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Welcome to DBA Manufacturing Next-Generation, a complete small business manufacturing system that includes order entry, planning, production, purchasing, inventory, invoicing, and accounting.

This user guide covers the setup and implementation associated with the following modules, which are collectively referred to as the “manufacturing” system.

- Inventory
- Bills of Material
- Sales Orders
- MRP
- Make Jobs
- Purchasing

Accounting startup will take place either in parallel with or after the manufacturing startup process covered in this user guide. Refer to the separate Accounting Startup Guide for setup and implementation of the system’s accounting modules.

In addition to this Manufacturing Startup Guide and the Accounting Startup Guide, four other user guides are available on the system’s Help menu:

Manufacturing User Guide
This is a comprehensive ‘how to’ guide that covers the actual operation of screens and reports throughout the manufacturing portion of the system.

Accounting User Guide
This is a comprehensive ‘how to’ guide that covers the actual operation of screens and reports throughout the accounting portion of the system.

Service Module Guide
DBA includes a complete service and maintenance sub-system that enables you to generate and perform service jobs on your assets or those of your customers.

Data Import/Export Guide
This guide covers the importing of your main tables (customers, suppliers, items, BOM’s, assets, chart of accounts) and the system’s data export capability.
Even though DBA is an "off the shelf" solution designed for self-implementation, we encourage you to use our support and online resources because they save you time and money.

Our training and support program is a resource-based service delivered through our online support center. A support center subscription provides you with a low-cost alternative to fee-based services.

NOTE: You can purchase a support center subscription from the DBA web store at www.DBAManufacturing.com or you can contact support@dbasoftware.com.

A support center subscription includes the following:

**Online Training**
- Available to all users in your company 24/7
- Search videos by topic in knowledge base
- Packed with tips, suggestions, and consulting-level advice

**Support Service**
- State-of-the-art online ticketing system manages all support incidents
- Tickets can be submitted by any user, not just primary contact
- Ticket queue actively managed for quick response to emergencies
- Issue resolution by return ticket, phone, data review, or remote access - whichever we determine to be most effective
- Ticket tracking by issue, status, category, person, and date
- Ticket copy option to other users
- Tickets stay open until resolved and can be reopened if additional help is needed
Online Support Center
- Training videos
- Knowledge base
- Discussion forum
- Most popular and most recent knowledge topics
- User ratings on topic helpfulness
- Automatic e-mail notification of topic changes
- White papers
- Downloads

Accessing the online support center
A support center subscription provides all users in your company with access to the online support center.

Access to the online support center is provided within the software itself. Go to the Help menu and click the Online Support Center option.

Each of your users can self-register
Each user within your company can register and set up a personal account by clicking the Request for a New Account button and completing and submitting the registration form.
i-2. Implementation Sequence of Events

The chapters in this user guide are organized in the recommended order of implementation so that your tables and activities are set up and performed in their proper sequence.

**Phase 1 – Study the System**

The best way to insure a smooth and rapid system implementation and to get the most out of your DBA system is to study the system before entering any data. We suggest you review the following resources:

- View our online demos
- Study the user guides
- Study the sample company
- Review the online support center

**Phase 2 – Devise an Implementation Plan**

You can save time and avoid mistakes by devising an implementation plan.

- Designate a project leader
- Assign tasks
- Set milestone dates
- Plan data import strategy

**Phase 3 – System Setup**

Before you begin entering any data, you should set up your users and configure the overall system to suit your operational preferences. In this phase you will be working in these three screens:

- User Setup
- Main Setup
- Accounting Configuration

**Phase 4 – Enter Master Tables**

You will need to set up all or some of the following master tables:

- Tax Tables
- Customers
- Suppliers & Manufacturers
- Stock Items
- Descriptors
- Bills of Material
- Pricing & Discounts
• Employees

**Phase 5 – Module Defaults & Forms**
Now that your master tables have been entered, the next step is to enter default settings for each module and to review forms layouts.

- Sales Setup
- Make Jobs Setup
- Purchasing Setup
- System Defaults
- Forms & Labels Setup

**Phase 6 – Train Users**
In this phase, users should be trained in the use of the screens that pertain to their job functions.

**Phase 7 – Startup Day**
You will work towards a ‘startup day’ when you will use the system to run the manufacturing side of your business – order entry, planning, processing, shipping, invoicing, purchasing, and inventory. The following tasks need to be completed just prior to startup day.

- Disable automatic numbering
- Enter open sales orders
- Enter open jobs
- Enter open purchase orders
- Restore automatic numbering
- Import or enter stock quantities
- Perform a cost rollup
- Reconcile inventory GL balance
- Clear the General Ledger

**Phase 8 – Refine the Manufacturing System**
In phase 8 you will refine the manufacturing system to where it is running smoothly and giving good results.

**Implementation Checklist (Appendix)**
In the back of this guide, you will find all the topics in this guide boiled down to an Implementation Checklist that can be used as a worksheet to help you plan your implementation.
Phase 1 – Study the System

The best way to insure a smooth and rapid system implementation and to get the most out of your DBA system is to study the system before entering any data. We suggest you review the following resources:

**Review the DBA demo library**

If you haven’t already done so, we recommend reviewing the *DBA Demo Library* found on the *Demos* page of our website (www.DBAManufacturing.com).

**Study the user guides**

This user guide covers the implementation process in complete detail, including the recommended sequence of events that insures that items and processes are set up and implemented in their correct order. We suggest you review this guide before you begin importing or entering data.

You should also browse our other user guides, listed as follows:

- Manufacturing User Guide
- Accounting Startup Guide
- Accounting User Guide
- Service Module Guide
- Data Import/Export Guide

**Study the sample company**

You will find that DBA offers many user-defined fields and settings that enable you to tailor the system to suit the needs of your business. The *DBA Sample*
Company provides sample data that can be a helpful guideline if you are looking for ideas on how a typical company might be set up and organized.

Once the system is installed, you can immediately launch the DBA Sample Company from your desktop or Programs menu.

**Review the online support center**

With a support subscription, you and others in your company can access our online support center, which offers you a variety of resources that help you get the most out of your DBA system. We suggest you spend some time reviewing what is available, including the use of support tickets, participation in our user forum, our video training courses, and self-help resources such as the knowledge base, white papers, downloads, and release notes.
Phase 2 – Devise an Implementation Plan

Before you begin making any entries in the system, it is wise to devise an implementation plan so that you have a clear idea of the objectives you wish to achieve, who will be responsible for achieving them, and when they should be completed. Up-front planning reduces mistakes and saves you time. The following elements should be part of your implementation plan:

Use the Implementation Checklist

Objectives, task assignments, and target dates can all be entered in the Implementation Checklist, located in the appendix of this user guide. There you will find topics covered in this guide boiled down a condensed checklist format that can help you plan your system implementation. The Implementation Checklist provides a written plan against which you can monitor your progress as the project moves along.

Designate a project leader

One person should be designated as the project leader to insure accountability and provide direction to the overall effort. The project leader must receive full backing from management to insure cooperation among co-workers and to achieve steady progress.

Be aware that during implementation, co-workers must not only work on the new software, but must also continue to perform the day-to-day operations of the business. Without leadership, the tendency will be for co-workers to give priority to day-to-day operations. Only with leadership can priorities be balanced so that implementation and day-to-day operations both get the attention they need.

Define objectives

Define realistic objectives. It is not necessary to implement every single function within the system from day one. For example, service and maintenance could be implemented at a later time. If you plan to use the DBA financial modules, you have the option of starting with the Manufacturing Ledger, which enables you to continue using your existing accounting software while you get the manufacturing system fully up and running. You can then convert to the DBA financial modules at a later time when it is most convenient – such as at the start of your fiscal year.

Plan data import strategy

Done properly, importing master table data (customers, suppliers, stock items, bills of material) can save you a lot of time. Doing this is not simple, however, because each of these tables requires various supporting tables that must be set up in advance.
We recommend that your first export your data into a spreadsheet. You can then review the data in the spreadsheet and make sure all the fields and field values are present that will be needed within the DBA system. You can add columns and change values as required. Once the spreadsheet is edited and completed, you can then import the data from the spreadsheet into DBA.

For more details, see the *Data Import/Export* user guide.

**Assign tasks and responsibilities**

Break the project up into specific tasks and assign them to the appropriate individuals for completion. Each individual can then focus on his or her own portion of the project and be responsible for its completion.

**Set target dates**

Make an estimate as to how much time for completion should be allocated for each portion of the project and assign target dates. This can help you realistically estimate the total time required for implementation and provides timetable goals for all the project participants.
Phase 3 – System Setup

Before you begin entering any data, you must first set up your users and establish various system-wide settings to suit your operational preferences. Specifically, you will be dealing with two screens:

- User Setup
- Main Setup
3-1. User Setup and Password Security

User Setup
(Admin – User Setup)

Creating a new user
To create a new user, go to the List tab and click the New button. Enter a User Name, which is the name used to log into the system. Enter a first and last name. If this user is to have Administrator status, which allows access to various system settings screens, select the Administrator checkbox.

Active User Checkbox
While you can set up an unlimited number of users, the number of users that can designated as active users (via selection of the Active User checkbox) is limited by the # of Licensed Users displayed in the upper right corner of the screen. Only active users will be allowed to log on to the system.

Change Password Screen
When each new user is created, the system assigns that user a password of ‘pass.’ The user can log into the system and go to the File – Change Password screen and can then change the password to one of his or her choice.

Copy User Button
Many users have identical setup profiles. You can create a new user by highlighting an existing user and clicking the Copy User button. Enter the new User Name. This will copy all the highlighted user’s settings to the new user. The new user is given a temporary password of ‘pass.’ He or she can log into the system and go to the File – Change Password screen and can then change the password to one of his or her choice.
Module Security Tab

Use this screen to assign the security permissions to the system’s menu options. When security permission for a menu item is denied, that menu item completely disappears from view, so here is where you can create customized menus for each user that are confined just to the functions he or she actually uses.

Note that in the left column you remove complete menus, while in the right column you can remove individual menu selections. We suggest removing items that don’t apply to your company so that users are not distracted or confused by items of no relevance.

User Defaults Tab

On the User Defaults tab are settings that control how this user interacts with portions of the system. Field explanations are as follows.
Allow Grids to be Customized
Most of the entry grids in the system (the entry screens that look like spreadsheets) can be customized by the user, meaning that the order in which columns are displayed can be changed, as well as column widths. If you select this option, each user’s settings will be retained for his or her own use. If you do not select this option, each time the user exits the screen, the settings will revert to the system default settings.

Use Windows Default Email Client
This setting provides an override at the user level to the overall system e-mail setting made on the Email tab of the File – Administrator – Main Setup screen. If you select this checkbox, this user’s standard e-mail client will be used, regardless of the e-mail setting made in the Main Setup screen.

Linked Employee
This user can be set up as an employee in the Employees screen, and this field links the user to that employee record. If there are any open Activity Notes tied to this employee, they are automatically displayed in the Notes – My Action List screen.

Screen Editor Group
When you customize screens using the Utilities – Screen Editor screen, you can save the changes for a specific user or a Screen Editor Group. Screen editor groups are created in the Utilities – Screen Editor Groups screen.

Document Groups Tab
The Document Groups tab (pictured below) is used to control access to Documents Directory links.

The Documents Directory consists of links you can create to key company documents, such as employee manuals, contracts, warranties, instruction manuals, etc. These documents can be accessed via the Notes – Documents Directory screen. First you create document ‘groups’ (Notes – Notes & Documents Setup – Document Groups), which are categories for groups of documents. Then you go to Notes – Notes & Documents Setup - Documents Directory Setup, where you can assign specific documents to document groups and enter the paths to their locations. Use the Document Groups screen to control this user’s access to your various document groups.
3-1. User Setup and Password Security

Job Types Tab
The final screen to set up is the Job Types screen (pictured below). Use this screen to control this user's access to specific Job Types.
As users are created, each is assigned a default password named ‘pass.’ Each user should then go to the *Change Password* function and change the default password to a unique password of his or her own choice.
3-2. Main Setup

(Main – Main Setup)

This screen is where you enter a number of default settings that tailor the system to your operational preferences.

Main Tab

Your Company Info

In this section you can enter your address and contact details. This information optionally prints on some documents and is for reference purposes.

Your company name cannot be edited and is determined by the encrypted serial number that you entered during system installation or via the File – Administrator – Upgrade License screen. If you need the name changed, let us know and we will e-mail you a new serial number.

The following are some other settings located on the Main tab.

SO/Job Numbering

Auto SO/Job Numbering
Select this checkbox if you want sales orders and jobs automatically numbered. In general, automatic numbering is used in most situations.

Next No
Enter a value here if Auto SO/Job Numbering is selected. It establishes the job number on the next sales order or job created. Because of the way the computer sorts numbers, do not enter a number such as 1 or else the result will be that
number 10 or number 100 sorts before number 2, 3, etc. on lists and reports. We recommend a starting number such as 10000 or 100000, which will create sequential numbers such as 10001, 10002, 10003, etc.

**Tax System**
You must select one of three options:

**Goods & Services**
The *Goods & Services* tax system is for environments where GST is applied to all sales and purchases. At tax reporting time, one tax is claimed against the other. Tax rates are established within *Tax Codes* assigned to customers and suppliers. Tax codes can also be assigned at the item and descriptor level for any exceptions. Each tax code can be comprised of multiple *Tax Authorities*, which handles situations such as Canadian tax where GST and provincial sales tax are both applied and must be separately itemized on invoices.

**USA System**
The *USA System* is similar to the *Goods & Services* system in that it also uses *Tax Codes*. You can, however, designate customers and suppliers as being *Non-Taxable*, which enables you to avoid collecting or paying tax on out-of-state sales or purchases for resale. Tax codes can be comprised of multiple *Tax Authorities*, which enable you to charge and track taxes by state, county, municipality, etc.

**Tax Group Matrix**
The *Tax Group Matrix* system is designed for European environments where GST/VAT rates vary according to origin and destination. For example, the amount of tax you pay on a purchased item may differ depending on the tax rate of the country you buy it from, which affects the amount of tax you can claim back at tax reporting time. In this tax system, you assign customers, suppliers, stock items and descriptors to *Tax Groups* instead of *Tax Codes*. You then use the *Tax Group Matrix* screen to establish combinations of customer/supplier tax groups with item/descriptor tax groups, which determine the actual *Tax Code* that gets applied to specific orders.

**Tax Defaults**

**Tax No**
This is your tax ID number. It has potential use on documents such as invoices and purchase orders.

**Your Tax Name**
This is the name that will identify taxes on quotes, invoices, purchase orders, and entry screens. Typical names would be ‘Sales Tax’, ‘GST’, ‘VAT’, etc.
Tax Code – Sales
After you set up your Tax Codes, select a default sales Tax Code that will be used in sales orders and service jobs whenever a Tax Code has not been designated against the customer.

Tax Code – Purchases
After you set up your Tax Codes, select a default purchase Tax Code that will be used in purchase orders whenever a Tax Code has not been designated against the supplier.

Tax Basis

Sales Tax Basis
This setting determines which Tax Code is applied to sales orders: the Tax Code designated within the customer’s Delivery Address record, or the Tax Code designated in the main customer screen, which applies to the customer’s Billing Address. In the United States, it is the delivery address than most commonly determines the applicable Tax Code.

NOTE: If a Tax Code is not found in the delivery address record, the customer’s billing address Tax Code will be used.

BAS

Activate BAS Code entry within Tax Codes (Australia)
Breaking out taxes by BAS code is a requirement in Australia. If you select this checkbox, a BAS tab becomes visible in the Tax Codes screen. On this tab screen you can enter multiple BAS Codes and associated ratios.

Invoice & Credit Printing

Your Invoice Name
This is a user-defined title that prints at the top of invoices. Typically, this would be ‘INVOICE’, but can be any name you wish.

Your Credit Name
This is a user-defined title that prints on invoices when the total amount is negative. Typical names would be ‘CREDIT MEMO’ or ‘CREDIT NOTE’.

Your Shipping Name
Enter a user-defined name that identifies shipping charges on the sales order Shipping screen and in the footer of the customer invoice. For example, you might want to use a name such as ‘Freight’ or ‘Shipping & Handling’.

Use Sequential Numbering
Invoices are generated within sales orders and service jobs. If you select this option, all invoices will be sequentially numbered, regardless of origin.
If you clear this checkbox, invoice numbers will be comprised of a prefix containing the sales order or service job number, followed by a numeric suffix. If, for example, you generate three invoices from sales order number SO10041, they would be numbered SO10041-1, SO10041-2, and SO10041-3.

**Invoice Prefix**
If *Use Sequential Numbering* is selected, this is the invoice prefix that will be used for all invoices, regardless of job or sales order type.

**Next Invoice No.**
If *Use Sequential Numbering* is selected, this number establishes the invoice number on the next invoice created. Because of the way the computer sorts job numbers, do not enter a number such as 1 or else the result will be that invoice 10 or invoice 100 sorts before invoice 2, 3, etc. on lists and reports. We recommend a starting number such as 10000 or 100000, which will create sequential numbers such as 10001, 10002, 10003, etc.

**Payment Rounding**

**Tolerance Value**
It is common for customer payments to vary somewhat from the exact amount owed. If the variance on a customer’s payment falls within the value entered in this field, the variance will be accepted and the invoice marked as paid.
Options Tab

Display link to online demos
Clear this checkbox if you wish to make the Online Demos icon and link on the main menu invisible.

Print zero-price lines on quotes & invoices
This is an important setting. If selected, all job detail lines will print on job quotes and invoices, whether they have prices or not. If not selected, only items with a price will print. When we say ‘price’, we mean selling price, not cost. Some companies want to show all the details associated with a quote or invoice, in which case this option would be selected. Other companies prefer to show a price on quotes and invoices, but without all the supporting detail, in which case this checkbox would not be selected.

Format invoices with remittance stub
Select this option if you want a detachable remittance slip printed along the bottom of your invoices.

Auto-archive primary documents
Select this checkbox if you want primary documents (invoices, quotes, purchase orders, etc.) to be automatically archived. Archived documents can be viewed and retrieved via Utilities – Archive Viewer.

Update prices/costs on SO/job copy or customer change
If you copy one job to another or change a customer within a job, this option results in a recalculation of all selling prices, based on current item and descriptor prices as well as any maintained against the customer. The only reason not to select this feature is if you want all your job prices to essentially be frozen or manually changed.
Prompt for backup on exit
Select this checkbox if you want to be prompted to run a backup of your data files (via the Backup Manager utility) upon exiting the system. Generally, this is only advisable for single user systems. You can access the backup manager from the DBA Manufacturing program group (under Utilities) on the Windows Start menu.

Activate filtering in SO/job line item screens
We advise you to select this checkbox and only clear it if your job detail screens start taking an unacceptable amount of time to load. Turning off the filtering will speed up the loading and presentation of data, but you will lose the ability to sort and filter the columns via the column headings.

Display printer dialog screen
Select this checkbox if you want the printer dialog screen presented when printing forms and reports. This will allow you to change printers or print selections. Do not select if all your printing is to the same printer and you never change settings.

Display print preview
Select this checkbox if you want a screen preview of each report or document before printing.

Maximize print preview
If you always want the screen preview of your reports and documents maximized to fill the entire screen, select this checkbox. If you do not select this option, it will occupy a smaller window and can be maximized manually if so desired.

Profitability Options

Margin or Markup
You have a choice of using 'margin' or 'markup' in conjunction with the job profit shown on the job header screen as well as job detail lines where you can calculate a price based on a margin or markup over cost.

- A margin is a profit margin. For example, if an item costs you $80 and you wish to make a 20% profit margin, you would divide 80 by .8 (the inverse of .2) to arrive at a selling price of $100.
- A markup is a multiplier. For example, if an item costs you $80 and you wish to mark it up by 25%, you would multiply 80 x 1.25 to arrive at a selling price of $100.

Both methods get you to the same result. Choose the method you are most comfortable using.

% for Warning
You can set a percentage here such that if the job profit shown on the job header screen falls below this percentage, it will be highlighted in red to bring it to your attention.
Default Payment Terms

Number of Days
This sets a system-wide default for the number of days due on invoices, miscellaneous income, and supplier invoices. You can also create terms in AR – Accounts Receivable Setup – Customer Terms and AP – Accounts Payable Setup – Supplier Terms and assign them to customers and suppliers.

From End of Month
Select this if the Number of Days (see above) doesn’t begin until the end of the month. This is a common practice in some countries.

Printer Page Size
Select Letter (USA) for standard U.S. page size printing or A4 (International) for international page size printing.
Quote Letter Tab

Default Style
You can select one of four quote styles, described as follows. This serves as the default style when creating new service jobs and sales orders, but once the job is created you can change to any of these styles.

- **Formal**
  This is a formal quote document, similar in style to that of an invoice.

- **Letter**
  The quote will be in the form of a letter with the quoted price in the body of the letter.

- **Letter with Detail**
  The quote will be in the form of a letter with the quoted price and quote details in the body of the letter.

- **Multi-Option**
  This is the same as the *Formal* quote style, but there is no quote total. Use this style with sales order quotes when you want to list several independently quoted items on one document.

**Header**
The *Header* text is the main body of the quote letter that precedes the quote details.

**Summary**
The *Summary* text is a 50-character description that is used to label the quote total on the printed quote. It could be something like ‘We are pleased to quote a special price of’ or anything along those lines.
Footer
The Footer text prints after the Summary text and is used for closing comments and a complimentary close type signature block.

Selecting quote formats for editing
If you wish to edit a quote layout, you must select a layout first. To do so, open a Sales Quote or Service Job, click on its Quote Style tab (located on the side of the sales quote or job header screen), and select the quote style you wish to modify. You can open an existing quote/job or new quote/job; it doesn’t matter for this purpose.

Next, go to Utilities – Forms Edit – Quote Layout and the quote format you’ve selected will be presented for editing.

Email Tab
Email Option
You are given three e-mail client options as follows.

System Email Client
For e-mails send from within the system, this option will bypass your regular e-mail client and will use the e-mail client that is supplied with the system. With this option, all customer/supplier e-mails sent from within the system are stored in the system’s database and can be read by clicking the History button within the Customers screen and Suppliers screen.

Outlook Email Client
If you are using Microsoft Outlook, select this option and the e-mails you send within the system will be sent using your standard Outlook e-mail client. All such customer/supplier e-mails will be stored in the system’s database as well as in your local Outlook folder.

Other Email Client
If you have any type of e-mail client other than Microsoft Outlook and wish to use it for sending e-mail from within the system (instead of the e-mail client supplied with the system), select this option.

NOTE: With this option, e-mails are not stored in the system’s database.

SMTP Host Name
This setting is only required if you are using the System Email Client (see previous). Enter the SMTP Host Name of your Internet service provider. Typical names would be ‘smtp.msn.com’ or ‘mail.pacbell.com’. If you do not know what this is, consult your IS department or hardware/networking provider.
Port
This setting is only required if you are using the *System Email Client* (see above). Enter the port that supports outgoing e-mail. Most typically this is a setting of ‘25.’

Preferred Document Type
When quotes, invoices, and purchase orders are e-mailed as attachments, this is the document format to which they will be converted. Your choices are ‘RTF’, ‘TEXT’, ‘EXCEL’, and ‘PDF’.

Default for Customer and Supplier Docs
The *Customers* screen and *Suppliers* screen have an *E-Mail Documents* checkbox. If you wish that checkbox to be automatically selected upon creation of a new customer or supplier, select this checkbox.

Message Body Default Text
The text entered here will default into all e-mails sent throughout the system. Once the default text is in the e-mail message, it can be edited before it gets sent.
Phase 4 – Enter Master Tables

You will need to set up all or some of the following master tables before you can begin using the operational side of the system.

- Tax Tables
- Customers
- Suppliers & Manufacturers
- Stock Items
- Descriptors
- Bills of Material
- Routings
- Price & Discount Tables
- Employees
4-1. Tax Tables

The first master tables you should set up are your tables so that they are available for assigning when you enter or import your customers, suppliers, descriptors, and items.

Your tax tables should be set up in the following order.

Tax System

(Admin – Main Setup – Main Tab – Tax System Sub-Tab)

You must select one of three options:

Goods & Services

The Goods & Services tax system is for environments where GST is applied to all sales and purchases. At tax reporting time, one tax is claimed against the other. Tax rates are established within Tax Codes assigned to customers and suppliers. Tax codes can also be assigned at the item and descriptor level for any exceptions. Each tax code can be comprised of multiple Tax Authorities, which handles situations such as Canadian tax where GST and provincial sales tax are both applied and must be separately itemized on invoices.

USA System

The USA System is similar to the Goods & Services system in that it also uses Tax Codes. You can, however, designate customers and suppliers as being Non-Taxable, which enables you to avoid collecting or paying tax on out-of-state sales or purchases for resale. Tax codes can be comprised of multiple Tax Authorities, which enable you to charge and track taxes by state, county, municipality, etc.

Tax Group Matrix

The Tax Group Matrix system is designed for European environments where GST/VAT rates vary according to origin and destination. For example, the amount of tax you pay on a purchased item may differ depending on the tax rate of the country you buy it from, which affects the amount of tax you can claim back at tax reporting time. In this tax system, you assign customers, suppliers, stock items and descriptors to Tax Groups instead of Tax Codes. You then use the Tax Group Matrix screen to establish combinations of customer/supplier tax groups with item/descriptor tax groups, which determine the actual Tax Code that gets applied to specific orders.
4-1. Tax Taxes

**Tax Authorities**

*(Misc – Tax Authorities)*

Tax Authorities are the government entities (federal government, province, state government, county, municipality, etc.) on whose behalf tax is levied, reported, collected, and paid. Field explanations are as follows:

**Tax Authority**
This is the name used to identify the Tax Authority on screens and reports.

**Print Detail**
Select this checkbox if you want the tax amount for this tax authority separately itemized on customer invoices in the Tax Detail section to the left of the Subtotals section. In Canada, for example, GST and provincial sales tax must be separately itemized on the invoice, in which case you would select this checkbox for each tax authority.

**Supplier**
In this field, select the Supplier to which you pay your tax liability. This is for reference only.

**Tax Codes**

*(Misc – Tax Codes)*
**Tax Codes** are designated within sales order, service job, and purchase order line items to determine the tax rate that gets applied. Each **Tax Code** can be comprised of multiple **Tax Authorities**, each of which contributes its own share of the overall tax rate.

### List Screen

**Tax Code**
The **Tax Code** can be up to 10-characters in length.

**Description**
Enter an up to 50-character description that helps identify the **Tax Code** on screens, lookups, and reports.

**Tax Rate**
This is the total **Tax Rate** that will be charged to line items assigned to this **Tax Code**. This field is for reference only and is the sum of the **Net %** amounts of the **Tax Authorities** that comprise this **Tax Code**.

**Tax Shipping**
Select this checkbox if tax is to be applied to shipping charges. If selected, the **Tax** field becomes visible next to the shipping charges entry field in the sales order **Shipping** screen and tax will automatically be applied to the shipping charges entered.

**Select as Default Buttons**
You can select one default **Tax Code** for purchases and one for sales by highlighting a **Tax Code** and clicking the **Purchases** or **Sales** button. When you do so, you will see the result reflected in the **Default Purchase Tax Code** and **Default Sales Tax Code** fields in the upper panel of the screen. These default **Tax Codes** are applied to purchase orders, sales orders, and service jobs whenever a customer or supplier has not been assigned to a specific **Tax Code**.

### Authorities Tab

**Tax Authority**
Select each of the **Tax Authorities** that comprise this **Tax Code** from the lookup in this field.

**Tax Rate**
Enter the actual **Tax Rate** charged by the **Tax Authority** in this field.

**Tax on Tax**
In some situations, a **Tax Authority** charges tax not only on the line item net amount, but also on other tax applied to the line item. If you select the **Tax on Tax** checkbox, its **Tax Rate** will be applied to the **Tax Rates** of all the **Tax**
Authorities that precede it on the screen, the result of which is reflected in its Net % amount.

Net %
This is the actual net tax rate that will be charged by this Tax Authority, adjusted upwards from the nominal Tax Rate if the Tax on Tax checkbox is selected.

Default Tax Codes
(Admin – Main Setup – Main Tab – Tax Defaults Sub-Tab)
If you did not already designate default Tax Codes when setting up your Tax Codes, you can do so now within the Main Setup screen. On the Tax Defaults sub-tab, make selections in these two fields:

Tax Code – Sales
Select a default sales Tax Code that will be used in sales orders and service jobs whenever a Tax Code has not been designated against the customer.

Tax Code – Purchases
Select a default purchase Tax Code that will be used in purchase orders whenever a Tax Code has not been designated against the supplier.
**Tax Groups**

*(Misc – Tax Groups)*

This screen will only be visible if you selected the *Tax Group Matrix* tax system in the *Admin – Main Setup* screen. If you are on the *Goods & Services* tax system or the *USA System*, you can skip this section.

**How Tax Groups Work**

When you are on the *Tax Group Matrix* system, customers and suppliers are assigned to *Tax Groups* rather than *Tax Codes*. Furthermore, you will assign items and descriptor to *Tax Groups* as well.

When entering sales orders, service jobs, and purchase orders, the *Tax Group* of the customer or supplier is matched against the *Tax Group* of the item or descriptor to determine the actual *Tax Code* that will be applied to each line item.

This enables you to apply different *Tax Codes* to orders depending on their destination or origin. Primarily, this is used in Europe where tax rates vary among different countries.

**Field Explanations**

**Tax Group**
You can enter an up to 10-character *Tax Group* code.

**Description**
This is a 50-character description that helps identify the *Tax Group* on lookups, screens, and reports.
**Tax Group Matrix**

*(Misc – Tax Group Matrix)*

This screen will only be visible if you selected the *Tax Group Matrix* tax system in the *Admin – Main Setup* screen. If you are on the *Goods & Services* tax system or the *USA System*, you can skip this section.

**How the Tax Group Matrix Works**

See the previous section on Tax Groups for a discussion on how Tax Groups work. The Tax Group Matrix screen is where you set up your combinations of *Customer/Supplier Tax Groups* and *Item/Descriptor Tax Groups* to designate the actual *Tax Code* that will apply to any given line item within purchase orders, sales orders, and service jobs.

Make sure you set up all the possible combinations between *Customers/Suppliers* and *Items/Descriptors* that could occur. Whenever a Tax Group combination is not found during line item entry, the *Default Sales* or *Purchase Tax Code* designated in the *Admin – Main Setup* screen will be used.
4-2. Customers

Customers can be entered all at once or on an as needed basis as you enter new sales orders.

The customers table can also be used to store prospective customers, which can be differentiated from actual customers using ‘customer types’ or ‘sales codes’ (see below). The customers table in conjunction with ‘activity notes’ for history and follow-ups gives you a contact manager capability.

To set up your customers, you need to enter or import the following tables in roughly the following order:

Customer Types

(Sales – Sales Setup – Customer Types)

These are user-defined codes that categorize your customers into groups for reporting and sorting purposes. Another important use of customer types is the ability to assign prices and sales commissions to customer types. Field explanations are as follows.

Customer Type & Description
Enter an 8-character Customer Type code and accompanying 50-character description.

Price Level
If all customers within this type are to receive the same Price Level, select the appropriate price level in this field. If customers of this type receive Base Prices, leave this field blank. See chapter 4-8, Price & Discount Tables, for more information.

Discount Code
If all customers within this type are to receive the same Discount Code, select the appropriate discount code in this field. If customers of this type do not receive discounts, leave this field blank. See chapter 4-8, Price & Discount Tables, for more information.
Establishing a Default Customer Type

You can establish a default customer type by highlighting the desired line item and clicking the *Set as Default* button. You will see the *Default Customer Type* displayed at the top of the screen. When you enter new customer master records, the default customer type will automatically be assigned to the customer, which can then be overridden, if desired.

Contact Types

*(Sales – Sales Setup – Contact Types)*

These are user-defined codes used to categorize customer and supplier contacts into categories such as ‘Sales’, ‘Accounts Payable’, etc.

Enter an up to 20-character contact *Type ID* and accompanying *Description*. 
Sales Regions

(Sales – Sales Setup – Sales Regions)

These are user-defined codes that organize your customers into sales regions or territories for analysis purposes.

Enter an up to 20-character contact Sales Region ID and accompanying Description.

Sales Rep Types

(Sales – Sales Setup – Sales Rep Types)

Sales Rep Types are user-defined codes that enable you to organize your Sales Reps into categories.

You can enter an up to 20-character alphanumeric Rep Type and accompanying Description.
Sales Reps

(Sales – Sales Setup – Sales Reps)

Sales Reps are assigned to Commission Codes (see next), which are then assigned to customers. Each Commission Code can be comprised of multiple Sales Reps, which allows you to split sales commissions among two or more Sales Reps.

Most of the fields on the screen are self-explanatory contact details. Only one field is mandatory:

**Type**

You must assign each Sales Rep to a Sales Rep Type (see previous section).
**Commission Codes**

*(Sales – Sales Setup – Commission Codes)*

The *Commission Code* determines which *Sales Rep(s)* gets credit for the order. Each customer is assigned a default *Commission Code*, which automatically gets pulled into sales orders and service jobs and can be overridden at the sales order or service job level. Multiple *Sales Reps* can be assigned to a *Commission Code* if more than one *Sales Rep* is to get credit for the sale.

**Creating a New Commission Code**

To create a new *Commission Code*, click the *New* button. A drop-down list displays below the button. Select the *Commission Code* option.

In the upper grid you enter a *Commission Code* ID (20-characters) and accompanying *Description*.

**Assigning Sales Reps to the Commission Code**

To assign sales reps to the commission code, click the *New* button. A drop-down list displays below the button. Select the *Sales Rep* option.

Using the lookup, select a *Sales Rep* in the *Sales Rep ID* field. The *Description* automatically displays.
Lead Sources
(Sales – Sales Setup – Lead Sources)

These are user-defined codes that help you track the lead source (advertising, directories, word-of-mouth, etc.) from which the customer first learned of your products or services.

Enter an up to 10-character Lead Source ID and accompanying Description.

Payment Terms
(Sales – Sales Setup – Customer Terms)

Use this table to set up the various payment terms you offer to customers. The Description identifies the payment term and is the text that will print on invoices. The Days Due is the number of days within which the payment is due. If the number of days due is calculated from the end of the month, a common practice in some countries, select the From End of Month checkbox. If the number of days due is calculated from the invoice date, leave this checkbox blank.

If a discount is due for prompt payment, enter a Discount %. A two and a half percent discount would be entered as ‘2.5.’ Enter the number of days within which the discount is to be taken in the Discount Days field.
Ship Methods
(Sales – Sales Setup – Ship Methods)

Use this screen to set up a table of standard Ship Methods. You can assign a default Ship Method to each customer and you can specify the Ship Method when generating a shipment.

Ship Method
Enter the Ship Method name, which can be up to 30-characters in length.

Ship Charge (Optional)
You have the option of entering a Ship Charge. If you do so, this amount will automatically be used as the Ship Charge that gets applied to each shipment. In most cases, shipping charges are not known in advance of shipment, in which case you would leave this field blank. The Ship Charge may have use in situations where fixed “shipping & handling” fees are published in price lists and catalogs.
**Ship Zones**

*(Sales – Sales Setup – Ship Zones)*

*Ship Zones* enable you to create user-defined geographical zones that can be used to help plan local delivery routes. Each customer can be assigned a default *Ship Zone*. When a shipment gets created, the customer’s *Ship Zone* is assigned to the shipment.

Enter an up to 30-character *Ship Zone* name and optional *Description* for reference on lookups.

**Importing Customers**

*(File – Data Import)*

As an alternative to manual entry, you may be able to import much of your customer data from your existing accounting system. Be aware that all the previously listed tables will not be part of the data import and will either have to be added to your source data in advance (not difficult to do if your data is in a spreadsheet) or you’ll have to run the import and then add the additional field entries afterwards. Refer to the *Data Import/Export* user guide for details.
Customers should not be entered until you have created the previously listed tables, all of which contain information that will be needed during customer entry. The following are some points to consider when entering customers.

**Customer Name & Trading Name**
The *Customer Name* is used to identify the customer on lookups, lists, and reports. Each *Customer Name* must be unique. The *Trading Name*, which does not have to be unique, is also provided and is the actual name that prints on invoices and other forms.

**Naming Convention**
Because each *Customer Name* must be unique and the fact is there are many companies out there with identical names (such 'Acme Manufacturing'), you should consider coming up with a naming convention for entries made to the *Customer Name* field.

**Points to Consider**
- Your naming convention scheme should make it easy to find customers on lookups and lists.
- For consistency sake, avoid punctuations such as periods and apostrophes.
- Standardize your method of handling abbreviations. We recommend capital letters with no spacing (such as ‘WHH Machine Shop’).

**Possible Naming Ideas:**
- **Customer Name with Identifier**
  - *State*: ACME Rents CA
4-2. Customers

| City          | ACME Rents Atascadero CA |
| Zip Code      | ACME Rents 93422         |
| Phone         | ACME Rents 8009951959    |

**Alphanumeric Schemes**

ACMRENT
AR10001

**Payment Terms**

You can select a standard payment term from the Customer Terms table using the lookup button. It is not necessary to select the From End of Month checkbox or the Days field unless you wish to override the standard payment term’s settings.

**Credit Checking**

On the Credit sub-tab on the Details tab screen, you can make the following settings.

If the customer is on complete credit hold, select the On Complete Stop Credit checkbox. This will prevent users from entering new orders for this customer.

When you enter a Credit Limit, if during the entry of an order this customer’s total un-invoiced orders plus unpaid invoice amounts exceed the limit, the user will be prevented from continuing to enter the order.

If you wish to provide a warning only, leave the above two fields blank and insert text in the Fixed Warning Message field. This warning will display whenever you enter a customer order.

**Customer Shipping Defaults**

On the Ordering & Shipping sub-tab on the Detail tab of the Customers screen, you can enter a Ship Method and Ship Zone for each customer. These will serve as default values in the Shipping screen when generating a shipment for the customer.

**Pricing & Discounts**

On the Pricing sub-tab, each customer can be assigned a Price Level and a Discount Code, if applicable. These values default to those entered in the Sales – Sales Setup – Customer Types screen. See chapter 4-8, Price & Discount Tables, for more information.

**Customized Forms**

If you wish to designate a customized acknowledgment, quote, or invoice for this customer, you can specify them on the Forms sub-tab on the main Details tab screen. To create a custom form, go into Utilities – Forms Edit and save the standard format to another name and then make your customized changes.
Multiple Delivery Addresses and Tax Codes

You can enter an unlimited number of delivery addresses on the Delivery & Billing side-tab on the Details tab screen.

Note that each delivery address has a Tax Code field. If you leave this blank, the customer’s primary tax code will be used with customer orders. If you make an entry here, it will override the customer’s primary tax code. This enables you to base sales tax on the shipment’s destination.

Billing to another customer account

There may be customers where the order is entered for the customer, but the invoice is to be sent to a central office for payment. You can select a Billing Name on the Delivery & Billing side-tab off the Detail tab screen. The billing name customer must also be set up as a customer. When the invoice is printed, it will go to the billing name customer.

Attaching documents
4-2. Customers

You can attach documents (such as drawings, contracts, etc.) or files of any kind that relate to this customer on the Documents side-tab off of the Additional tab screen. To link to a document, click the Edit Document panel at the bottom of the screen.

If a document is only to be used by you, you can specify a File Location to your local computer. If the document is to be shared with others, it should be stored on the central file server.
4-3. Suppliers

Suppliers can be set up all at once or on an as needed basis as you enter new jobs and purchase orders.

To set up your suppliers, you need to enter or import the following tables in roughly the following order.

**Supplier Types**

(*Purch – Purchasing Setup – Supplier Types*)

These are user-defined codes used to categorize your suppliers into groups.

**Contact Types**

(*Purch – Purchasing Setup – Contact Types*)

These are user-defined codes used to categorize customer and supplier contacts into categories such as Sales, Accounts Payable, etc.
Supplier Regions

(Purch – Purchasing Setup – Supplier Regions)

These are user-defined codes that organize your suppliers into regions or territories for analysis purposes.
Supplier Terms

(Purch – Purchasing Setup - Supplier Terms)

Use this table to set up the various payment terms offered by your suppliers. The Description identifies the payment term and is the text that will print on purchase orders. The Days Due is the number of days within which the payment is due. If the number of days due is calculated from the end of the month, a common practice in some countries, select the From End of Month checkbox. If the number of days due is calculated from the supplier's invoice date, leave this checkbox blank.

If a discount is due for prompt payment, enter a Discount %. A two and a half percent discount would be entered as ‘2.5.’ Enter the number of days within which the discount is to be taken in the Discount Days field.

Importing Suppliers

(File – Data Import)

As an alternative to manual entry, you may be able to import much of your supplier data from your existing accounting system. Be aware that all the previously listed tables will not be part of the data import and will either have to be added to your source data in advance (not difficult to do if your data is in a spreadsheet) or you'll have to run the import and then add the additional field entries afterwards. Refer to the Data Import/Export user guide for details.
4-3. Suppliers

Suppliers

(Purch – Suppliers … or Supp Icon)

Suppliers should not be entered until you have created the previously listed tables, all of which contain information that will be needed during supplier entry. Following are some points to consider when entering suppliers.

Supplier Name and Trading Name
The Supplier Name is used to identify the supplier on lookups, lists, and reports. Each Supplier Name must be unique. A Trading Name, which does not have to be unique, is also provided and is the actual name that prints on purchase orders and other forms.

Supplier Address

Normally the main address on the Detail tab is the supplier’s remittance address for mailing purposes. Actual physical addresses can be entered on the Physical Addresses side-tab.
When you enter a PO, if there is one physical address only, it automatically pulls into the PO address. If there is more than one physical address, you can click on the address lookup and select the address of your choice.

**Payment Terms**
You can select a standard payment term from the *Supplier Terms* table using the lookup button. It is not necessary to select the *From End of Month* checkbox or the *Days* field unless you wish to override the standard payment term’s settings.

**Credit Checking**
On the *Credit* sub-tab on the *Details* tab screen, you can enter a Credit Limit. If during the entry of a purchase order your total un-invoiced PO’s plus unpaid supplier invoice amounts exceed the limit, you will receive a warning.

**Default Expense Type**
You can skip this field if you will not be using DBA for accounts payable. On the *Expenses* sub-tab on the *Details* tab screen, you can specify a *Default Expense Type*. When entering supplier invoices on the *AP – Supplier Invoices* screen, the *Default Expense Type* (or associated GL account code) will automatically be assigned to the transaction, where it can then be accepted or overridden with another selection. *Expense Types* are set up in advance in the *AP – Accounts Payable Setup – Expense Types* screen.

**Customized PO Format**
If you want to designate a customized purchase order or request for quote format for this supplier, you can specify one on the *Forms* sub-tab on the main *Details* tab screen. To create a custom format, go into *Utilities – Forms Edit* and save the standard PO layout to another name and then make your customized changes.

**Attaching documents**
4-3. Suppliers

You can attach documents (such as drawings, contracts, etc.) or files of any kind that relate to this supplier on the Documents side-tab off of the Additional tab screen. To link to a document, click the Edit Document panel at the bottom of the screen.

If a document is only to be used by you, you can specify a File Location to your local computer. If the document is to be shared with others, it should be stored on the central file server.
Manufacturers
(Purch - Manufacturers)

In some industries, certain purchased items can only be sourced from approved manufacturers. In DBA, you can set up manufacturers in this screen and assign them to specific stock items or bill of material components. These manufacturers can be specified in jobs and flow through to purchase orders.

Manufacturers Tab

Enter the manufacturer's name in the Manufacturer field. For reference purposes, you can enter information in the Web, Phone, Fax, and Email fields. Unlimited Notes can be entered as well in the bottom panel of the screen.

Items Tab

When a manufacturer is highlighted in the Manufacturers tab, you can click the Items tab to get a listing of the stock items supplied by this manufacturer.
4-3. Suppliers

**Upper Grid**

In the upper grid are listed all the stock items cross-referenced to this manufacturer. The manufacturer’s part number is displayed alongside your stock item ID.

You can add new items to the list by clicking the *New* button. Entry of the *Mfgr Part No* is optional. After assigning the item to the manufacturer in this screen, you will also see the manufacturer listed on the *Stock Items* screen’s *Sources* tab.

**Lower Grid**

When an item is highlighted in the upper grid, the lower grid displays all the suppliers that offer the item from this manufacturer.
4-4. Stock Items

Inventory Defaults

(Inventory – Inventory Setup – Inventory Defaults)

Two key inventory settings are made on this screen.

**Unit Cost Decimal Places**

This setting establishes the number of decimal places you prefer for inventory costing (Inventory Cost, Last Cost, Estimated Cost) and purchasing. If you purchase small parts such as screws, washers, o-rings, etc., you normally require 4-decimals, and in some cases, 5-decimals to provide appropriate costing precision in purchase orders and for receiving such items into inventory and jobs.

**Default Stock Location**

Select your primary stock location, which is usually your main factory or warehouse. When you create a new stock item, this stock location serves as the default Issue and Receipt location.
4-4. Stock Items

Stock Classes

(Inventory – Inventory Setup – Stock Classes)

Stock Classes are optional and are used to control which classes of items are allowed at certain locations.

Most typically this is used to prevent certain items from being stocked in the same location. For example, if you had poisonous or hazardous material in a location, you would not want to stock food products in that same location.

If you do not assign an item a Stock Class, that item can freely be stocked at any location. If you assign an item to a Stock Class, it can only be stocked at locations that accept that Stock Class.

The Stock Class consists of a 20-character Stock Class ID accompanied by a 50-character Description.
Stock Locations

(Inventory – Inventory Setup – Stock Locations)

Stock Locations are used to designate the physical location of on-hand stock. A location can be a warehouse, delivery truck, QC quarantine area, etc.

Creating a Stock Location

To create a new stock location, click the New button while on the opening List screen. On the Detail screen, enter an up to 10-character Location ID and accompanying 50-character Description.

In the Status field, select ‘Normal’. In the Stock Ownership field, select ‘COMPANY’,

If this location has an Inventory Template (see previous section), enter or select its Template ID. Leave the Sequence No field blank, which has no function at this time.

Enter any Notes that apply to this location.

Finally, if you are using Stock Classes to control which items assigned to stock classes are allowed at this location, enter or select the allowable stock classes in the lower entry grid.
Item Characteristics

(Inventory – Inventory Setup – Item Characteristics)

User-defined ‘item characteristics’ give you a great deal of control over how your items are defined and tracked. Item characteristics fall into two general categories: ‘fixed’ characteristics and ‘tracking’ characteristics.

Fixed Characteristics

‘Fixed’ characteristics are essentially user-defined fields to hold information such as a drawing number, an inspection gauge, a dimension or measurement, an industry-specific term, etc. There is no limit to the number of fixed characteristics that can be created.

Tracking Characteristics

‘Tracking’ characteristics are used to track on-hand stock by user-defined characteristics such as lot number, serial number, bin number, dimensions, grade, color, expiration date, packing units, etc.

Whenever an item is received, issued, sold, or adjusted, the program will ask you to record any characteristics you’ve assigned to the item. You can then view an item’s available stock by its characteristics to see what variations are on hand.

Fixed Characteristics Setup

To create a ‘fixed’ characteristic, click the New button on the opening List screen. On the Detail screen, enter an up to 20-character characteristic ID and 50-character Description.

Select a Type, which can be one of the following choices:
Date
Select this Type if you want the user to enter a date (such as an expiration date) when assigning this characteristic to an item.

Number
Select this Type if you want the user to enter a freeform number when assigning this characteristic to an item.

Table
This Type is for ‘tracking’ characteristics only (see next section).

Text
Select this Type if you want the user to enter freeform text when assigning this characteristic to an item.

On the Characteristics tab of the Stock Items screen, you are presented with a graphical hub-and-spoke type mapping view of the item and its characteristics and options. If you wish to associate an icon-type image with this characteristic, select an image from the list supplied with the Characteristic Image used for Mapping View field.

In the Characteristic Traceability section of the screen, select the Fixed at Item Level radio button.

This completes entry of a fixed characteristic.

Tracking Characteristics: when not to use
The ‘golden rule’ of tracking characteristics is this:

Tracking characteristics should only be used in situations that cannot be handled by unique item ID numbers.

Unique item ID numbers are much easier to handle during the processing of jobs, customer orders, and purchase orders.

Tracking characteristics, on the other hand, are tedious to process. Each time you receive, issue, or adjust inventory, you must stop and select or enter characteristics. When there is no other option, using tracking characteristics is certainly worth the inconvenience, especially compared to the time it takes to have to constantly go out to the warehouse to see what’s available. Many characteristics (such as lot number, serial numbers, and expiration dates) are incapable of being handled by item numbers and leave you no choice but to use tracking characteristics.

If you can use unique item numbers, though, we recommend taking the extra time to set them up. The extra up-front setup will be more than compensated by the time saved during job, customer order, and purchase order processing.
Tracking Characteristics Setup

To create a ‘tracking’ characteristic, click the New button on the opening List screen. On the Detail screen, enter an up to 20-character characteristic ID and 50-character Description.

Select a Type, which can be one of the following choices:

**Date**
Select this Type if you want the user to enter a date (such as an expiration date) when assigning this characteristic to an item.

**Number**
Select this Type if you want the user to enter a freeform number when assigning this characteristic to an item.

**Table**
Select this Type if you want the user to make a selection from a pre-defined table of values. If you select this option, you will see a Table Setup tab and entry grid displayed in the lower left portion of the screen.

**Text**
Select this Type if you want the user to enter freeform text when assigning this characteristic to an item.

On the Characteristics tab of the Stock Items screen, you are presented with a graphical hub-and-spoke type mapping view of the item and its characteristics and options. If you wish to associate an icon-type image with this characteristic, select an image from the list supplied with the Characteristic Image used for Mapping View field.
The *Characteristic Traceability* section of the screen is visible if you had selected a Type of ‘Date’, ‘Number’, or ‘Text.’ Select the *Tracked by Item Transaction* radio button.

The easiest way to understand the remaining setup of tracking characteristics is to go through some actual examples.

**Example 1 – Bin Control with Freeform Bin Locations**

Bin control refers to tracking the actual bin (or shelf, rack, etc.) within which an item is stored. ‘Freeform’ bin locations mean that the user can enter any bin number or ID without having to validate it against a set of allowable choices.

To set up this characteristic, set the *Type* to ‘Text’ so that the user can enter an alphanumeric bin location. Be sure and select the *Tracked by Item Transaction* radio button.

If there is a default bin location that you would like displayed whenever the user must enter a bin location, enter it in the *Transaction Default Value* field at the bottom of the screen.

**Example 2 – Bin Control with Allowable Bin Locations**

In this example, we will require that the user select a bin location from a table of allowable choices. Instead of a *Type* of ‘Text’, select a ‘Table.’ You will now see the *Table Setup* tab and entry grid in the lower left portion of the screen.

Now enter all the allowable bin location ID’s in the *Option* column of the entry grid. Ignore the *Qty Factor* column, which does not apply to our example.

If there is a default bin location that you would like displayed whenever the user must select an allowable bin location, enter it in the *Transaction Default Option* field at the bottom of the screen.

**Example 3 – Lot Control**

Lot control is used to track items to a certain lot or batch for quality control and regulatory purposes. Lot control is commonly used with food, chemicals, and many other products and processes.

In general, lot numbers are not pre-defined in a table and are typically created when a new batch is received or created. Therefore, the *Type* field would be set for ‘Number’ or ‘Text’, depending on whether your lot ID’s are numeric or alphanumeric.

Be sure and select the *Tracked by Item Transaction* radio button. No further entries are required.

**Example 4 – Serial Control**

Serial control is similar to lot control except that each unit of an item received or created must be assigned an individual serial number.

Set the *Type* field to ‘Number’ or ‘Text’, depending on whether your serial numbers are purely numeric or are alpha-numeric.
4-4. Stock Items

Be sure and select the *Tracked by Item Transaction* radio button.

In the *Field Setup* sub-tab, select the *Serial Controlled Field* checkbox. No further entries are required.

**Example 5 – Expiration Date Control**

Expiration dates are commonly used with perishable items and are assigned as batches of an item are received or created.

In the *Type* field, select the ‘Date’ type. Be sure and select the *Tracked by Item Transaction* radio button.

At the bottom of the screen, you can enter a *Days to add to Actual Transaction Date* number. This will help automatically calculate the expiration date for you. For example, if items assigned to this characteristic automatically expire in 90-days, enter a ‘90’ in this field and whenever an expiration date is to be entered, the program will automatically enter a default date 90-days in the future.
Item Categories

(Inventory – Inventory Setup – Item Categories)

Each stock item must be assigned to an Item Category. User-defined Item Categories enable you to organize your stock items and descriptors into groups.

Each Item Category can be assigned an up to 20-character Category ID and an accompanying 50-character Description. Set Inventory Type to ‘NORMAL’.

Item Categories are used for the following purposes:

Sales & COGS Posting
Sales and Cost of Goods Sold can optionally be broken out by Item Category in the Account Assignments screen.

Sales Analysis
Sales can be subtotaled by Item Category in the Sales by Item Category report.

Inventory Value
You can filter the Inventory Value report by Item Category.

Stock Counts
Stock items can be selected by Item Category for counting in the Stock Counts screen.

Lists & Lookups
The Item Category is commonly provided as a filter within various lookup and list screens.

Adding Fields to the Items Database

(Utilities – Add Fields to Database)

You can add up to six user-defined fields to the Items database. This gives you another way to add user-defined fields in addition to item characteristics. The primary advantage of adding fields to the database vs. using item characteristics would be easier data access if the fields were to be used in a customized report.
Adding Fields

In the upper window, highlight the Items table. Below the window, specify the Number of Additional Fields you wish to add. In the Additional 1 Field Name, give the field a name. This is the name that will appear on entry screens.

Select the Date Field checkbox if this field is used to hold a date. If this is not a date field, you are presented with a Validate checkbox. A validated field is one where the user must select from a list of pre-determined values. If you select the Validate checkbox, you are presented with a List button. Click the button and enter the list of valid selections. When the user is presented with this field on an entry screen, the field will be accompanied by a drop down list from which the user can make a selection.

When your entries are completed, click the OK button.

Importing Items

(File – Data Import)

As an alternative to manual entry, you may be able to import much of your item data from your existing accounting system. Be aware that all the previously listed tables will not be part of the data import and will either have to be added to your source data in advance (not difficult to do if your data is in a spreadsheet) or you’ll have to run the import and then add the additional field entries afterwards.

Spreadsheet method recommended

In view of the above, we recommend that you export your stock items into a spreadsheet where you can add the unique inventory system fields and make sure that all your items have valid entries within them.

Do not import beginning stock balances

When you do import stock items, do not attempt to import current on-hand stock balances at the same time. In general, you will not be ready to use inventory
throughout the system the same day you import your stock items, so any on-hand balances you import will be of no value.

On the day that you wish to activate inventory on a system-wide basis, you can import beginning stock quantities as a separate procedure via the File – Data Import screen.
Stock Items

(Inventory – Stock Items ... or Item Icon)

Detail Tab

Stock Item

Item ID
This is an up to 30-character alphanumeric code that is used to identify the item.

Description
This is an up to 50-character mandatory field that accompanies the item code on screens and reports.

UM
This is an up to 8-character mandatory field that defines the item’s unit of measure (Each, Lbs., Kilos, Feet, Meters, Gallons, Liters, etc.).

Mfg or Purch
Select ‘M’ if this item is normally manufactured via a job or select ‘P’ if this item is normally purchased via a purchase order. This setting is used by MRP to determine whether suggested orders for this item are to be planned jobs or planned PO’s.

Item Category
You can select a user-defined Item Category that groups items for reporting purposes and optionally for mapping transactions to the General Ledger.

Bar Code
If this item has a bar code number that is different than the Item Code, enter it here. When the bar code number is scanned or entered during point-of-sale line item entry, it will return the associated item code to the line.
Creation Date
This is the date the item record was first created. It defaults to the system date, but can be overridden, if desired.

Status
This is an optional field that is currently used for reference purposes only. The available values are as follows:

- Active
- Inactive
- Obsolete
- Trial

Unit Costs
Inventory Cost
This is the unit cost used for the calculation of invoice cost of goods sold and for job costing when items are issued from stock to jobs. Here are a few things to consider regarding the Inventory Cost.

When a stock item is issued or shipped:
When a stock item is issued to a job or shipped to a customer, the item’s unit Inventory Cost remains unchanged.

When a stock item is received:
Whenever a stock item is received, either through PO receipts or entry of finished job receipts, its Inventory Cost is recalculated by averaging the PO or job cost into the cost of any stock on hand, according to the following formula:

**Cost Calculation Variables**
- Receipt Value = Units Received x PO Unit Cost or Job Unit Cost
- Book Value = General Ledger Value of Units on Hand (based on the sum of all historical debit and credit transactions)
- New Units = Units Received + Units on Hand

**Inventory Cost Calculation Formula**
If Units on Hand are zero or greater:
- New Inventory Cost = (Receipt Value + Book Value) / New Units
If Units on Hand are negative:
- New Inventory Cost = PO Unit Cost or Job Unit Cost

Changing the Inventory Cost:
If you wish to change the item’s Inventory Cost, you can do so using the Inventory – Change Inventory Cost screen.
**Last Cost**
This is a display-only reference field that shows the cost associated with the most recent transaction for this item.

**Estimated Cost**
The *Estimated Cost* is used by the *Cost Rollup* to calculate an estimated cost for your manufactured items.

**Purchased Items:**
For purchased items, the *Estimated Cost* can be manually updated by clicking the ‘pointing-hand’ icon to the right of this field. You can also make the *Estimated Cost* equal to the *Last Cost* or *Inventory Cost* through the *Inventory – Item Price & Cost Update* screen.

**Manufactured Items:**
For manufactured items, the *Estimated Cost* cannot be changed in this screen. To recalculate a manufactured item’s *Estimated Cost*, you must use the *BOM – Cost Rollup* screen. You can view a breakdown of the item’s cost elements by clicking the 3-dot button to the right of this field.

**Tax Information**
The fields that display in this section depend on the tax system that was selected in the *Admin – Main Setup* screen.

**Non-Taxable**
This field pertains to the *US Tax System* and *Advanced Tax* system and is not visible if you are on the *Goods and Services* tax system. If this checkbox is selected, sales and purchase taxes will not be applied to this item, regardless of the taxable status of the customer or supplier.

**Tax Code**
This field pertains to the *Goods and Services* and *Advanced Tax* systems and is not visible if you are on the *US Tax System*. If a selection is made in this field, it will be the tax code used at the line item level for this item in customer orders and purchase orders, even if the customer or supplier is assigned a different tax code. If this field is left blank, the customer or supplier’s tax code will determine the tax rate for this item on customer orders and purchase orders.

**Advanced Tax Matrix**
This checkbox is only visible if you are on the *Advanced Tax* system. If this item is to be assigned to a *Tax Group* for use with the *Tax Code Matrix*, then select this checkbox. If left blank, the item’s *Tax Code* will be used instead, or the customer or supplier’s tax code if the item’s *Tax Code* field is left blank.

**Matrix Tax Group**
If the *Advanced Tax Matrix* checkbox is selected, you must select a *Tax Group*. 
Unit Price

Base Price
The Base Price is used as the price charged to the customer as well as a reference price used to calculate price levels and contract prices. Base prices are normally maintained in the Sales – Pricing & Discounts – Base Prices screen, but you can change the price directly in this screen by clicking the ‘pointing-hand’ icon to the right of the field.

Locations

Issue
If this item is always issued to jobs from the same location, select that location in the Issue field. This location can be overridden during job and sales order processing.

Receipt
If this item is always received from PO’s or jobs at the same location, select that location in the Receipt field. This location can be overridden at time of PO receiving or job processing.

Stock Class
If this item is to be assigned to a Stock Class, select it in this field. See Stock Classes earlier in this chapter for more information.

MRP Sub-Tab

On the MRP sub-tab are settings that apply to the MRP screen and Planning Worksheets for use in job scheduling and inventory reordering.

These settings are normally entered and maintained in the MRP – MRP Settings screen, which uses a grid format that is more suited for entering settings across multiple items. See chapter 5 of the Manufacturing User Guide for field explanations.

Mfg Sub-Tab

Default Method
This field displays your current Default Method, for reference purposes, and is only visible if Methods are activated in the BOM Setup screen.

Drawing No
The current drawing number for this item. This field value prints in the header section of the job traveler.

Title
This is the description of the product that appears in the Title block of a drawing. This field value prints in the header section of the job traveler.
Dimensions Sub-Tab

Shipping & Packaging:

Unit Weight
This is the weight of one stocking unit (UM) of the item. This value is used by the Shipping screen within sales orders and jobs to calculate the total weight of the shipment.

Unit Volume
This is the volume (cubic feet, cubic meters) of one stocking unit (UM) of the item. This value is used by the Shipping screen within sales orders and jobs to calculate the total volume of the shipment.

Std Pack
This indicates the number of pieces of this item per shipping package (box, carton, container, pallet, etc.). This value is used by the Shipping screen within sales orders and jobs to calculate the total number of packs that comprise the shipment.
Sources Tab

Suppliers, manufacturers, and various cross-references are entered on the Sources tab.

M or P
This field is for reference only and repeats the value selected on the Detail tab. ‘M’ means this is a manufactured item; ‘P’ means this is a purchased item.

Default Supplier
If this is a purchased item, select your preferred supplier for the item. MRP will specify this supplier when suggesting purchase orders. This is also the default Supplier when job detail lines are created.

Default Manufacturer
If this is a purchased item and you want your supplier to source it from a specific manufacturer, select your preferred manufacturer in this field. This will be the manufacturer specified within job details unless you specify a default manufacturer at the BOM component level, which will be used instead.

Suppliers
The Default Supplier is automatically added to the Suppliers sub-tab. On this tab you can enter additional suppliers for the item. Against each supplier, you can enter a Supplier Part No, UM (unit of measure) and Multiplier (which defaults to ‘1’). These fields flow through to the purchase order and printed PO.

The Multiplier is used to calculate the supplier’s order quantity if the supplier sells the item in a different unit of measure than your unit of measure. For example, if your supplier sells a material by the yard and you stock it in feet, enter a Multiplier of ‘.333333333.’ If you enter a PO for 1000 feet of material, the supplier will see his item number and a quantity of 333 yards on the PO. When you receive the PO, items are received in your unit of measure.
4-4. Stock Items

Line Card
This grid in the bottom portion of the Suppliers sub-tab enables you to specify the manufacturers carried by the supplier highlighted in the upper grid. Before they can be selected, manufacturers must be entered in the Manufacturers sub-tab for this item. When you specify a manufacturer within a job detail line, you are given the option of limiting selection to manufacturers carried by the specified supplier.

Manufacturers
The Default Manufacturer is automatically added to the Manufacturers sub-tab. On this tab you can enter additional manufacturers for the item. Against each manufacturer, you can optionally enter a Mfgr Part No, which flows through to the purchase order and printed PO.

Alternates
Alternates can be used to represent substitute items or descriptors, meaning that if the standard item or descriptor is not available, the Alternate can be used. Alternate items can optionally be printed on pick lists.

Complementary Items
Items listed in the Complementary sub-tab can be used for any purpose you wish, but in general are items that are similar or compatible, but not a one-for-one substitute. An example of a complementary item would be where a ½ horsepower motor is the standard component, but if there are none in stock, a ¾ horsepower motor could be used instead. Complementary items can optionally be printed on pick lists.

Customers
On the Customers sub-tab you can enter your customers’ item numbers that correspond with this item or descriptor. You can also enter the Customer Part No, which is available as a field for inclusion on invoices, quotes, and packing lists.
Characteristics Tab

‘Item characteristics’ must be set up in advance before they can be assigned to your stock items.

User-defined item characteristics give you control over how your items are defined and tracked. Item characteristics fall into two general categories: ‘fixed’ characteristics and ‘tracking’ characteristics.

Fixed Characteristics

Fixed characteristics are essentially user-defined fields to hold information such as a drawing number, an inspection gauge, a dimension or measurement, an industry-specific term, etc. There is no limit to the number of fixed characteristics that can be created.

Tracking Characteristics

Tracking characteristics are used to track on-hand stock by user-defined characteristics such as lot number, serial number, bin number, dimensions, grade, color, expiration date, packing units, etc.

Whenever an item is received, issued, sold, or adjusted, the program will ask you to record any characteristics you’ve assigned to the item. You can then view an item’s available stock by its characteristics to see what variations are on hand.

Characteristics Tab – Storing an Image

If you wish to store a graphical image of the item, you can do so on the Characteristics tab screen. Double click on the image panel and you will be presented with a selection screen. Navigate to the desired image and select it and it will display on the Characteristics screen. The image is for reference purposes and also prints on job travelers, pick lists, and supplier catalogs.
4-4. Stock Items

Additional Tab – Main Side-Tab

On this screen you can assign items to *Product Catalogs*. For more information on how product catalogs are used, see Appendix B.

If you have added any user-defined fields to the database via the *Admin – Add Fields to Database* screen, those fields are entered on this screen.

On this screen you can also see summary inventory usage statistics as well as the current inventory value for the item.

Additional Tab – Documents Side-Tab

On this screen you can attach documents (such as drawings, specifications, etc.) or files of any kind that relate to this item. To link to a document, click the *Edit Document* panel at the bottom of the screen.

If a document is only to be used by you, you can specify a *File Location* to your local computer. If the document is to be shared with others, it should be stored on the central file server.
4-5. Descriptors

Descriptors are non-stock line items that can be used within bills of material, sales orders, jobs, and purchase orders.

Possible Uses of Descriptors

Service Labor Charges
If you charge customers for labor within service jobs, labor is set up as a Descriptor and is entered as a service job line item. You might set up several labor Descriptors, each with a different Base Price, if you charge different rates for different kinds of services.

Miscellaneous Charges
Any other charges that might be included in your jobs, whether it be for shipping, engineering fees, permits, etc., can be set with Descriptors and prices. Any price can be overridden at the time of job creation.

Labor Cost Factor (if you don’t use Routings)
Labor and setup are normally defined in routings, where you break out the manufacturing process into operations, each assigned to a work center with hourly labor rates.

If you don’t use routings, however, and simply want to apply a labor cost factor to your products, you can define manufacturing labor as a Descriptor and insert it into the bill of material as a component. Give it a usage quantity that represents the total estimated labor hours that go into the product. The Descriptor will be assigned an Estimated Cost that represents your average hourly labor cost.

Subcontract Purchases (if you don’t use Routings)
’Subcontract services’ refer to processes such as panting, plating, heat-treating, etc. that are performed by outside suppliers. Subcontract services are normally set up in your routings as operations within the manufacturing process. Against each such operation you can specify a cost and a supplier.

If you don’t use routings, however, you can represent a subcontract service with a Descriptor and insert it into a bill of material as a component. Each service you purchase needs its own Descriptor. Against the Descriptor you will assign an Estimated Cost and a Default Supplier.
**Item Categories**

*(Inventory – Inventory Setup – Item Categories)*

*Item Categories* were covered in the previous chapter and pertain to stock items and descriptors. Each descriptor must be assigned to an *Item Category.*
Descriptors

(Inventory – Descriptors … or Desc icon)

Detail Tab

General Information

Descriptor ID
This is an up to 20-character alphanumeric code that is used to identify the descriptor.

Description
This is an up to 50-character mandatory field that accompanies the Descriptor ID on screens and reports.

UM
This is an up to 8-character mandatory field that defines the descriptor's unit of measure (Each, Hour, etc.).

Descriptor Type
You can select from one of the following Descriptor Types, which are used as cost categories in job costing, the cost rollup, and GL posting.

- SUBCON Subcontract Services
- LABOR Labor
- SETUP Setup
- SHIP Shipping
- MISC Miscellaneous

Est Cost
The estimated cost is used by the Cost Rollup to help calculate the estimated cost of manufactured items, and is also used to calculate job costs when jobs are created. It is also the cost used in purchase orders, unless there is an entry in
4-5. Descriptors

the *Purchase Prices – Descriptors* screen, which takes precedence over the *Est Cost*.

**Base Price**
The *Base Price* is used in quoting and invoicing (when the descriptor is a billable item) and is the price charged to the customer. You can either use the unit price or additional customer pricing options are available on the *Sales – Contract Pricing* submenu (see chapter 4-8 for details).

**Default Supplier**
The default supplier for this descriptor. Additional suppliers can be assigned via the *X-Ref Codes* button on the right-hand panel.

**Tax Info**
The fields that display in this section depend on the tax system that was selected in *Admin – Main Setup*.

**Non-Taxable**
This field pertains to the *US Tax System* and *Advanced Tax* system and is not visible if you are on the *Goods and Services* tax system. If this checkbox is selected, sales and purchase taxes will not be applied to this descriptor, regardless of the taxable status of the customer or supplier.

**Tax Code**
This field pertains to the *Goods and Services* and *Advanced Tax* systems and is not visible if you are on the *US Tax System*. If a selection is made in this field, it will be the tax code used at the line item level for this descriptor in customer orders and purchase orders, even if the customer or supplier is assigned a different tax code. If this field is left blank, the customer or supplier’s tax code will determine the tax rate for this descriptor on customer orders and purchase orders.

**Advanced Tax Matrix**
This checkbox is only visible if you are on the *Advanced Tax* system. If this item is to be assigned to a *Tax Group* for use with the *Tax Code Matrix*, then select this checkbox. If left blank, the descriptor’s *Tax Code* will be used instead, or the customer or supplier’s tax code if the descriptor’s *Tax Code* field is left blank.

**Matrix Tax Group**
If the *Advanced Tax Matrix* checkbox is selected, you must select a *Matrix Tax Group*. 
Additional Tab

Attaching Documents
In the Document List area of this screen you can attach documents (such as drawings, specifications, etc.) or files of any kind that relate to this descriptor. To link to a document, click the Edit Document panel at the bottom of the screen.

If a document is only to be used by you, you can specify a File Location to your local computer. If the document is to be shared with others, it should be stored on the central file server.

Other Info
Warranty Code
If there is a warranty code associated with this descriptor for use in job details, select it in this field. Warranty codes are set up in the Service – Service & Maintenance Setup – Warranty Codes screen.
4-6. Bills of Material

Overview
Bills of material are used to define the manufacturing specifications for your products or those you make on behalf of others. Any product that will be made more than once, that contains subassemblies, or that has the potential of being stocked in inventory, should be defined with a bill of material.

BOM Elements
The following are the major elements that comprise the bills of material.

Methods
You can optionally set up multiple Methods for each product. Each method can represent a different revision or batch size, each with its own specifications. At time of job creation, you can select your method of choice.

Components
Components are the materials, subassemblies, and descriptors that comprise the product. From/thru effective date ranges are available to control when components become active or inactive. Components can optionally be assigned to approved manufacturers and can be given any number of reference fields to represent drawing references or component positions.

Routings
Routings are optional and break the manufacturing process into sequential operations, each of which is assigned to a Work Center. Routings are used for estimated costs, manufacturing documentation, job and work center scheduling, job tracking, and job costing. Routings are covered in detail in the next chapter.

Outputs
The “primary output” is the bill of material’s parent product. Multiple Outputs are optional and enable you to define secondary outputs for bi-products or co-products that arise out of the same manufacturing process.

phantom Assemblies
A BOM parent item can be designated as a Phantom Assembly. When you originate a make job with a bill of material containing a phantom assembly parent or if you copy a bill of material containing a phantom assembly parent into the job, the phantom assembly parent’s components are automatically be pulled into the job details. This feature enables sets of components to be defined with one item number and also enables multiple assemblies to be manufactured within a single job. Phantom assemblies can also be manufactured separately on their own jobs and can be stocked in inventory.
Cost Rollup

You can assign estimated costs to stock items and descriptors and use the Cost Rollup to establish total Estimated Costs for your manufactured products. The cost rollup also breaks out each item’s Estimated Cost into the following categories:

- Material
- Labor
- Setup
- Fixed Overhead
- Variable Overhead
- Subcontract Services
- Shipping
- Miscellaneous

The Estimated Cost can be used to help establish product pricing and provides Estimated Costs for subassemblies used within jobs.

BOM’s are used with Make Jobs

BOM’s are used in conjunction with Make Jobs. When you create a job, you specify a BOM and a quantity, which serve to pull in the appropriate components, routing sequences, and quantities into the job details.
BOM Defaults

(BOM – Bills of Material Setup – BOM Defaults)

Carefully consider the following options and make the appropriate settings before actually entering any BOM’s.

BOM Options
To activate any of the following BOM options, select the corresponding checkbox.

Methods
Some manufacturers have multiple methods of manufacture for the same item. For example, you might maintain separate specifications for different revisions of the same product.

Multiple methods are commonly used for batch process manufacturing where separate sets of specifications are maintained for different batch sizes.

Multiple methods are also required if you want to set up formulas that calculate component quantities at time of job creation. Using formulas is typically associated with batch process manufacturing, but certainly could be of use in any type of manufacturing where dimensions and other variables affect quantities of components.

NOTE: Methods are limited in the sense that you cannot maintain a selling price against each method, nor does the Cost Rollup maintain estimated costs simultaneously for each method (you can roll up costs one method at a time for any method you wish). If you need pricing at the method level, you should use unique item ID’s and separate bills of material instead.

If you do not use multiple methods, each BOM is automatically assigned a default method using the Default Method Name (see next). The Methods tab in the Bills of Material screen will be invisible.
Default Method Name
If the Methods checkbox is selected, the Default Method Name field becomes visible and is pre-filled with the name ‘DEFAULT’. We suggest you use this value.

Just because your system is set to use Multiple Methods, it does not mean that all your products will have more than one Method. The name specified here is the Default Method Name that will be automatically assigned to the first method whenever a BOM is initially created. If the product is a single-method product, you would leave its default Method Name as is. When you define a multiple-method product, you would change its default Method Name to something more product-specific, such as then name of its current revision or its most common batch size.

Routings
Routings enable you to define your manufacturing processes in sequential operations assigned to work centers. Activate Routings if you plan on doing any labor tracking. Routings are covered in detail in the next chapter.

Outputs
Outputs refer to the finished products that result from the manufacturing process. You have the option of defining multiple Outputs, which enables the production of bi-products or co-products from a single BOM and job.

If all your products consist of a single Output, do not select the Outputs checkbox. If some of your products have multiple outputs, select the Outputs checkbox.

Manufacturers
Any number of Manufacturers can be assigned to a BOM component, including the designation of a default manufacturer. This feature is used by contract manufacturers for customers that want certain components sourced only from approved manufacturers. If you clear this checkbox, the Manufacturers sub-tab in the lower portion of the bill of material Components screen will not be visible.

References
Any number of References can be assigned to a BOM component, accompanied by a Qty. References optionally print on the job traveler and are used to represent drawing number references or component locations on products such as circuit boards. If you clear this checkbox, the References sub-tab in the lower portion of the bill of material Components screen will not be visible.

Formulas
Only select this checkbox if you are a batch process manufacturer (food, chemicals, plastics, etc.). Formulas are mathematical expressions that dynamically calculate selected component quantities at time of job line item creation in response to variables entered by the user. You can create formulas and assign them to BOM components. Refer to the Formulas user guide for more information.
Selecting this checkbox exposes the Variables side-tab in the BOM Methods screen and exposes the Formula sub-tab within the BOM Components screen.

**Batch Size**
Only select this checkbox if you are a batch process manufacturer (food, chemicals, plastics, etc.) where you define different batch sizes within your Methods. This setting exposes the Batch Size field within each Method. You then define the materials required to make each particular batch size.

**Phantom Options**
If you are not familiar with the concept of ‘phantom assemblies’ (sometimes referred to as ‘blow-thrus), see the section on phantom assemblies later in this chapter. Two settings are available that deal with the handling of phantom assemblies:

**Allow Phantoms to be made to stock**
Select this checkbox if you wish to have the ability to manufacture phantom assemblies on their own jobs so they can be stocked and used as spares or issued from stock to other jobs. If this checkbox is not selected, phantom assemblies will be ignored by MRP during planned job generation and will not be displayed in the drop-down list in the New Job screen and therefore cannot be manufactured on their own as an output to stock.

**Display Phantom parents in job details**
Select this checkbox if you want the phantom parent item and quantity to be pulled into job details along with the phantom parent’s components. The phantom parent line item is for reference only and is labeled not as an 'Input' or 'Output', but as a 'Phant', which excludes the line from the Job Issues & Receipts screen. If all you want are the phantom components in the job with no need for a parent item reference, do not select this checkbox.

**Component Options**
Selection of checkboxes in this section activate corresponding fields in the Components tab of the Bills of Material screen.

**Fixed or Variable**
Select this checkbox if you want the ability to designate the Usage Qty of a component to be a fixed amount, regardless of how many items are being made or how large the batch size is.

**Scrap %**
Select this checkbox if you want the ability to define a scrap percentage that will proportionally increase the quantity required of the component at time of job creation.
From / Thru Dates
Select this checkbox if you want the ability to define effective date ranges for BOM components.

Seq-Stage
Select this checkbox if you want the ability to assign components to the routing sequences within which they are used.

Line Item Brackets
‘Line item brackets’ are freeform line items that are inserted into the job Details screen to mark the beginning and end of a phantom assembly. Otherwise, the phantom components would blend in with other components and would not easily be recognized as being a group of items.

In the Phantom – Start fields, enter the Reference ID and Description that will comprise the freeform line that is inserted prior to your phantom components.

In the Phantom – End fields, enter the Reference ID and Description that will comprise the freeform line that is inserted after your phantom components.
Method Names

(BOM – Bills of Material Setup – Method Names)

If in BOM Defaults you did not configure your bills of material to use multiple methods, you can skip this section.

A BOM Method can be a set of specifications for a product revision or, in the case of batch process manufacturing, a set of specifications for a particular batch size.

Use this screen to create a table of pre-defined Method Names that will be used to label your Methods.

We recommend that set up Method names that generically apply to many products, such as ‘Revision A’, ‘Revision B’, ‘Primary Method’, ‘Alternate Method’, etc.

To enter a Method Name, click the New button and enter an up to 20-character code in the Method Name column and an up to 50-character Description to accompany the name on lookups.
4-6. Bills of Material

Bill of Material Entry

(BOM – Bills of Material)

This screen includes the following tabs, some of which may or may not display depending on the settings you made in the BOM – Bills of Material Setup – BOM Defaults screen.

List Tab
On this screen you will see a list of all stock items that have bills of material.

Methods Tab
If the Methods checkbox was selected in BOM Defaults, this tab will display. Whichever method is highlighted on this screen determines the contents on all the tabs to its right. This enables you to enter a different set of specifications for each method.

Routing Tab
If the Routings checkbox was selected in BOM Defaults, this tab will display. The ‘routing’ consists of the various sequences, operations, or phases in the manufacturing process. Within each routing sequence you can specify the ‘work center’, and ‘machine’ used in the manufacturing process, as well as your production rates for setup and labor. Routing sequences can also be broken down into specific ‘tasks’.

Components Tab
This screen is where you enter your BOM components, which are the materials and subassemblies that comprise the parent item, as well as non-stock descriptors. If you do not use routings, you can also enter descriptor components to represent labor and setup.

Outputs Tab
This tab will display if you selected the Outputs checkbox in BOM Defaults. This enables you to specify additional ‘outputs’ (finished items) for bi-products or co-products.

Indented View Tab
This tab presents an indented, multi-level view of the parent item’s product structure, including lower level subassemblies and their components.

Tree View Tab
The tab presents a Windows Explorer style representation of the product structure that lets you open and close folders to see the contents within each level.

Copy BOM Capability
Many BOM’s are variations of other BOM’s with minor differences among a few components. Instead of entering such BOM’s from scratch, you can go to the
List tab, highlight an existing BOM, click the Copy button, and create a new BOM. Once the new BOM is created, you can edit it for any differences.

**List Tab**

![Bill of Material window](image.png)

**Creating a new BOM**

To create a new bill of material, click the New button. The New Bill of Material window is displayed.

Select a BOM Item ID. The Default Method Name displays the default name you specified in BOM Setup. You can accept this name or you can select a pre-defined Method Name by clicking the lookup button.

Click the Create button and this item will be added to the List of BOM’s. You can now click any of the tabs to the right to enter BOM details.

**Phantom Checkbox**

If this parent item is to function as a phantom assembly, select this checkbox. See the next section of this chapter, Using Phantom Assemblies, for more information.
Methods Tab

This tab is only visible if the Methods checkbox is selected in BOM Defaults. Whichever method is highlighted determines the contents on all the tab screens to the right of the Methods tab.

To create an additional method, click the New button and enter the following fields:

Method Name
Select a pre-defined Method Name created in the BOM – Bills of Material Setup – BOM Methods screen.

Batch Size
This field is only visible if the Batch Size checkbox is selected in BOM Setup. If not selected, the batch size is hidden and is given a value of ‘1’.

The usage quantities entered on the Components tab correspond to what it requires to make this ‘batch size’.

For discrete manufacturing purposes where you make multiple quantities of an item, the batch size is normally set to ‘1’. You then enter your BOM components and output quantities in relation to what it takes to make a single item. For example, when making a wagon, your batch size is 1 and it would require 2 axles, 4 wheels, 1 body, and 1 handle to make the one wagon.

For process manufacturing where you make products in batches, each batch size can require different proportions of certain ingredients. To make 1000 gallons of a beverage, for example, you might need ‘X’ gallons of flavoring, ‘X’ gallons of sweetener, ‘X’ gallons of water, and so on.
Copy Method Capability

You can copy one method to another. If you click the Copy button while on the Methods tab, the highlighted parent Item and Method are displayed in the Copy BOM from section and you can designate a parent Item and Method in the Create BOM for section. If you specify the same parent Item in both fields, you can create an additional method for the item.

NOTE: When you click the Copy button from the opening List screen, all methods in the Copy BOM from parent Item are copied to the Create BOM for parent Item.

Routing Tab

Routings are covered in detail in the next chapter.
Components Tab

Entry Fields

Seq-Stage
This field is only visible if the Routings and Seq-Stage checkboxes are selected in the BOM Defaults screen.

Assigning a component to a Seq-Stage is optional. If you do so, the component will print within that routing sequence on the job traveler. Components not assigned to routing sequences print at the end of the job traveler. If you specify Seq-Stages, you will have the option of issuing or backflushing components on a stage-by-stage basis.

Line No
The line number is automatically assigned by the program in increments of 10 and is for reference and sorting purposes. Because it is common for multiple instances of a component to occur throughout a BOM, the line number identifies one instance from the other. You can manually override the line number.

Type
Enter or select an ‘S’ if this component is a stock item entered in the Stock Items screen or enter or select a ‘D’ if this component is a descriptor entered in the Descriptors screen.

Component
Select the item or descriptor that represents this component. Its accompanying Description will automatically display in the next field.

Usage Qty
If the Methods checkbox is not selected in BOM Defaults, enter the quantity of this component required to make one unit of the parent item. If the Methods checkbox is selected in BOM Defaults, enter the quantity required to make one Batch Size defined against this Method.
If Routings are not activated:
If the Routings checkbox is not selected in BOM Defaults, you can enter labor, setup, subcontract, and overhead as descriptors on this screen as an alternative to doing so using routing sequences. When you are entering usage quantities for labor and setup, the time is entered in decimal hours. For example, if it takes 4 minutes 30 seconds to perform a process, it would be entered as '.075' HRS (the minutes translate into 270 seconds divided by the 3600 seconds that comprise one hour).

UM
This is the unit of measure (EA, LB, etc.) for the component.

Fixed or Variable
This field is only visible if the Fixed or Variable checkbox is selected in BOM Defaults. When not visible, the field value is hidden and is automatically set to ‘V’.

If the quantity required for this component varies proportionally with the job quantity of the parent item, set this field to ‘V’ (variable). Most materials, subassemblies, and subcontract services have variable quantities, which is why the default is set to ‘V’.

If the quantity required for this component is to be a fixed amount regardless of the parent item quantity being manufactured, set this field to ‘F’ (Fixed). Some batch processes, for example, require a fixed amount of an ingredient, regardless of batch size. Or there could be a situation where a service charge or fee is levied that does not vary with the quantity being manufactured.

Scrap %
This field is only visible if the Scrap % checkbox is selected in BOM Setup.

This is the anticipated scrap for this component, expressed as a percentage of the Usage Qty. When a job gets created, this percentage will be added to the total quantity allocated for this component to insure that sufficient material is planned for to account for anticipated scrap. The cost associated with the scrap percentage is also incorporated in the Cost Rollup.

From Date / Thru Date
These fields are only visible if the From / Thru Dates checkbox is selected in BOM Defaults.

This is the date range within which the component becomes effective. The From Date defaults to the system date at time of initial entry and the Thru Date is left blank unless you enter a date. When a job gets created, only components with current effective dates at the time of job creation are included in the job details.

Usage Formula Window
This window at the bottom of the Components and Outputs tab screens is only visible if the Formulas checkbox is selected in BOM Defaults.
To use formulas you first create ‘variables’ within the Variables side-tab off the Methods screen. Examples of variables would be dimensions for height and width. In the Components tab you can enter a formula in the Usage Formula window for a component that interacts with the variables. For example, using the height and width variables, the formula could calculate the amount of material needed. Refer to the Formulas user guide for more information.

Manufacturers Sub-Tab
This sub-tab is only visible if the Manufacturers checkbox is selected in BOM Defaults.

Any number of manufacturers can be assigned to a BOM component. To assign a manufacturer, click on the Manufacturers sub-tab screen and then click the New button. Only manufacturers already assigned to this stock item (via the Sources tab in the Stock Items screen) are available for selection.

The Mfgr Part No is displayed for reference purposes only and cannot be edited. You can designate one manufacturer as being the default or preferred manufacturer by selecting the Default checkbox. When a job is created from this bill of material, the default manufacturer will automatically be included in your job details and will be the one used unless overridden with another selection.

References Sub-Tab
This sub-tab is only visible if the References checkbox is selected in BOM Defaults.

Any number of References (also called “reference designators”) can be assigned to a BOM component, accompanied by a Qty, if applicable. References optionally print on the job traveler and are used to represent drawing number references or component locations on products such as circuit boards.
Using Speed Entry

The **Speed Entry** function helps you enter BOM components as rapidly as possible and is especially useful when entering large numbers of components.

To use **Speed Entry**, click the **Speed Entry** button while in the **Components** screen. A screen gets presented that contains an upper panel, a main selection grid, and a display grid at the bottom.

In the upper panel, choose whether you want to select **Stock Items** or **Descriptors**. All your stock items or descriptors will display in the main selection grid.

If you want the items selected to all be assigned to a particular routing sequence, make a selection in the **Stage** field.

**Selecting Items**

To select an item, start typing the **Item ID** or **Descriptor ID**. As you type each character, the cursor will progressively move to the item with the closest match. Once you find the item you are looking for, press **Enter** and the cursor will move to the **Qty** field where you can enter the order quantity.

After entering the quantity, press **Enter** and you will see your entry displayed in the lower grid. The cursor moves to the left-hand column where you can immediately make another selection.

**Using the mouse is not necessary**

**Speed Entry** is designed so that you don’t have to use the mouse to make your selections, which slows down the process. You can press **Enter** to move back and forth from the **Item ID** or **Descriptor ID** field to the **Qty** field and to make your selections. You can use your arrow keys to navigate up or down the columns. You can, of course, also use the mouse, if you wish.
Other Search Techniques

Progressive typing is not the only way to find items.

You can use the Description Search field (located below the main selection grid) to narrow the contents of the main selection grid only to items that contain the text you enter. Once you enter your text, click the lookup icon to the left and the main selection grid will display the items with matching text. Once you make a selection, the grid will repopulate itself with all your items. If you make a search and don’t select an item, click the ‘X’ button and the grid will repopulate with all items.

You can also click any of the down arrows on the column headings to narrow your search using the system’s standard grid filtering options. This would enable you to narrow the list to a particular item Category or descriptor Type, for example.

De-Selecting Items

If you make a mistake and select an incorrect item and wish to de-select it, highlight the item in the lower display grid and click the Delete button in the upper right corner of the screen.

Transfer Button

Your item selections and quantities are displayed in the lower grid in the order that they were selected. When your selections and quantities are completed, click the Transfer button to the right and the items and quantities will be transferred to the bill of material. Once your items are transferred, they can be edited for any changes that may be required.

Use Speed Entry as often as you wish

You can use Speed Entry as often as you wish within a BOM. You can enter a few lines, transfer them, enter a few more, transfer them, and so forth. If you are assigning items to routing sequences, each sequence’s components would be entered as a separate batch.
Outputs Tab

This tab is only visible if the Outputs checkbox is selected in BOM Defaults.

The bill of material’s Primary Output is displayed in the upper panel, which is the parent product.

Secondary Outputs are entered in the grid. These are bi-products or co-products that are yielded from the same manufacturing process as the Primary Output.

The fields on the Outputs tab are virtually identical to those of the Components tab, so refer to the descriptions above for details. The following field is different:

Cost Ratio
In the Cost Rollup and Job Issues & Receipts screens, the estimated BOM cost or job cost is divided and allocated to each output according to its Cost Ratio, which is its estimated share of the cost. As you assign a Cost Ratio to each secondary output in this screen, the program automatically adjusts the Primary Output’s Cost Ratio so that the sum of all Cost Ratios equals ‘100’. Set each output’s Cost Ratio using your best judgment as to its relative share of the cost.
Phantom Assemblies

What is a Phantom Assembly?

A BOM parent item can be designated as a Phantom Assembly via a checkbox on the opening List screen. When you originate a Make Job with a BOM containing a phantom assembly parent, the phantom assembly parent’s components will automatically be included as job detail line items.

This feature enables sets of components to be defined with one parent item ID and also enables multiple assemblies to be manufactured within a single job.

If you wish, you can also have the phantom parent itself be included in job details (for reference purposes), which is an option controlled by a new global setting in the BOM Setup screen.

Phantoms can be nested within Phantoms

Phantom assemblies can be nested within other phantom assemblies so that components from all levels get pulled into the job.

Phantom Assembly Setup

Designating an Assembly as a Phantom

(BOM – Bills of Material)

A phantom assembly is set up the same as any other bill of material. The only difference is that the Phantom checkbox must be selected in the BOM List screen. This checkbox lets the system know that the item is to be treated as a phantom should it be included as a component within another item’s bill of material.

Phantom Assembly Options

(BOM – Bills of Material Setup – BOM Setup)

The following two settings are available in the BOM Setup screen to control how you wish to use phantom assemblies.

Allow Phantoms to be made to stock

Select this checkbox if you wish to have the ability to manufacture phantom assemblies on their own jobs so they can be stocked and used as spares or issued from stock to other jobs. If this checkbox is not selected, phantom assemblies will be ignored by MRP during planned job generation and will not be displayed in the drop-down list in the New Job screen and therefore cannot be manufactured on their own as an output to stock.

Display Phantom parents in job details

Select this checkbox if you want the phantom parent item and quantity to be pulled into job details along with the phantom parent’s components. The
phantom parent line item is for reference only and is labeled not as an ‘Input’ or ‘Output’, but as a ‘Phant’, which excludes the line from the Job Issues & Receipts screen. If all you want are the phantom components in the job with no need for a parent item reference, do not select this checkbox.

**Using Phantoms within Jobs**

**Phantom Parent Line Items**

If the Display Phantom parents in job details checkbox is selected in the BOM Defaults screen, the phantom parent item and quantity are pulled into job details along with the phantom parent’s components. The phantom parent line item is for reference only and is labeled not as an ‘Input’ or ‘Output’, but as a ‘Phant’, which excludes the line from the Job Issues & Receipts screen.

If the Display Phantom parents in job details checkbox is not selected in the BOM Setup screen, only the phantom parent’s components will be pulled into the job without any corresponding reference to the phantom parent.

**Line Item Brackets for Phantom Components**

‘Line item brackets’ are freeform line items that are inserted into the job Details screen to mark the beginning and end of a phantom assembly. Otherwise, the phantom components would blend in with other components and would not easily be recognized as being a group of items.

For details on setting up line item brackets, see BOM Defaults earlier in this chapter.

**If you wish to make a phantom for stock**

Traditionally, phantom assemblies are not made for stock and are just clusters of parts that get pulled into jobs via one part number. If you wish to use phantoms in this manner, clear the Allow Phantoms to be made for stock checkbox in the BOM Setup screen. This will prevent you from selecting phantoms when creating a new job or when using the Copy Details function within jobs. Phantoms will also be excluded from the MRP generation.

On the other hand, having the option to make phantom assemblies for stock in addition to using them as traditional phantoms within other products expands their potential use, enabling phantoms to be used as spares or issued from stock to other jobs. If you want this capability, select the Allow Phantoms to be made for stock checkbox in the BOM Setup screen. When you do this, phantoms entered as sales order line items will be included in the MRP generation.
4-7. Routings

Routings Are Optional

*Routings* are optional. If you plan on defining labor as a bill of material component instead of using *Routings* to break out setup and labor into routing sequences, you can skip this chapter.

Routing Elements

Routings

*Routings* are an optional bill of material and make jobs capability that is used to break the manufacturing process into sequential operations, each of which is assigned to a *Work Center*. Routings are used for estimated costs, manufacturing documentation, job and work center scheduling, job tracking, and job costing. Routings are covered in detail in the next chapter.

Work Centers

Routing sequences are assigned to *Work Centers*. A work center defines the area of the shop or unique machine where the production takes place and can also be used to represent outside work centers for subcontract services such as plating, painting, heat-treating etc.

Machines

Each routing sequence can also be assigned to a particular *Machine* within the work center. Interchangeable machines can be pre-assigned to routing sequences or assigned at job time based on machine availability.

Routing Stages

*Routing Stages* are used to create a library of standard routing ‘stages’ (also referred to as ‘operations’ or ‘sequences’) that can be copied as needed into bills of material and jobs. With routing stages you can set up commonly used stages in advance and thus avoid having to enter them from scratch each time. Once a routing stage is copied, it can then be edited as needed.
Select the **Routings** checkbox to activate **Routings**. This causes routings-related menu options and screen elements to become visible throughout the system.
Work Centers

(BOM – Bills of Material Setup – Work Centers)

Work Centers are used to organize the factory into specific work areas for scheduling, costing, and documentation purposes. You can also define 'subcontract' Work Centers to represent outside processing services such as plating, painting, and heat-treating.

Work Centers are used with routing sequences

Each routing Seq-Stage is assigned to a Work Center and optionally to a machine within that Work Center. If you will not be using routings, you can skip setting up Work Centers.

Machines

You can also create Machines (see next section) and assign them to Work Centers. If the Work Center itself consists of one Machine, it is not necessary to create a Machine, but you may still want to do so to link the Machine to a service asset for maintenance purposes. If the work center consists of a set of interchangeable Machines, you must set up Machines so that routing sequences can be assigned to the appropriate Machine at time of production.

Scheduling

Using the Work Center Scheduling screen, you will be able to schedule jobs and machines and produce a daily dispatch list that gets sent out to the shop floor to advise which jobs are to be run next.

Costing

Each Work Center holds costing rates for setup, labor, fixed overhead, and variable overhead. These rates will be applied to the estimated and actual setup and labor hours in your routing sequences and flow into the cost rollup and job cost.
**Documentation**

The job traveler is organized by sequential routing *Seq-Stages / Work Centers* and provides your workers with manufacturing specifications.

Field explanations are as follows.

**Header Section**

**Work Center ID**
Enter an up to 12-character code that identifies the *Work Center* on screens, lookups, and reports.

**Description**
Enter an up to 50-character description to accompany the *Work Center ID*.

**Subcontract**
It this is an outside *Work Center* used to represent subcontract services such as painting, plating, and heat-treating, select this checkbox, which changes some of the entry fields in the screens below.

**Hourly Costing Rates**
The *Hourly Costing Rates* panel will not be visible if the *Subcontract* checkbox is selected in the header panel. On this panel you enter the costing rates that are applied to your routing sequences for job costing and the *Cost Rollup* calculations.

**Labor**
This hourly rate will be applied to the \((\text{Time / Process} \times \text{Items / Process})\) values within each routing sequence to determine the routing sequence’s *Labor* cost.

**Setup**
This hourly rate will be applied to the *Setup Hours* value within each routing sequence to determine the sequence’s *Setup* cost.

**Fixed Overhead**
This hourly rate will be applied to your labor and setup hours \([(\text{Time / Process} \times \text{Items / Process}) + \text{Setup Hours}]\) within each routing sequence to determine the routing sequence’s *Fixed Overhead* cost.

**Variable Overhead**
This hourly rate will be applied to your labor and setup hours \([(\text{Time / Process} \times \text{Items / Process}) + \text{Setup Hours}]\) within each routing sequence to determine the sequence’s *Variable Overhead* cost.

**How are overhead rates determined?**
Applying overhead to your labor and setup hours ‘absorbs’ your fixed and variable overhead costs into the cost of the items you make. These costs then flow into your finished goods inventory and give you a more accurate cost of
goods sold when items are shipped. Applying overhead costs to inventory is also an accounting requirement in most countries.

*Fixed Overhead* represents costs that are fixed and do not vary with activity volumes. Rent and depreciation are examples of fixed overhead.

*Variable Overhead* represents costs that directly vary with your activity, such as shop supplies, laundry, electricity, etc.

You are not required to break overhead into fixed and variable categories. Many companies use a single overhead or “burden” rate. If you use just one rate, we suggest you enter it in the *Variable Overhead* field.

Overhead rates are approximations and will always vary from actual overhead costs within any given accounting period. To come up with a fixed or variable overhead rate, take a recent income statement and divide your actual fixed or variable overhead costs by the number of direct labor hours for the period. This will give you a reasonably accurate overhead rate.

**Production Rate Defaults**

The *Production Rate Defaults* panel will not be visible if the *Subcontract* checkbox is selected in the header panel. On this sub-tab you define default production rates for setup and labor that are used when entering new routing sequences in bills of material and jobs. These default values can then be accepted or overridden.

NOTE: These fields are optional. If there is no consistency in labor and setup within the routing sequences assigned to this *Work Center*, it is not necessary to enter values in these fields.

**Setup**

Enter the typical *Setup* time required to set up a routing sequence within this *Work Center*. Enter the time in decimal hours. For example, 45 minutes is entered as ‘.75’.

**Time / Process**

Production is expressed in terms of ‘processes’. A process can be an assembly operation, a hit from a punch press, a mold cycle, etc. A process can produce a single part or many parts at a time. The *Time / Process* is expressed in decimal hours. This field automatically calculates the *Processes / Hour* field and vice-versa.

**Processes / Hour**

A ‘process’ is each event or cycle within a production process, such as an assembly operation, a hit on a punch press, a shot from a mold, etc. If you express your production rates in this manner, you can enter the number of processes per hour in this field. As an alternative, you can enter the *Time / Process* (see previous), which will automatically calculate the *Processes / Hour* for you.
Items / Process
For a most operations, one part is produced per process, which is why the default for this field is set to ‘1’. With molds and certain tools, however, multiple parts can be produced per process. If so, enter the number of parts per process in this field.

Capacity / Scheduling Panel
The Capacity / Scheduling panel will not be visible if the Subcontract checkbox is selected in the header panel. These settings are used by MRP for scheduling planned jobs.

NOTE: These fields are not needed until you actually begin scheduling new jobs, at which time they can be also be updated through the MRP – Work Center Scheduling screen.

Total Hours / Day
This is the total number of hours available within the Work Center, including all machines or all workers. For example, if you have three machines, each operating 10 hours a day, the total hours capacity per day for the work center is ‘30’.

Job Hours / Day
This is the maximum number of hours that can be allocated to any given job per day. In the example given directly above, even though the Work Center has a total capacity of 30 hours, it is unlikely that a single job will be run on all three machines. In most cases, only one machine can be devoted to one job, in which case the maximum job hours per day in our example would be ‘10’. For job scheduling purposes, estimated setup and labor hours for each routing sequence assigned to this Work Center are divided by the Job Hours / Day to translate hours into job days as part of the overall Job Days calculation for the manufactured item.

Queue Days
This setting represents the estimated number of days an item must wait in this Work Center before production can begin. Typically, this field is only used with “bottleneck” Work Centers where there is a finite capacity associated with a machine or some other physical constraint that limits production to a set amount each day. The Queue Days can be manually entered or is automatically calculated within the MRP – Work Center Scheduling screen. The Queue Days will be added to the calculated Job Days for each routing sequence assigned to this Work Center.

Buffer Days
This setting enables you to add in a safety buffer to the job schedule to account for the unforeseen delays common to manufacturing environments – such as machinery repairs, worker or material unavailability, unexpected rework, etc. The Buffer Days specified here will be added to the calculated Job Days for each routing sequence assigned to this Work Center.
Subcontract Defaults Panel

The *Subcontract Defaults* panel is only visible when the *Subcontract* checkbox is selected in the header panel.

**Supplier**
This serves as the default *Supplier* when entering a new routing sequence in the *Bills of Material* screen, which can be overridden at the BOM level.

**Cost**
The serves as the default *Cost* when entering a new routing sequence in the *Bills of Material* screen, which can be overridden at the BOM level. The BOM routing sequence *Cost* is used in the *Cost Rollup* and as the purchase price on subcontract service PO's.

**Days to Next**
This serves as the default *Days to Next* value when entering a new routing sequence in the *Bills of Material* screen, which can be overridden at the BOM level. For subcontract services, the *Days to Next* represents the number of lead-time days it takes to get the parts sent out, completed, and received from the supplier.

**Machines Tab**
If you click the *Machines* tab, you will see a listing of machines assigned to this *Work Center*, for reference purposes only. See the next section for information on setting up *Machines*.  

![Machines Tab Image]
Machines

*(BOM – Bills of Material Setup – Machines)*

*Machines* are set up and assigned to work centers and are used to schedule routing sequences to occur on specific machines. The use of machines is optional.

If the work center itself consists of one machine, it is not necessary to create a machine, but you may still want to create a single machine and link it to a service asset in the *Service – Service Assets* screen for maintenance purposes. If the work center consists of a set of interchangeable machines, you must set up machines so that routing sequences can be assigned to the appropriate machine at time of production.

Field explanations are as follows.

**Machine ID**
You can assign an up to 20-character code that identifies this machine.

**Description**
Enter an up to 50-character description that accompanies the *Machine ID*.

**Work Center**
You must assign this machine to the *Work Center* where it is located.

**Asset ID**
You can link this machine to an *Asset ID*, which is maintained in the *Service – Service Assets* screen. You may even want to give the machine and asset the same ID code. You can use the *Service Assets* screen to schedule and record maintenance on the machine.

**Notes**
You can enter unlimited *Notes* against this machine.
Routing Entry

*(BOM – Bills of Material – Routing Tab)*

Each items *Routing* is entered on the *Routing* tab of the *Bills of Material* screen.

**Routing Tab**

**Upper Grid**

**Seq-Stage**

You can select pre-defined *Routing Stages* from a lookup or you can enter routing sequence details from scratch. Generally, each routing sequence represents a manufacturing operation such as shearing, forming, cutting, inspection, packaging, etc.

When you copy in a routing stage, the program automatically assigns it a numeric prefix, beginning with ‘01-’, followed by ‘02-’, ‘03-’, etc. These numbers keep the seq-stages sorted in sequential order within the job and on the job traveler. You can edit these sequence numbers if you wish.

**Work Center**

The *Work Center* defines the department or area of the shop where the particular routing sequence takes place. It can also be used to represent outside work centers for subcontract services such as plating, painting, heat-treating etc.

**Machine**

If applicable, enter the specific *Machine* within the work center upon which this routing sequence is to be run. If the work center contains interchangeable machines, this field is normally left blank and the routing sequences are assigned to machines at job time.
Production Rates

If the Work Center assigned to the routing sequence is an in-house work center, the following fields are visible and pertain to the routing sequence highlighted in the upper grid.

Setup Hours
Enter the total setup time for this routing sequence, expressed in decimal hours.

Time / Process
Production is expressed in terms of ‘processes’. A process can be an assembly operation, a hit from a punch press, a mold cycle, etc. A process can produce a single part or many parts at a time. This field automatically calculates the Processes / Hour field and vice-versa.

Processes / Hour
As an alternative to entering Time / Process, you can express the production rate in terms of Processes / Hour. Entry of either field automatically updates the other.

Items / Process
If each process yields a single completed part, leave this field at the default setting of ‘1’. If each process yields multiple completed parts, enter that amount. The program will multiply the Time / Process by the Items / Process to determine how much time is required to make a single part.

# Persons
Enter the number of persons required to perform this operation. The program automatically assigns a default value of ‘1’. If this operation requires a team of three people, for example, enter a ‘3’ in this field. You can also enter a decimal amount in situations where one person runs two or three jobs at the same time, in which case you would enter ‘.5’ or ‘.33’. The labor cost for this operation that gets calculated in the Cost Rollup and Job Tracking & Labor screens is multiplied by this amount to determine the total Labor cost for the operation.

Days to Next
This is the number of workdays that occurs between the completion of this routing sequence and the start of the next sequence, apart from and not including the setup and labor time involved in this routing sequence. For example, a painted part might require 3-days of drying time or a part might need a day or two to get from work center to the next.

This can also be a negative number for situations where parts produced on one routing sequence can be started in the next sequence without having to wait for the entire run to be completed before doing so.

Trxn Type
This field is only visible if the Transaction Type Option in the Make – Make Jobs Setup – Job Labor Defaults screen is set to Both Types (Backflush and Labor Hours Entry). The intent with the Both Types option is to collect actual setup and
labor hours against this operation, in which case you would select the ‘Labor’ type, which is the default value. With some operations, however, such as when one operator runs several machines and jobs at the same time, it is not practical to collect and allocate the labor to each job. In such cases, you would select the ‘Backflush’ type, which means that only item completions, not hours, will be entered against this operation.

**Subcontract Fields**

If the **Work Center** assigned to the routing sequence is an outside **Subcontract** work center, the following fields are visible and pertain to the routing sequence highlighted in the upper grid.

**Supplier**
The **Supplier** stored against this work center automatically displays in this field, but can be overridden. This is the default **Supplier** used on PO’s for this subcontract service. If left blank, the **Supplier** stored against the **Default Descriptor** in the **Inventory – Descriptors** screen will be used.

**Cost**
The **Cost** is used in the **Cost Rollup** and as the purchase price on subcontract service PO’s.

**Days to Next**
For subcontract services, **Days to Next** refers to the number of days it takes to get the parts sent out, completed, and received back from the supplier.

**Traveler Notes**
Enter free-form notes to describe this routing sequence. These notes will print on the job traveler.
Task Section

Task & Description
You can optionally break the routing sequence down into specific ‘tasks’. Enter the Task and Description from scratch or select a Routing Task that was predefined in the BOM – Bills of Material Setup – Routing Tasks screen.

Task Notes
Enter any notes that apply to this task. These will print on the job traveler.
Routing Stages and Tasks

If you use standard routing stages and tasks across multiple BOM’s and jobs, you can set them up in advance and copy them in as needed when entering BOM or job routings.

Routing Stages

*(BOM – Bills of Material Setup – Routing Stages)*

Routing Stages are used to create a library of standard routing ‘stages’ (also referred to as ‘operations’ or ‘sequences’) that can be copied as needed into bills of material and jobs. With routing stages you can set up commonly used stages in advance and thus avoid having to enter them from scratch each time. Once a routing stage is copied, it can then be edited as needed.

Stage ID

Each routing stage is identified by a 7-character Stage ID and is accompanied by an up to 50-character Description. All the remaining fields on the screen are identical to those described in Bill of Material entry earlier in this chapter.
Routing Tasks
(BOM – Bills of Material Setup – Routing Tasks)

Routing Tasks are steps and procedures within routing stages and can be assigned to routing sequences within BOM’s and jobs.

The Task ID is an 8-character code that identifies the task. Unlike routing stages, tasks do not get numbered by the program when used in BOM’s and jobs. The Task ID is accompanied by a 50-character Description.
4-8. Price & Discount Tables

DBA accommodates almost any type of customer and supplier pricing requirement. The following pricing and discount tables are available:

**Base Prices**
You can establish a *Base Price* for any stock item, along with an unlimited number or quantity price breaks. You can enter future prices in advance and then update current prices when they are to take effect.

**Price Levels**
You can create an unlimited number of *Price Levels*, each of which expresses prices as a percentage of *Base Price*, with rounding rules that enable you to round prices to a standard increment (‘.25’, ‘.95’, ‘.99’, etc.). Price levels can be assigned to customers and specified during sales order entry.

**Discount Codes**
You can create an unlimited number of *Discount Codes*, which can be assigned to customers and specified during sales order entry. Against each *Discount Code* you can establish discount percentages at the item category or individual stock item level. You can also establish quantity break discounts based on number of units or selling price.

**Contract Prices**
*Contract Prices* enable you to establish special prices for specific customers that override standard prices and discounts. A *Contract Price* can be entered from scratch or expressed as a percentage of *Base Price*, or can also be calculated using a formula (such as a markup over cost). From and thru dates enable you to specify when a price takes effect and when it expires.

**Supplier Prices**
When creating purchase orders, you have the choice of using the item’s last cost, average cost, or fixed cost as the purchase price. You can also store prices in the *Supplier Prices* table, which takes precedence over standard pricing and enables the entry of quantity price breaks.
Price Levels
(Sales – Pricing & Discounts – Price Levels)

Price Levels enable you to establish different price levels (price lists) for different types of customers, based on a fixed multiplier applied to Base Prices. For example, one price level might be used for retail customers, another for dealers, and another for OEM’s, for example.

Price levels are used in the following screens:

Customer Types
You can enter a Price Level against each Customer Type (Sales – Sales Setup – Customer Types). Whenever you assign a new customer to a Customer Type, this price level is used as the default Price Level against the customer.

Customers Screen
On the Pricing sub-tab of the main Customers screen, you can specify a default Price Level that is the default used when entering sales orders.

Sales Orders
A Price Level field is located on the Details side-tab in the Customer section of the sales order header screen. It defaults to the value stored against the customer, but can be changed for any given sales order.

Field Explanations

Price Level
Enter a 20-character code to identify this Price Level.

Description
This is a 50-character description that accompanies the Price Level.

% of Base
This is the multiplier that will be applied to the Base Price to calculate the Price Level price for any item. For example, if you want a Price Level’s prices to be 25% less than their Base Prices, enter ‘75.00’ in this field.
Round To
If you want all prices within a Price Level to be rounded up to a particular increment, enter than increment in this field. For example, you might want all prices to be rounded to 95 cents, in which case you would enter ‘.95’ in this field.

Base Prices
(Sales – Pricing & Discounts – Base Prices)

Use this screen to enter Base Prices for your stock items. The Base Price can be the actual price charged to customers or it can be a reference price for the calculation of Price Level prices or Contract Prices.

Creating a new price from scratch
To enter a new Base Price record, click the New button while in the opening Base Price screen. Select the stock item against which you will enter the price.
Enter the price in the Next Base field. Click the Update button to move the Next Base value to the Current Base field. The date of the price addition is recorded in the Last Update field.

Changing an existing price
To change an existing price, locate the appropriate Item ID and enter the new price in the Next Base field. Click the Update button to move the Next Base value to the Current Base field. The date of the price addition is recorded in the Last Update field and the previous price moves to the Last Base field for reference purposes.

Entering quantity price breaks
To enter quantity price breaks against a stock item, highlight the Item ID record on the Base Price screen and click the Qty Breaks tab at the top of the screen.
Enter the Break Qty, which is the order quantity that determines when the lower price is used. The price itself can be entered two ways:
If you always want the quantity break price to be a fixed multiplier of the *Base Price*, enter the multiplier in the % of Base field. For example, if you want the quantity break price to be 10% lower than *Base Price*, enter '90.00' in the % of Base field. The advantage to this method is that whenever you change the *Base Price*, the quantity break prices automatically change as well.

The second way is to enter an actual price in the *Price* field. If you use this method, be aware that each time you change a *Base Price*, you must also remember to change the quantity break price as well.

You can enter an unlimited number of quantity price break records in this entry grid.

**Mass price changes**

It is common with product lines to periodically enact a price change across all your products. You can prepare for a mass price change by entering your new prices in the Next Base column well in advance of the price change date.

When the day comes for the new prices to be implemented, click the Mass Update button and all Next Prices will be transferred to the Current Price column and will therefore take effect. The Last Update column will reflect the date of the price change and the former prices will display in the Last Base column.

**Global Price Change screen**

As an alternative to entering Next Base prices one-by-one, you can use the Inventory – Item Price & Cost Update ales screen to update prices based on a percentage of current price or cost.

**Base Prices & Cost Report**

Another helpful tool for calculating new prices is the Sales – Reports – Base Prices & Costs report, which lists current and next base prices along with costs and margins.
Discount Codes

(Sales – Pricing & Discounts – Discount Codes)

*Discount Codes* enable you to establish sets of discounts that can be assigned to different groups of customers. For example, your dealers might receive a standard 25% discount, distributors might receive 40%, and OEM’s 50%. Within a discount code, discounts can vary by item category or item. A customer could receive one discount for new products and a different discount for spare parts.

Quantity discounts can also be established based on the total price of the item or number of units sold.

Discounts are applied to base prices and price level prices. They do not apply to contract prices.

Discount codes are used in the following screens:

**Customer Types**

You can enter a *Discount Code* against each *Customer Type* *(Sales – Sales Setup – Customer Types)*. Whenever you assign a new customer to a *Customer Type*, this discount code is used as the default *Discount Code* against the customer.

**Customers Screen**

On the *Pricing* sub-tab of the main *Customers* screen, you can specify a default *Discount Code* that is the default used when entering sales orders.

**Sales Orders**

A *Discount Code* field is located on the *Details* side-tab in the *Customer* section of the sales order header screen. It defaults to the value stored against the customer, but can be changed for any given sales order.

**Field Explanations**

**Discount Code**

Enter a 20-character code to identify this *Discount Code*. 
4-8. Price & Discount Tables

Description
This is a 50-character description that accompanies the Discount Code.

Discount Basis
If your discounts vary by quantity, the Discount Basis determines whether the quantity to be used is the number of Units sold or the total Price of the item.

Discounts
(Sales – Pricing & Discounts – Discounts)

Once your Discount Codes are set up, use this screen to assign discount percentages to item categories or individual items. You can assign a single discount percentage or you can also enter quantity-based discounts.

Discount Codes Tab
All your discount codes are listed on this screen. The entries in the Item Categories tab pertain to whichever discount code is highlighted on this screen.

Item Categories Tab
Use this screen to assign discount percentages. Three levels of specificity are provided:

Single Discount – All Items
If you want a straight discount percentage applied to all your items, you only need to create one record on this screen. Click the New button. Enter ‘All’ in the Item Category field. Leave the Item ID field blank. Enter the discount percentage in the Discount % field. A 25% discount is entered as ‘25.00’.

Different Discounts by Item Category
You might have one or more item categories where the discount percentage varies from the norm. We suggest you first create an ‘All’ record as described in
the previous paragraph to define the discount percentage that applies to the majority of your item categories. Then create entries for the item categories that have different discounts than the norm.

To assign a discount to an item category, click the New button and select the Item Category. Leave the Item ID field blank. Enter the discount percentage in the Discount % field.

**Different Discounts by Item**

You may want to give special discounts for specific items. To do so, you must create an entry on this screen for each such item.

To do so, click the New button and select the item's Item Category. Select the Item ID, then enter the discount percentage in the Discount % field.

**Qty Breaks Tab**

The entries in this screen pertain to whichever line is currently highlighted in the Item Categories tab screen.

Enter the Break Qty, which is either a total price or number of units being ordered, either of which determines the level at which a quantity discount is applied. The Discount Basis displayed in the header panel indicates which basis is being used. Enter the discount percentage in the Discount % field. A 35% discount is entered as '35.00'.
Contract Prices

(Sales – Pricing & Discounts – Contract Pricing sub-menu)

‘Contract prices’ are exceptions to base prices, price level prices, and discounts. These are special prices given to specific customers or groups of customers, often with an expiration date.

Sales Order Pricing Hierarchy
During sales order line item entry, pricing is determined by the following hierarchy:

1. First, the program looks for a contract price. If one is found, it will be used. No discount will be applied, unless a discount is specified within the contract price itself.
2. If a contract price is not found, the program then looks for a price level price. If one is found, it uses that price and applies a discount, if applicable.
3. Finally, if a price level price is not found, the program uses the base price and applies a discount, if applicable.

Contract Price Features
With contract prices you can enter a fixed price, user-defined pricing formulas, or a percentage of base price, with from/thru effective dates.

Contract Pricing Screens
The following screens are available for contract price entry.

- **Pricing – Customer / Item**
  Use this screen to establish a contract price for one stock item that applies to a particular customer.

- **Pricing – Customer Type / Item**
  Use this screen to establish a contract price for one stock item that applies to customer types rather than one customer.
Pricing – Customer Type / Item Category
Use this screen to establish a contract price for an entire category of stock items that applies to customer types. This type of pricing would apply where all items within a category all carry the same price.

Pricing – Customer / Descriptor
Use this screen to establish a contract price for one non-stock descriptor that applies to a particular customer.

Pricing – Customer Type / Descriptor
Use this screen to establish a contract price for one non-stock descriptor that applies to customer types rather than one customer.

Pricing – Customer Type / Descriptor Type
Use this screen to establish a contract price for an entire category of non-stock descriptors that applies to customer types. This type of pricing would apply where all items within a descriptor type all carry the same price.

Field Explanations

Formula Price
If this checkbox is selected, the contract price will be calculated by the formula entered in the lower portion of the screen. See the Formulas user guide for more information on using formulas.

Fixed Price
If you are not using a price formula, you have a choice of entering either a Fixed Price in this field or a percentage of Base Price in the next field.

% of Base
An entry in this field functions as a multiplier against the item or descriptor’s Base Price during sales order entry. For example, if your Base Price is $10.00 and you want the contract price to be 75% of Base Price ($7.50), enter a ‘.75’ in this field.

From Date
This is a mandatory entry field that defines the date when the contract price becomes effective. It is pre-filled with the system date but can be overridden if desired.

To Date
This date establishes an expiration date for the contract price. If you do not want an expiration date, leave this field blank.
Purchase Prices

*(Purch – Purchase Prices - Items)*

*(Purch – Purchase Prices - Descriptors)*

Purchase prices can be established by supplier for specific stock items and non-stock descriptors.

**PO Pricing Hierarchy**

When purchase orders are automatically generated or manually entered, the purchase price is determined by the following hierarchy:

1. First, the program looks for a supplier price in the *Purchase Prices – Items* or *Purchase Prices – Descriptors* screen. If a current supplier price is found, it will be used as the PO price.

2. If a supplier price is not found for a stock item, the program will use either the item’s *Last Cost, Estimated Cost, or Average Cost*, depending on the setting you make in the *Purch – Purchasing Setup – Purchasing Defaults* screen. If a supplier price is not found for a descriptor, the *Unit Cost* maintained in the *Descriptors* screen will be used.

**Field Explanations**

**Supplier Name**
Select the supplier to which this price applies.

**Item ID or Descriptor ID**
Select the stock item or non-stock descriptor to which this price applies.

**Formula Price**
If this checkbox is selected, the supplier price will be calculated by the formula entered in the lower portion of the screen. See the *Formulas* user guide for more information on using formulas.

**Fixed Price**
Enter the purchase price (your cost from this supplier).
From Date
This is a mandatory entry field that defines the date when the supplier price becomes effective. It is pre-filled with the system date but can be overridden if desired.

To Date
This date establishes an expiration date for the supplier price. If an expiration date is not applicable, leave this field blank.
4-9. Employees

The Employees table is used by the Make – Job Tracking & Labor screen to track labor hours and completions against jobs by employee. Employees can be payroll employees or contractors.

Employee Types

(Employee Types)

Employee Types are user-defined fields that enable you to organize your employees into categories for sorting and reporting purposes.

You can enter an up to 15-character Employee Type and an accompanying 50-character Description.
Employees

*(Misc – Employees Setup – Employees … or Emp icon)*

The opening List screen is set to display only Employees with a Status of ‘Active’. You can select the Inactive checkbox in the bottom panel if you wish to also include inactive employees.

**Field explanations**

**Emp No**
Each employee is identified with a 4-character number.

**First Name & M.I.**
Enter the employee’s first name and middle initial. This is a 15-character field.

**Last Name**
The employee’s last name. This is a 20-character field.

**Contact Details**
Address and contact information fields are provided, identical to corresponding fields in the Customers and Suppliers screens.

**Hour Rate 1-4**
These are the pay rates that can be specified during Job Labor Entry. During labor entry, the rate number (1, 2, 3, or 4) is selected, but the actual hourly amount is not displayed. *Hour Rate 1* is the default rate and is normally the employee’s base pay rate. *Hour Rates 2-4* can be used to represent overtime pay or to establish pay rates for different classes of work.

**Pay Source**
If the employee is to be paid via payroll, select ‘Payroll’. If the employee is a contract worker paid by a supplier, select ‘Accounts Payable’.
Sales Rep ID
If this employee is also set up as a sales rep for sales commissions purposes, you can select his or her Sales Rep ID for cross-reference purposes.

Supplier
If this employee is also set up as a supplier for payment processing, you can specify his or her Supplier Name for cross-reference purposes.
Phase 5 – Module Defaults & Forms

Now that your master tables are set up, the next step is to set up the operational functions of the system as well as your forms layouts. This phase includes the following steps:

- Sales Orders Setup
- Make Jobs Setup
- Purchase Orders Setup
- Set System Defaults
- Review Forms Layouts
5-1. Sales Setup

Sales Orders are used for customer order entry, shipping, and invoicing.

Sales Defaults

(Sales – Sales Setup – Sales Defaults)

Order Picking
Two options are available:

Allow Negative Stock
With this option, stock quantities are allowed to go negative. In the Order Picking screen, you are allowed to pick any quantity you wish, regardless if available stock is on hand or not.

Do Not Allow
With this option, in the Order Picking screen you are prevented from picking stock in excess of an item’s current stock quantity.
Sales Order Type Configuration

(Sales – Sales Setup – Sales Order Types)

A default sales order type is already configured with system default settings, but you can edit the defaults with settings of your own.

We suggest you start out with the default sales order type configuration and tailor it later once you are more familiar with the system.

You may consider making entries to the following fields:

**Acknowledgment Layout**
If you create a customized order acknowledgment layout (which is done by editing the standard acknowledgement layout in Utilities – Forms Edit and saving it to another layout name), enter the customized layout name in this field (you do not need to enter the ‘.rtm’ file extension). If left blank, the standard layout will be used.

**Quote Layout**
If you create a customized quote layout (which is done by editing the standard quote layout in Utilities – Forms Edit and saving it to another layout name), enter the customized layout name in this field (you do not need to enter the ‘.rtm’ file extension). If left blank, the standard layout will be used.

**Packing List Layout**
If you create a customized packing list layout (which is done by editing the standard invoice layout in Utilities – Forms Edit and saving it to another layout name), enter the customized layout name in this field (you do not need to enter the ‘.rtm’ file extension). If left blank, the standard layout will be used.

**Invoice Layout**
If you create a customized invoice layout (which is done by editing the standard packing list layout in Utilities – Forms Edit and saving it to another layout name),
enter the customized layout name in this field (you do not need to enter the ‘.rtm’ file extension). If left blank, the standard layout will be used.

*If you have Administrator rights, you can click the ‘Screen Config’ button and activate or deactivate fields that appear in your sales order Details screen. The following are fields to consider changing. NOTE: We suggest you leave all other settings unchanged.*

**Costs & Profit**

Some companies do not want to display cost and profit information. If so, clear this checkbox.

**Reference Price**

This field is normally visible. If a contract price exists for this customer, it will display in this field. If a contract price is not found and the line item is a stock item, this field defaults to the *Base Price* maintained in the *Sales – Pricing & Discounts – Base Prices* screen or it uses the *Price Level* price, which is a percentage of the base price. If this line item is a descriptor, this field defaults to the *Base Price* value maintained in the *Descriptors* screen. The *Reference Price* works in conjunction with the *Discount* field (see next) to calculate the *Price*. Some companies like to print this price on invoices along with the discount percentage to show their customers how good the net price is compared to ‘list’ price. If you do not want this feature, clear this checkbox.

**Discount**

This field is normally visible. It works in conjunction with the *Reference Price* (see above) to calculate the net *Price*. The discount percentage normally comes from the value maintained in the *Sales – Pricing & Discounts – Discounts* screen.
The percentage can be overridden, if desired, which will change the net Price. If you do not need this capability, clear this checkbox.

**Est Cost**
This is the current Estimated Cost of the stock items or descriptor at the time the sales order was entered. It is for reference purposes only and is normally not visible.

**Act Cost**
This is the actual cost to-date and is normally not visible.

**Total Cost**
This field shows you the total extended estimated cost for the line item and is normally not visible.

**Tax Code**
This field, which is normally not visible, provides an override for the Tax Code specified on the Header screen. Depending on your taxation setup, some items may be subject to different tax codes than others. If you wish to view the tax code or have the ability to change it, select this checkbox.
5-2. Make Jobs Setup

Items are manufactured using *Make Jobs*.

**Make Job Defaults**

(*Make – Make Jobs Setup – Make Job Defaults*)

![Make Job Defaults dialog box]

**Costing**

**Job Receipts Cost Basis**

This setting enables you to select the method of costing that will update the item’s *inventory Cost* when receipts of finished job output items are reported via the *Issues & Receipts Entry* screen. Two costing methods are available:

**Actual Job Cost (Recommended)**

This method can be used in any manufacturing environment. An estimated unit cost (based on total estimated job routing and line item costs) for all partial receipts. On the final receipt transaction, a unit cost is calculated that balances total output costs with total actual job costs. Thus, there is no variance at the end of the job between outgoing and incoming costs.
**Estimated Job Cost**
This method provides a simple form of standard costing. With this method, the output item’s estimated job cost, which is established at the time the job is created, is used for all job receipt transactions. Typically, there is a variance at the end of the job between incoming and outgoing costs, which gets posted to your WIP Adjustments GL account.

**Permissions**

**Allow Status change in job header screen**
If you select this checkbox, users can release and close jobs directly in the job header screen, as an alternative to doing so in the Job Control Panel screen. We suggest you allow this for now because you can always clear this checkbox later if you see the need to restrict this capability.

**Options**

**Custom Items**
If you want the ability to generate “custom” items on-the-fly within sales orders, select this feature. Custom items are one-time items where routing and line item detail is entered in the job instead of in advance in a formal bill of material.

**Copy Previous Job Details**
Select this checkbox if you want the ability to copy job lines from another job into the current job. In general, this feature is only used when making custom items.

**Custom Item Generator**
This penal is only visible when the Custom Items checkbox is selected.

**Item ID Prefix**
All custom items will be identified by this prefix, followed by a sequential number. The combination of the prefix and number constitutes the Reference ID number that is used in sales orders, MRP, and make jobs to identify the custom item. We recommend that you use the letter ‘Z’, which will keep all your custom items listed at the very end of lookups and reports. This keeps custom items from being intermingled with your permanent Item ID’s.

**Next ID No**
This displays the number that will be assigned to the next custom item that gets generated. We recommend a beginning number of 100000.

**NOTE:** Do not start with a number such as ‘1’. If you do so, on reports and screen listings, ‘10’ will sort before ‘1’, ‘20’ before ‘2’, etc.

**Item Category**
All custom items, when created, will be automatically assigned to this Item Category. We suggest you create a special Item Category solely for this
purpose, perhaps also with an ID code beginning with ‘Z’ (such as Z-CUSTOM) to differentiate your custom items from permanent stock items.

**UM**
All custom items, when created, will be automatically assigned this *UM*. At time of custom item generation, you can override this default.

**Lead Days**
All custom items, when created, will be automatically assigned this *Lead Days* setting for MRP planning purposes. At time of custom item generation, you can override this default.

**Job Days**
All custom items, when created, will be automatically assigned this *Job Days* setting for MRP planning purposes. At time of custom item generation, you can override this default.
Job Type Configuration

(Make – Make Jobs Setup – Make Job Types)

The ‘MAKE’ job type is set up in the Make Job Types screen. The ‘MAKE’ job type is already configured with system default settings, but you can edit the defaults with settings of your own.

We suggest you start out with the default make job type configuration and tailor it later once you are more familiar with the system.

The following fields can be modified on the ‘Detail’ tab. Leave all other settings unchanged.

Default Status
You can set a default for the job’s Status field setting when new jobs are created. You can set the Default Status to ‘NEW’ or ‘RELEASED’. If your jobs always go into production immediately, select ‘RELEASED’. If you select ‘NEW’, jobs will be released to production as a separate step.

If you have Administrator rights, you can click the ‘Screen Config’ button and activate or deactivate fields that appear in your job details. The following are fields to consider changing. NOTE: We suggest you leave all other settings unchanged.

Seq-Stage
This field is normally visible. If you do not use routings, you can clear this checkbox.

Manufacturer
In some industries, some components must be sourced by approved manufacturers. If you need the ability to designate a manufacturer in your job detail lines, which flows through to the Buy-for-Job screen, select this checkbox.
Ref Date and Ref Code
These two fields are normally not visible. They can be used to record a date and an up to 20-character user-defined reference code. These fields are not used by the system for any formal purpose and are provided as optional reference fields. For example, they could be used to record an inspection date and inspector’s name – anything you wish.
Job Labor Defaults

*(Make – Make Jobs Setup – Job Labor Defaults)*

These settings all pertain to the *Job Tracking & Labor* screen.

**NOTE:** The *Job Tracking & Labor* screen can only be used in conjunction with routings. If you are not using routings, you can skip this section.

**Transaction Type Option**

The *Job Tracking & Labor* screen offers two transaction type entry modes: *Backflush* and *Labor Hours Entry*. Select the transaction type that suits your company, or both if you wish to use both entry modes.

**Backflush**

In *Backflush* mode, you only enter items completed or scrapped. The program “backflushes” setup and labor hours based on the estimated setup hours and production rates entered in the job *Routing* screen. Work center rates are applied to the backflushed hours for calculation of job costs.

**Labor Hours Entry**

In *Labor Hours Entry* mode, you enter actual labor and setup hours as well as items completed and scrapped. The program will cost the job based on the hours entered at your choice of either work center rates or employee wage rates.

**Both**

If you want to enter some jobs in *Backflush* mode and some in *Labor Hours Entry* mode, select this option.
5-2. Make Jobs Setup

**Display Options**

**Display Subcontract Seq-Stages**
Subcontract routing Seq-Stages are normally not a labor entry function and their associated Completion Qty is updated through Purchase Order Receipts rather than the Job Tracking & Labor screen. If you want the ability to enter a Scrap Qty against a subcontract Seq-Stage or you want subcontract Seq-Stages displayed for reference purposes, select this checkbox.

**Display Scrap Qty**
If you track scrapped as well as completed make job items, select this checkbox and the Scrap Qty entry field will display.

**Display Costs when Backflushing**
In Backflush entry mode, job costs for labor, setup, and overhead are calculated based on your job routing settings. If you wish to view these costs while entering Seq-Stage completion and scrap quantities, select this checkbox.

**Display Pay Rate when Cost Basis = Work Center Rate**
In Labor Hours Entry mode, jobs can be costed at work center rates or employee wage rates. Even when costing jobs at work center rates, you still may wish to select the employee’s Pay Rate for purposes of reporting overtime. If this is the case, select this checkbox and the Pay Rate field will be visible.

**Display Warning when Compl Qty + Scrap Qty > Remaining Qty**
If on a routing sequence you report more completions and scrap quantities than the job calls for, select this checkbox and a warning will be presented when this happens. We recommend that you start with this option selected because you can always turn it off later if it is not needed.
5-3. Purchasing Setup

Purchasing is an integral part of the manufacturing process. You are offered a variety of options to help you purchase materials, outside processing services, and other items for your jobs and inventory.

Purchasing Defaults

(Purch – Purchasing Setup – Purchasing Defaults)

PO Prefix
A PO number consists of an alphabetical prefix followed by a sequentially assigned number. In this field, enter the \textit{PO Prefix} that will be assigned to all your PO numbers. You might for example, want all PO numbers to begin with “PO” or “P” so that PO’s are readily distinguishable from sales orders or make jobs.

Next PO Number
A sequentially assigned number follows the \textit{PO Prefix} and constitutes the second portion of the PO number. The numeric value in this field establishes the number that will be assigned to the next PO created. Because of the way the computer sorts numbers, do not enter a number such as 1 or else the result will be that PO 10 or PO 100 sorts before PO 2, 3, etc. on lists and reports. We recommend a starting number such as 10000 or 100000, which will create sequential numbers such as 10001, 10002, 10003, etc.

Purchase Receipt Type
This should be set to ‘PURREC’. Leave the default value as is.

Next PO Receipt Number
Each PO receipt gets assigned a PO Receipt No. The numeric value in this field establishes the number that will be assigned to the next receipt created. Because of the way the computer sorts numbers, do not enter a number such as 1 or else the result will be that receipt 10 or receipt 100 sorts before receipt 2, 3, etc. on lists and reports. We recommend a starting number such as 10000 or 100000, which will create sequential numbers such as 10001, 10002, 10003, etc.
Activate X-Refs
This checkbox should be selected. It activates the X-Refs sub-tab on the Purchase Orders - Detail screen, which contains supplier cross-reference information, such as the supplier’s part number, quantity, and unit of measure.

PO Types
(Purch – Purchasing Setup – PO Types)

You can set up purchase order types to serve as standard purchase orders or supplier quotes. You can modify the purchase types supplied by the system or you can create your own by clicking the New button on the right-hand panel. The screen’s fields are explained as follows.

PO Type
Enter an up to 8-character code to identify the PO type.

Description
Enter an up to 50-character description to further identify the PO type.

Function
Select the ‘ORDER’ setting. The ‘REQUISITION’ setting is for a future enhancement and currently has no purpose.

Type Prefix
You can enter an up to 4-character prefix that will precede the PO number. This serves to readily distinguish one PO type from another.

Auto PO Number
If you want the system to automatically assign the next available PO number, select this checkbox. Some companies prefer to manually assign PO numbers, in which case you would clear this checkbox.
PO Template
If you wish to use a customized PO format for this PO type, you can create one by editing the standard PO format and saving it to a different name. The new format name is entered here (you can use the browse button to locate and select the *.rtm file). When entering the name it is not necessary to type the ‘*.rtm’ extension.
5-4. Set System Defaults

*(Admin – System Defaults)*

Now that the system is ready for use, you can go to the *System Defaults* screen to set up default values and settings for various master table and transaction entry screens. Using default settings where applicable will enable new records to be entered more quickly and easily.

On the *System Defaults* screen you can also set default screen sizes ('Maximized' or 'Normal') for many of the system’s major screens. If you want a screen to expand when launched to the full width of your monitor, select the ‘Maximized’ setting.
5-5. Review Forms & Labels

The following forms and labels are used within the manufacturing portion of the system.

- Acknowledgment
- Customer Statement
- Invoice
- Item Label
- Line Item Label
- Packing List
- Product Catalog
- Purchase Order
- Quote
- Shipping Label

Graphical Print Format

All forms, labels, and reports print in graphical format on any Windows-compatible laser or ink jet printer.

Editable Layouts (RTM’s)

Forms layouts are stored in an *.rtm file format (which we refer to as RTM layouts) that can be edited. You can add logos, bar codes, fields, or you can change fonts, layouts, and graphics. See further below for instructions on doing so.

Letter and A4 Formats

During initial system installation as well as the installation of interim updates, you are asked if you use the U.S. 8-1/2 x 11 Letter format or the international A4 page size. Based on your answer, a complete set of Letter or A4 RTM layouts for all the system forms and reports are loaded into your x:\Program Files\DBA Manufacturing\Reports folder.

Also, in the Admin – Main Setup – Advanced Tab screen you have a Print Page Size setting with a choice of ‘Letter’ or ‘A4’. This determines the Windows Print function’s Page Size setting when printing forms and reports from DBA.

RTM Layout Names

The following are the standard RTM layouts supplied with the system.

<table>
<thead>
<tr>
<th>Form</th>
<th>RTM File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgment</td>
<td>ppacknowledgment</td>
<td>--</td>
</tr>
<tr>
<td>Invoice</td>
<td>pplineInvoice</td>
<td>Invoice</td>
</tr>
<tr>
<td></td>
<td>pplineInvoiceFX</td>
<td>Foreign Currency Version</td>
</tr>
<tr>
<td></td>
<td>pplineInvoiceRemittance</td>
<td>Invoice w/Remittance</td>
</tr>
<tr>
<td></td>
<td>pplineInvoiceRemittanceFX</td>
<td>Foreign Currency Version</td>
</tr>
</tbody>
</table>
5-5. Review Forms & Labels

<table>
<thead>
<tr>
<th>Form</th>
<th>Default Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgment</td>
<td>Sales Order Type (Sales – Sales Setup – Sales Order Types)</td>
</tr>
<tr>
<td></td>
<td>Customer (Sales – Customers – Detail Tab – Forms Sub-Tab). This default setting overrides that of the Sales Order Type.</td>
</tr>
<tr>
<td>Invoice</td>
<td>Sales Order Type (Sales – Sales Setup – Sales Order Types)</td>
</tr>
<tr>
<td></td>
<td>WARNING: You must create at least one actual invoice in the system before you can edit an invoice RTM layout.</td>
</tr>
<tr>
<td>Item Label</td>
<td>Utilities – Forms Edit – Item Labels</td>
</tr>
<tr>
<td>Line Item Label</td>
<td>Utilities – Forms Edit – Line Item Labels</td>
</tr>
<tr>
<td>Packing List</td>
<td>Utilities – Forms Edit – Packing List</td>
</tr>
<tr>
<td>Quote</td>
<td>Utilities – Forms Edit – Quote</td>
</tr>
<tr>
<td>Purchase Order</td>
<td>Utilities – Forms Edit – Purchase Order</td>
</tr>
<tr>
<td>Shipping Label</td>
<td>Utilities – Forms Edit – Shipping Labels</td>
</tr>
</tbody>
</table>

Forms Edit Locations
The above listed RTM layouts can be edited within the following screens.

<table>
<thead>
<tr>
<th>Form</th>
<th>Edit Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgment</td>
<td>Utilities – Forms Edit – Acknowledgment</td>
</tr>
<tr>
<td>Invoice</td>
<td>Utilities – Forms Edit – Invoice</td>
</tr>
<tr>
<td>Item Label</td>
<td>Utilities – Forms Edit – Item Labels</td>
</tr>
<tr>
<td>Line Item Label</td>
<td>Utilities – Forms Edit – Line Item Labels</td>
</tr>
<tr>
<td>Packing List</td>
<td>Utilities – Forms Edit – Packing List</td>
</tr>
<tr>
<td>Quote</td>
<td>Utilities – Forms Edit – Quote</td>
</tr>
<tr>
<td>Purchase Order</td>
<td>Utilities – Forms Edit – Purchase Order</td>
</tr>
<tr>
<td>Shipping Label</td>
<td>Utilities – Forms Edit – Shipping Labels</td>
</tr>
</tbody>
</table>

Forms Default Designations
The following forms allow for default designations, meaning that the particular RTM layout used can be designated at the order type, customer, and supplier level. This enables you to create custom layouts for particular situations, such as when a customer requires special wording.

<table>
<thead>
<tr>
<th>Form</th>
<th>Default Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgment</td>
<td>Sales Order Type (Sales – Sales Setup – Sales Order Types)</td>
</tr>
<tr>
<td></td>
<td>Customer (Sales – Customers – Detail Tab – Forms Sub-Tab). This default setting overrides that of the Sales Order Type.</td>
</tr>
<tr>
<td>Invoice</td>
<td>Sales Order Type (Sales – Sales Setup – Sales Order Types)</td>
</tr>
</tbody>
</table>
Customer (Sales – Customers – Detail Tab – Forms Sub-Tab). This default setting overrides that of the Sales Order Type.

Quote
Main Setup (Admin – Main Setup – Quote Letter Tab)
Sales Quote (Sales – Sales Quotes – Quote Style Tab). This setting can be changed for any given sales quote and overrides the default setting in the Main Setup screen.

Packing List
Sales Order Type (Sales – Sales Setup – Sales Order Types)
Customer (Sales – Customers – Detail Tab – Forms Sub-Tab). This default setting overrides that of the Sales Order Type.

Purchase Order
Purchase Order Type (Purch – Purchasing Setup – Purchase Order Types)
Supplier (Purch – Suppliers – Detail Tab – Forms Sub-Tab). This default setting overrides that of the Purchase Order Type.

Forms Suppliers
Refer to the online support center (see the Checks and Forms folder) for a list of forms suppliers.

DBA Classic Compatible Forms
RTM layouts are available that are compatible with DBA Classic forms. These can be downloaded from the online support center.

Multi-Currency Forms
Invoice and purchase order RTM layouts are available in foreign currency versions, meaning that the foreign currency (as maintained in the Tax – Currency Table) will print instead of your Home currency.

These foreign currency layouts should be stored as defaults against those customers and suppliers for whom invoices and purchase orders are to print in foreign currency. To do so, on either the Customers screen or the Suppliers screen’s Detail tab, go to the Forms sub-tab and designate the default foreign currency RTM layouts.
Form Editing Instructions

To edit a particular form, navigate to the appropriate *Forms Edit Location* listed above and display the RTM layout.

**CAUTION:** When customizing an invoice, packing list, or purchase order, be sure and save the standard layout to a different name (using *File – Save as*) before making any changes.

**Customizing invoices**

**WARNING:** You must create at least one actual invoice in the system before you can edit an invoice RTM layout.

**Navigating to different layouts for the same form**

Some forms have multiple RTM layouts, such as invoices, packing lists, and purchase orders. When you access the form through the *Forms Edit* menu, the system will display the first RTM format it finds. To navigate to the particular format you wish to edit, click *File – Open* and navigate to the appropriate RTM file.

**Adding fields to forms**

- Open the form.
- Pay attention to the warning message. Do not delete any fields already on the form.
- Create a DBText box in which to add the field (the DBText box can be created by clicking the button 9th from the right, with the capital A and the white piece of paper on it at the top of the form).
- Place the DBText box wherever you wish on the form.
- There will be two dropdown boxes that appear at the top toolbar of the form after you place the DBText box.
- Choose the Table or ‘Data Pipeline’ that contains the field from the dropdown menu in the left box.
- Choose *Field* from the menu on the right
- A list of table and field definitions is available for reference in the *File – Data Dictionary*.
- Click *File – Save*.
- Then after saving it, click *File – Close*.

**Adding bar code fields to forms**

**VIDEO CLIP:** A video clip in the online support center covers adding bar codes to forms.
- Open the form.

- On the toolbar at the top of the screen, click the Bar Code icon (10th from the left) for non-database fields. Use the DB Bar Code icon (17th from the left) for system database fields. Then, in the desired location within the report, click the mouse to create the bar code field.

- Once a DB Bar Code field has been created, you can associate database fields by clicking the field with your mouse, then selecting VIEW/TOOLBARS/DATA TREES and associate the desired data field with the bar code.

- If you need to change the format of the bar code field, right click on the field, click CONFIGURE and edit the TYPE from the drop down listing.

- Use File – Save or File – Save As to save your form changes.

Adding your logo to forms

VIDEO CLIP: A video clip in the online support center covers adding logos to forms.

- Open the form.

- On the top toolbar, click the Image icon (seventh icon from the left).

- Click your mouse into the body of the document. An Image box should now appear.

- Drag the Image box to the desired location in the form and resize it as needed.

- Right click inside the Image box and select Picture from the listing.

- Browse the path to where your image is stored and click OK to load the image. Please be aware that not all image formats are supported.

- Use File – Save or File – Save As to save your form changes.

Adding custom layouts to the Forms Repair Utility

(Utilities – Forms Repair Utility)

From time to time, structural changes are made to forms, such as the addition of new fields that were not previously in the database. When such changes are made, customized versions of forms will no longer function. The Forms Repair Utility is run after each product update to ensure that your customized forms are updated for new features and function properly.

So whenever you create a customized form layout, always add it to the Forms Repair Utility. Whenever you install a product update, be sure and run the Forms Repair Utility so that all your form layouts are always updated for the latest changes.
Field Explanations:

Repair Forms Button
Click this button whenever you wish to run the *Forms Repair Utility*. Processing normally takes place in less than a minute.

Paper Format
Select whether your forms are stored in *Letter* (USA) or *A4* (International) paper format.

DBA Manufacturing Folder Location
This field lists the path to your *DBA Manufacturing* folder, where the DBA system is installed. You can use the button to the right of this field to browse and navigate to this folder location.

Original Form Layout
When you highlight a layout in the *Customized Forms Layouts* window below, this field displays the RTM layout from which the customized layout was derived.

   NOTE: If your customized layout could have originated from one of several layouts, a second window will display that lists all the possible formats from which it could have originated. A customized invoice format, for example, could have derived from one of several standard invoice RTM layouts. Select the one from which your customized layout originated.

Customized Form Layouts
All RTM forms layouts in your *Reports* folder that are not recognized as standard form layouts are listed in this lower window. When you highlight a layout in this window, the *Original RTM Layout* field above displays the RTM layout from which your customized layout was derived. On a one-time basis, select the checkbox to the left of each layout that you always want subjected to the forms repair process.

Running the Forms Repair Utility
Once you’ve set up the screen and have identified all the customized layouts that are always to be subjected to repair, after each product update, simply go this screen and click the *Repair Forms* button.

When new fields are added to an original form layout
When new fields are added to an original form layout, after running the repair utility, those new fields will be added to your customized form layout(s). Those new fields very well might be misaligned or even cover or partially cover some of your fields. When this happens, you must go into the *Forms Edit* screen and re-arrange your customized format to accommodate the new fields, or delete the fields if you have no use for them.
Phase 6 – Train Users

At this point the manufacturing system is set up and ready for use. The next step is for your users to be trained in the use of the system’s operational functions.

Manufacturing User Guide

The *Manufacturing User Guide* covers system workflows and actual use of the screens and will be your main reference in learning the functions discussed in this chapter.

The following is a list of the operational functions that need to be learned by your employees before system startup day.

**Use the sample company or training company**

All training should be done within the *DBA Sample Company* or the training company, not your main company.

**Training Company Option**

If you have a support subscription, an optional “training company” is available with each update that can be installed side-by-side on the same server with your live company.

When you install the training company, a copy of your live database is used so that you can review the update on your own data. You are free to make entries and experiment with new features.

You can download the current training company from the online support center. It is located in the *Downloads* area in the *Next-Gen Updates & Release Notes* folder.

**Inventory**

The user should be able to:

- Enter inventory adjustments in single transaction or batch mode
- Change an item’s *Inventory Cost*
- Create and enter stock counts for physical inventories
- Replenish remote location stocking levels and transfer stock (if applicable)
- Issue and receive items with tracking characteristics (if applicable)

**Cost Rollup**

The user should be able to:

- Maintain estimated costs for item and descriptor components
- Roll up costs for manufactured items
- Update purchase item costs using the *Item Price & Cost Update* screen
Phase 6 – Train Users

Sales Orders

Order Entry
The user should be able to:

- Enter a sales order from scratch
- Copy a sales order from a previous sales order
- Generate a sales order from a template
- Use speed entry

Picking & Shipping
The user should be able to:

- Pick order lines for shipment
- Pick items with tracking characteristics (if applicable)
- Create shipments
- Print packing lists and shipping labels
- Enter shipping charges

Invoicing
The user should be able to:

- Create invoices from shipments
- Preview invoices
- Reverse invoices
- Print and e-mail invoices

MRP & Scheduling
The user should be able to:

- Maintain planning and scheduling settings in the MRP Settings and Work Center Scheduling screens
- Generate, schedule, and convert planned jobs from sales order lines for Make-to-Order items
- Generate, schedule, and convert planned jobs based on net demand within each item’s planning period
- Generate PO’s directly from jobs for descriptors and Purchase-to-Order items
- Generate and convert planned PO’s based on net demand within each item’s planning period
- Generate estimated delivery dates
- Schedule work centers and print Work Center Dispatch List
- Reschedule existing jobs and sales orders
Make Job Processing

The user should be able to:

- Release jobs to production
- Print job travelers and pick lists
- Issue materials and components from stock
- Track job completions by routing sequence
- Enter setup and labor time by employee (if applicable)
- Issue and receive items with tracking characteristics (if applicable)
- Enter output completions
- Close and re-open jobs

Purchasing

The user should be able to:

- Enter purchase orders from scratch
- Use speed entry
- Receive purchase orders to stock or to jobs
- Receive items with tracking characteristics (if applicable)
Phase 7 – Manufacturing Startup Day

All your previous setup and training is in preparation for a manufacturing “startup day” when you will use the system to run the manufacturing side of your business – inventory, order entry, MRP and scheduling, job processing, purchasing, shipping, and invoicing.

There are several basic tasks to perform just prior to manufacturing startup day, listed as follows. Typically, startup day is set for a Monday so that these tasks can be completed over the previous weekend.

- Disable automatic numbering
- Enter open sales orders
- Enter open jobs
- Enter open purchase orders
- Restore automatic numbering
- Import or enter stock quantities
- Perform a cost rollup
- Reconcile inventory GL balance
- Clear the Manufacturing Ledger

We will now review each of these steps in detail.

Disable automatic numbering

On a temporary basis, you will disable automatic numbering so that you can manually enter sales order numbers, purchase order numbers and job numbers that are identical to the ones being transferred from your old system to DBA for manufacturing startup day.

By doing so, the numbers will match order acknowledgements, shop travelers, and purchase orders that are already in the hands of customers, shop personnel, and suppliers.

Sales Orders & Jobs

(Admin – Main Setup)

Automatic numbering for sales orders and jobs is controlled by a common setting. Go to the Main Setup screen, Main tab, and clear the Auto SO/Job Numbering checkbox in the SO/Job Numbering section. Click the Save & Close button to save your entry and close the screen.

Purchase Orders

(Purch – Purchasing Setup – Purchase Order Types)
For each *Purchase Order Type* that will be involved in manufacturing startup day, clear its *Auto PO Number* checkbox. When finished, click the *OK* button to save your settings and close the screen.

**Enter open sales orders**

(*Sales – Sales Orders*)

It is likely that your existing accounting system can give you a list of open sales orders, including the items that have not yet been invoiced, along with their quantities and selling prices. Use this list to transfer your open sales orders to DBA.

**New Sales Order Screen**

Click the *New* button to start a new sales order, which displays the *New Sales Order* screen.

Normally, the default *Sales Order Type* will be used, so no selection is required in this field.

Enter the *Required Date* for the order, which is the promise date that has been given the customer. At the line item level, you can change this date if the order contains multiple promise dates.

Once you click *OK*, the screen closes and you are prompted to enter a *New SO/Job Number*. Enter a sales order number that is identical to the sales order being transferred from your other system.

**Header Tab**

Select the customer *Name* in the *Sold to* sub-tab. Once you’ve selected the customer, click the *Ship to* sub-tab and verify that the delivery address is correct. If not, select the appropriate delivery address via the lookup in the *Name* field.

**Details Tab**

Enter the sales order line items. Do not enter the original order. Only enter the remaining items and quantities that have not yet been invoiced.

Consider using the *Speed Entry* option, which is accessed by clicking the *Speed Entry* button. This will allow you to rapidly enter the lines.

If you do use *Speed Entry*, be aware that the selling prices will come into the screen automatically based on the pricing and discount tables that you have established. You should therefore verify the prices to make sure they agree with the prices on the original sales order.

Ignore the *Linked Job* field, even if you have open jobs that are technically linked to sales order lines. This field is automatically populated when sales order lines are converted through *MRP*, which will be the process you will use for future sales orders, but not for those being transferred from your old system.
Sales Order Detail Report
When you are finished entering all your open sales orders, you can run the Sales – Reports – Sales Order Detail report to get a listing of the items, prices, and quantities on each sales order. You can compare this report with the corresponding report from your old system to verify that your open sales orders were accurately transferred to DBA.

Enter open jobs
*(Make – Make Jobs)*
Here are some things to consider when entering open jobs.

Jobs with Standard BOM’s
If your products have fixed bills of material, you can create open jobs with little effort by specifying the BOM parent ID and quantity to make, in which case all the associated routing and line item details will be copied into the job.

Line Item Entry
In most cases, your line items will be copied in from a BOM. In some cases, you will be entering line items from scratch. When entering from scratch, you have the Speed Entry option to hasten the process, which is accessed by clicking the Speed Entry button.

We suggest you leave the PO No field blank from now, even though some of your open PO’s are actually for this job. Normally, the PO No field is automatically populated when PO’s are generated from job lines via the Buy-for-Job screen. The PO No field will therefore be used for future PO’s generated from this point onward, but not for the jobs that were transferred from your old system.

Customized Jobs
If your open jobs are for customized products, you can originate the job from its BOM, then you can edit the details for the customized exceptions. In some cases, you may have to enter all the job details from scratch.

Partially Processed Jobs
If you have open jobs that are partially processed, you only need to enter job lines for the remaining line items that have not yet been issued to the job. In this case you can originate the job with a BOM and then edit the remaining line item quantities as required.

Job Costing on Partially Processed Jobs
In most cases, it will not be practical to get an accurate actual job cost on jobs that were started in your old system and finished in DBA. You could, for example, create a descriptor, add it to the DBA job as a job line, and give it an estimated cost equal to the cost-to-date from the other job. This may be worth
the effort if you have jobs of relatively long duration with good cost data to assist in making such an entry.

The easiest costing approach on partially completed jobs, however, is to ignore the calculated job cost that the program suggests at time of job receipt. Instead, when you receive the job’s finished outputs in the Job Issues & Receipts screen, manually insert the bill of material’s Estimated Cost (which you can obtain from the Cost Rollup screen) as the job receipt cost. This provides a reasonably accurate cost.

When you do this, you end up with a variance at the end of the job between incoming and outgoing job costs. When you formally close the job, the program automatically restores your Work in Process account to balance with a debit to Work in Process and a credit to your WIP Adjustments account for the amount of the variance.

**Job Traveler**

The Job Traveler is the best printout that you can use to verify the accuracy of your job detail entries. You can print them in batch mode from the Make – Job Travelers screen.

**Enter open PO’s**

(Purch – Purchase Orders)

It is likely that your existing accounting system can give you a list of open purchase orders, including the items that have not yet been received, along with their quantities and purchase prices. Use this list to transfer your open purchase orders to DBA.

**New Purchase Order Screen**

Click the New button to start a new purchase order, which displays the PO Type Selection screen.

Normally, the default PO Type will be used, so no selection is required in this field. Enter a PO No that is identical to the purchase order being transferred from your other system.

Click OK, which closes the screen and takes you to the Header tab.

**Header Tab**

Only two fields need entries on this screen.

First, select the supplier Name.

Secondly, enter a Due Date, which is used as a default Due Date when entering PO line items.

**Details Tab**

Enter the PO line items. Do not enter the original purchase order. Only enter the remaining items and quantities that have not yet been received.
Consider using the Speed Entry option, which is accessed by clicking the Speed Entry button. This will allow you to rapidly enter the lines.

If you do use Speed Entry, be aware that the Cost values will come into the screen automatically based on the pricing tables that you have established. You should therefore verify the prices to make sure they agree with the prices on the original PO.

We suggest you ignore the Job No and Seq-Stage fields, even if the line item is for a specific job. These fields are automatically populated when job lines are converted to PO’s through the Buy-for-Job screen, which will be the process you will use for future PO’s, but not for those being transferred from your old system.

**Purchase Order Listing**

When you are finished entering all your open purchase orders, you can run the Purch – Reports – Purchase Order Listing to get a listing of the items, costs, and quantities on each PO. You can compare this report with the corresponding report from your old system to verify that your open purchase orders were accurately transferred to DBA.

**Restore automatic numbering**

Once your open sales orders, jobs, and purchase orders have been transferred to DBA, you can restore the automatic numbering that was temporarily disabled at the beginning of the transfer process.

**Sales Orders & Jobs**

*(Admin – Main Setup)*

Automatic numbering for sales orders and jobs is controlled by a common setting. Go to the Main Setup screen, Main tab, and select the Auto SO/Job Numbering checkbox in the SO/Job Numbering section. Click the Save & Close button to save your entry and close the screen.

**Purchase Orders**

*(Purch – Purchasing Setup – Purchase Order Types)*

For each Purchase Order Type, select its Auto PO Number checkbox. When finished, click the OK button to save your settings and close the screen.

**Import or enter stock quantities**

You must enter the on-hand quantities of stock items as of manufacturing startup day. There are two ways to establish beginning stock counts.

**Option 1 – Data Import**

*(File – Date Import)*
Phase 7 – Manufacturing Startup Day

Through the Data Import screen you can import stock quantities from your accounting system. See the Data Import/Export user guide for details.

**Option 2 – Batch Inventory Adjustments**

*(Inventory – Batch Inventory Adjustments)*

Use the Batch Inventory Adjustments screen to enter a beginning stock Qty for each item as well as a Trxn Cost. The cost will establish each item’s Inventory Cost and Last Cost.

NOTE1: When making these entries, use a BEGBAL Transaction Type.

NOTE2: Be aware that Batch Inventory Adjustments adds to available stock. If you have made any inventory transactions to an item during the course of system setup, the item may already have a stock quantity, which displays in the QtyonHand column. If this is the case, enter the net amount required to bring the total stock quantity up to the desired amount.

See the Manufacturing User Guide for details on using the Batch Inventory Adjustments screen.

**Update estimated costs**

In this task, we establish initial Estimated Costs on all your stock items.

**Step 1 – Update Estimated Cost for P items**

*(Inventory – Item Price & Cost Update)*

Before you run a cost rollup, you should go to the Item Price & Cost Update screen and establish an Estimated Cost for all of your ‘P’ (purchased) items.

Most typically this is done by making each P item’s Estimated Cost equal to its Inventory Cost, which is done as follows:

- In the Selection panel, select a beginning and ending Item Code.
- In the Update Mode panel, select the Batch radio button.
- In the Price or Est Cost Selection panel, select the Estimated Cost radio button.
- In the next panel down, select the Inventory Cost radio button.
- After your selections are made, click the Update button and processing will begin. Each item’s Estimated Cost will be made equal to its Inventory Cost.

**Step 2 – Perform a cost rollup**

*(BOM – Cost Rollup)*

After step 1 is completed, you can then roll up the Estimated Cost for all of your ‘M’ (manufactured) items.
From the Cost Rollup screen, click the Batch Rollup button. In the Action Selection screen, select the Batch Rollup and Batch Update checkboxes, then click OK. After confirming that you wish to run the rollup, processing will begin.

**Reconcile inventory GL balance**

*(Inventory – Reports – Inventory Value)*

Run this report for all your stock items to establish the total value of your inventory. Compare this with the Inventory account in the general ledger.

If the inventory value on the report is higher than the current GL balance, make this entry for the difference in value:

- **Debit:** Inventory
- **Credit:** Inventory Adjustments

If the inventory value on the report is lower than the current GL balance, make this entry for the difference:

- **Debit:** Inventory Adjustments
- **Credit:** Inventory

**Clear the General Ledger**

*(Ledger – Manufacturing Ledger Setup – Clear Ledger)*

*(Ledger – General Ledger Setup – Clear Ledger)*

The general ledger may have accumulated transactions during system setup that should be cleared from the ledger just prior to system startup. Go to the Clear Ledger screen where you can run a procedure that clears the ledger of all pre-startup transactions.

**This completes the manufacturing implementation process.**

**Congratulations!**
Phase 8 – Refine the Manufacturing System

In phase 8 you will refine the manufacturing system to where it is running smoothly and giving good results.

Manufacturing is an art, not a science

Manufacturing is an art, not a science. There are many ways to improve the manufacturing process, and what is a good, bad, appropriate, or inappropriate depends on the type of company, size of company, and each company’s objectives.

Having said that, here is a list of manufacturing activities that typically benefit from fine-tuning, meaning that the more they are experimented with, adjusted, and refined, the better the results will be.

- Refine your MRP settings
- Refine your job scheduling settings
- Refine your routings
- Refine data entry procedures
- Refine accuracy of inventory
- Achieve better purchase prices

Let’s now review each of these in detail.

Refine your MRP settings

Only you can determine the mix of MRP settings that affect your inventory. At one extreme, you can use “push” style planning where you set reorder levels and lead-times high enough and long enough to guard against shortages. At the other extreme, you can use “pull” style planning where you only order or make items in response to actual demand.

Very likely you will use a mixture of push and pull planning where you keep stocking levels on some items and not on others.

How you manage material planning can have a profound affect on how much capital is required in relation to the factory’s total throughput, as well as the number of shortages that occur and disrupt product schedules.

Refine your job scheduling settings

Only you can determine the mix of settings that affect your job scheduling. If you use routings and work centers, you can learn how to use estimated labor and setup rates and days to next settings combined with work center settings such as job hours per day, queue days, and buffer days to accurately gauge how long jobs will take to get through the factory.

Using this information, you can quote more accurate delivery dates to customers. Jobs will get through the factory more smoothly as they get started at the right
time and as you work on the correct jobs at each work center. The aisles will no longer be clogged with material that was formerly hoarded to get priority jobs done in time.

Job scheduling is truly an art, not a science, and benefits from fine-tuning.

**Refine your routings**

If you plan on doing any form of job tracking or shop floor control, you must use routings and work centers to schedule jobs, track their progress, and reschedule jobs as needed to meet delivery schedules.

Routings are a collection of “best guess” estimates of setup hours, production rates, and interval time between routing sequences. The more you refine these estimated rates and factors over time, the better the quality will be of the information that feeds the scheduling and planning system.

As your manufacturing system matures and you get better at fine-tuning the inputs that drive it, the better will be the results that come out the other end.

**Refine data entry procedures**

The information that drives manufacturing must be accurate and timely or it loses its value. This does not happen automatically. You must mobilize and train employees to enter data properly and on time. Much of this is up to you and your ability to put the management processes in place that gets people to adhere to proper procedures.

As with any new system, your organization will have to go through an adjustment period as these new procedures and activities get incorporated into the company culture.

**Refine accuracy of inventory**

Without accurate stock quantities, the planning system can break down as users mistrust the system and revert to hoarding, expediting, private checklists, and other counter-productive practices.

Instilling proper procedures, cycle counts, and training users to work through the system are management challenges that must be met if you wish to achieve manufacturing success.

**Achieve better purchase prices**

Once you have the MRP functioning smoothly, you can focus less on shortages and expediting and more on getting good prices from your suppliers. Any savings you make on purchase prices goes directly to the bottom line.
Appendix A – Implementation Checklist

Phase 1 – Study the System

Target Date: ____________

☐ Review DBA demo library ____________________________

☐ Study user guides ____________________________

☐ Study sample company ____________________________

☐ Review online support center ____________________________

Phase 2 – Devise an Implementation Plan

Target Date: ____________

☐ Designate a project leader ____________________________

☐ Define objectives ____________________________

☐ Plan data import strategy ____________________________

☐ Assign tasks and responsibilities ____________________________

☐ Set target dates ____________________________

Phase 3 – System Setup

Target Date: ____________

☐ User Setup & Password Security ____________________________

☐ Main Setup ____________________________
Phase 4 – Enter Master Tables

Target Date: ____________

Tax Tables:

☐ Tax System

☐ Tax Authorities

☐ Tax Codes

☐ Default Tax Codes

☐ Tax Groups (if applicable)

☐ Tax Group Matrix (if applicable)

Customers

☐ Customer Types

☐ Contact Types

☐ Sales Regions (optional)

☐ Sales Rep Types (optional)

☐ Sales Reps (optional)

☐ Commission Codes (optional)

☐ Lead Sources (optional)

☐ Payment Terms

☐ Ship Methods

☐ Ship Zones

☐ Customers (enter or import)
Appendix A – Implementation Checklist

Suppliers

☐ Supplier Types

☐ Contact Types

☐ Supplier Regions (optional)

☐ Supplier Codes (optional)

☐ Supplier Terms

☐ Suppliers (enter or import)

☐ Manufacturers (optional)

Stock Items

☐ Inventory Defaults

☐ Stock Classes (optional)

☐ Stock Locations (optional)

☐ Item Characteristics (optional)

☐ Item Categories

☐ Product Catalog Groups (optional)

☐ Product Catalog Styles (optional)

☐ Product Catalog Names (optional)

☐ Stock Items (enter or import)

Descriptors

☐ Descriptors

☐ Cross-Reference Codes (optional)

Bills of Material

☐ BOM Defaults
Appendix A – Implementation Checklist

☐ Method Names (optional) ______________________

☐ Bills of Material ______________________

Routings

☐ Work Centers ______________________

☐ Machines ______________________

☐ Routings ______________________

☐ Routing Stages & Tasks (optional) ______________________

Price & Discount Tables

☐ Price Levels (optional) ______________________

☐ Base Prices ______________________

☐ Discount Codes & Discounts (optional) ______________________

☐ Contract Prices (optional) ______________________

☐ Supplier Prices ______________________

Employees

☐ Employee Types ______________________

☐ Employees ______________________

Phase 5 – Module Defaults & Forms

Target Date: __________

☐ Sales Defaults ______________________

☐ Sales Order Types ______________________

☐ Make Job Defaults ______________________

☐ Make Job Types ______________________
Appendix A – Implementation Checklist

- Job Labor Defaults
- Purchasing Defaults
- Purchase Order Types
- System Defaults
- Review Forms & Labels

**Phase 6 – Train Users**

**Target Date:**

**Inventory**

- Make inventory adjustments
- Change an item’s inventory cost
- Adjust stock for items with characteristics
- Create and enter stock counts
- Replenish stock at locations
- Perform location stock transfers

**Cost Rollup**

- Enter tem and descriptor Est Costs
- Perform a cost rollup
- Use tem Price & Cost Update

**Sales Orders**

- Enter sales order from scratch
- Copy a sales order from another
- Generate a sales order from a template
Appendix A – Implementation Checklist

☐ Use speed entry
☐ Pick order lines for shipment
☐ Pick items with tracking characteristics
☐ Create shipments
☐ Print packing lists and shipping labels
☐ Enter shipping charges
☐ Create invoices from shipments
☐ Preview invoices
☐ Reverse Invoices
☐ Print and e-mail invoices

MRP & Scheduling
☐ Maintain item MRP & scheduling settings
☐ Generate planned jobs from SO lines
☐ Generate planned jobs from net demand
☐ Generate PO’s from jobs
☐ Generate planned PO’s from net demand
☐ Generate estimated delivery dates
☐ Schedule work centers
☐ Reschedule existing jobs
☐ Reschedule existing PO’s

Job Processing
☐ Release jobs to production
□ Print job travelers and pick lists
□ Issue items from stock to jobs
□ Process items with tracking characteristics
□ Track routing sequence completions
□ Enter employee labor and setup hours
□ Enter output completions
□ Close and re-open jobs

Purchasing
□ Enter PO’s from scratch
□ Use speed entry
□ Receive PO’s to stock or jobs
□ Receive items with characteristics
□ Close PO’s

Phase 7 – Manufacturing Startup Day

Target Date: __________

□ Disable automatic numbering
□ Enter open sales orders
□ Enter open jobs
□ Enter open purchase orders
□ Restore automatic numbering
□ Import or enter stock quantities
□ Update estimated costs
Appendix A – Implementation Checklist

☐ Reconcile inventory GL balance
☐ Clear the General Ledger

Phase 8– Refine the Manufacturing System

Target Date: ____________

☐ Refine MRP settings
☐ Refine job scheduling settings
☐ Refine routings
☐ Refine data entry procedures
☐ Refine accuracy of inventory
☐ Achieve better purchase prices
Appendix B – System Customization Options

You can customize screens, add fields to the database, and tailor your opening list screens using the customization functions documented in this appendix. We suggest that you get familiar with the system first before using these functions so that you don’t mistakenly customize elements that aren’t necessary.
Add Fields to Database  
(Utility – Add Fields to Database)

You can add up to six user-defined fields to any of the following database tables: Customers, Suppliers, Items, Service Assets, Jobs, and Purchase Orders.

In the upper window, highlight the table to which you wish to add fields. Below the window, specify the **Number of Additional Fields** you wish to add. In the **Additional 1 Field Name**, give the field a name. This is the name that will appear on entry screens.

Select the **Date Field** checkbox if this field is used to hold a date. If this is not a date field, you are presented with a **Validate** checkbox. A validated field is one where the user must select from a list of pre-determined values. If you select the **Validate** checkbox, you are presented with a **List** button. Click the button and enter the list of valid selections. When the user is presented with this field on an entry screen, the field will be accompanied by a drop down list from which the user can make a selection.

When your entries are complete, click the **OK** button.

**Adding user-defined fields to opening list screens**

Through the **Opening List Configuration** screen (see next section) you can add any user-defined fields created through this screen to your opening list screens. Once in the opening list, these fields can be sorted, filtered, printed, and exported to Excel in the same manner as standard fields.
Configuring Opening List Screens

*(Inventory – Inventory Setup – Stock Items List Config)*
*(Sales – Sales Setup – Customers List Config)*
*(Purch – Purchasing Setup – Suppliers List Config)*

Use these screens to configure the opening List screen in the Stock Items, Customers, and Suppliers screens. You can determine which fields you want displayed and you can change the column headings, if you wish.

All the available fields in each table are displayed in the left hand Field Name column. In the middle Display Label column you can change the name that displays on the screen column heading. The right hand Visible column can be set to ‘Yes’ on any fields you wish to display and ‘No’ on any you want suppressed.

**Advanced Tab**

When these tables contain many thousands of records, the time it takes to load, sort, and display the information in the opening list screens can slow down noticeably. If so, you can optimize the opening list screens by limiting the number of records that get loaded at one time. You will find this setting on the Advanced tab screen.

If you limit the number of records, this does not restrict your access to any data; it merely loads a certain number of records at-a-time into the screen. The only downside to limiting the records is that you lose the ability to click on the grid column headings for sorting and filtering purposes.

After you change the maximum number of records setting, click the Save & Close button.
Menu Activations

(Admin – Menu Activations

Use this screen to deactivate any menu options that are not relevant to your company. When you deactivate a menu option, it becomes invisible to all users on the system.

So if there are reports or screens that will never be used by your company, we advise you to deactivate them so that your users remain focused on the functions they actually can use.

Activating and Deactivating Menu Options

On the screen you will see displayed a tree-view of each menu and the options and sub-menus within it.

To activate a menu option, select its checkbox. To deactivate a menu option, clear its checkbox.

To deactivate an entire menu, clear the checkbox against the menu name.

When your selections are completed, click the Save & Close button and they will immediately take effect.
User-Defined Menus

(Uutilities – User-Defined Menus)

This screen enables you to add your own programs to the standard system menus and security system. This can be used for selecting custom reports or for linking to outside applications. When you add a menu item on this screen, it automatically is added to the Module Security tab in the User Setup screen and can then be given security access permission for each of your users.

Parameters can be passed with the exe file. This is achieved by including the opening and closing square brackets around the parameters (e.g.: word.exe [releasenotes.doc]).

There are four built-in variables for allowing more integration with external reports and programs; these are: {APPPATH} {DBPATH} {USER} {PASSWORD}. Each of these is replaced with the actual values when the menu item is executed – also the symbols {} are needed for these to function.

- The {APPPATH} variable is replaced by the path of the main ‘ejsme’ application program.

- The {DBPATH} variable is replaced by the current database path and can only be used as a parameter (Useful for external reports).

- The {USER} & {PASSWORD} variables are replaced by the user name and passwords and is needed for running reports from the menu that have been developed with the system’s built-in Report Writer. The syntax if a report called 'ItemValue' had been developed and was located under a folder called ‘InventoryReports’ would be: {APPPATH}ejrw.exe [{DBPATH} {USER} {PASSWORD} InventoryReports ItemValue].

  NOTE: The text that represents the variables within the ‘{}’ brackets is not meant to be replaced with actual user names, passwords, or paths. The text must be entered literally as ‘APPPATH’, ‘DBPATH’, ‘USER’, and ‘PASSWORD’.