attaches parts lists and routings for all related work orders. See *Processing Work Orders* for information about creating parts lists and routings for work orders for configured items.
Work Order Issues (P31113)	You issue parts for the work orders associated to a configured item, beginning at the lowest level work order. If the configured item consists of nested configured items, such as the forklift (item 6000) in the demo data, the sequence is as follows: • Issue and then complete the work order for the fork (item 6200) • Issue and then complete the work order for the boom assembly (item 6100) • Issue and then complete the work order for the forklift (item 6000) See *Issuing Material* in the *Shop Floor Management Guide* for information about issuing parts for work orders.

Work Order Completions (P31114)

The inventory is created at this step. For an order of configured items that is not shipped until the entire order quantity is completed, a scenario like the one illustrated with the forklift will be typical. For a partial shipment, Work Order Completions is the first opportunity to split the sales order. When partially completing a work order for a configured item, the related sales order lines are also split through work order completions. For example, if the original quantity on the sales order for a configured item is ten but only six are completed, the related sales order line will be split into two lines to show the partial quantity that is complete (ready for shipment) on one line and the rest of the quantity that is not yet complete on another line.

For each order quantity of a configured item that you complete, you must assign a lot or location. When you ship partial quantities, you can assign each partial quantity of the original order to a different lot or location.

Note: Splitting the sales order from Work Order Completions doesn't prevent you from further splitting the sales order from Ship Confirm.

See *Completing Discrete Work Orders* and *Completing Partial Quantities on Work Orders* in the *Shop Floor Management Guide* for information about how to complete a work order.

Print Pick Slips (R42520)

You run the Print Pick Slips application for the appropriate work orders. The system prints a pick list for those working in the warehouse to use when pulling the order.

See *Working with Picking Documents* in the *Sales Order Management Guide* for information about how to print pick slips.

Ship Confirm (P4205)

Continuing the partial completion scenario above (six of ten items are complete), you might choose to ship all six of the completed items, or you might choose to ship only some of them. If you choose to ship all six, the sales order displays two sets of lines for the configured item. One line is for the six items that are complete. The completed items will have a new status and line number. The completed items are also hard-committed to the lot number assigned to them on Work Order Completions. The other line is for the four items that are not yet complete. These items remain at the same status and line number. They do not have a lot number assigned to them. If you select the first line and ship the entire quantity (six) of completed items on that line, then that line is finished. You have completed a partial shipment.

If you choose to ship only some of the six completed items, you can use Ship Confirm to designate, by lot/location, which items you shipped. Just as you use Work Order Completions to designate which items are complete, you can use Ship Confirm to designate which of the completed items have been shipped to the customer. The sales order displays three sets of lines for the configured item: one line for the items that are complete and shipped, one line for items that are complete but not shipped, and one line for the items that are not complete. You can continue to split the shipment as many times as necessary to meet your business needs.

When you ship a partial quantity of a configured item, the system maintains the relationships of the configured item's components to their parent. The components become text line types and are rolled up into the parent configured item. These text lines are not displayed on Ship Confirm. Miscellaneous line types, such as freight charges, are also not displayed on Ship Confirm.

See *Working with Shipments* in the *Sales Order Management Guide* for more information.

Shipping a Partial Order Quantity of Components

In addition to shipping a partial quantity of completed configured items, you can also ship partial quantities of components. You can only ship partial quantities of components whose parent does not generate a work order to complete (S line type).

For example, a customer might order a large number of personal computers, that include a monitor, CPU with preloaded software, keyboard, mouse, and cabling. In order to begin the transition from the old to the new personal computers, the customer might request that you ship the CPUs and the software prior to the rest of the components so that they can install the software and set up the CPUs before actually assembling the personal computers.

In this scenario, you can ship all or a part of the CPUs and software (components) separately from the personal computers (parent configured items). You can override the quantity to be shipped for the CPUs and software, and disassociate them from the parent configured item. The CPU becomes a new parent and the software remains a child of the CPU, but both are disassociated from the personal computer. You must manage, track, and ship any remaining quantities of the CPUs and software separately from the personal computers until you have shipped the entire order quantity on the original sales order.

Understanding Duplicate Components

You can add multiple instances of a configured component item to a configured parent item. Each new instance of the component can be configured uniquely or be an exact copy of an instance of the component that you previously configured. You can use a single part number to represent the various configurations of a component item, thus reducing the number of part numbers you must manage.

To include multiple instances of a configured component item in a parent item, you add the appropriate P-type assembly inclusion rules to the parent item. You can include multiple instances of the configured component item to the configured parent item with unconditional or conditional rules, depending on your business needs.

Whether multiple instances of the configured component item are included as part of the default configuration (using unconditional rules) or as part of a subsequent configuration (using conditional rules), each instance can be configured differently, but have the same part number. Using a single part number allows you to set up all the associated segments, assembly inclusion rules, and cross-segment editing rules for a single item, and then customize various configurations for that item.

See Also

- *Setting Up Assembly Inclusion Rules* for more information about P rules

Example: Duplicate Components

The following cabinet can be configured with two or three drawers depending on the height of the cabinet

- * body (unconditionally add a configurable cabinet body to the configuration)
- * drawer (unconditionally add a configurable drawer to the configuration)
- * drawer (unconditionally add a configurable drawer to the configuration)
- I height = 36 * drawer (if the height of the cabinet is 36 inches, add a third configurable drawer to the configuration)

Each instance of the drawer in this example can be configured differently but have the same part number.

Storing and Forwarding Sales Orders for Configured Items

Store and forward sales order processing provides an efficient way to integrate a field sales force into the sales order management process. Store and forward sales orders ensure accuracy and timeliness. With store and forward, the field sales force can create sales orders on a PC and upload them. If you are at a remote site and do not have a dedicated line for access to the server, it might be more productive and cost-effective to create sales orders on your PC during normal business hours. Then you can upload them to the server for processing during off-peak hours.

Storing and forwarding sales orders for configured items includes the following tasks:

- ❑ Creating orders that you store and forward
- ❑ Uploading sales orders to the server
- ❑ Processing batch sales orders

When you create sales orders that you store and forward, the system edits and validates each sales order based on the information that you downloaded from the tables. It also creates a transaction control record for each sales order, assigns it a status of 1 (ready to process), and stores it in the Transaction Control table (F0041Z1).

For configured items, the system:

- Stores segments in the Configured Item Segments table (F3294Z)
- Prices, costs, and discounts the configured item
- Processes cross-segment editing rules and assembly inclusion rules
- Attaches configured text
- Stores configured item information in the Sales Order Detail Header table (F4201, F4211)
- Stores configured string history information on the PC
- Stores configurator information in a variety of S/32 files. (F32943, F3296, F32961, F329611, F3296T)
- Supports adding nonstandard components and price adjustments
- Supports base pricing and discounting

The Store and Forward Sales Order process does not support the following for configured items:

- Order changes after you have updated transactions on the server
- Availability checking of stocked configured items from remote clients
- Line splitting for configured item availability

After you enter a store and forward sales order, the system transfers the header information to the Batch Header Receiver table (F4201) and the detail information to the Batch Detail Receiver table (F4211). Configuration information is stored in the Configured Item Segments table (F3294Z). The information remains in those tables until you are ready to process the orders.

When you are ready to forward the sales orders, you must run the Batch Edit and Creation program. The system edits the store and forward order information and transfers it to a standard sales order.

You must run the Batch Edit and Creation program to generate the sales orders. After the system creates orders, you can either process the sales order as is or change any detail information by using sales order entry.

All setup files for the Sales Configurator system are stored on the PC. You should download setup files to the PC whenever significant changes are made.

Note: Adding nonstandard components and price adjustments is supported within store and forward sales order entry for configured items.

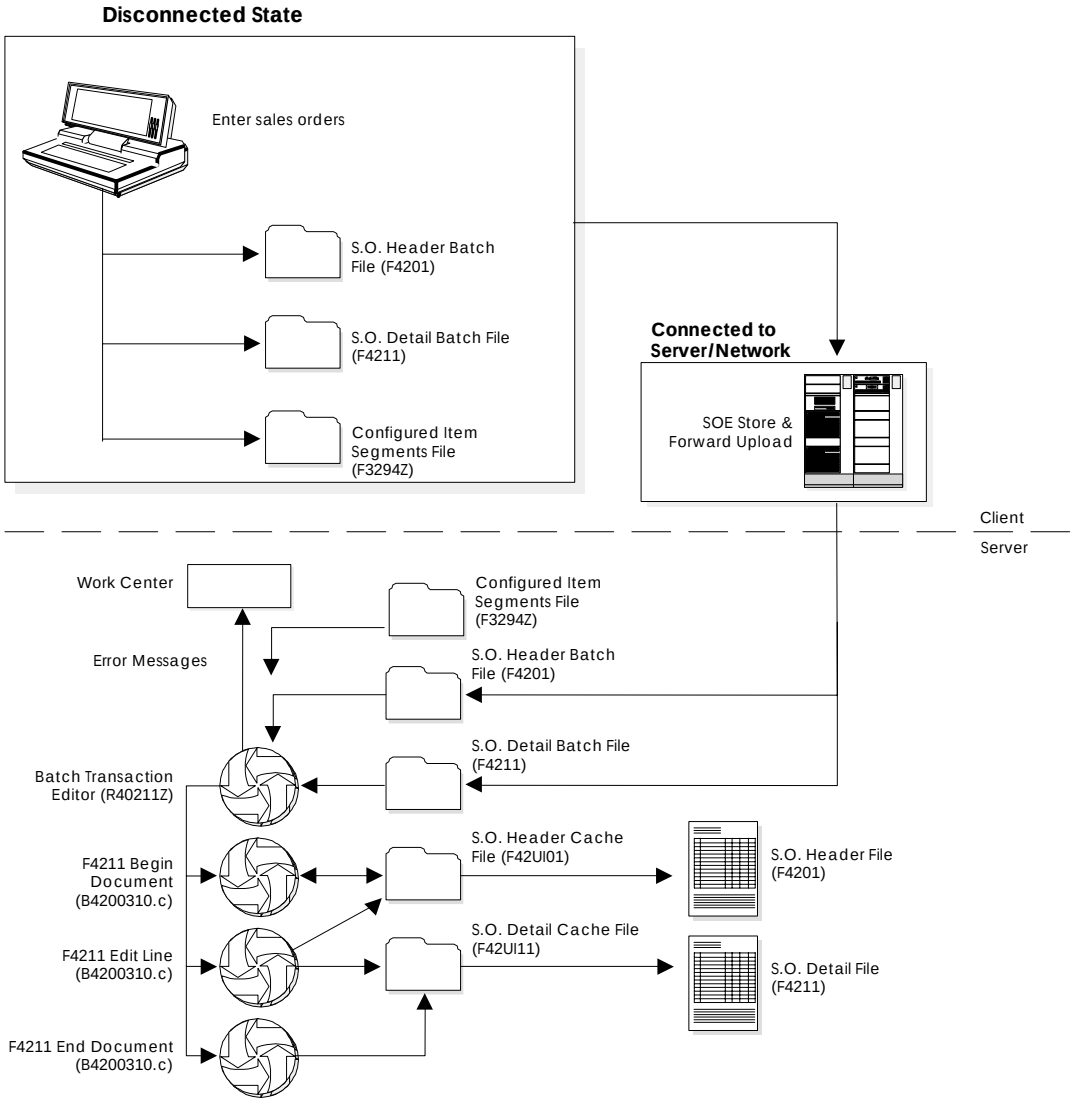
Industry Example

The Industrial Fabrication and Assembly (IFA) industry is moving toward a to-order/postponement environment whereby standard configurations are built and inventoried, and then customized at the last possible point in the manufacturing process. Store and forward, used with Configurator, allows sales representatives to work with the client on site and transfer the data at a later time.

Before You Begin

- ❑ Verify that the Customer Billing Instructions information is set up to process batch orders.
- ❑ Verify that the system administrator downloads the necessary technical master tables before you complete the steps to store and forward sales orders.
- ❑ Download the appropriate tables from the server to your PC. See *Downloading Master Tables to the Workstation* in the *Sales Order Management Guide*.

The following graphic illustrates the store and forward process.



Creating Orders That You Store and Forward

You can create standard J.D. Edwards sales orders for configured items using the store and forward environment. You store the sales orders on your PC until you are ready to upload, or forward, them to the server for processing.

You can review sales orders before you upload and process them. See *Correcting Batch Sales Orders* in the *Sales Order Management Guide* for more information.

After creating sales orders that you store and forward, you might need to modify or delete some of them. To do so, locate the sales order that you want to modify on the Work With Store & Forward Orders form. Make the changes to the sales order on your PC and upload it again.

See Also

- *Storing and Forwarding Sales Orders* in the *Sales Order Management Guide*

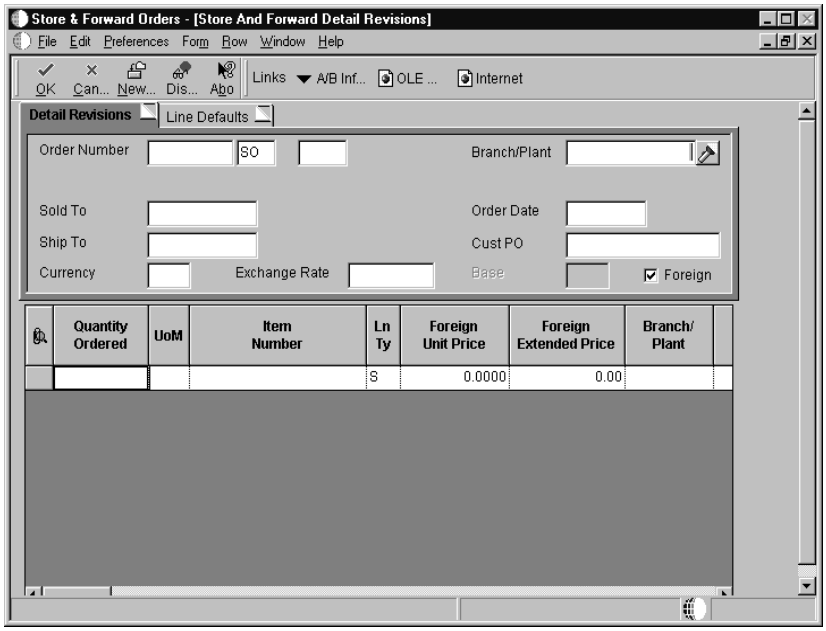
Before You Begin

❑ Set the processing options appropriately.

▶ To create orders that you store and forward

From the Configurator Daily Processing menu (G32), choose Store & Forward Orders.

1. On Customer Service Inquiry, click Add.

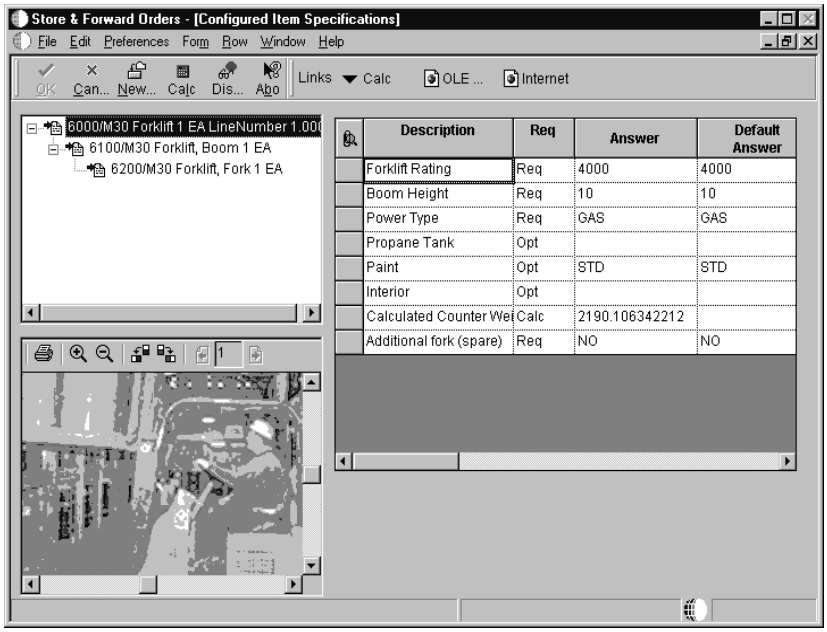


2. On Sales Order Detail Revisions, complete the following required fields with information about the customer:
   - Branch/Plant
   - Sold To

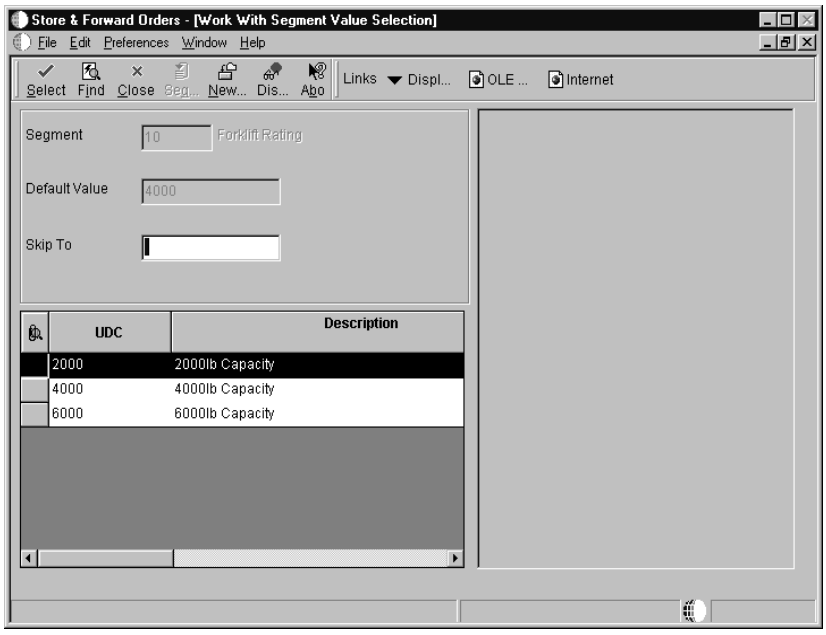
- Ship To
- Order Date

3. Complete the following required fields with information about the configured item and click OK:

   - Quantity Ordered
   - UoM
   - Item Number



4. On Configured Item Specifications, to accept the default values, click the Calc button and go to step 8.
5. To change values for the segments, click the Answer field.



6. On Work with Segment Value Selection, choose a row and click Select.

   Do this for every segment that you want to change within your configured item.

7. When you have finished configuring your item, click the Calc button.
8. If you do not receive any errors, click OK.

   For more information on error messages, see *Working With Error Messages.*

9. To finish creating the sales order, do one of the following:
   - Submit the order for processing if the processing options are not set to automatically submit the order.
   - Process the sales orders later by running the Edit and Creation program.

   Regardless of when you process the orders, the Edit and Creation program edits the information and creates the sales orders. If there are no errors, the system adds information to the Sales Order Header table (F4201) and the Sales Order Detail table (F4211).

Uploading Sales Orders to the Server

After creating sales orders on your PC, you must upload them to the server for processing. To do this, you must be connected to the server and signed on to your normal production environment.

When you upload sales orders, the system:

- Creates records in the Batch Order Header (F4201) and Batch Order Detail (F41211) tables on the server.
- Updates the transaction control status of each sales order to 5 (uploaded) on the PC. After a sales order is updated to this status, you cannot modify it on the PC. You can make changes to it only on the server.

  If a sales order on the PC is a status of 1 (ready to process) or 2 (errors), you can make changes to it on the PC.

- Creates a transaction control record for each sales order on the server and assigns it a status of 1 (ready to process).
- For configured items, the system uploads the configured segment tables (F3294Z), (F3296), (F3296T), (F32943), (F32961), and (F329611).

After you upload your sales orders and process them, the system edits transaction control status of the sales orders on the PC to match the status of the sales orders on the server.

Before You Begin

❑ To maximize system performance, upload the sales orders during off-peak hours.

▶ To upload sales orders to the server

From the Configurator Daily Processing menu (G32), choose Upload Store and Forward Tran.

1. On Work With Batch Versions, choose the Store and Forward Upload version.
2. From the Form menu, choose Run.
3. To limit the information that the system uploads, choose the Data Selection option on Version Prompting.
4. Click the Print or Preview option.
5. On Environment Overrides, enter the exact name of the target environment and click OK.

   The system creates a transmission upload report for all of the sales orders that you upload. Use this report to verify that the sales orders have been uploaded correctly.

Processing Batch Sales Orders

From the Additional Order Processes menu (G4212), choose Batch Edit and Creation.

After the system creates orders, you can either process the sales order as is or reprocess the configured item using rules that are defined on the server. To process sales orders, you must run the Batch Edit and Creation program. The system edits the information that you enter and creates all of the orders at one time. To ensure the integrity of the data, the system creates sales orders for batch orders only after the editing process is complete.

Any of the orders that contain errors remain in the batch receiver tables as unprocessed. You must correct this information and then re-run the Batch Edit and Creation program.

On Work With Versions, select an existing version or create a new version to process batch sales orders.

When processing the sales orders that you uploaded, use the same program that you use to process batch input sales orders.

For configured items, the system:

- Accepts the configured item as entered or revalidates the configured item by retrieving segment values.
- Retrieves segment order values from the Configured Item Segments table (F3249Z)
- Processes cross-segment editing rules and assembly inclusion rules
- Stores information in the appropriate sales order and configurator tables
- Supports availability checking for stocked configured items
- Reports errors, including:
    - Segment UDC values
    - Segment range
    - Required segments
    - Alphanumeric segment requirements
    - Cross-segment editing rules
    - Assembly inclusion rules
- Creates a configured sales order for transactions with no errors

You can upload prices from the PC or recalculate them with the Batch Transaction Editor program. If you upload prices, existing prices are overridden.

When you connect to the server, you can review errors and batch status codes for each transaction. Batch status codes identify where orders are in the process:

1 – The transaction is available for processing.

2 – The transaction contains errors.

3 – The system is processing the transactions.

4 – Upload Transmission Active.

5 – Unavailable – Waiting for Server Response.

6 – Complete. The transactions are updated to the sales order header and detail files on the server.

You should correct errors with the server version of the Store and Forward Sales Order Entry program, and rerun the Batch Edit and Creation program.

See Also

- *Processing Batch Sales Orders* in the *Sales Order Management Guide* for more information about submitting sales orders for processing and verifying sales order information

Processing Options for Batch Edit and Creation

```
Process

      1. Enter '1' to Perform                          _____________
      Availability Check and Kit
      Balancing
      2. Enter '1' to override prices,                 _____________
      if  ' ' use the Unit Price in
      F4106

Versions

      1. Enter the Version ID of the                   _____________
      Sales Order Entry

Configurator

Configured Item Inventory Split.

      Enter '1' to support a single                    _____________
      split, or '2' to support multiple
      splits.  Blank disables
      splitting.
```

Configured Items

Configured Items

After you enter configured item information during sales order entry, you can work with configured items in your business cycle with other Manufacturing and Distribution systems.

Working with configured items consists of the following:

- Processing work orders
- Working with configured string history
- Understanding configured items and Manufacturing systems
- Understanding configured items and Distribution systems

Processing Work Orders

From the Configurator Daily Processing menu (G32), choose Work Order Generation.

After you have entered configured item sales orders and have created work order headers, you must run the Work Order Generation program to perform the following:

- Generate the work order parts list from the sales order and P type assembly inclusion rules
- Include additional parts on the work order from Q type assembly inclusion rules
- Create the work order routing instructions from the R type assembly inclusion rules
- Commit inventory
- Back-schedule configured routings

Note: When running R31410 to generate work orders, you must set the data/sort sequence to descending by work order to ensure that the back-scheduling of work orders is accurate. You can generate work orders with out setting the data sequencing to descending. The work orders will be created correctly with the associated parts lists and routing. However, back-scheduling, and the costing of configured components might not be correct.

Before You Begin

❑ Set processing options for the Work Order Generation program for configured item processing.

Additional Considerations When Processing Work Orders

Reprocessing a work order	You can run the Work Order Generation program again to reattach the parts list and routing to a configured item.
Recosting a work order	You can change a work order's parts list and routing, and run Work Order Generation again to recost the work order. However, this process eliminates the planned variance for the work order.

Changing the sales order

Use Work Order Entry processing options, referenced by the sales order, to define the work order cutoff status. The cutoff status determines at what point the changes to the sales order do not affect the work order. In other words, if the work order is already at that status or higher and you change the sales order, then the work order status changes, but the parts list and routing are not affected.

Calculating lead times

Work Order Generation calculates each operation's start and end dates and the work order's start date. Work Order Generation back scheduling uses fixed or variable lead times that you have defined on Item Branch for the work order start date. Because variable lead times depend on how the item is configured, you must enter lead times manually on Item Branch.

Work Order Generation calculates lead times for multilevel configured items. However, Leadtime Rollup does not support configured items.

Updating standard costs

Work Order Generation determines a configured item's standard cost from the configured parts list and routing, and stores the costs in the Work Order Variance table. The program also updates standard costs on the associated sales order detail line.

Updating sales orders

Use a processing option to control whether the system updates the status of the related sales order detail line.

Configured text

Sales Order Generation places configured item text on the work order. Work Order Generation copies the configured text from R type (routing) assembly inclusion rules to the routing operation.

See Also

- *Processing Work Orders and Rate Schedules* in the *Shop Floor Management Guide*

Processing Options for Work Order Generation

```
Process

      1.  Generate Parts List and
      Routing Instructions  1 = Parts
      list only  2 = Routing
      instructions only  3 = Both parts
      list and routing instructions
      Blank = Do not generate a parts
      list or routing instructions
```

list or routing instructions
2. Update Parts List and Routing Instructions 1 = Update the existing parts list and routing instructions. Blank = Do not update the existing parts list or routing. _____

Defaults

1. Work Order Date _____
2. Header Status Code _____

Parts List

1. Substitutions 1 = Substitution processing performed Blank = Substitution processing not performed.
not performed. _____
2. Prior Revision Level 1 = Prior revision level used Blank = Prior revision level not used
used _____
3. Preflush Items 1 = Material issued for all items Blank = Material issued only for preflushed items _____
4. Commitment Processing Bypass 1 = Commitment processing not performed Blank = Commitment processing performed per commitment control _____

Routing

1. Unit of Measure _____
2. Document Type _____
3. Line Type _____
4. Beginning Status _____
5. Subledger Field 1 = Work order number entered into the subledger field of the purchasing journal entries Blank = Work order number not used.
used. _____

Sales/Config

1. Line Type _____
2. Next Status _____
3. Standard Cost Calculation 1 = Calculate standard cost 2 = Calculate standard cost only if it has not already been calculated Blank = Do not calculate standard cost
cost _____

Printing 1

1. Work Orders 1 = Print work orders Blank = Do not print work orders or any associated information _____

2. Parts Lists 1 = Print parts list Blank = Do not perform any parts list print processing
list print processing _____

3. Parts List Detail 1 = Print detail information Blank = Do not print detail information
information _____

4. Parts List on Separate Pages 1 = Print each parts list on a new page Blank = Print parts list on work order header page
order header page _____

5. Consolidated Parts List (FUTURE) 1 = Consolidate the parts list Blank = Do not consolidate the parts list
parts list _____

6. Parts List Component Text 1 = Print component (generic) text Blank = Do not print component text
text _____

Printing 2

1. Routing Instructions 1 = Print routing instructions Blank = Do not perform any routing instructions print processing _____

2. Routing Instructions on Separate Pages 1 = Print routing instructions on a new page Blank = Do not print routing instruction on new page
instruction on new page _____

3. Routing Instructions Text 1 = Print routing instructions (generic) text Blank = Do not print routing instructions text
instructions text _____

4. Shop Packet Summary 1 = Print shop packet summary Blank = Do not print summary _____

5. Sales Order Text Lines 1 = Print sales order text lines Blank = Do not print sales order text _____

Warehouse Mgt

1. Pick Requests 1 = Generate request only 2 = Generate request and process using subsystem Blank = No request processed
Blank = No request processed _____

2. Location Driver Processing Version (R46171) _____

3. Staging Location _____

4. Staging Location Availability 1 = Check staging location for availability Blank = Does not check for availability
availability _____

Versions

1. Work Order Print (R31415) _____
2. Shortage Report (R31418) _____
3. Bar Coding Report (R31413) _____
4. Inventory Issues (P31113) _____
5. Purchase Order Entry (P4310) _____
6. Manufacturing Specifications (R37470) _____

Interop

1. Work Order Transaction Type _____
2. Parts List Transaction Type _____
3. Routing Instructions Transaction Type _____
4. Work Order Header Before Image _____
1 = Include before image Blank = Do not include before image image
5. Parts List Before Image 1 = Include before image Blank = Do not include before image image _____
6. Routing Instructions Before Image 1 = Include before image Blank = Do not include before image image _____

Working with Configured String History

You can generate an additional history of all of the configured strings that customers order. Review this history by customer and item to analyze sales. You can use this history information to generate custom reports and inquiries.

Working with configured string history consists of the following tasks:

- ❑ Generating the configured string history
- ❑ Reviewing the configured string history

Generating the Configured String History

From the Configurator Daily Processing menu (G32), choose Configured String History.

For the sales orders that you select, the Create Segment Value History program:

- Retrieves the configured string from the Configured String History table (F32943)
- Separates the string
- Generates a record for each segment value
- Stores the information in the Configured String Segments table (F32942)

Note: The system does not generate the Configured String History table automatically. You run the Create Segment Value History program before you review the history.

Reviewing the Configured String History

You can review the configured string history to locate previously ordered configurations at any level of a configured item. The history includes information about customers, orders, price, and cost. You don't have to generate the string history for this review.

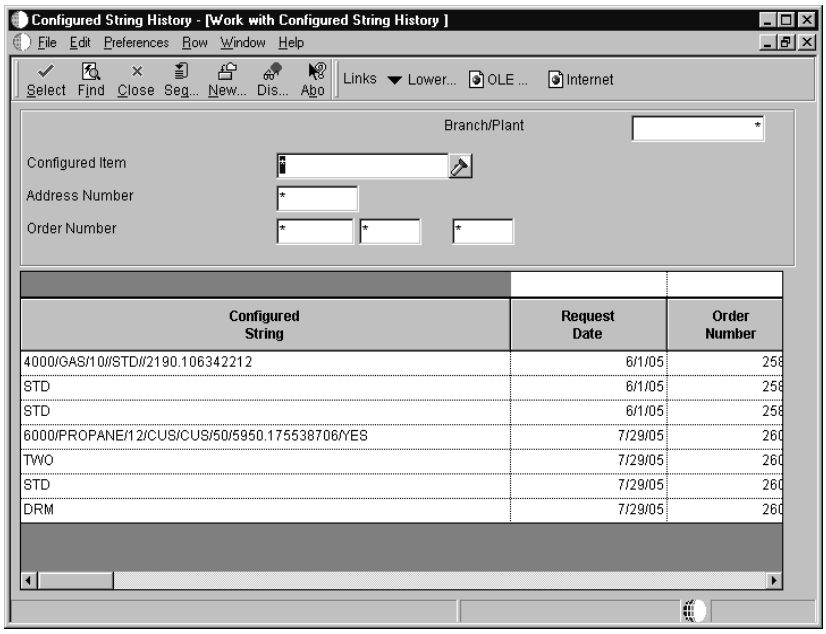
You can also view the configured string history during sales order entry, where you can select from previously ordered configured items to enter on the current sales order.

See Also

- *Working with Configured Item Sales Orders*

▶ To review the configured string history

From the Configurator Daily Processing menu (G32), choose Configured String History.



1. On Work with Configured String History, complete the following fields and click Find to locate a configured item:
   - Branch/Plant
   - Configured Item
2. Complete the following optional fields:
   - Order Co
   - Or Ty
   - Order Number
   - Address Number
3. Review price and cost information in the following fields:
   - Configured String Segment 02
   - Configured String Segment 01
   - String ID
   - Segment Configured Item Number

- Entered Unit Prc
- Memo Cost 1
- Lot Serial Number
- Location
- Line Number
- Request Date
- Configured String

Field	Explanation
Order Number	A number that identifies an original document. This can be a voucher, an order number, an invoice, unapplied cash, a journal entry number, and so on.
Or Ty	A user defined code (00/DT) that identifies the type of document. This code also indicates the origin of the transaction. J.D. Edwards has reserved document type codes for vouchers, invoices, receipts, and time sheets, which create automatic offset entries during the post program. (These entries are not self-balancing when you originally enter them.) The following document types are defined by J.D. Edwards and should not be changed: P Accounts Payable documents R Accounts Receivable documents T Payroll documents I Inventory documents O Purchase Order Processing documents J General Accounting/Joint Interest Billing documents S Sales Order Processing documents OS Subcontract OP Purchase Order R2 Contract Billing
Order Co	A number that, along with order number and order type, uniquely identifies an order document (such as a purchase order, a contract, a sales order, and so on). If you use the Next Numbers by Company/Fiscal Year facility, the Automatic Next Numbers program (X0010) uses the order company to retrieve the correct next number for that company. If two or more order documents have the same order number and order type, the order company lets you locate the desired document. If you use the regular Next Numbers facility, the order company is not used to assign a next number. In this case, you probably would not use the order company to locate the document.

Field	Explanation
Configured String	The configured string identifier as it was originally entered on a Sales Order.
Request Date	The date that an item is to arrive or that an action is to be complete.
Line Number	A number that identifies multiple occurrences, such as line numbers on a purchase order or other document. Generally, the system assigns this number, but in some cases you can override it.
Location	The storage location from which goods will be moved.
Lot Serial Number	A number that identifies a lot or a serial number. A lot is a group of items with similar characteristics.
Memo Cost 1	A user-defined cost the system uses based on information that you supply, which includes the name of the costing method and the method of calculation.
Entered Unit Prc	The price charged for the unit of measure in the adjoining field. Use these fields, for example, if your primary unit of measure is EA (each), but you typically use a list price per box.
Segment Configured Item Number	The configured item that a segment in an Assembly Inclusion Rule references.
String ID	A numerical value that represents a unique configured string.

Understanding Configured Items and Manufacturing

After you have entered a configured item sales order, use programs in the Manufacturing system to monitor production of the configured item within the Shop Floor Management and Manufacturing and Distribution Planning systems.

This topic includes the following tasks:

- Working With Product Costing and Manufacturing Accounting
- Working with work order completions
- Reviewing hours and quantities

Working With Product Costing and Manufacturing Accounting

From the Configurator Daily Processing menu (G32), choose Work Order Generation.

Costing for configured items is different from costing for nonconfigured items. As you manufacture configured items, no engineering variance exists because there is no standard bill of material or routing for the configured item.

The Work Order Processing program calculates the configuration-specific costs. It calculates frozen standard costs for the configured item, and updates the unit and extended costs for the sales order. These costs are the accumulation of the components' standard costs; the labor and overhead values defined with manufacturing constants; and the attached routing, work center information, and work order values.

The system stores the configuration-specific standard costs in the Work Order Variance table (F3102) and uses these costs for related Manufacturing Accounting transactions. Configured items do not require rolled frozen standard costs in the Item Cost Component Add-Ons table (F30026). However, standard costs for purchased parts and manufactured parts used by configured items must be frozen (07 Cost Method in F4105) in order to be factored into F3102 standard costs for work orders.

Note: The Product Costing system does not support transfer orders for configured items.

See Also

- *About Costing for Configured Items* in the *Product Costing and Manufacturing Accounting Guide*

Working with Work Order Completions

From the Daily Order Reporting menu (G3112), choose a completions option.

The Work Order Completions program uses the information entered in the Shop Floor Management system to create general ledger journal entries. Shop Floor Management creates no interactive journal entries. Instead, it processes all journal entries in batch.

For configured items, the system updates new locations with standard costs from the Work Order Variance table so that transactions in the Distribution system use the correct costs. The Work Order Completions program hard commits the associated sales order and updates the sales order's lot and location information.

See Also

- *Working with Completions* in the *Shop Floor Management Guide*

Reviewing Hours and Quantities

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities.

As production continues on a configured item's work order, you must record the hours spent on production and the number of items completed in that time. This procedure allows you to monitor progress and costs, and compare them to the standard hours and quantities that you estimated for the job.

After you enter hours and quantities, either manually or through payroll time entry, you can review and revise them before you post them to the Manufacturing system for further tracking and cost accounting.

You can review the quantities entered against the operations scheduled for a configured item's work order, including the actual quantity ordered, completed, and scrapped for each operation. You can also view the standard and variance values along with the status code, which can be updated for the operation.

See Also

- *Working with Hours and Quantities* in the *Shop Floor Management Guide*

Understanding Configured Items and Distribution

After you have entered a sales order and generated work orders for a configured item, use the following programs in the Distribution system to complete the sales order processing cycle:

- Enter Sales Orders
- Print Pick Slips
- Shipment Confirmation
- Print Invoices
- Print Invoice Journal
- Print G/L Sales Recap
- Update A/R and G/L

Understanding configured items and distribution includes the following:

- Working with configured item inventory
- Checking availability
- Working with pick lists
- Working with shipments
- Working with invoices

Working with Configured Item Inventory

The Sales Configurator system enables you to stock configured items. For stocked configured items, you can use programs within the Distribution system to:

- Review configured strings.
- Review configuration-specific costing information.
- Check availability of configured end items. You can search for segments or an exact configured string match.
- Select a stocked configured item during sales order entry. The system hard commits the item, does not generate a work order, and uses costs in the Branch/Plant Costs table.

- Perform inventory transactions, such as:
  - Simple issues
  - Transfers
  - Adjustments

The Inventory Management system does not support reclassifications of configured items.

You can adjust quantities for configured items in a specific location. The Sales Configurator system supports adjustments for locations with existing inventory and adjustments from zero quantity as long as the configuration-specific string history has been defined in the system.

See Also

For more information on working with item inventory, see the following chapters in the *Inventory Management Guide:*

- *Issuing Inventory*
- *Transferring Inventory*
- *Adjusting Inventory*

Checking Availability

Use the Summary and Detailed Availability forms to review the configured item segments.

Checking Availability During Sales Order Entry

To check availability during sales order entry, you must check the Check Availability checkbox in Configurator Constants. If the system finds the exact item and string match during sales order entry, all locations containing the specific configuration appear. You can review segment values for all levels of the configured item and select an item used on the sales order. However, the system does not check the availability of components.

Note: The system does not perform automatic line splitting if the quantity ordered and the quantity selected are different.

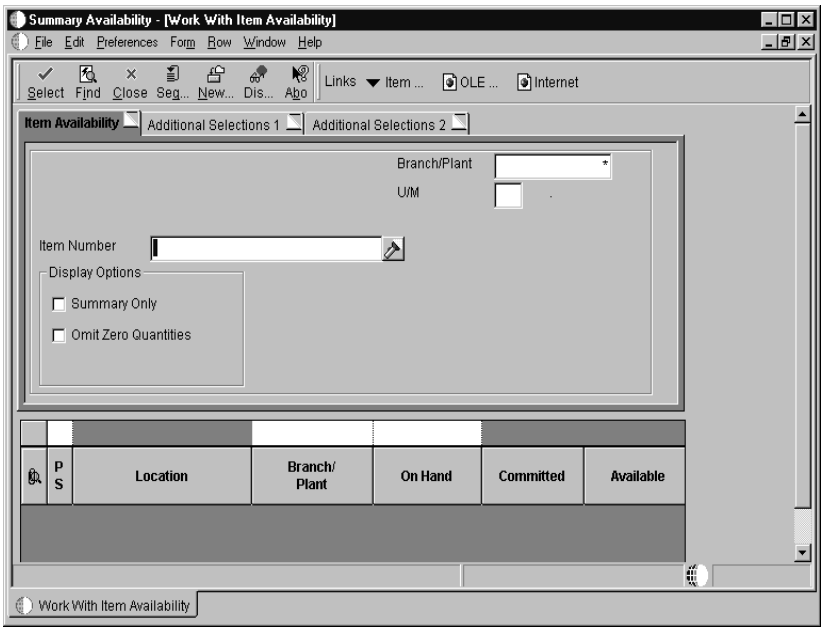
See Also

- *Working with Configured Item Sales Orders*
- *Locating Quantity Information* in the *Sales Order Management Guide*
- *Reviewing Sales Orders* in the *Sales Order Management Guide*

Example: Summary Availability

From the Inventory Inquiries menu (G41112), choose Summary Availability.

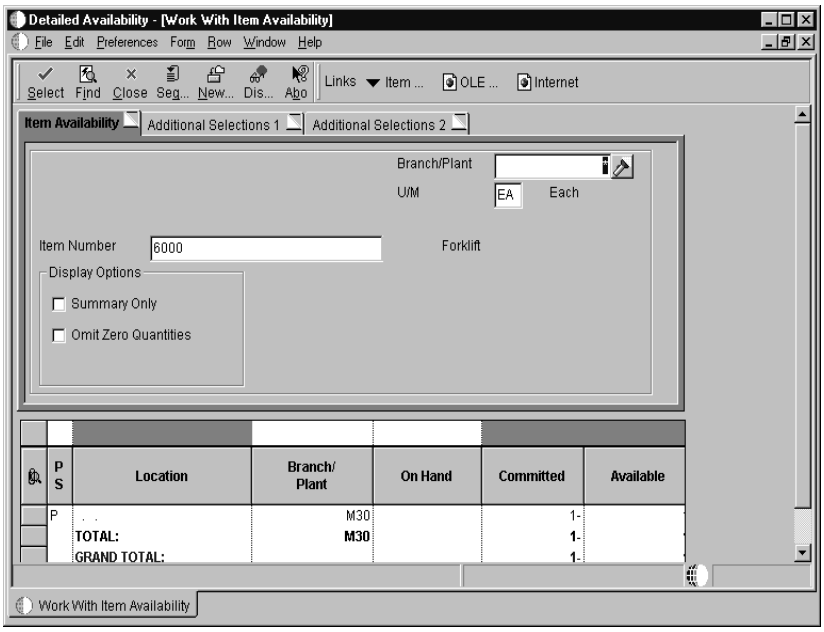
You can use Summary Availability to review inventory locations containing stock for a configured item. Review information in the detail area, such as on-hand, committed, and available quantities for each location:



Example: Detailed Availability

From the Inventory Inquiries menu (G41112), choose Detailed Availability.

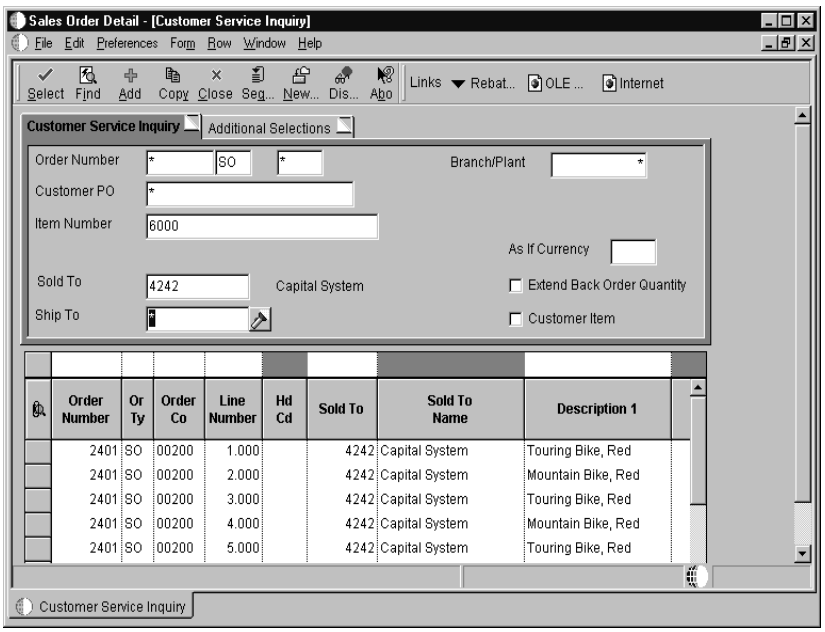
You can use Detailed Availability to review the status of configured items in a specific location. Review information in the detail area, such as on-hand quantity of a configured item and related commitments against that quantity:



Example: Reviewing Customer Service Information

Review customer service information to:

- Locate current sales order information from the Sales Detail and the Sales Detail History File tables
- Provide information at the sales order, customer, and item levels
- Change associated text for the sales order line



Working with Pick Lists

After you have generated sales and work orders for configured items, use the Print Pick Slip program to print pick lists. Pick lists include the following information:

- Order quantities picked and moved to the staging or shipping area of the warehouse
- Price by line item basis and for the order as a whole, which is useful for COD (cash on delivery) deliveries
- Driver's signature line
- Customer signature line

See Also

- *Working With Picking Documents* in the *Sales Order Management Guide*

Working with Shipments

The Sales Configurator system supports shipments of configured items. However, the system does not allow you to backorder a configured item.

Use the Confirm Shipments program to:

- Locate existing order information

- Add additional line items (non-inventory items only)
- Change the shipped, backorder, and cancel quantities
- Specify a container ID, carrier code, and/or shipment date, for each line item
- Override the Ship To Address
- Ship from other or multiple locations
- Adjust inventory (on-hand or hard-commits)
- Confirm shipment
- Record serial numbers for shipped items
- Review the Freight/Additional Charges Revisions program

See Also

- *Working With Shipments* in the *Sales Order Management Guide*

Working with Invoices

Use the Print Invoices program to print sales order invoices. You can print invoices in proof mode, review them, and then print the invoices and update the files. You can also print invoices in draft mode to review the invoice before updating it. In addition, you can print an invoice from history.

See Also

- *Printing Standard Invoices* in the *Sales Order Management Guide*

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