NorthClark Computing, Inc.

Bill of Material and Parts Master Maintenance

Administrator's Guide

Web and Desktop Applications for Manfact by Epicor

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NorthClark Computing, Inc.

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Introduction

NorthClark's *Bill of Material and Parts Master Maintenance* are designed to improve communication between Engineers, Sales Order Entry and the Manufacturing (MRP) process, and streamline the process of obtaining and/or maintaining the documented structure of engineered assemblies. The *Bill of Materials and Parts Master Maintenance* product is a Windows based desktop application used to view, create, and modify Bills of Material, Engineering Change Orders, and Parts Master records in your Manfact system.

The Bill of Material (BOM) and Parts Master Maintenance application allows the user to:

❑ Use a flexible spreadsheet format to easily add and delete items, or change the structure of a multi-level Bill of Material.

❑ Import Bill of Material structures and Parts Master details from an Excel spreadsheet or a tab-delineated text file providing integration with virtually any CAD application.

❑ Update the Manfact Bill of Material (BOM), Engineering Bill of Material (ENGBOM), and Work Order Bill of Material (WOBOM) files.

❑ Customize printed output with the use of flexible reporting options.

❑ Export Bill of Material to *Microsoft Excel*.

❑ Create or update Item Master (PARTS) records.

❑ Save partially updated or incomplete Bills of Material in a local *Microsoft Access* database, where they may be retrieved and posted to Manfact at a later time.

Bill of Material Setup Module

The Bill of Material Setup Module (NCC_BomSetup) is used to select options and enter information to support the Bill of Material Maintenance and Parts Master Update Application. Information includes:

- ❑ Import / Export Maps for interfacing with Microsoft Excel

- ❑ Locations of Drawing Files on the network

- ❑ Custom Field Parameters

  - o Case requirements for Part Numbers

  - o Work Order release update options

  - o Batch Instructions for WO07 execution

Important Note: The information updated by this procedure is stored in the ELF.TABLE file in the MRPISYS account. Therefore, this information is applicable to all Manfact data accounts. The parameters you enter here will apply to your live accounts as well as any test environments.

Environment

BOM Setup is designed in a similar manner to a *Microsoft Windows* "Properties" or "Options" screen. *OK* and *Cancel* Buttons appear at the bottom of each Display. Clicking **OK** will save any changes you have made. Clicking **Cancel** will exit without saving.

The screen is composed of the following four tabs:

- ❑ The Import / Export Maps Display contains mapping information for interfacing with Microsoft Excel.

- ❑ The Drawing Locations Display designates drive, path, and folder names for design drawings per warehouse.

- ❑ The Custom Fields Display is used for setting parameters for any custom fields added.

- ❑ The Miscellaneous Display sets user options for Case, WO Release, and WO07 execution.

Import/Export Maps Display

To initialize or edit Mapping Information for use with Microsoft Excel or tab-delimited text files select an existing Map Description from the drop-down list in the *Map Description* field or click the **New Map** Button to create a new map.

The system displays a list of available fields in the first column of the mapping table. These values may not be manually entered or changed. *Note: If you have defined custom data using the Custom Fields Display, they will be displayed here and are available for mapping.*

Enter mapping information corresponding to the desired Spreadsheets. In the example below, the Assembly Number appears in the first column on Row 4 of the spreadsheet. The column indicator may be entered as either a letter (A in this example) or a number (1 in this example), and the system will fill in the corresponding letter or number automatically.

If you wish to consolidate rows when the parts are repeated, place a check in the box **Consolidate Rows When Part Number Repeated.**

If you wish to assume that the first part on the list is the assembly number, place a check in the box **Assume First Part on List is the Assembly Number.**

If you wish to read the Manufacturer Names from the spreadsheet being imported and convert them to valid MANFR codes, place a check in the box **Attempt to Translate Manufacturer Name.** The Manufacturer Name field in the cross-reference file supports wild-carding.
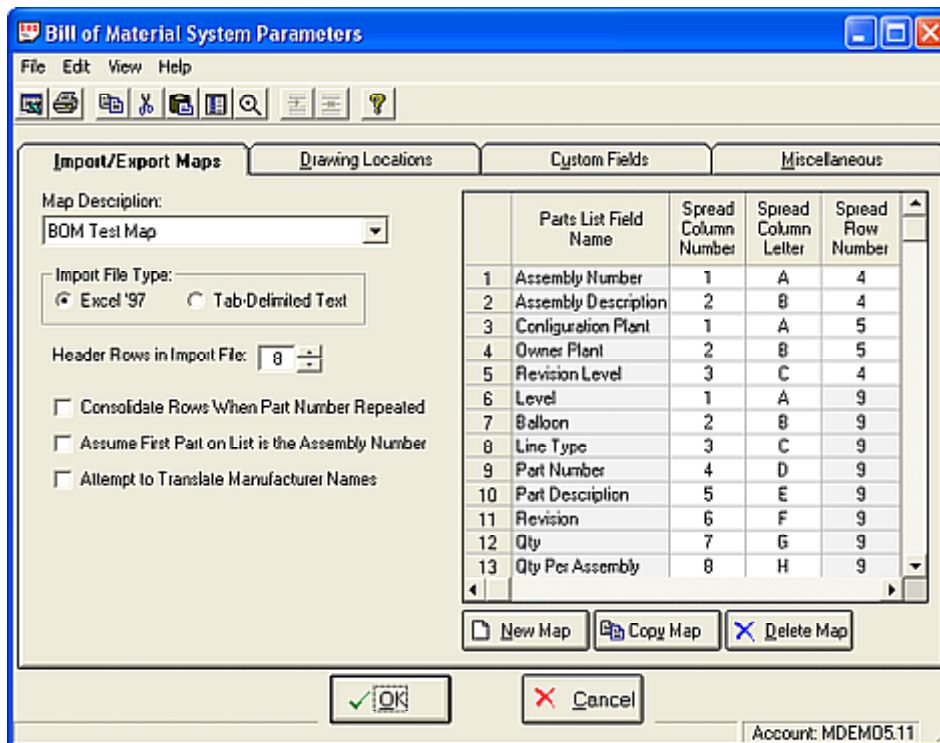
Click the **New Map** Button to create mapping instructions from scratch. When creating a new map, you must specify the File Type (Excel or Tab Delimited) and the number of Header Rows used in the Import File. *Note: These are default values that will be displayed by the Bill of Material application, and may be changed by the user when importing a specific file.*

Click the **Copy Map** Button if your new map will be similar to an existing map. Select a Map you wish to copy from the drop-down list. Enter the name you wish to use for the new map in the dialogue box

that is displayed. The copy feature will *NOT* copy the original rows assigned to the assembly information. This will need to be entered for the new map. Click the **OK** button to create the new Map.

The **Delete Map** Button will entirely remove the selected mapping information.

Click the **OK** Button to save changes.

Drawing Locations Display

During Bill of Material Maintenance, the user may select a part number and choose the **Display Drawing** option from the **Tools** Menu. The system will search for a file or folder with the same name as the part number. If the drawing is found, it will be displayed with the user's preferred image viewing program.

Use this display to instruct the system where on the network to begin searching for drawing files. Separate pathnames are defined for each warehouse.

❑ Use the drop-down list to select a warehouse.

❑ Click the **Browse** Button to locate the folders on your network or local hard drive containing Design Drawings or manually enter the pathname.

❑ Click the **OK** Button to save changes.

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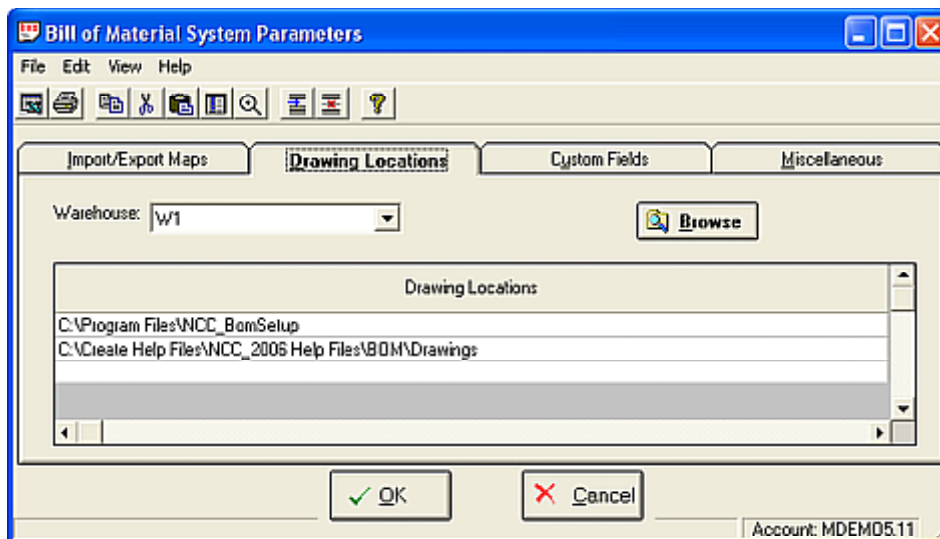
Custom Fields Display

The *Custom Fields* tab is used to add custom fields to the Bill of Material Maintenance and Parts Master Update Application.

Warning!

The entries you make in this screen identify the field locations where custom data will be stored in your Manfact system. Incorrect entries could produce unpredictable results and have the potential for irreparable damage to the data in your Manfact system.

Please contact NorthClark Computing, Inc. if you need assistance with this setup procedure.

Your custom fields will appear as columns on the main spreadsheets used for Bill of Material and Part Number entry. They are also displayed on the *Item Detail* Display of Bill of Material Maintenance and the *Engineering Display* of Parts Master Update. Please see the BOM Maintenance Help File for more information.

You may also use the *Custom Fields* screen to modify the attributes of standard Manfact fields including the prompt name and field length. Additionally, you may define a list of valid entries that will be presented to the user as a drop-down list during data entry.

Click the **OK** Button to save changes.

Custom Fields Definitions And Instructions:

Field	Definition
File and Association	Use the drop-down list to select the file and association for the field you wish to add.
Field Number	Enter the physical location in the file where data is stored. Be sure to refer to the file dictionary for this information – it is ***NOT*** the same as the prompt numbers displayed in Manfact data entry screens.
Prompt	The system will read the Manfact dictionary for the specified file and field number, and display the description. This will be the prompt the user sees during data entry. You may change it if desired.
Data Type	Set the data type for this from the drop-down list: **Number**: This option will require numeric input. **Text**: Allows all alphanumeric characters. **Date**: Requires the user to enter a valid date. **Checkbox**: User is presented with a graphical checkbox for simple yes/no entries. Data is stored in Manfact as "Y" or "N" only. **Notes**: Free-form unlimited lines of text with word-wrapping.
Values	Select Single for items with one-line entries or Multiple for items that will use a Pop-up Spread for multi-line entries from the drop-down list.
Min Length	The minimum amount of data that may be entered by the user.
Max Length	The maximum allowable length of characters that may be entered.
Number Decimals	Number of decimal places allowed for numeric entries.
Valid Entries	Double-click on this cell to enter a list of allowable entries and associated descriptions for these fields in the pop-up window. These values will be presented to the user as a drop-down list.
Valid Descriptions	Valid Descriptions are entered as part of the pop-up window when Valid Entries are entered.

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<u>Miscellaneous Display</u>

Use the Miscellaneous tab to apply the following rules to the entire Bill of Material Maintenance and Parts Master Update Module:
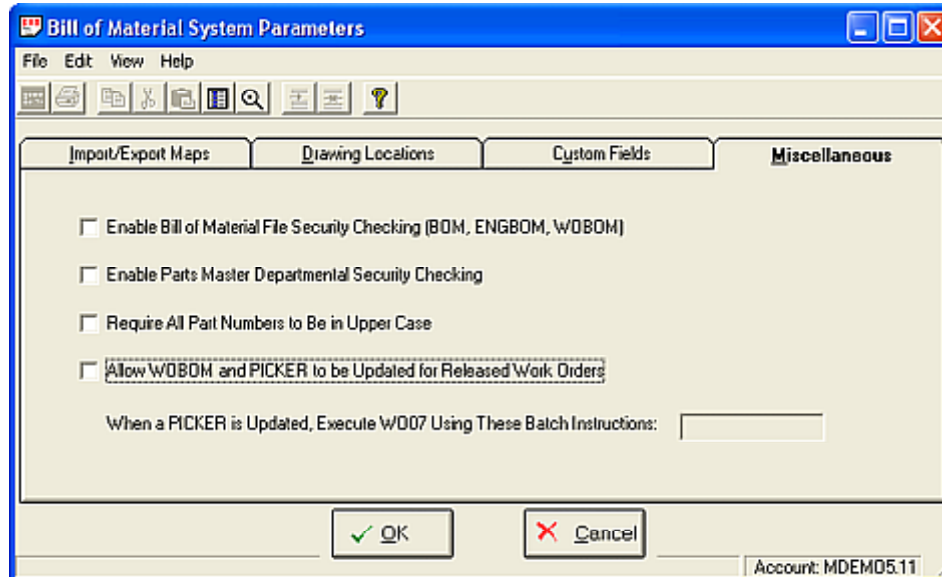
❑ Enable Bill of Material File Security Checking (BOM, ENGBOM, WOBOM).

When this option is selected, access to each of the Bill of Material files will be permitted only when the user has access to the corresponding Manfact entry screen: BOM.N, ENGBOM.N, and WOBOM.N. For example, if a particular user is authorized to use ENGBOM.N but not BOM.N, they will be able to save changes to the engineering database, but they will not be allowed to update the Production Bill of Material file.

If this option is not enabled, all users with access to Ncc_BomEntry are allowed to update all Bill of Material files, regardless of their other Manfact privileges.

Note: Access rights are granted using the Manfact Security System in your MRPISYS account. Users must be granted rights to Ncc_BomEntry in order to access the program, regardless of the option chosen here.

❑ Enable Parts Master Departmental Security Checking.

The Parts Master Entry procedures in the Manfact system are organized into four departments:

- Engineering (PARTS.EN)
- Material Control (PARTS.MC)
- Marketing (PARTS.MK)
- Purchasing (PARTS.PC)

A fifth screen, PARTS.ALL, is available for users who are authorized to update all fields in the Parts file.

When you select the option to *Enable Parts Master Departmental Security Checking*, the system will check the user's Manfact security settings to determine which fields may be updated using the Ncc_BomEntry procedure. The user would be required to have access to PARTS.EN in order to update engineering data, PARTS.MC for material control information, and so forth. Users with access to PARTS.ALL may update all fields.

If this option is not enabled, all users with access to Ncc_BomEntry are allowed to update all Part Master fields regardless of their other Manfact privileges.

Note, access rights are granted using the Manfact Security System in your MRPISYS account. Users must be granted rights to Ncc_BomEntry in order to access the program, regardless of the option chosen here.

❑ Require All Part Numbers to be in Upper Case:

When this option is selected, all entries at Part Number prompts will be automatically converted to capital letters.

❑ Allow WOBOM and PICKER to be updated for released Work Orders.

The Bill of Material Maintenance application may be used to update material requirements for existing work orders. While this capability is always enabled for new jobs, you may choose to enable or disable this feature for *released* work orders.

❑ When a PICKER is updated, execute WO07 using these batch instructions:

This option is only active if you have enabled Bill of Material updates for released work orders. If your company uses the Manfact Work Order Reservation system, it will be necessary to update backorders and reservations when the picker record is changed. The system performs this update for you automatically by executing Manfact's WO07 procedure. WO07 requires that a set of instructions be defined using the TABLE.AMXWO.BATCH entry procedure in your Manfact system. Please refer to the Manfact system documentation for more information about the use and setup of these procedures.

Enter the name of the instruction set you wish to use at this prompt. If your company does not use work order reservations, or you not wish this update to be performed, simply leave this prompt blank.

❑ Click the **OK** Button to save changes.

Installation and Security Tips

This topic contains technical information that may be useful to programmers and system administrators.

For ease of installation, it is recommended that the program be run for the first time by someone who has system administrator privileges on the server, and has a Manfact security level of "5". This person should have the authority to compile programs, create files and edit VOC entries. This will allow the application to automatically create or install the necessary supporting files and software components.

Security Requirements

Access to NorthClark applications is governed by the Manfact security system. The System Administrator must add the appropriate commands to each user's security table. Please refer to the Manfact documentation for more information on setting up security tables.

The following NorthClark procedures must be added to the Manfact security tables:

Routine	Description
NCC_BOMSETUP	Allows access to the NorthClark Bill of Material Setup program.
NCC_BOMENTRY	Allows access to the NorthClark Bill of Material Entry program.

Once a user has been given access to NCC_BOMENTRY, their privileges within the application may be limited according to Manfact security settings for Bill of Material and Part data access. The following Manfact security table entries may affect the behavior of NCC_BOMENTRY:

Routine	Description
BOM.N	User may update the Production Bill of Material file.
ENGBOM.N	User may update the Engineering Bill of Material file.
WOBOM.N	User may update the Work Order Bill of Material file.
PARTS.ALL	Allows access to the same data a user would have using PARTS.ALL
PARTS.EN	Allows access to the same data a user would have using PARTS.EN
PARTS.MC	Allows access to the same data a user would have using PARTS.MC
PARTS.MK	Allows access to the same data a user would have using PARTS.MK
PARTS.PC	Allows access to the same data a user would have using PARTS.PC
ENGPARTS.N	Allows access to the same data a user would have using ENGPARTS.N

VOC Entries

The first time the program is executed, a VOC entry is automatically created in the Manfact account. This record must be present before updating security tables. If the user's security privileges do not permit this, the System Administrator may create it manually:

```
ED VOC NCC_BOMENTRY
0001: S
0002: RUN NCCVB NCC_BOMENTRY
```

NorthClark Files

The following files will be created by this application if they do not already exist in your Manfact account:

File	Purpose
NCC_BOM	Work file used by the Bill of Material explosion process.
NCC_PARTSW	Work file used to manage changes to Parts records.
NCC_PARTSA	Audit file used to record before/after changes to Parts records.

General Information

<u>Printing a Spreadsheet</u>

To print the current active spreadsheet, select the **Print** option from the **File** menu.
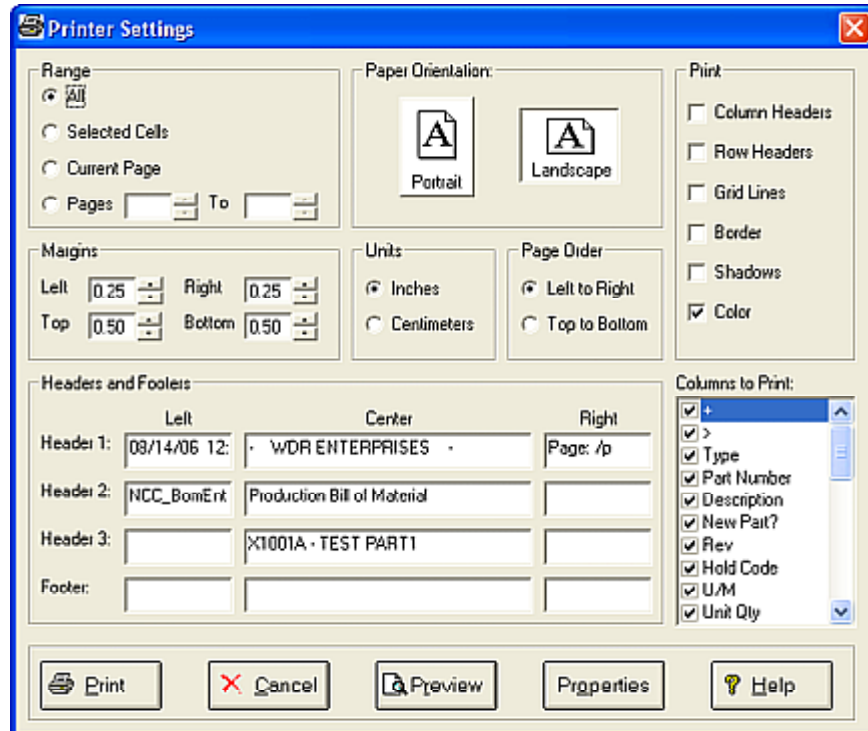
Range

You may choose to print **All** (the entire spreadsheet), **Selected Cells** (those that you have highlighted on the current screen), **Current Page** (only the rows that are currently visible on your screen), or **Pages** (any range of page numbers).

Orientation

You may print your report in portrait mode (normal) or landscape mode (sideways). Printing in landscape mode will allow you to fit more columns of information on your report.

Margins

You can make your report more attractive by setting the top, bottom, left, and right margins. Reduce the left and right margins to fit more columns on the report.

Units

Select inches or centimeters to designate the unit of measure for the entered margins.

Page Order

If your report is too wide to fit on a single page, it may span multiple pages. When this occurs, select your preference to have the report printed from top to bottom or left to right.

Print

You can customize the appearance of your report by printing (or not printing) column headers, row headers, grid lines, borders, shadow, and color.

Headers and Footers

Your report may have up to three lines for the heading, and one line for the footer. The system initially displays a default heading, which you may modify if desired.

> *Tip: Use /p to designate a page number.*

Columns to Print

The columns that are available for printing are listed. Select the columns you wish to include on your report.

Importing Data

To import a Bill of Material from Excel, see *Importing a Bill of Material.* Data other than a Bill of Material may be imported from a Microsoft Excel spreadsheet, a tab-delimited text file, or a comma-separated text file. Open the desired spreadsheet which is to receive the imported data via the File Search button.
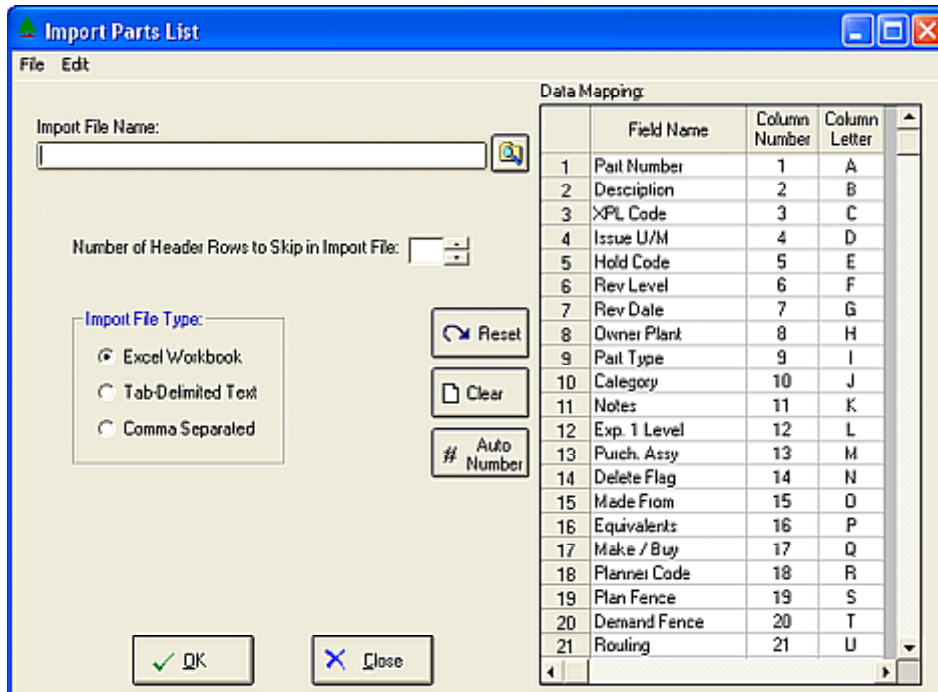
Import File Name

Enter the path for the file that you wish to import. You may browse the files by clicking on the button next to the text box.

Header Rows

Enter the number of rows at the beginning of the file that are not to be imported.

Import File Type

Select the type of file that you are importing.

Data Mapping

Enter the Column Number or Letter where data resides on the Excel file. Use the **Reset** button to restore the fields to their original state. Use the **Clear** button to clear all fields. Use the **Auto Number** button to automatically number the values sequentially.

Import Data

Click the **OK** button to begin the import procedure.

Exporting a Bill of Material Spreadsheet

From the spreadsheet you wish to export select **Export** from the **File** menu in the Bill of Material Maintenance module.
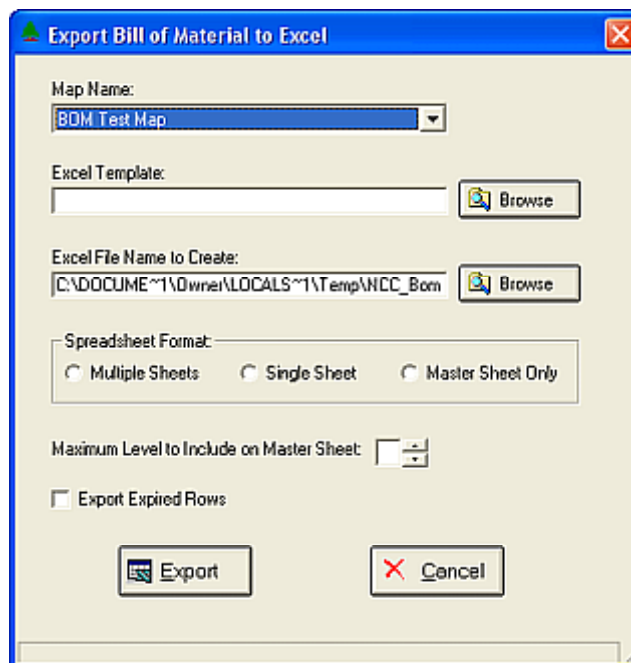
Map Name

Select the name of the import/export map you wish to use from the drop-down list.

Excel Template

As an option an *Excel* template may be selected to add headings, borders and other graphics to your report.

Excel File Name to Create

Enter the Excel Sheet Name to create. This will automatically default to Sheet1.

Spreadsheet Format

You Excel workbook may contain multiple sheets. The first (Master) sheet is usually a single-level bill for the top assembly. If you have a multi-level bill, a separate sheet will be generated for each sub-assembly contain herein. Select the sheet(s) you wish to produce using the radio buttons on this screen.

Maximum Level to Include on Master Sheet

Enter the number of levels to explode for the Master sheet. Enter '1' for a single-level bill.

Export Expired Rows

Check the **Export Expired Rows** button to export expired rows. Leave it blank to not export expired rows.

Export Button

After all required information has been entered, click the **Export** button to export your data to *Microsoft Excel*.

Exporting All Other Spreadsheets

You may export the contents of displays, such as Parts Master Maintenance, directly to *Excel*, or you may choose to create a file in *Excel* format. The format of the *Excel* file will match the layout of the spreadsheet on your screen.
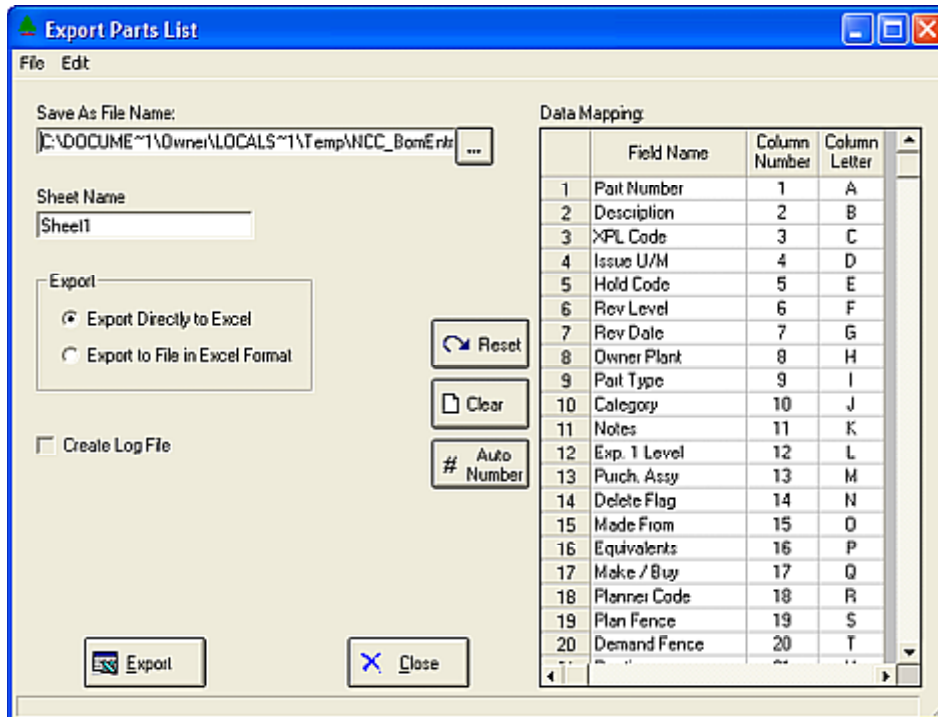
Save As File Name

Enter the pathname of the file you wish to create.

Save As Sheet Name

Enter the *Excel* Sheet Name to create. This field will automatically default to Sheet1.

Export Directly to Excel

This is the easiest way to export data. If *Excel* is not already running on your computer, the system will attempt to start it. The information from the display is then loaded directly into corresponding cells in the *Excel* spreadsheet. This option may be used with either *Microsoft Excel 95* or *Excel 97*.

Export to File in Excel Format

This option allows you to create a file in *Microsoft Excel 97* format (BIFF8). This option may be preferable when exporting large amounts of data.

Create a Log File

Select this option to create a log file. The log file contains error messages and other information about how your *Excel* file was created. The name of the log file will be "CreateExcelFile.log", and it will be stored in the same folder as the spreadsheet.

Data Mapping

Data Mapping allows you to change the sequence in which the data will be stored. Use the **Reset** button to restore the fields to their original state. Use the **Clear** button to clear all fields. Use the **Auto Number** button to automatically number the values sequentially.

Export Button

After all required information has been entered click the **Export** button to export your data to *Microsoft Excel.*

Editing Features

Copy, Cut, Paste and Fill

You may use the standard *Windows* Copy, Cut, and Paste features to copy or cut data to the *Windows* clipboard, or to paste data from the clipboard into a cell.

To copy data, hold down the left mouse button and highlight one or more cells. Choose one of the following methods to copy the highlighted cells to the clipboard:

1. From the **Edit** menu choose **Copy**.

2. Click the **Right Mouse** button, and choose **Copy** from the drop-down list.

3. Click the copy icon (two overlapping sheets of paper) on the toolbar.

4. Hold down the **Ctrl** key and type the letter **C** (**Ctrl-C**).

The above methods can be used to Cut (**Ctrl-X/Scissors** icon) and Paste (**Ctrl-V/Clipboard with paper** icon).

To copy and/or cut the contents of an entire row, click once on the row header (the number displayed on the left side of the first cell), then choose **Copy** and/or **Cut**. Click on the row header that you want to copy the data to and choose **Paste**.

To update several cells with the same value, highlight all of the cells you wish to update then select **Fill** from the **Edit** Menu or from the right click menu. This command will update each cell with the current information from the clipboard.

Zoom

This feature allows you to view, print and/or edit the expanded contents of a field. It is especially useful for multi-line information such as notes and long descriptions.

- Zoom in on any selected item by selecting **Zoom** from the **Edit** Menu, clicking the magnifying glass on the toolbar, or selecting Zoom from the right click menu.

- The Column Name will appear in the Title Bar with **Edit** (an editable field) or **View** (a view only field). Make any entries or changes desired and click the **OK** button when finished, or the **Cancel** button to revert to the original data.

- Locked fields may be viewed but not modified using the *Zoom Feature*. If the field is locked, **View** will appear in the Title Bar, and there will only be a single command button labeled **Done**.

- To print the selected item, click on the printer icon and the information will be sent to your local printer.

Customizing Your Display / Arranging Columns

Select **Display Options** from the **View** Menu to customize the display.
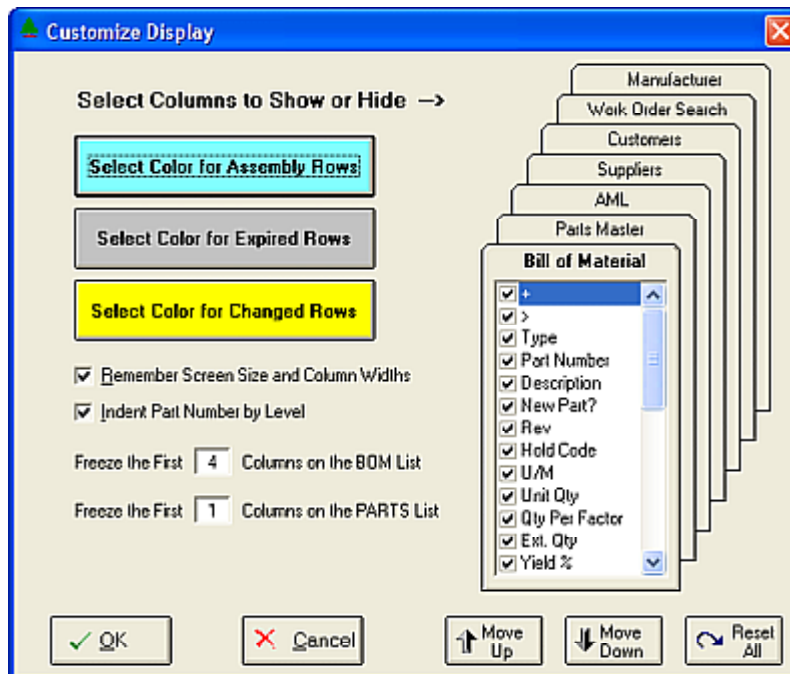
- Each tab contains a list of fields that corresponds to a screen used in this application. Click the checkboxes to show (a checkmark in the box) or hide (a blank value in the box) each field

- Use the **Move Up** and **Move Down** Buttons to re-arrange the order in which the fields appear on the specific screen Display. Click **Reset All** to return to the system's default settings.

- To select the color for highlighting rows that have been modified, during data entry, but not saved, click the **Select Color for Changed Rows** button.

- You may opt for the system to **Remember Screen Size and Column** Widths. Any changes you make to the screen's appearance will be saved and applied the next time you launch this application.

❑ On the BOM Screen you may choose the option to Indent Part Number by Level.

❑ Choose the number of columns (from left to right) you wish to *freeze* on the spreadsheet. A frozen column will remain in place as you scroll to the right.

❑ Click the **OK** button to apply any changes you have made or the **Cancel** button to revert to the previous settings.

Note: These settings are stored in the Windows Registry for each user.

Wildcarding

Wildcarding is a powerful feature that allows you to search using a portion of the field. You tell the system you want to use a wildcard by typing three periods "…" or an asterisk "*" at the beginning or end of your search entry. See the table below for examples of wildcard commands and their expected results.

Item	Sample	Description
Part Number	XTR… or XTR*	Returns part numbers that begin with "XTR"
Description	…VALVE… or *VALVE*	Returns parts with the word "VALVE" anywhere in the description.
Category	…A or *A	Returns parts with a category ending with the letter "A".