ERP Consulting
Web Development
Custom Programming Solutions
Desktop & Web Applications for Manfact

NorthClark Computing, Inc.

Work Order Entry & Reporting User Guide

Web and Desktop Applications
for Manfact by Epicor

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Introduction

The Work Order Entry and Reporting module is a member of NorthClark's suite of Web and Desktop Applications for Manfact, and includes the following key features:

- Locate Work Order records in your Manfact system using a variety of search criteria.
- Create and update Work Order records.
- Generate a Work Order As-Built Analysis to identify discrepancies between the Bill of Material and actual material usage.
- Export the Work Order As-Built Analysis to Microsoft Excel to create customized reports suitable for presentation.

Work Order Search and Update

When the Work Order Entry and Reporting application is started, the main screen is displayed with the following tabs:

1. <u>Work Order Search Options</u>

   Search for records in the Manfact "WO" file using a variety of search criteria. Wildcarding is supported where sensible.

2. <u>Search Results</u>

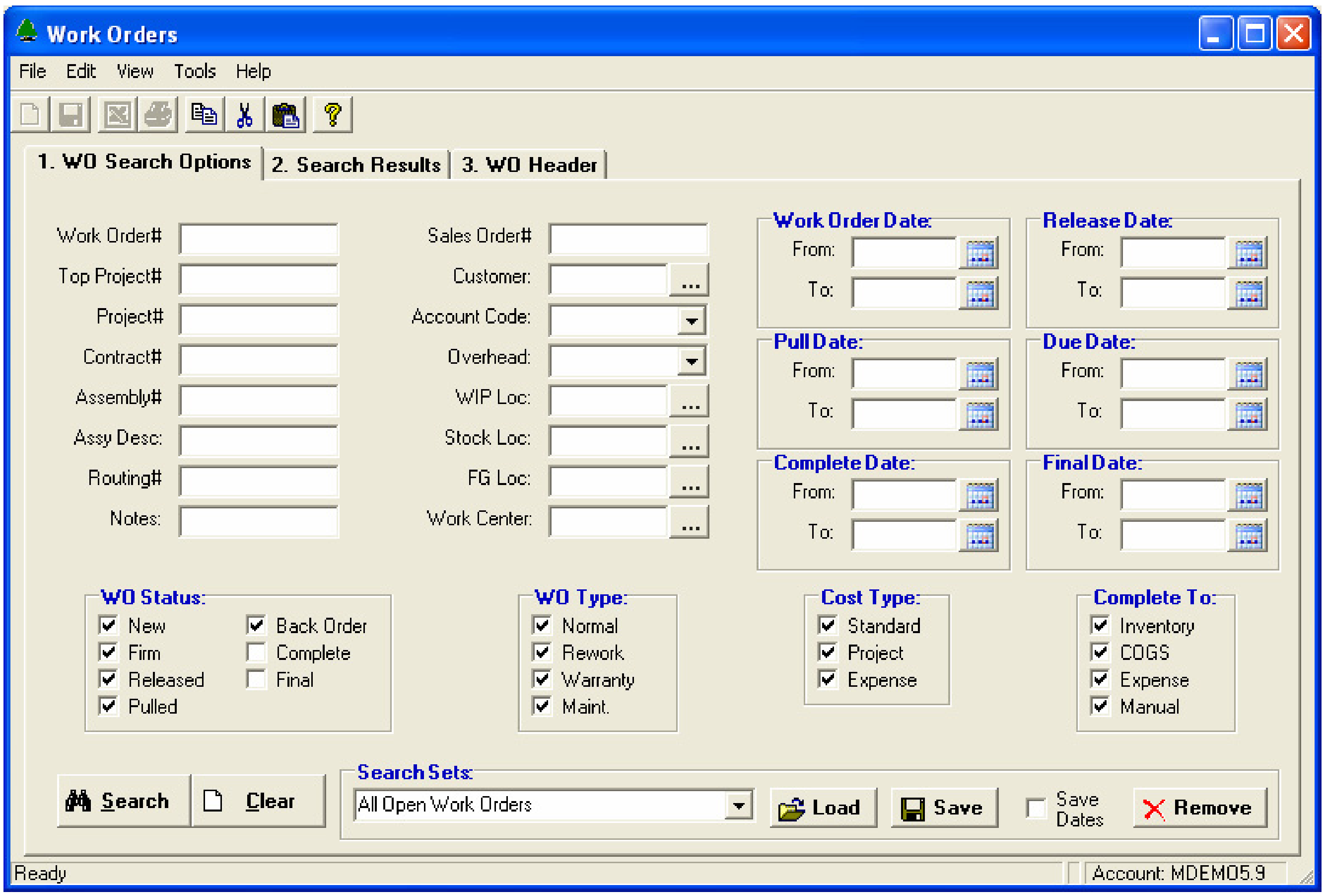
   Displays a list of records that meet the selection criteria. Double-click to open a Work Order to view or update.

3. <u>Header</u>

   View, create or update a Work Order record, as Security settings permit.

Work Order Search Options

The fields on the Work Order Search Options display may be used in any combination to narrow your search (leave the field blank if you do not wish to consider it in the search). *Wildcarding* is supported for text fields. Once the desired selection criteria have been entered, click the **Search** button, and the list of qualifying records is displayed on the Search Results tab.



Use the buttons […] next to the Customer, WIP Loc, Stock Loc, FG Loc, and Work Center prompts to access the associated look-up screens. The buttons next to the date prompts may be used to select dates from a calendar.

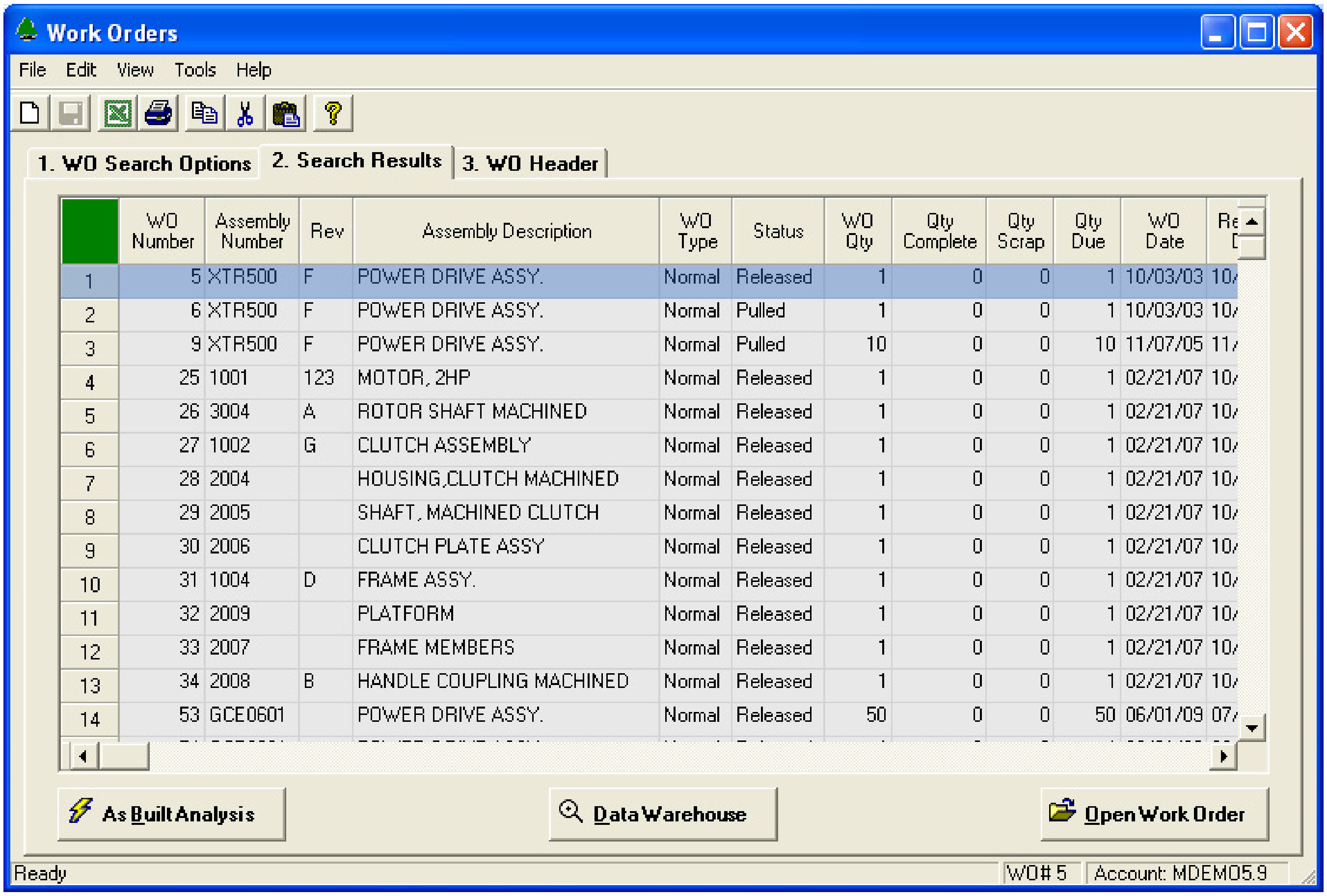
Search Sets

The **Search Set** commands at the bottom of the screen allow each user to name and save their favorite search options. Select an existing Search Set from the drop-down list, or type a description to name a new Search Set.

Click the **Save** button to save the settings for the named Search Set. Click the **Load** button to recall the saved settings. Click the **Remove** button to permanently delete the Search Set from the list. Check the **Save Dates** box if you want the system to remember dates when settings are saved. If this box is unchecked, all date fields will be blank the next time the Search Set is retrieved.

Search Results

Once the desired selection criteria have been entered, click the **Search** button, and the list of qualifying records is displayed on the Results tab.



	WO Number	Assembly Number	Rev	Assembly Description	WO Type	Status	WO Qty	Qty Complete	Qty Scrap	Qty Due	WO Date	Re D
1	5	XTR500	F	POWER DRIVE ASSY.	Normal	Released	1	0	0	1	10/03/03	10/
2	6	XTR500	F	POWER DRIVE ASSY.	Normal	Pulled	1	0	0	1	10/03/03	10/
3	9	XTR500	F	POWER DRIVE ASSY.	Normal	Pulled	10	0	0	10	11/07/05	11/
4	25	1001	123	MOTOR, 2HP	Normal	Released	1	0	0	1	02/21/07	10/
5	26	3004	A	ROTOR SHAFT MACHINED	Normal	Released	1	0	0	1	02/21/07	10/
6	27	1002	G	CLUTCH ASSEMBLY	Normal	Released	1	0	0	1	02/21/07	10/
7	28	2004		HOUSING,CLUTCH MACHINED	Normal	Released	1	0	0	1	02/21/07	10/
8	29	2005		SHAFT, MACHINED CLUTCH	Normal	Released	1	0	0	1	02/21/07	10/
9	30	2006		CLUTCH PLATE ASSY	Normal	Released	1	0	0	1	02/21/07	10/
10	31	1004	D	FRAME ASSY.	Normal	Released	1	0	0	1	02/21/07	10/
11	32	2009		PLATFORM	Normal	Released	1	0	0	1	02/21/07	10/
12	33	2007		FRAME MEMBERS	Normal	Released	1	0	0	1	02/21/07	10/
13	34	2008	B	HANDLE COUPLING MACHINED	Normal	Released	1	0	0	1	02/21/07	10/
14	53	GCE0601		POWER DRIVE ASSY.	Normal	Released	50	0	0	50	06/01/09	07/

From here, you may elect to generate a Work Order “As Built” Analysis, view information in the Data Warehouse, or edit Work Order records.

As-Built Analysis

When you click the **As Built Analysis** button, a new window will open where you will be prompted for various report options.

Data Warehouse

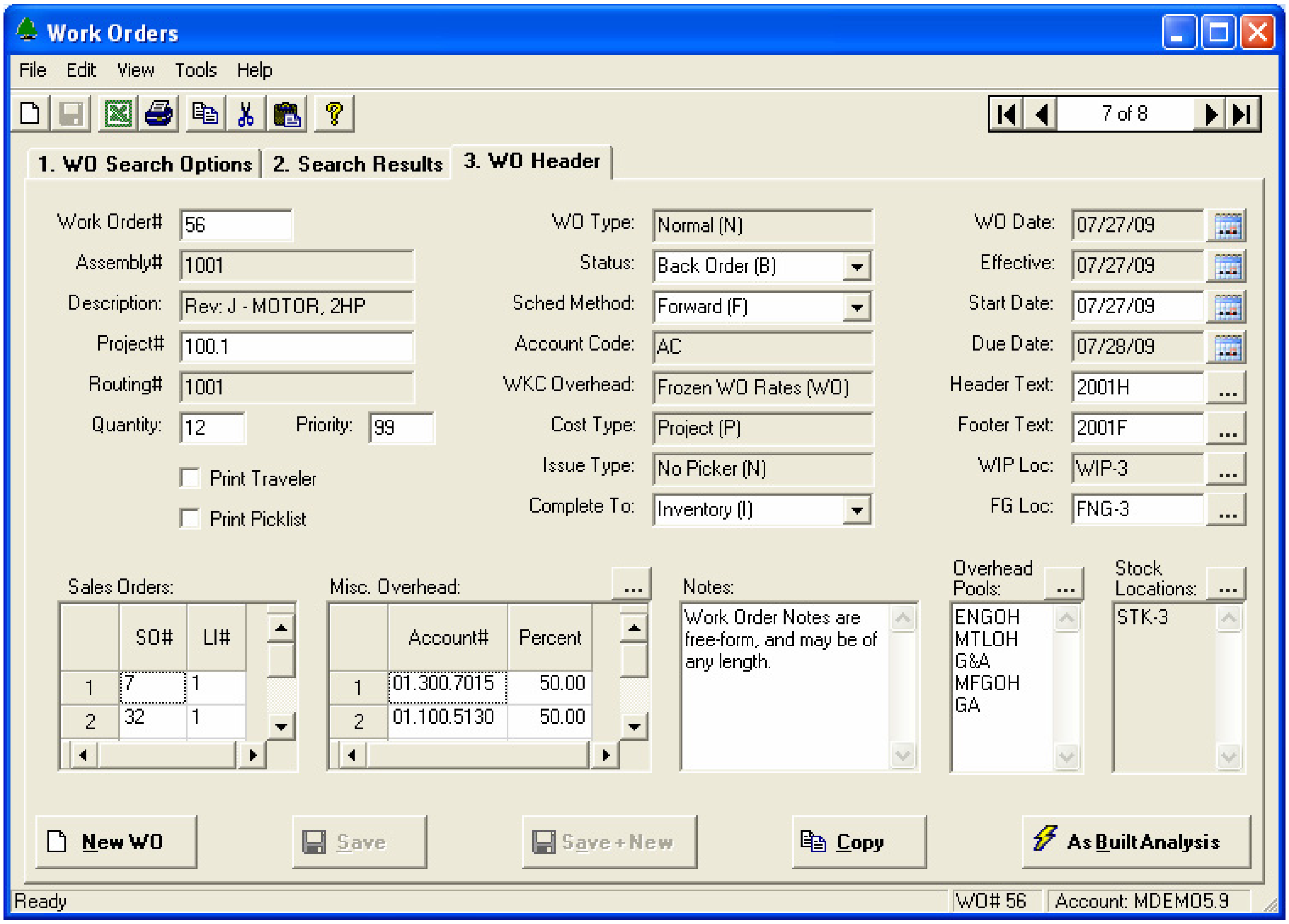
Click this button to view drawings or other electronic files associated with the Assembly Part Number on the selected Work Order. NorthClark’s Data Warehouse Management (DWM) module must be installed to use this feature. Please refer to the NCC_DWM User Guide for more information.

Work Order Record View/Edit

Open a Work Order record by double-clicking the desired row, or by highlighting the row and clicking the **Open Work Order** button. The selected Work Order will be displayed on the **Header** tab.

Header – View / Edit Work Order

Use this tab to view or edit Work Order records in your Manfact system. If you are operating the program with read-only privileges, or if you are not authorized to update a particular Work Order, you will be able to view this screen, but all updating features will be disabled.



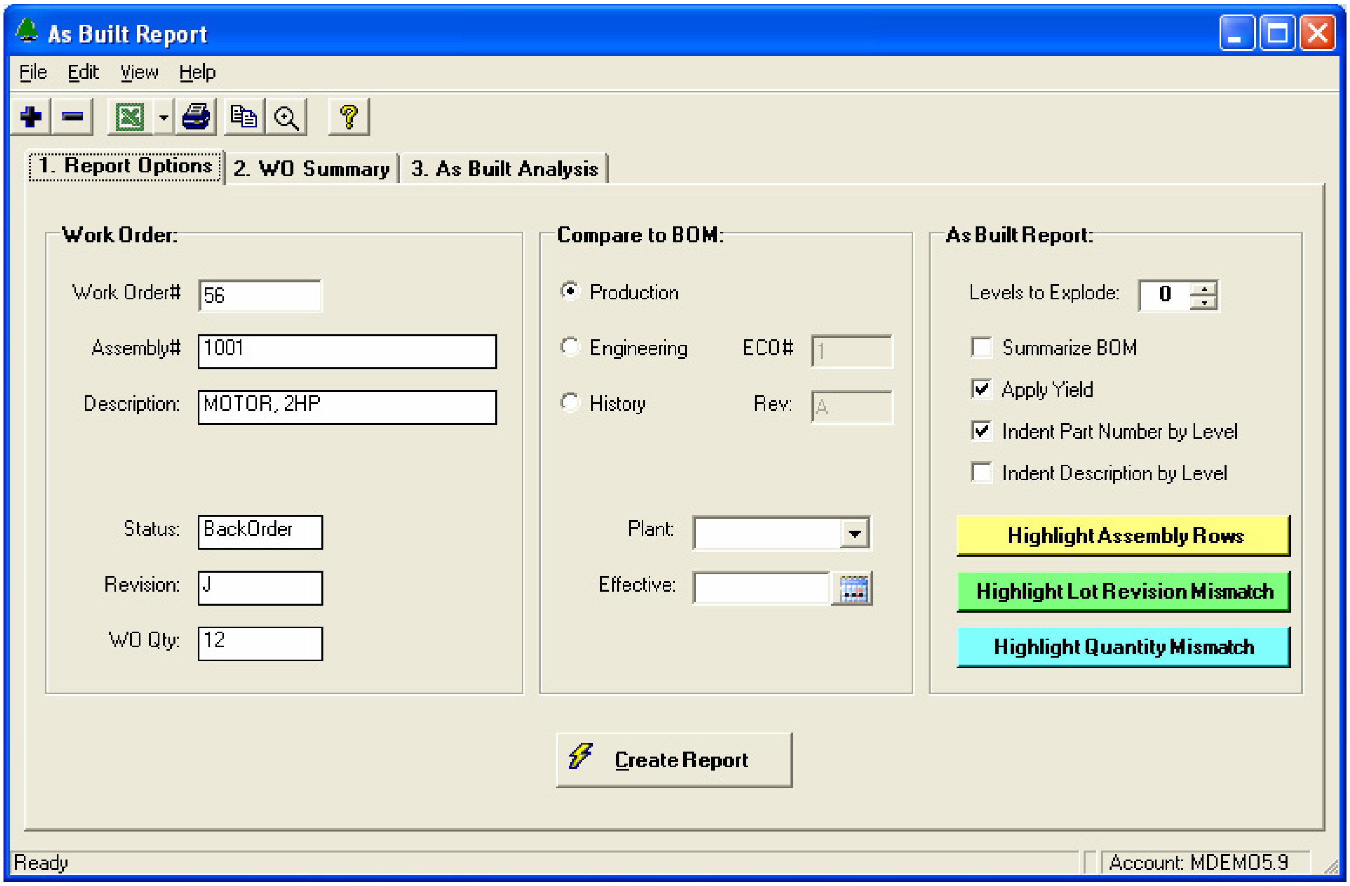
The navigation bar on the upper-right corner of the screen allows you to scroll through the list of Work Orders displayed on the Search Results tab. You may also type an existing identifier at the Work Order# prompt. Click the New/Open button to clear the screen and begin entering a new work order. If work order numbers are not system assigned, the system will prompt for the Work Order Number.

When you click the **Save** button, the system validates your entries, and the changes are posted to your Manfact system immediately. By default, the system does not clear the data entry screen once the record is filed. The Save button will be disabled, so you will know the changes have been recorded. If you attempt to leave the record without saving your changes, a warning message is displayed, and you have the opportunity to save your work before proceeding. If you prefer, use the **Save + New** button, and the screen will be cleared once the record is successfully filed.

Use the **Copy** button to use the information currently displayed on the screen to create a new Work Order record. Begin by opening the Work Order you wish to copy, then click the Copy button and the system will prompt you for the new Work Order Number.

Work Order As-Built Analysis

Use this view to enter reporting parameters, and generate a Work Order As-Built Analysis. Its purpose is to compare the "as designed" bill of material to the list of actual materials used on a given assembly, and report discrepancies resulting from using alternate part numbers, quantity variances, and incorrect component revision levels.



The Work Order As-Built Analysis window consists of the following tabs. Once the Report Options have been entered, the remaining tabs are used to display the report.

1. <u>Report Options</u>

   Enter reporting options and display the Work Order As-Built Analysis.

2. <u>Work Order Summary</u>

   Includes general information about the Work Order, including Assembly, Project, Customer, Schedule and Status.

3. <u>As-Built Analysis</u>

   The As-Built Analysis Report is displayed in spreadsheet form.

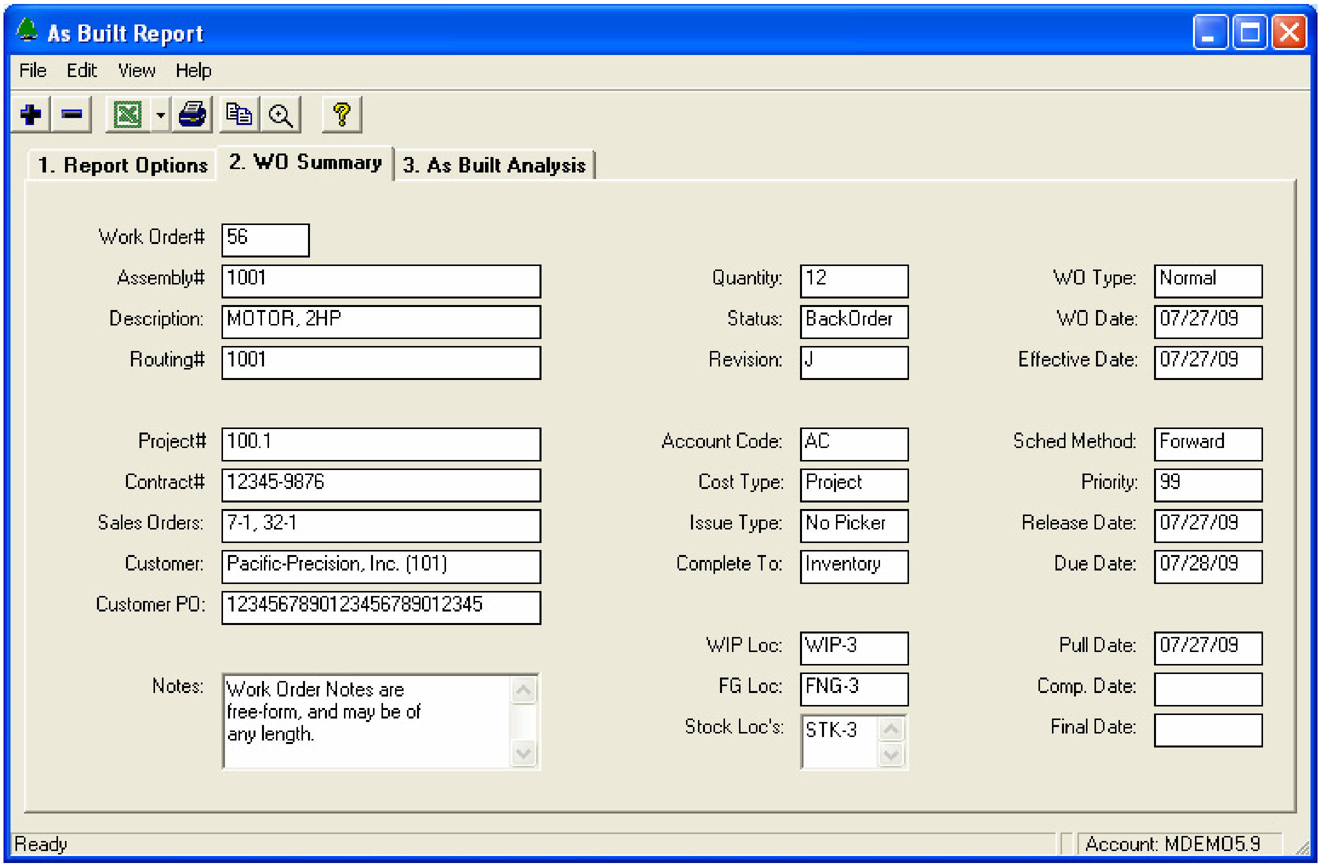
The report will be produced when you click the **Create Report** button at the bottom of the screen.

Report Options

Work Order #	-	If you selected a Work Order from either the Search Results or the Header tab on the Main screen, it will be displayed here. You may enter a different Work Order Number at any time.
Assembly #	-	The Assembly Number from the WO record is displayed.
Description	-	Description of the Work Order Assembly.
Status	-	Current status of the Work Order: New, Firm Planned, Released, Pulled, Back Ordered, Complete, Final or ready to Delete.
Revision	-	The Assembly Revision Level is stored in the WO record when it is created.
WO Quantity	-	The quantity to build.
Compare to BOM	-	The Bill of Material to be used for this report may be read from one of three files: Production (BOM), Engineering (ENGBOM), or History (BOMHIST).
ECO #	-	If you elected to use the Engineering file for this report, a valid Engineering Change Order Number must be supplied, and a Bill of Material must exist for the Assembly Number on the ENGBOM file.
Revision Level	-	If you elected to use the Bill of Material History file for this report, enter the desired Revision Level.
Plant	-	If Manfact's multi-plant features are enabled, you may use this option to report a plant-specific Bill of Material.
Effective Date	-	The Manfact system allows parts on a bill of material to be phased in/out based on Effective Date. If left blank, the current date is assumed.
Levels to Explode	-	Enter the maximum number of levels the Bill of Material is to be exploded. Enter zero for all levels, "1" for a single-level report, or any desired level.
Summarize BOM	-	Check this box to generate the report using the summarized bill of material.
Apply Yield	-	Check this box to inflate component material requirements according to the yield percentages entered on the line items of the bill of material record.
Indent Part Number and/or Description	-	Click one or both check boxes if you would like the Part Number and/or Description to be indented at each level. Note, these settings affect printed output as well as the display screens.
Highlight Color for Assemblies	-	Select the color you prefer for highlighting summary rows. A summary row is any Assembly that has lower level components.
Highlight Lot Revision Mismatch	-	Select a color to highlight rows where the revision level of the Lot does not match the current revision level of the Part.
Highlight Quantity Mismatch	-	Select a color to highlight rows where the quantity required does not equal the quantity used.

Work Order Summary

This view includes general information about the Work Order, including Assembly, Project, Customer, Schedule and Status.



As-Built Report

The program begins by exploding the Bill of Material according to your selected options. Next, Manfact's Work Order Parts (WOPARTS) file is interrogated to find all of the material used on the job, and the quantity of each lot used. The system determines the source of each lot, and for manufactured items, the list of component lot numbers is retrieved. The process is repeated level by level, until all lots have been identified. Each lot is then linked to the exploded Bill of Material, and the report is presented in spreadsheet form.

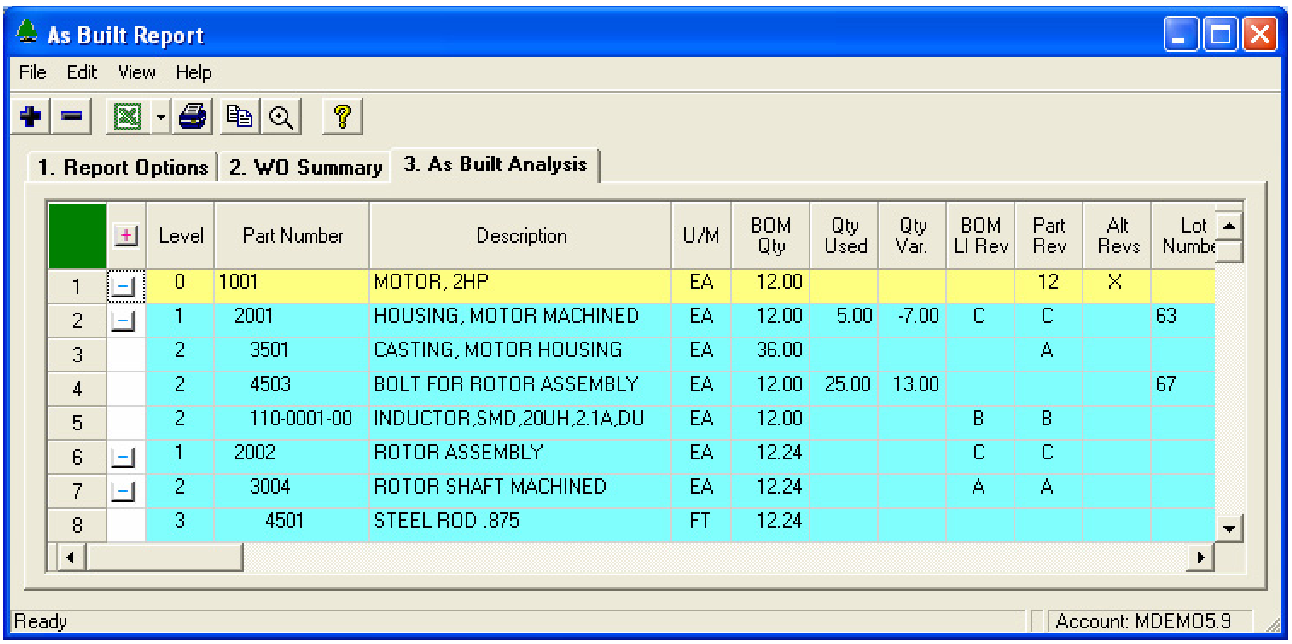
<u>Lot Control</u>

In a lot controlled environment, the system is capable of a multi-level report, showing exactly which lots were used at each level of production. Since the source of each lot is known, discrepancies between the *lot* revision level and the *as-designed* revision level for each component can be detected. If your company does not use lot control, you may find a single-level report useful for analyzing material variances.

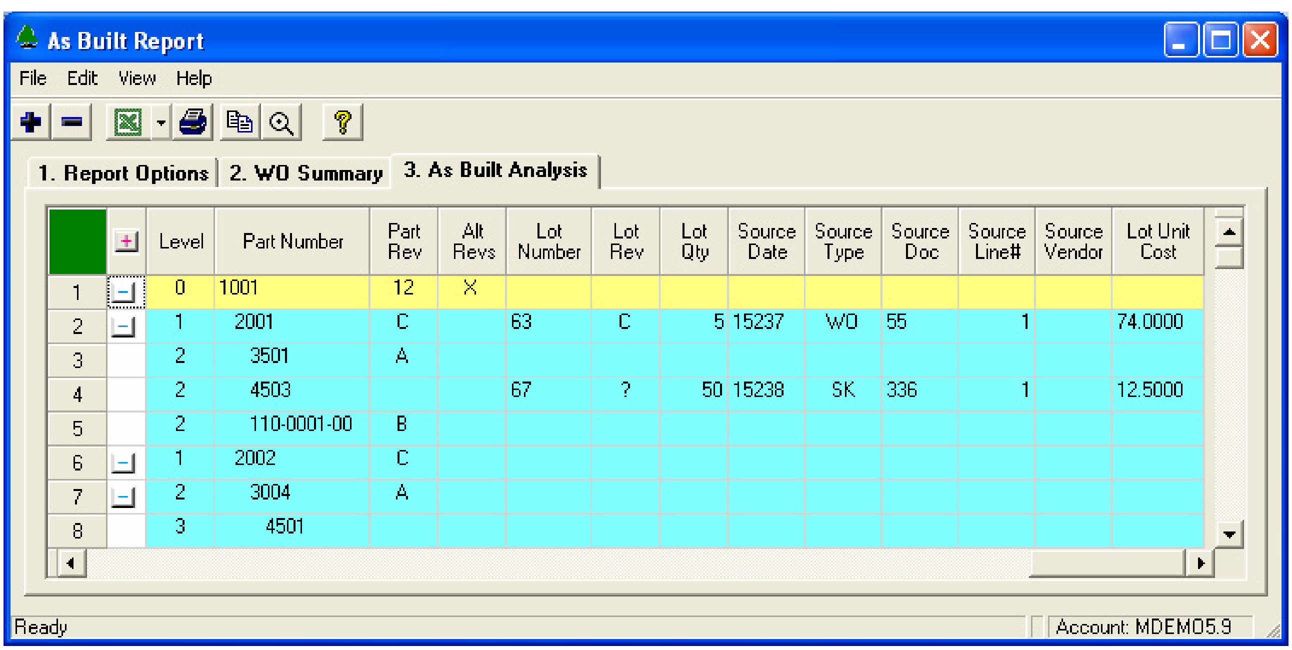
Exploded vs. Summarized View

You may choose to generate the report in either *exploded* or *summarized* format. The summarized report displays one row for each Part Number, with the total quantity required. Conversely, the exploded view lists the bill of material in outline form, with required quantities at each level.

When the "Summarize BOM" option is not checked, the Bill of Material is displayed in outline form. The plus and minus buttons allow you to expand and collapse the structure. These buttons are located in the first column of the spreadsheet and on the Toolbar near the upper-left corner of the screen.



Additional columns become visible as you scroll to the right…



Column Definitions

Checkbox	-	Use the +/- buttons to expand or collapse the bill of material structure.
Level	-	The level where this part appears on the assembly. The top-level is zero, next level is 1, and so forth.
Part Number	-	Part Number of this sub-assembly or component item.
Description	-	Part Description
Unit of Measure	-	The Inventory Unit of Measure from the Parts file.
BOM Quantity	-	Extended quantity of the part required per the bill of material.
Quantity Used	-	Actual quantity issued.
Quantity Variance	-	BOM Quantity – Quantity Used.
BOM Line Item Revision Level	-	The required Part Revision level as indicated on the Bill of Material line item. This field is currently used for reference only.
Part Revision	-	The current Part Revision Level from the Part Master file. This is considered to be the “As Designed” Revision Level for purposes of this report.
Alternate Revisions	-	Use the NorthClark Bill of Material and Parts Maintenance module to enter acceptable Revisions for a Part Number, if different from the current.
Lot Number	-	A list of Lot Numbers issued to the job.
Lot Revision Level	-	The Revision Level associated with the Lot. This is obtained from the source Work Order or Purchase Order.
Lot Quantity	-	The quantity of this Lot actually used.
Lot Cure Date	-	A custom field in the LOT file.
Lot Source Date	-	Receipt date of the Lot.
Lot Source Type	-	Work Order (WO), Receipt (RC), or Stock Transaction (SK)
Lot Source Doc	-	Work Order Number, Receipt Number, or Stock Transaction Number
Lot Source Line	-	Receipt Line Number
Lot Source Vendor	-	Vendor Name and Number for purchase parts.
Lot Unit Cost	-	The current actual Unit Cost of the LOT.

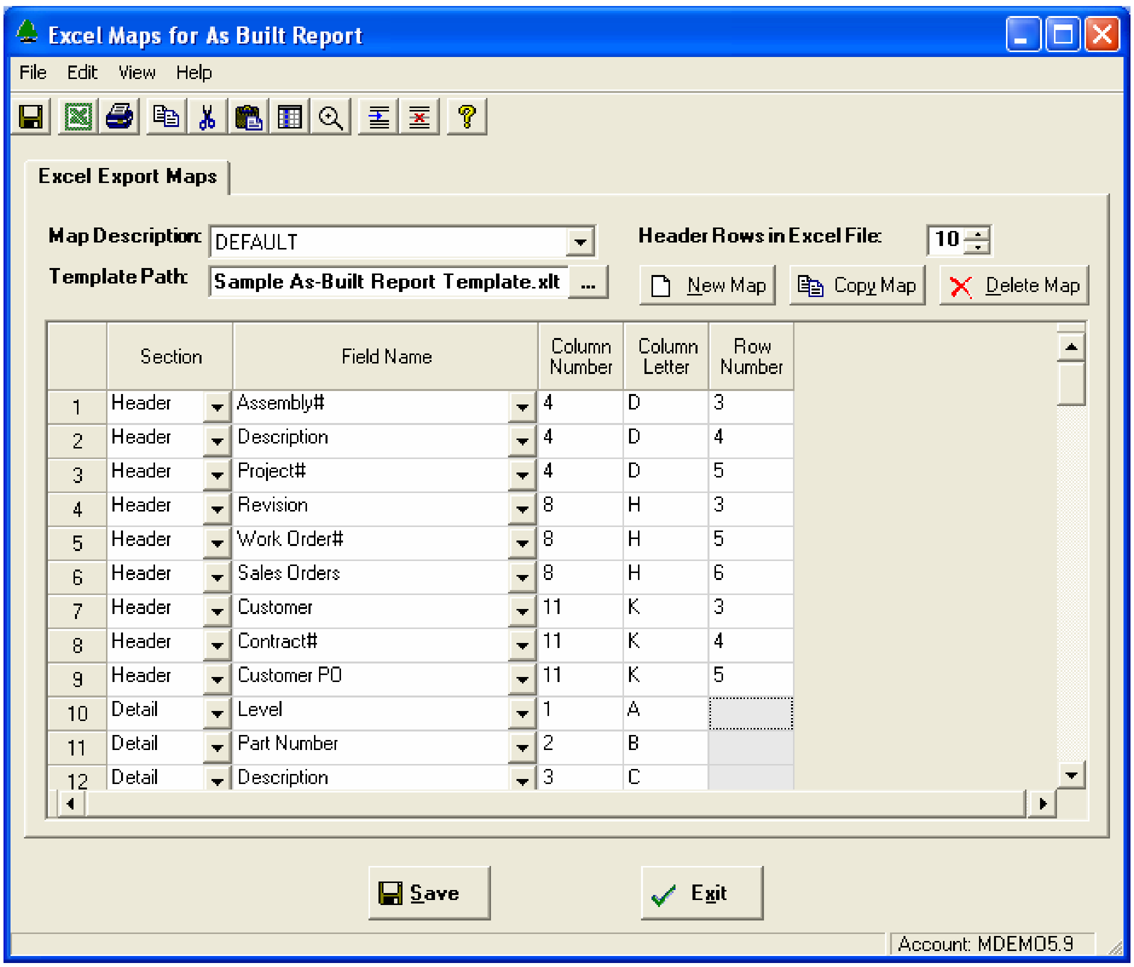
Creating Reports Using Microsoft Excel

Although all spreadsheets used in NorthClark applications include Excel export features, the As-Built Analysis includes special features that allow you to create custom reports suitable for presentation to customers.

A sample Excel template is provided, and may be copied and modified to create additional reports as desired. The report mapping function lets you control exactly where each piece of information is to be placed on the report.

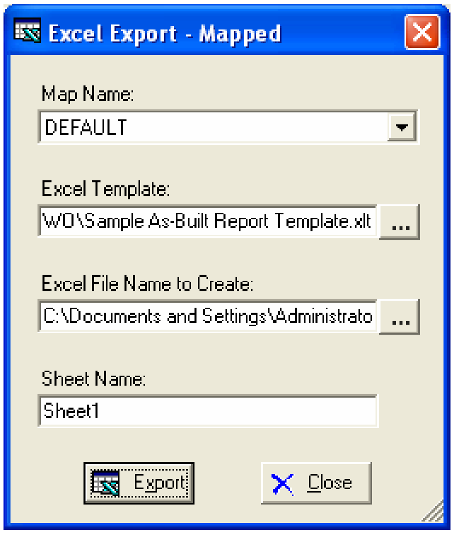
Designing Reports Using Excel Maps

The Excel Mapping screen may be accessed from the File menu located on the As-Built Report window. When you create an Excel Map, it is stored in your Manfact system and is available to all users.



Exporting a Custom Report to Excel

Choose this option once the As-Built Analysis has been generated and is visible on your screen. Choose a Map Name from the drop-down list, then click the **Export** button to send the data to Microsoft Excel.



Sample Report

NorthClark Computing

As-Built Bill of Material Configuration Report

Assembly# 1001
Description: MOTOR, 2HP
Program: 100.1
Serial Number:

Revision: J
Rev. Date:
Work Order: 56
Sales Order: 7-1, 32-1

Customer: Pacific-Precision, Inc. (101)
Contract: 12345-9876
Customer PO: 12345678901234567890123 45

BOM Level	Part Number	Description	Qty Required	As Designed Revision	As Built Revision	Lot Number	Lot Quantity	Cure Date	Serial Number	Comments
0	1001	MOTOR, 2HP	12.00	12						
1	2001	HOUSING, MOTOR MACHINED	12.00	C	C	63	5			
2	3501	CASTING, MOTOR HOUSING	36.00	A						
2	4503	BOLT FOR ROTOR ASSEMBLY	12.00		?	67	50			
2	110-0001-00	INDUCTOR,SMD,20UH,2.1A,DU	12.00	B						
1	2002	ROTOR ASSEMBLY	12.24	C						
2	3004	ROTOR SHAFT MACHINED	12.24	A						
3	4501	STEEL ROD .875	12.24							
2	3502	COPPER, WIRE, EN 26GA	12.24							
2	4503	BOLT FOR ROTOR ASSEMBLY	122.45							
2	4504	NUT FOR BOLT 4503	122.45							
1	4502	CASTING, STATOR	12.00	A						
1	4503	BOLT FOR ROTOR ASSEMBLY	12.00							
1	4504	NUT FOR BOLT 4503	12.00							
1	2900	GREASE, HI TEMP	0.00							
1	2003	STATOR ASSY.	12.00							
1	2502	BEARINGS	24.00							
1	UNMATCHED	PARTS NOT ON BOM								
2	1505	COUPLING MOTOR/CLUTCH	0.00		?	66	14			

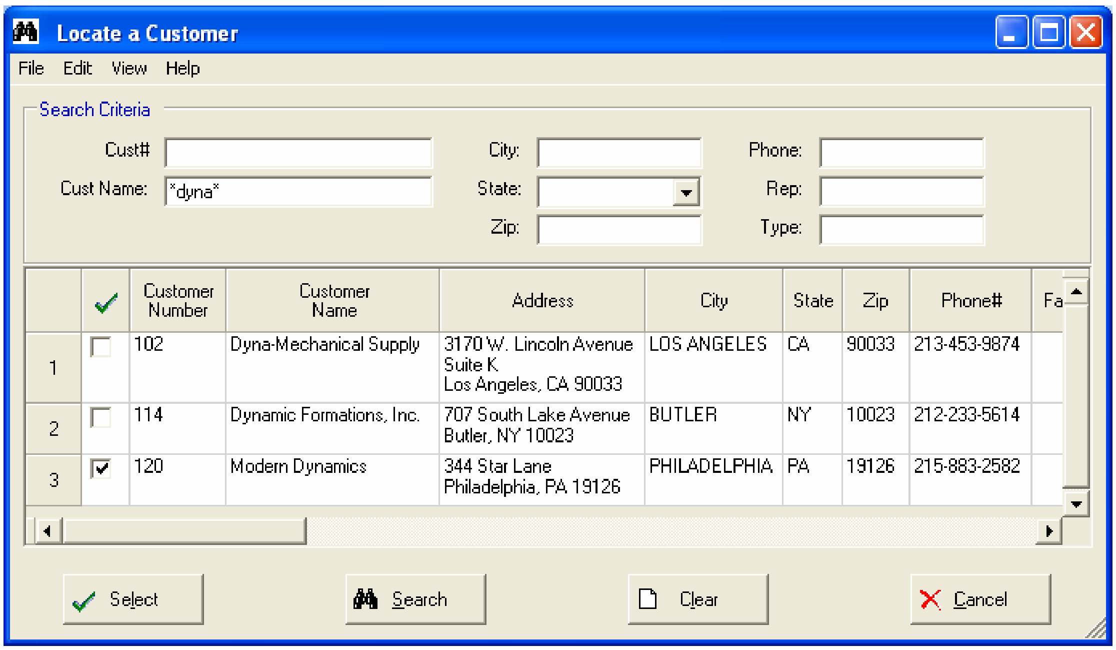
END OF REPORT

Tools

Search screens may be accessed from the **Tools** menu on the Main screen, or by clicking the browse button **[…]** next to the associated prompt.

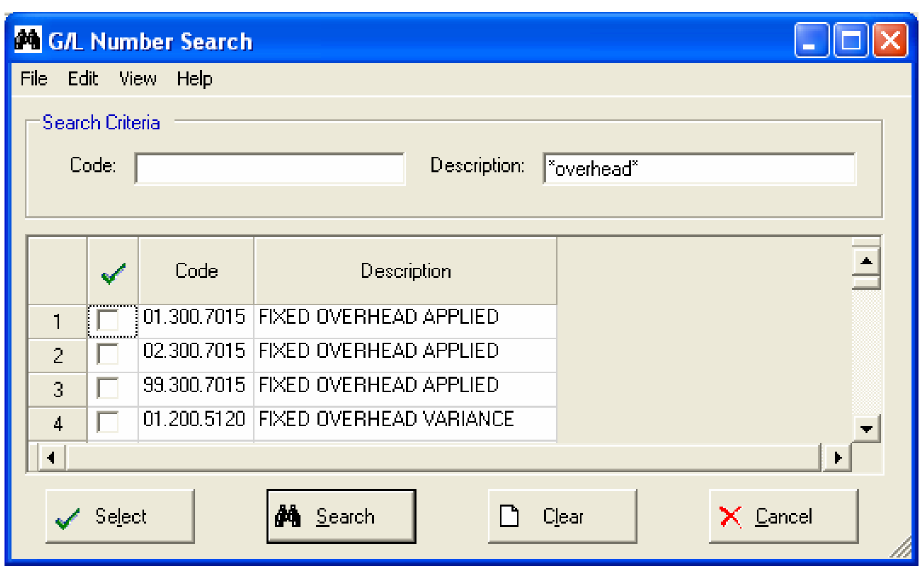
Customer Search

Use this option to locate an existing record in Manfact's CUSTOMER file. This example illustrates how wildcarding may be used to search on a portion of the Customer Name.



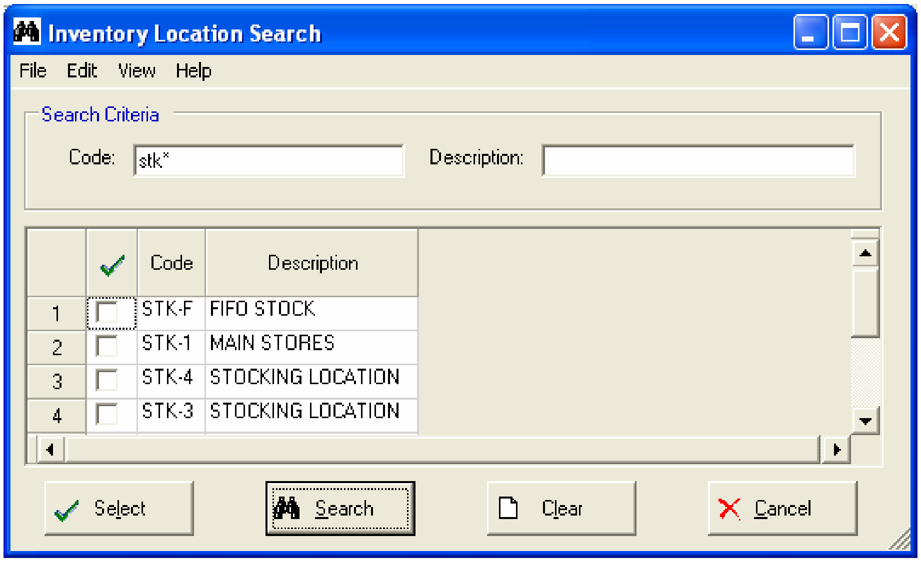
G/L Number Search

Use this option to locate General Ledger Account Numbers in Manfact's GLNAME file.



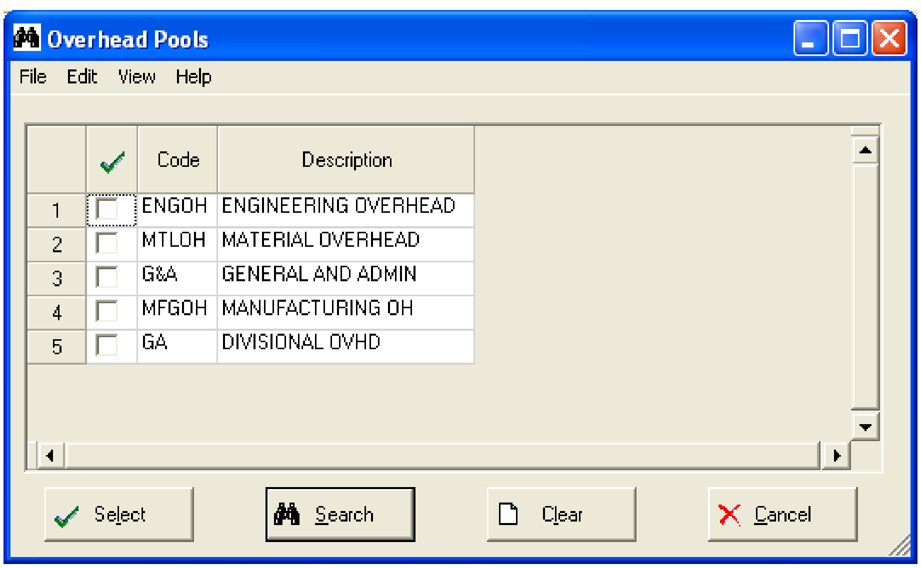
Inventory Location Search

Use this view to locate Inventory Locations in Manfact's INVLOC file.



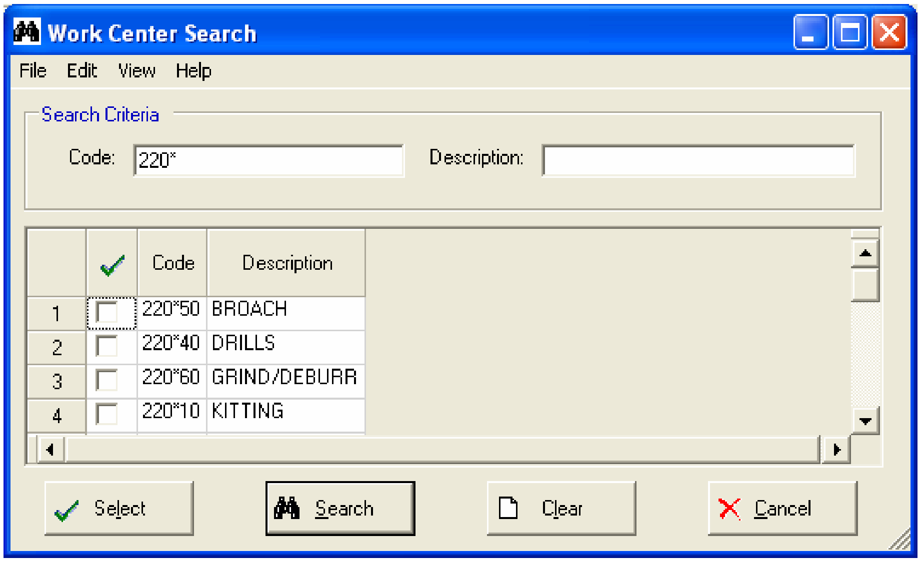
Overhead Pools

Select from the list of valid Overhead Pools as defined using Manfact's TABLE.WO procedure.



Work Center Search

Use this view to locate Work Centers in Manfact's WKC file.



Security

Access to NorthClark applications is governed by the Manfact security system.

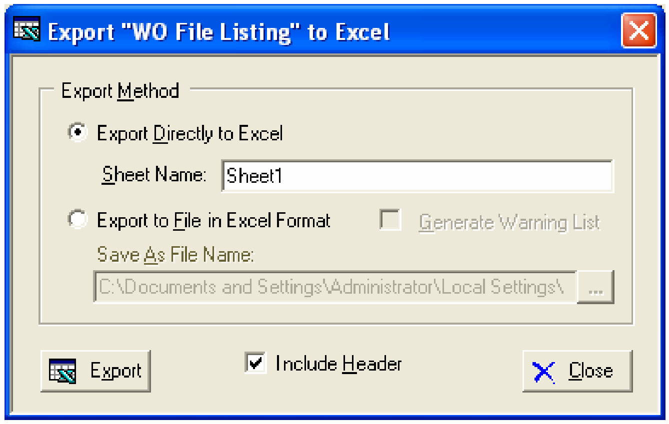
In order to access the NorthClark Work Order Workbench, one of the following commands must be added to the user's Manfact Security Table:

NCC_WO_ADMIN	-	Unrestricted access. Note, there are no Administrator specific features in the module as of this writing.
NCC_WO	-	Unrestricted access. User can create, update, and finalize Work Orders.
NCC_WO_VIEW	-	Access is read-only. No updates permitted.

General Information

Export to Excel

All spreadsheet views are equipped with the option to Export to Microsoft Excel. Click on the spreadsheet your wish to export, then choose the Export to Excel option from the menu or toolbar.



Export to Excel or to a File?

You may export the contents of the display directly to Excel, or you may choose to create a file in Excel format.

Sheet Name

Enter the Excel sheet name to create. This will automatically default to Sheet1.

Save As File Name

Enter the pathname of the file you wish to create. You may Browse the files by clicking the button to locate the drive and folder where the file will be stored.

Generate Warning List?

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 is "CreateExcelFile.log", and it will be stored in the same folder as your spreadsheet.

Include Header

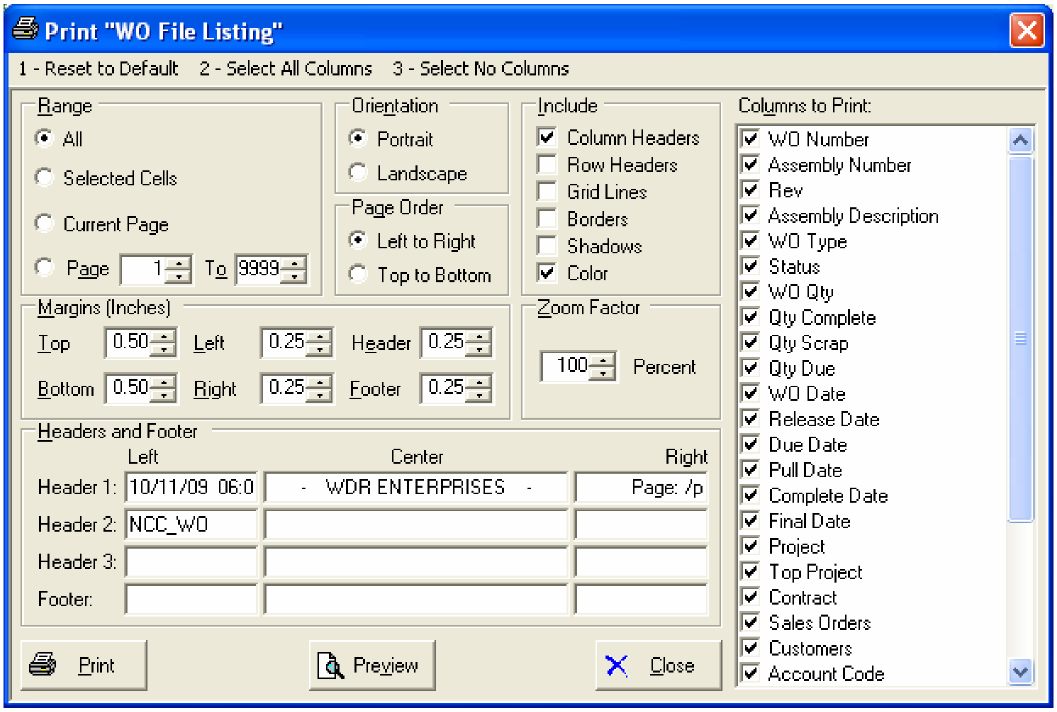
Check this box to export the column headings.

Export Button

Click this button to export your data to Microsoft Excel.

Print a Spreadsheet

All spreadsheet views are equipped with a Print feature. Click on the spreadsheet you wish to print, then choose the Print option from either the menu or the toolbar.



Range - Selecting a Print Range

You may choose to print the entire spreadsheet (all), selected cells (those that you have highlighted on the current screen), the current page (only the rows that are currently visible on your screen), or a range of page numbers.

Orientation - Portrait or Landscape

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 - Report Margins

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

Units - Inches or Centimeters?

Are the margins you entered expressed in inches or centimeters?

Page Order

If your report is too wide, it may span multiple pages. When this occurs, do you want the report printed from top to bottom or left to right?

What Do You Want to 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

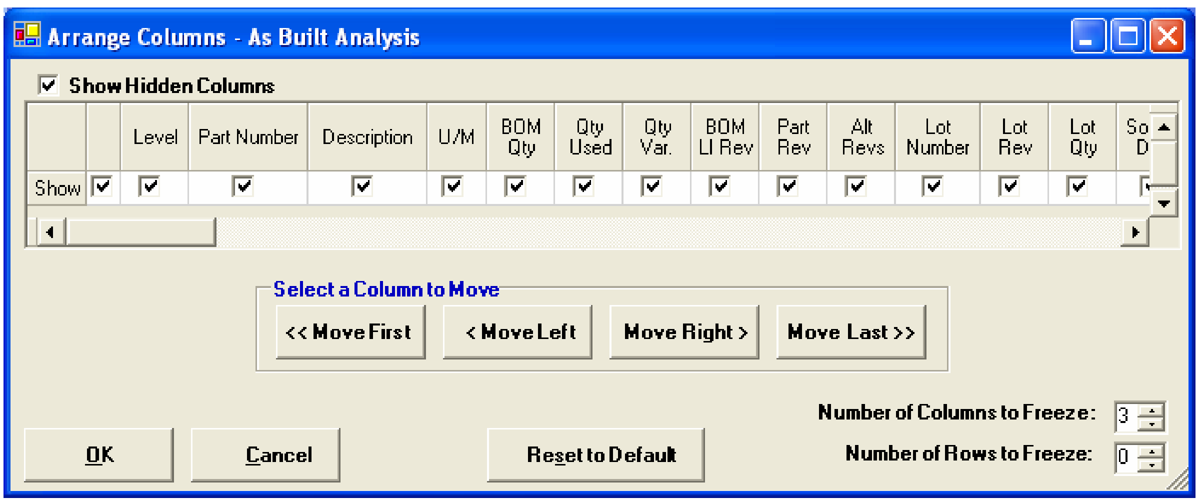
Your report may have up to three lines for the heading, and one line for the footer. The system initially displays a default heading, which you may modify if desired.
Tip: Use /p to designate a page number.

Which Columns Do You Want to Print?

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

Arranging / Hide Columns

Use this view to change the sequence in which columns appear on your spreadsheet.



Each column represents a field that is available for display on the spreadsheet. To hide a column remove the check from the box under the title heading. Use the [Move First], [Move Left], [Move Right] and [Move Last] Buttons to re-arrange the order in which the fields appear on the specific screen Display. Click [Reset to Default] to return to the system's default settings. Select the Number of Columns and Rows you with to Freeze on the Display. 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. You can also use "+" and "," to include and/or conditions. Here are some examples of search commands and their expected results:

…FREIGHT… or *FREIGHT*	Search for the word "FREIGHT" anywhere in the field
FREIGHT+*EXP*	Both "FREIGHT" and "EXP" must appear in the field
FREIGHT,*TAX*	Either "FREIGHT" or "TAX" must appear in the field

NorthClark Computing

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