NorthClark Computing

NorthClark Computing, Inc.

Sales Forecasting

User Guide

Web and Desktop Applications for Manfact by Epicor

March 17, 2008

NorthClark Computing, Inc.

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Introduction

The Sales Forecasting Workbench (SFWB) is used to perform a variety of functions required to support the forecast development and review process. SFWB is a Windows desktop application, and was developed using Microsoft's VB .NET programming language. This environment provides an intuitive graphical user interface, with the ability to read and update the Manfact database in real time. The Sales Forecasting Workbench was designed to accomplish the following objectives:

- Maintain Sales Forecast Information by Customer, Part Number, Warehouse, and Country Code

- View Sales History

- Measure Forecast Accuracy

- Project Revenue Based on a Combination of Forecast and Actual Sales Orders

- Automatically update the Manfact Sales Forecast (SFW) and/or Master Production Schedule (MPS)

A key feature of the Sales Forecasting system is its ability to preserve a snapshot of the Forecast as of each fiscal month-end. This gives us the ability to look back and measure the accuracy of our earlier predictions, while we simultaneously modify the current forecast as new information becomes available.

Sales Forecast Entry and Maintenance

This screen is displayed when the Sales Forecasting Workbench application is started.
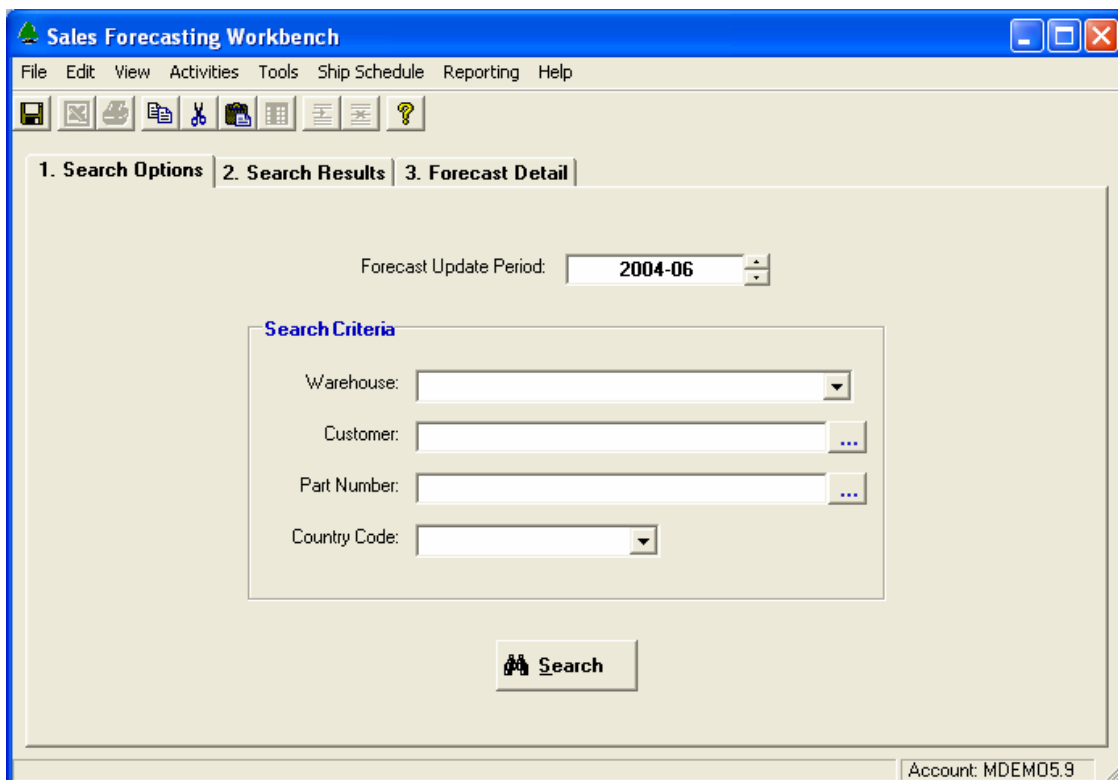
Forecast Update Period

The Forecast Update Period is normally the current fiscal month. It is displayed on the main screen in the Sales Forecasting Workbench, and may be changed by the user if desired. The first day of the month is the earliest date for which a forecast quantity may be entered. If a period *prior* to the current month is entered, the following message is displayed:
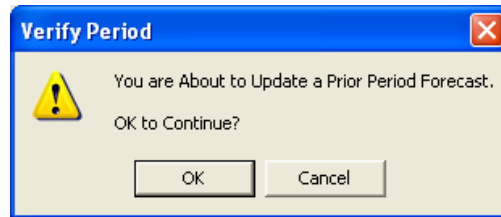
If a *future* period is entered, the following message is displayed:
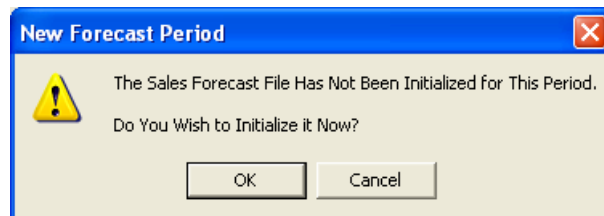
If the user chooses [Yes], the *Initialize Sales Forecast* form is displayed Otherwise, the Forecast Period is reset to the current period.

Initializing the Sales Forecast

To facilitate forecast accuracy reporting, it is necessary to preserve the forecast at the end of each month for later reference. So, at the beginning of each new month, a new Sales Forecast file must be created and initialized. The user is prompted to do so when the Current Forecast Period is incremented.

This update should be performed after all forecast updates have been completed for the previous month. Once the new month has been initialized, any changes to the prior period forecast will NOT be automatically reflected in the new month.
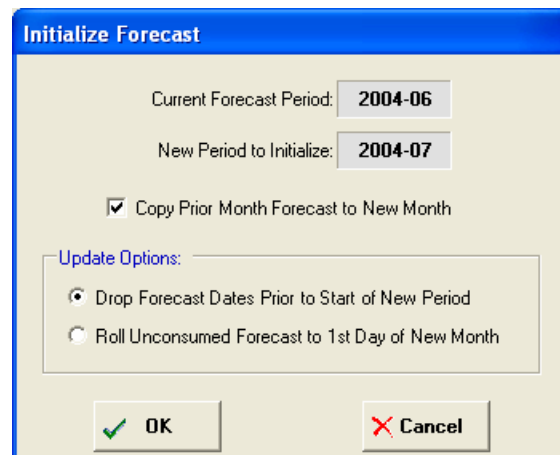
Current Forecast Period

The system displays the most recent period for which a Sales Forecast file has been created and initialized.

New Period to Initialize

The system displays the fiscal period you entered, normally 1 month greater than the current period. If the Current Forecast Period is blank (i.e., the first time this program is used), the New Period will default based on the current date. If a future period is entered, the system displays:
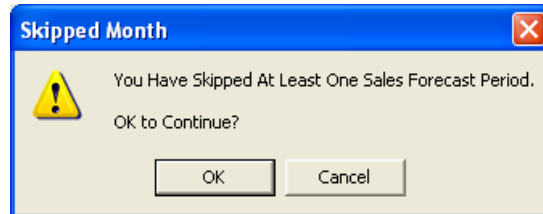
Copy Prior Month Forecast to New Month

If a Sales Forecast file exists for the Current Month, this prompt will default to the "checked" state. Otherwise, it will be disabled. When checked, the forecast records from the current month are copied to the new file as a starting point for developing the new period forecast.

Update Options

When the forecast is copied from the current month to the new month, any forecast dates prior to the start of the current month must be eliminated. You may choose to either drop these dates and quantities from the forecast, or roll the unconsumed forecast to the new period.

Unconsumed Forecast = Forecast Qty – Shipped Qty

Initialize Command

Choose the [Initialize] button to create and initialize the file for the new month.

How to Reinitialize an Existing Forecast File

To avoid potential catastrophic data loss, this procedure will not permit an existing forecast file to be reinitialized. The System Administrator may accomplish this however, by deleting the forecast file for a particular month using the Sales Forecast Administration program (NCC_SFAdmin). Please refer to the Sales Forecast Administrator's Guide for more information. Once deleted, choose the *Initialize Forecast* option to create and setup the new file.

The Next Step

Once the Forecast Period has been set, we are ready to begin updating the Sales Forecast. Use the Search Options on the main screen to select a list of Sales Forecast records to be viewed and/or updated, or proceed directly to the Forecast Detail tab to begin entering new records.

Search for Forecast Records

You may search for existing Sales Forecast records using any combination of Warehouse, Customer Number, Part Number and Country Code. If you do not wish to use a particular search filter, simply leave it blank, or choose "(Show All)" from the drop-down list.

The […] command buttons next to the Customer and Part Number prompts will launch the Customer Search Query and Part Number Search screens respectively. These fields also support "wildcarding" as in the following examples:

XTR…	Selects part numbers that *start* with "XTR"
XTR*	Selects part numbers that *start* with "XTR"
*XTR	Selects part numbers that *end* with "XTR"
…XTR	Selects part numbers that *end* with "XTR"
…XTR…	Selects part numbers that *contain* the letters "XTR"
XTR	Selects part numbers that *contain* the letters "XTR"

Once the desired values have been entered, click the [Search] button, and the system displays a list of records that meet your criteria on the *Search Results* tab.

Search Results

You can use the Search Options tab to select a list of Sales Forecast records to view and/or update. The list of records meeting your criteria is displayed on the Search Results tab as illustrated below.
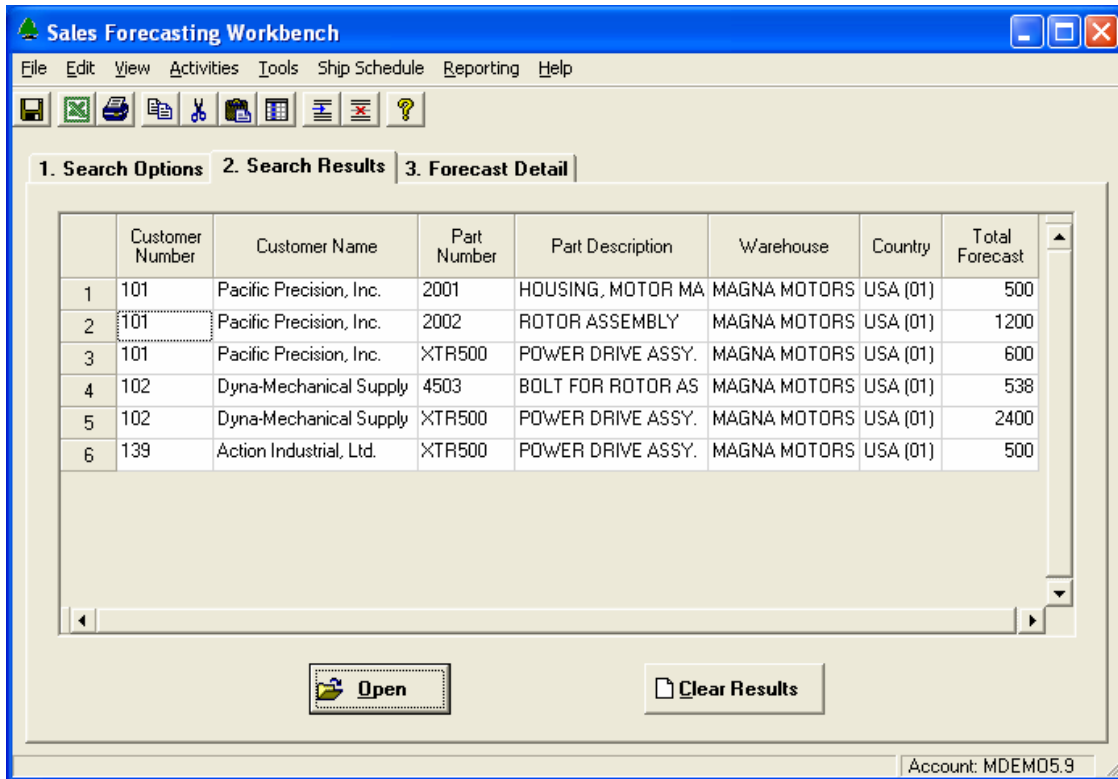
To select an item from the list you may:

1. Using the mouse, double-click on the Row Number (the leftmost column) of the record you wish to update.

2. Use the mouse or the arrow-keys to position the highlight bar over the desired row, then hit [Enter] on your keyboard, or click the [Open] button at the bottom of the screen.

Once you have selected a row, your view is automatically switched to the *Forecast Detail* tab.

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Forecast Detail

The Forecast Detail tab allows you to update existing forecast records as well create new records.
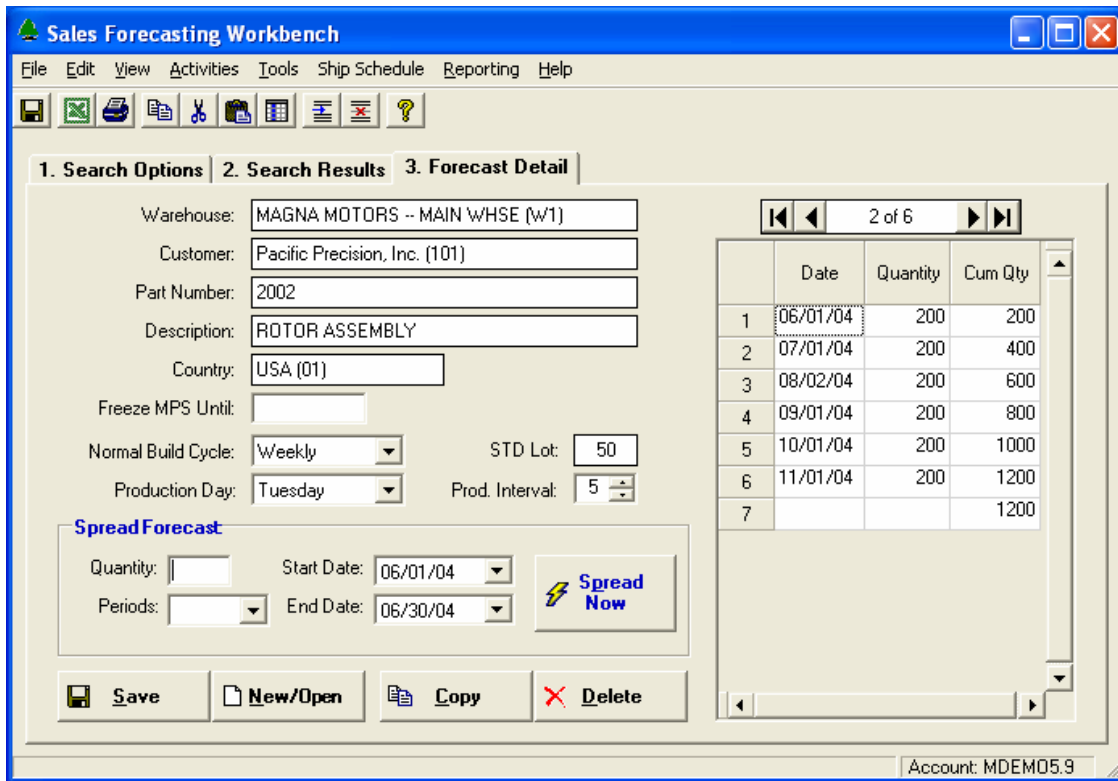
Sales Forecast Record Identifiers

Sales Forecast records are uniquely identified by Warehouse, Customer, Part Number, and Country Code. So, changing any of these values means you are about to begin editing a different record.

There are several ways you can leave the current forecast record. You might scroll to another record using the Navigator Bar, click the New/Open button, or simply exit the program. When this happens, a message like the following is displayed. Click [Yes] to save your work before proceeding.
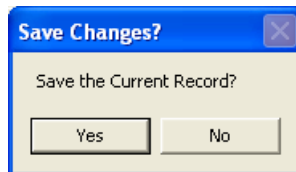
Navigator Bar

The Navigator Bar is located in the upper right corner of the screen, and allows you to scroll through the list of existing Sales Forecast records listed on the *Search Results* tab.

New/Open Command

Click this button to create a new record, or to open an existing record (as an alternative to using the Results list). A dialog is displayed as illustrated here:

Enter the Warehouse, Customer, Part Number, and Country, then click the [OK] button to open the Forecast Detail record. The […] buttons next to the Customer and Part Number prompts allow you access their respective search screens.

Save Command

Choose this option to save the current record to the Sales Forecast file. Note, the screen is not cleared upon saving, however the [Save] command is disabled so you know your work has been saved.

Copy Command

To use this feature, begin by opening the Forecast Detail record you wish to copy. When you click the [Copy] button, the same dialog is displayed as the New/Open command, allowing you to enter the identifying information for the new Forecast Detail record. When you return to the main screen, the new record will be displayed, waiting to be *Saved*.

Delete Command

Choose this option to delete the current record from this month's Sales Forecast file. The system confirms your request as illustrated here:
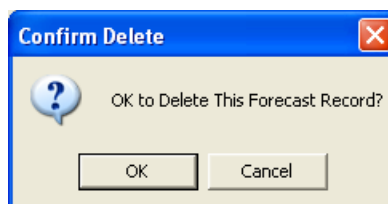
Freeze MPS Until

If a date is entered here, the system will not update the MPS for this item prior to the specified date. As an example, when a new product is introduced, it may be desirable to freeze the MPS up until a specified product release date.

Note that the System Administrator may establish an MPS Time Fence using the Sales Forecast System Administration program (NCC_SFAdmin). Under no circumstances will the Master Production Schedule be updated prior to the date calculated based on the MPS Time Fence. If the Freeze MPS Until date is prior to the cut-off established by the MPS Time Fence, it will be ignored.

Normal Build Cycle

This value is used when you choose to import a revised forecast from the Ship Schedule Excel spreadsheet. It determines how monthly forecast values will be spread once they are imported. Options are: Monthly, Bi-Monthly, or Weekly. Your selection is saved for each customer and part number in the NCC_SFPARTS file.

Standard Lot Size

The Standard Lot Size from the Manfact Routing (BOO) file is displayed by the system and may not be changed.

Production Day

When updating the MPS, the lot sizing algorithm will take into account the "Production Day of Week". The system attempts to move the schedule date to the desired day of the week, but only within the current week. If the specified production day happens to be a non-work day, the system will start with the earlier of either forecast date or the desired production date, then move forward until the first work-day is found.

Production Interval

The production interval is the number of *work days* between each production run. This is used by the MPS lot sizing algorithm to ensure production runs are not scheduled too close together.

Forecast Detail Grid

Create one row on the Forecast Detail grid for each date and forecast quantity you wish to enter. Note, you cannot enter a date less than the start date of the current fiscal period, however you may go out as far into the future as desired. Forecast dates may be added by typing directly into the grid, or by using the *Spread Forecast* feature.

Spreading the Forecast

To use the automatic spread feature, enter the quantity you wish to spread, the start and end date, and the time period (daily, weekly, or monthly). When you choose the [Spread Now] option, the system calculates the dates and quantities, and updates the Forecast Detail grid.

Supporting Activities

Enter the Sales Budget

This screen is used to enter the Sales Budget by Warehouse, Customer, and Fiscal Year. You may select a group of existing records to view and/or update, as well as create new records using this procedure. This information is used for reporting purposes, and entry is optional.
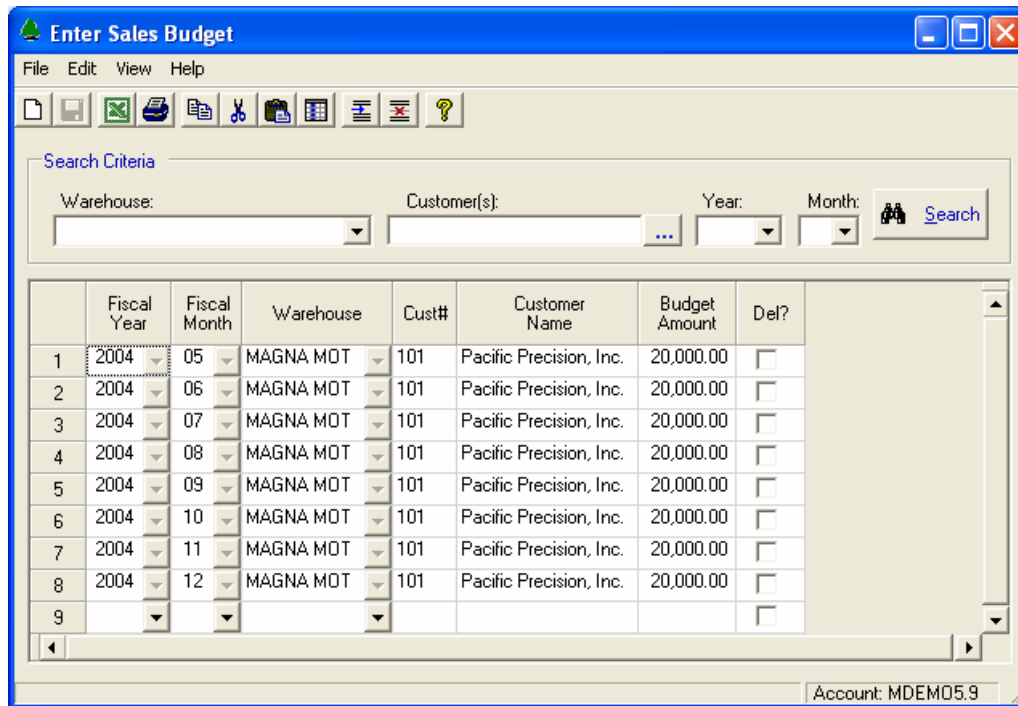
Search Criteria

You may search for existing Budget records using any combination of Warehouse, Customer Number, and Fiscal Year. If you do not wish to use a particular search filter, simply leave it blank, or choose "(Show All)" from the drop-down list.

The […] command button next to the Customer Number prompt launches the Customer Search Query allowing you to search for a customer by name.

Updating Existing Records

You may update an existing record using the search feature, or by typing the Fiscal Year, Warehouse, and Customer Number into the spreadsheet. Modified rows are highlighted in yellow, indicating that updates have not yet been saved.

Creating New Records

To create a new record, simply begin typing in the blank row at the bottom of the spreadsheet. You must enter all required fields (Year, Warehouse, and Customer Number) before the new record can be saved.

Deleting Records

Click the red checkbox in the rightmost column to delete an existing record. This will cause the row to change color to gray. The record will be removed from the database after you choose the [Save] command.

Customer Price Entry

This form allows you to maintain contract pricing information by Customer, Part Number, Country Code, and Effective Date. You may select a group of existing records to view and/or update, as well as create new records using this procedure.
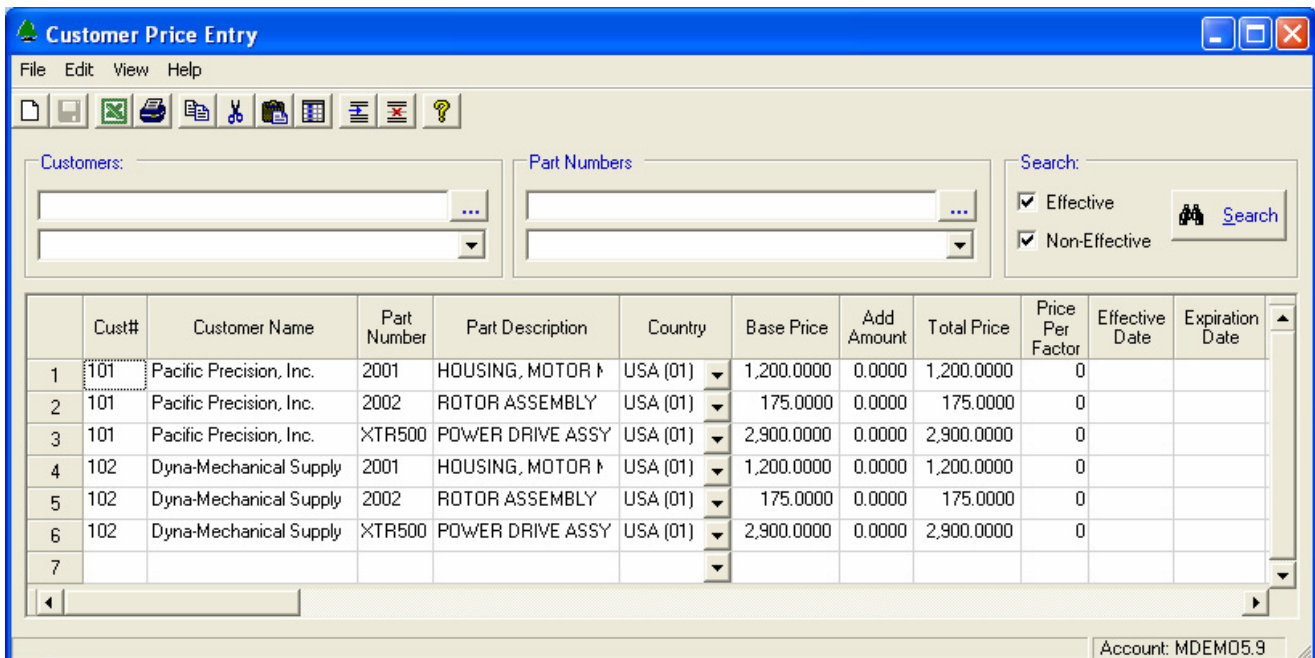
Search Criteria

You may search for existing Customer Price records using any combination of Customer Numbers and/or Part Numbers. These filters also support wildcarding. If you do not wish to use a particular search filter, simply leave it blank. As an alternative, you may choose a previously created User Select List from the drop-down box. Please refer to the *User Select Lists* topic for more information.

The […] command buttons next to the Customer Number and Part Number prompts launch the Customer Search Query and Part Number Search procedure, respectively.

You may further limit your search by choosing to include or exclude Effective or Non-Effective price records.

Updating Existing Records

You may update an existing record using the search feature, or by typing the Customer Number, Part Number, Country Code, and Effective Date into the spreadsheet. Modified rows change color (the default color is yellow), indicating that updates have not yet been saved.

Creating New Records

To create a new record, simply begin typing in the blank row at the bottom of the spreadsheet. You must enter all required fields before the new record can be saved.

Deleting Records

Click the red checkbox in the leftmost column to delete an existing record. This will cause the row to change color to gray. The record will be removed from the database after you choose the [Save] command.

Sales Order Price "Adder"

The Total Selling Price will be made up of two figures, the Base Unit Price and an optional "Add" amount. The "Add" amount normally represents a premium for amortized costs such as engineering, setup, or tooling. The Total Selling Price is used as the Unit Price on Quotes, Sales Orders and Bill Only invoices. The Base Price (excluding the Add Amount) is used when calculating the Ship Schedule.

Column Descriptions

Display Name	Description
Customer and Part Number	Each record is uniquely identified by Customer Number and Part Number.
Country Code	Valid Country Codes must be defined using the Ncc_SFAdmin procedure.
Base Unit Price	The Base Unit Price for this Customer and Part Number, as reported on the Ship Schedule.
Add Amount	Amount to be added to Base Price to cover amortized costs.
Total Selling Price	The Selling Price quoted to the customer (Base Price + Add Amount) used on Quotes, Sales Orders, and Invoices.
Price Per Factor	The Selling Price is entered for the number of units entered in this field (default is 1).
Effective Date	Enter the date the price becomes effective.
Expiration Date	Enter the date this price expires (may be left blank).

Display Name	Description
Last Quoted	User maintained, for information only.
Min. Annual Qty	User maintained, for information only.
Development Cost	User maintained, for information only.
Amortized Over Units	User maintained, for information only.

Copy Forecast to MPS / SFW

This option allows you to update Manfact's Sales Forecast (SFW) and/or Master Production Schedule (MPS) files. This step allows the new forecast to be processed by Manfact's resource planning modules.
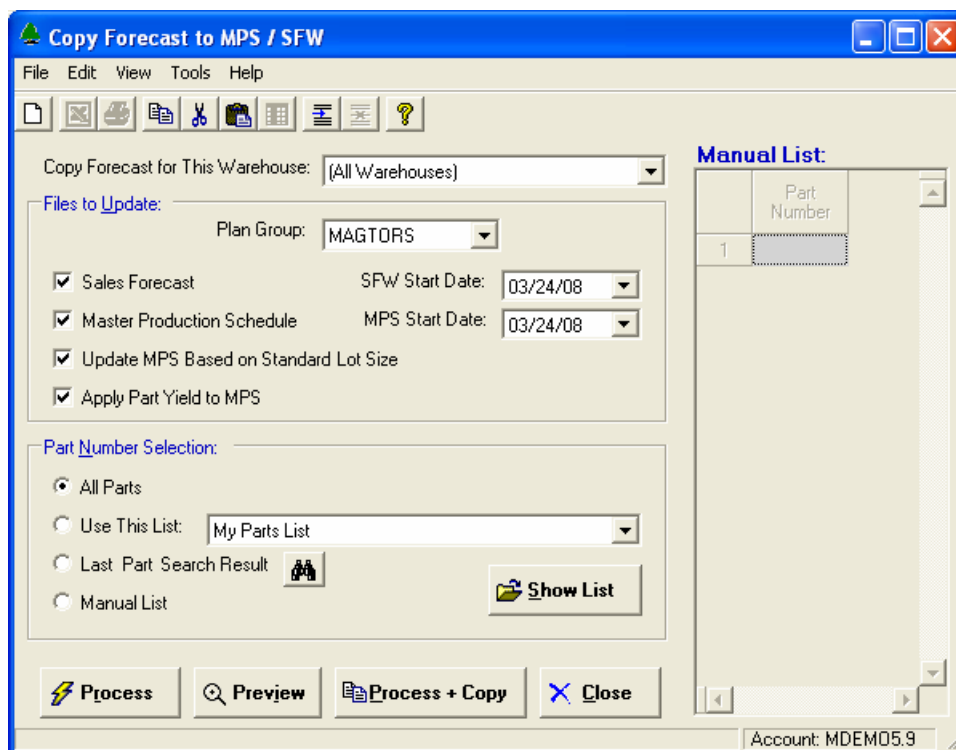
Warehouse

You may copy forecast records for a selected warehouse, or all warehouses.

Planning Group

Select the Manfact Planning Group to update from the drop-down list.

Files to Update

You may choose to update the SFW file, MPS file, or both.

Start Date

Enter the earliest date to be updated in the SFW and/or MPS files (defaults to today). Note, regardless of this setting, the system will not update the schedule inside the time fence entered using the NCC_SFAdmin procedure.

Update MPS Based on Standard Lot Size

The lot sizing algorithm will take into account the "Production Day of Week" specified during forecast entry. The system attempts to move the schedule date to the desired day of the week, but only within the current week. If the specified production day happens to be a non-work day, the system will start with the earlier of either forecast date or the desired production date, then move forward until the first work-day is found.

The lot sizing algorithm will take into account "Production Interval". The production interval is the number of *work days* between each production run.

To create the MPS, the system spreads the forecast quantity forward from the production date, using the standard lot size as the quantity per production interval. If the remaining quantity in the last bucket is less than or equal 20% of the lot size, this remainder will be added to the last production lot in the MPS. Thus, the final period may contain a quantity equal to 120% of the standard lot size.

Apply Part Yield to MPS

Yield from the PARTS file will be applied to Forecast Quantities before updating the Master Production Schedule.

Part Number Selection

Choose one of the following:

- All Parts – Copies all Part Numbers in the Forecast file

- Use This List – Retrieve a list of previously saved Part Numbers

- Last Part Search Result – Results of the last Part Number Search Query you performed

- Manual List – This option allows you to manually enter a list of Part Numbers

Process

Click this button to calculate the quantities to be posted to the MPS and/or SFW files. You will have the opportunity to preview the results before updating your Manfact system.

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Preview MPS/SFW Update

The Preview feature allows you to review the results of the MPS lot size calculation prior to updating the Manfact system. This view will display one row for each part number. You may double-click on a row to view the detailed forecast dates and quantities calculated for each item. Upon user approval, these results are copied to the MPS or SFW file.
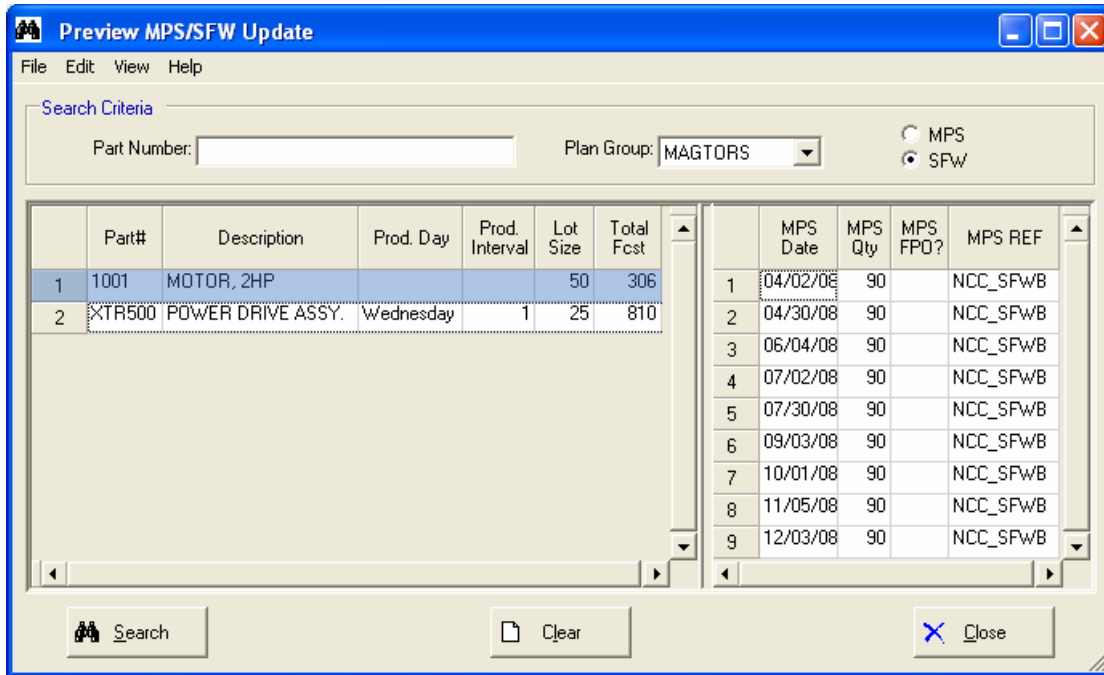
Process & Copy

When you are satisfied with the forecast, choose this option to update the Sales Forecast and Master Production Schedule in your Manfact system.

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Superseding Parts Entry

Use this screen to advise the Sales Forecasting system that one part number has superseded another. When this occurs, sales history and forecast information for the old part number may be combined with information for the *Current Active Part Number* for reporting purposes.
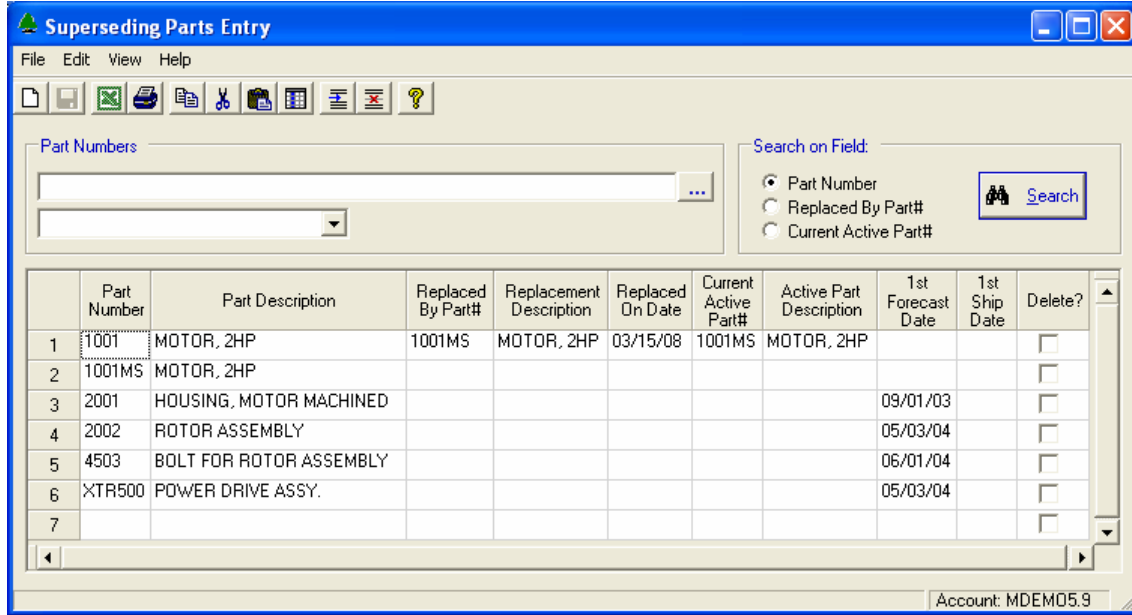
Part Number

Enter the Part Number you wish to update. You may create new records and edit existing records using this procedure. The Part Number must exist on the Manfact PARTS file.

Description

This field is for display only.

Replaced By Part#

If the Part Number you are updating has been superseded by another part, enter the new part number here.

Replaced on Date

The date the new part number became effective.
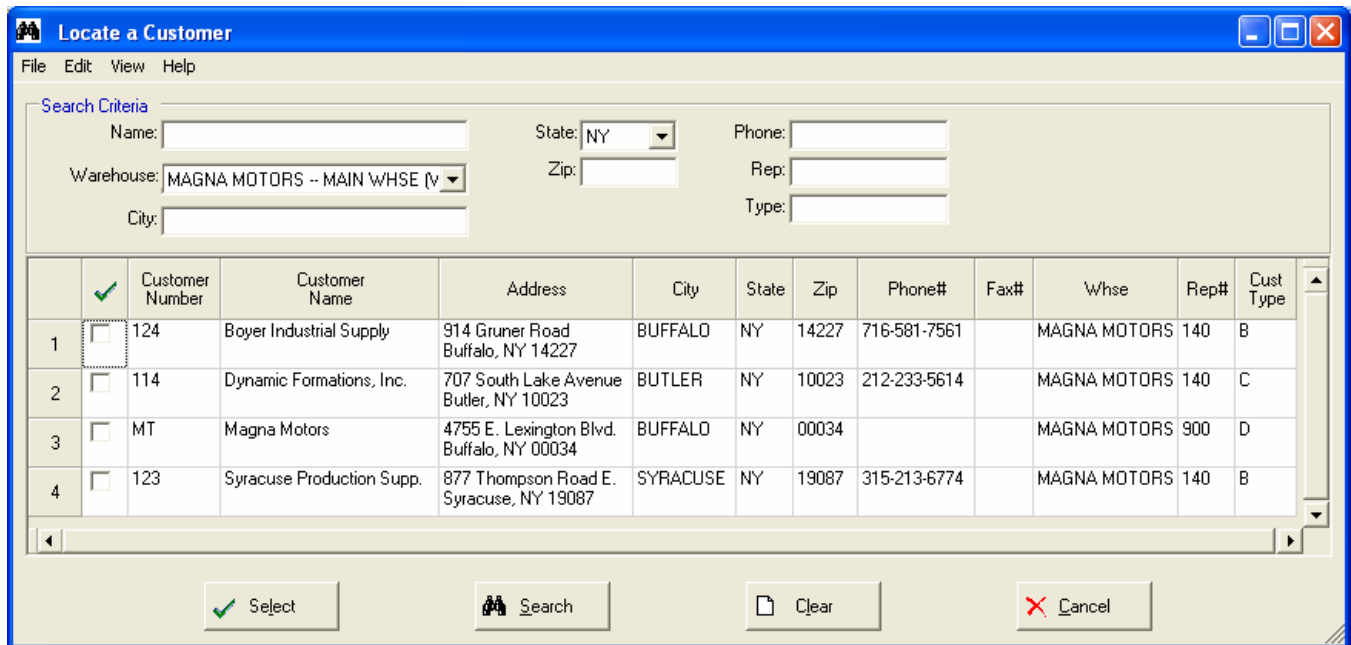
File Time Processing

When the NCC_SFPARTS record is saved, the system performs validation to ensure the part does not supersede itself. For example, assume part X3 supersedes X2, and X2 supersedes X1. If we now attempt to make an entry where X1 supersedes X3, an endless loop is created. When this occurs, an error message is displayed, and the record cannot be filed.

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Tools

Customer Search
This query allows you to locate Customer records using a variety of search criteria.

You may enter any combination of search criteria. If you do not wish to use a particular filter, simply leave it blank. All fields support wildcarding, and are not case sensitive.

Part Number Search

The NorthClark Part Number Search Query allows you to locate part numbers in your Manfact system using a variety of search criteria. Please refer to the Part Number Search User Guide for more information.
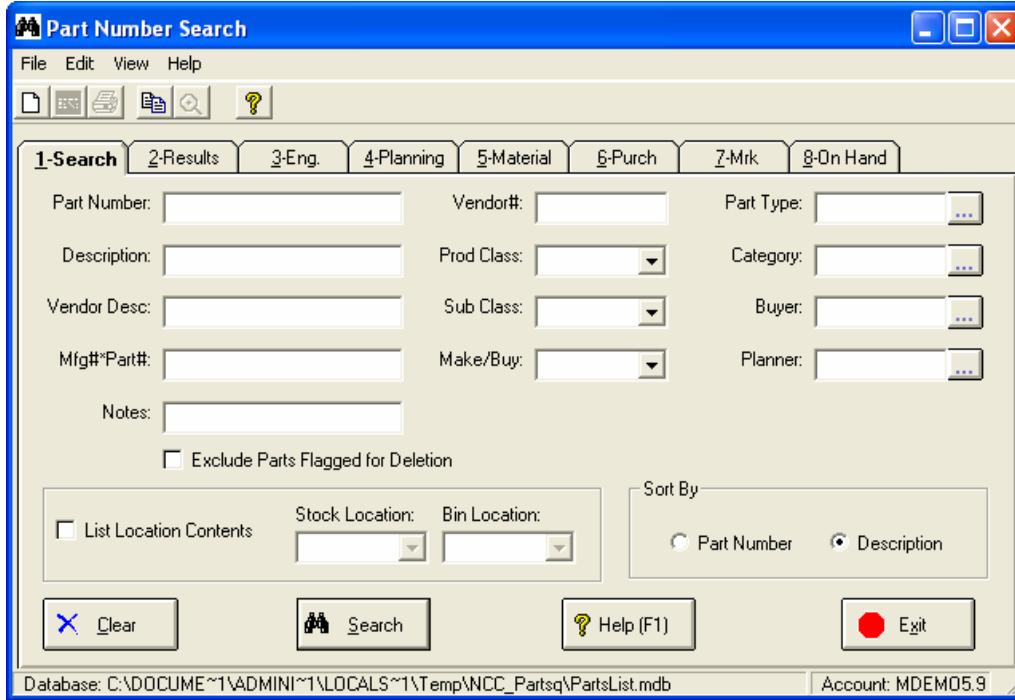
View Standard Cost History

This option allows you to view Standard Cost history for a specified Part Number and Cost Group.
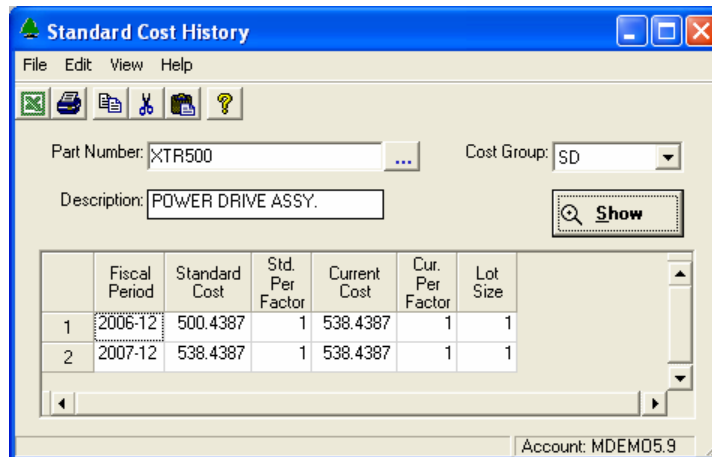
The S$COSTROLL subroutine is called by various procedures in the Manfact system to update standard cost information in the PARTSDTL file. Before using this feature, S$COSTROLL must be modified to update standard cost history information in the NCC_SFCOSTHIST file. Please contact NorthClark Computing, Inc. to have this feature installed.

User Select List Maintenance

This procedure allows users to create and maintain lists of record identifiers that may be retrieved later when searching for records to update or report on.
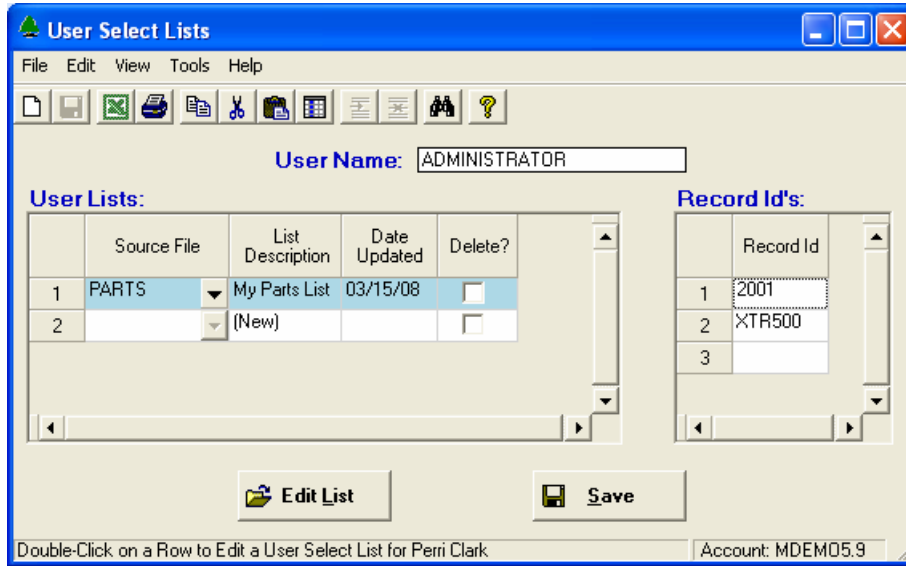
User Name

Your Manfact login name is converted to upper case characters and displayed by the system.

User Lists

The grid on the left side of the screen displays all of the User List records you currently have on file. To create a new list, select a Source File and enter a List Description in the blank row at the bottom.

To delete a list, click the checkbox on the rightmost column, which will cause the row to turn gray. The record will be removed from the database after you click the *Save* option.

Record Identifiers

When you select a row on the User Lists grid, the list of corresponding record identifiers is displayed on the right side of the screen. You may add, change, or delete items on the list. When you're finished, click the Save button at the top of the screen to record your changes.

Create a List From Part Number Search Query

When you use NorthClark's Part Number Search Query, the results are stored in a Microsoft Access database on your local hard drive. This allows the results of your most recent search to be retrieved by the Sales Forecasting Workbench as well as other NorthClark applications.

Begin by highlighting the row containing the User List you wish to update. Be sure to choose "PARTS" as the Source File. Select *Load List From Last Part Number Search* from the *Tools* menu, and the system copies the part numbers onto the Record Id's grid.

Copy a List From Manfact's &SAVEDLISTS& File

This feature is intended for advanced users and system administrators who may create select lists within the Manfact system.

Begin by highlighting the row containing the User List you wish to update. When you choose *Copy List From Manfact's Savedlists File* from the *Tools* menu, the system prompts for the name of the Saved List you wish to copy. Once the list is successfully read from the Manfact system, the contents of the list are copied to the Record Id's grid.

Ship Schedule

Before exporting the Ship Schedule to Microsoft Excel, it must be updated by selecting the *Calculate Ship Schedule* option from the Sales Forecasting Workbench. The date and time of the last update is displayed for your reference.

There are two distinct methods for exporting data from the Ship Schedule file to Microsoft Excel. The "Fixed Format" option outputs the data in a pre-defined format, as described later in this section. The "Data Mapping" feature allows you to create your own user-defined Ship Schedule reports. Please refer to the *Sales Forecasting System Administration* Guide for more information on creating *Excel Export Maps*.

Superseding Parts

All reports include the option to summarize records to the "Superseded By" part number. Please refer to the *Superseding Parts Entry* topic for more information.

Calculate the Ship Schedule

This option must be selected periodically to update the Ship Schedule reporting file.
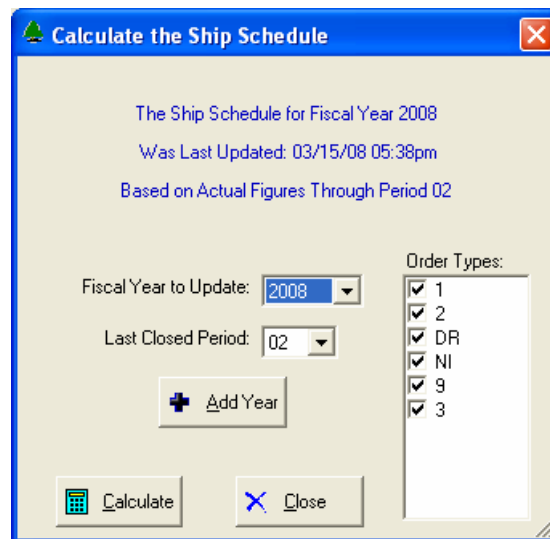
This process requires exclusive use of the Ship Schedule Reporting file. When this option is selected, the system checks to see if any of the reports that rely on this file are currently running. If so, the following message is displayed:

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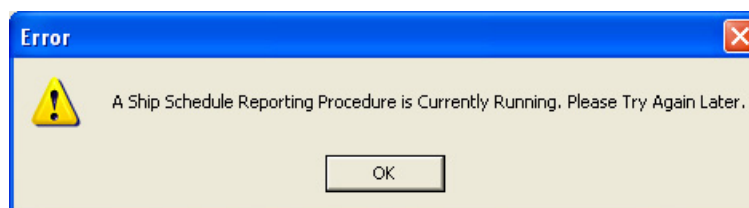
Ship Schedule Processing

The process begins by clearing the Ship Schedule file for the selected fiscal year. If the specified year is the current or a future fiscal year, the system loads forecast information from the most recent Sales Forecast file. If a prior year was entered, the forecast is not loaded.

Sales Order backlog is loaded from the Manfact SO file. Note, if the schedule date on the sales order is less than the start date of the current period, the backlog will be posted to the current period. The Unit Price is updated for all periods where backlog currently exists.

Next, shipped quantities are loaded from the Manfact Sales Order History (SOH) file for the specified year (SOH records without part numbers are ignored). The Unit Cost field is updated for all items shipped during the period.

Finally, all Ship Schedule records are selected, and the system fills in any missing Unit Prices (from the NCC_CUSTPRICE file) and any missing Unit Cost values (from the NCC_SFCOSTHIST file). The system then computes the projected Sales Quantity, Revenue, Cost, Margin, and Margin Percent.

Export to Excel – Fixed Format

This report is sorted by Customer and Part Number, with sub-totals for each customer. The report is produced for a specified fiscal year.

Fiscal Year

Select the entry from the list that matches the fiscal year and month you wish to report. If the desired period does not appear in the list, it means the Ship Schedule has not been calculated. Run the *Calculate Ship Schedule* option, then return to this screen to run the report.

Sheet Name

Your report will be generated as an Excel Workbook. By default, the Worksheet containing the Ship Schedule Report will be named "<YYYY> Ship Schedule", where "<YYYY>" represents the current fiscal year. You may type a different name if you like.

Currency

If your company has defined Currency Codes in your Manfact system, you may select one from this list. The report will be produced in the selected currency, based on the Exchange Rate.

Exchange Rate

The system displays the default Exchange Rate for the selected Currency Code, and you may change it if desired. If blank, the report will be produced in domestic currency.

Disable Superseding Part Summarization

If you have used the Superseding Parts Entry screen to phase out obsolete products, the system will combine sales history and forecast information for the old and new part numbers, and report the total under the new Replacement Part Number. Check this box if you wish to disable this feature.

Export

Click the [Export] button to generate the report and export it to Microsoft Excel.

Ship Schedule Fixed Format - Report Sample

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Information Reported (Detail Section):

Warehouse	The identifier of the Manfact WHSE file.
Customer Number	The identifier of the Manfact CUSTOMER file.
Customer Name	From the Manfact CUSTOMER file.
Part Number	The identifier of the Manfact PARTS file.
Description	From the Manfact PARTS file.
Country Code	The identifier of the Country where parts are forecasted for shipment.
1st Month Qty	The projected sales quantity for the first period of the fiscal year. For prior periods, this is the actual sales quantity. For current and future periods, the greater of forecast or sales backlog.
1st Month Dollars	The projected sales revenue for the first period. For prior periods, this figure is based on actual sales amounts. For current and future periods, it is based on the entries made in the NCC_CUSTPRICE file.
1st Month Unit Price	The Unit Price in effect for the Part at the beginning of the fiscal period.
Months 2 thru 12 Projected Sales	The projected sales quantity and dollar columns are repeated for each month of the fiscal year. Note, Sales amounts (as opposed to forecast) are displayed in **Bold**.
Total Qty	The total projected sales quantity for the year.
Std Lot Size	The Lot Size is obtained from the Manfact BOO file.
Annual Sales	The total projected sales dollars for the year.
Budget Sales	Total annual sales budget for this customer (shown in total section only).
Price Each	Annual Sales / Total Qty
Annual Cost	For prior periods, this figure is based on actual shipments. For current and future periods, it is based on the Standard Cost of the part
Margin Percent	(Annual Revenue – Annual Cost) / Annual Revenue
Domestic Sales	Annual Sales for Country Code "01 = USA"
Foreign Sales	Annual Sales – Domestic Sales
Control	Annual Sales for Parts with Sub-Class = CTL
Display	Annual Sales for Parts with Sub-Class = DIS
Sensor	Annual Sales for Parts with Sub-Class = SNS
Other	Annual Sales – (Control + Display + Sensor)
Construction	Annual Sales for Parts with Product Class = CNST
Industrial	Annual Sales for Parts with Product Class = INDST
Agricultural	Annual Sales for Parts with Product Class = AG

OEM Suppliers	Annual Sales for Parts with Product Class = OEM
Other	Annual Sales – (Construction + Industrial + Agricultural + OEM)

Information Reported (Totals Section):

Total Annual Sales	Total Projected Sales for all customers.
Total Annual Cost	Total Projected Cost for all customers.
Warranty Provision	Total Annual Sales * Warranty Percent (Warranty Percent entered for fiscal year in NCC_SFAdmin)
Budget Total Sales	Total Annual Budget for all customers.
Margin Before Warranty Provision	Total Projected Sales – Total Projected Cost
Est. Margin$	Total Projected Sales – Total Projected Cost - Warranty Provision
Est. Margin %	Est. Margin $ / Est. Total Sales
Budget Margin $	Budget Total Sales * Budget Margin %
Budget Margin %	Budget Percent entered for fiscal year in NCC_SFAdmin
Domestic Sales $	Annual Sales for Country Code "01 = USA"
Foreign Sales $	Annual Sales – Domestic Sales
Control $	Annual Sales for Parts with Sub-Class = CTL
Display $	Annual Sales for Parts with Sub-Class = DIS
Sensor $	Annual Sales for Parts with Sub-Class = SNS
Other $	Annual Sales – (Control + Display + Sensor)
Construction $	Annual Sales for Parts with Product Class = CNST
Industrial $	Annual Sales for Parts with Product Class = INDST
Agricultural $	Annual Sales for Parts with Product Class = AG
OEM Suppliers $	Annual Sales for Parts with Product Class = OEM
Other $	Annual Sales – (Construction + Industrial + Agricultural + OEM)

Sub-totals are included in the Ship Schedule for Sales and Budget Amounts for each Customer Type.

Sales	Sum of Projected Revenue dollars for each customer type.
Budget	Sum of budget values for each customer type as maintained in Ncc_SFAdmin
Margin	Gross Margin Percent for each customer type.

Calculate Ship Schedule Using Standard or Current Cost

Historical sales are always reported using the actual cost of goods sold recorded at time of shipment. For projected sales, we use the Standard Cost. A switch in the heading of the Excel spreadsheet allows the user to toggle the extended cost and margin formulas to use either Standard Cost or Current Cost.

Budget Summary Sheet

When the fixed-format version of the Ship Schedule is exported to Excel, a second Worksheet will be created for the Budget Summary.

A	B	C	D	E	F
YYYY - Budget/Current Sales Summary - Current date					
Customer Type	**FY yyyy Budget Sales**	**FY yyyy Current Sales**	**Delta**	**1st Day of Cur FY Month Sales**	**Delta**
AGCO					
BSCH					

Column	Heading	Comments
A	Customer Type	One row per customer type
B	FY xxxx Budget Sales	Sum of monthly budget values for the whole year for each customer within this customer type as maintained in SFAdmin.
C	FY xxxx Current Sales	Projected Sales for the current fiscal year, as of now.
D	Delta	Column B - Column C
E	First Day of Current FY Month Sales	Projected Sales for the current fiscal year, as reported on the last day of the prior month. This is the same calculation as Column C, except that it is read from the prior month's sales forecast file.
F	Delta	Column C - Column E

"As reported" values are stored in the Sales Forecasting files, including Projected Sales Quantity, Projected Revenue, and Projected Cost. These fields are updated each time the Ship Schedule is calculated.

When the Ship Schedule is exported to Excel, the system produces the Worksheet described above.

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Current Month Summary Sheet

When the fixed-format version of the Ship Schedule is exported to Excel, a separate Worksheet labeled "Cur Mo Summary" is also created.

YYYY - Budget/Current
Sales Summary - Current date

A	B	C	D
Customer Type	**1st Day of Cur Month Sales**	**Current Month Sales**	**Delta**
AGCO			
BSCH			

Column	Heading	Comments
A	Customer Type	One row per customer type
B	First Day of Current Month Sales	Projected Sales for the current month, as reported on the last day of the prior month. This is the same calculation as Column C, except that it is read from the prior month's sales forecast file.
C	Current Month Sales	Projected Sales for the current fiscal month, as of now.
D	Delta	Column B - Column C

Part Exception Reporting

When the Ship Schedule is exported to Excel, a Worksheet is included for "Exceptions". This report lists parts where any of the following conditions are met:

- Standard Lot Size is Zero
- Standard/Current Cost is Zero
- Price is Zero

Export to Excel – Use Data Mapping

This option allows you to export sales history and forecast information to Microsoft Excel. Before using this feature, the System Administrator must define one or more *Export Maps* using the *Sales Forecasting System Administration* procedure (NCC_SFAdmin). Records are selected from the Ship Schedule file according to the choices made on the Report Options screen.

Excel Template

Optionally, you may reference an existing Excel Template to use as the starting point for the report. This is a convenient way to include your company logo, report headings, etc.

Excel File Name to Create

Specify a location on your computer or network where the report file is to be saved.

Sheet Name

The system will name your Excel Worksheet using the Fiscal Year and Month for which the report was generated. You may type a different name if you wish.

Customers

You may enter a list of Customer Numbers separated by commas, or use a list of Customer Numbers you previously saved.

Part Numbers

You may enter a list of Part Numbers separated by commas, or use a list of Part Numbers you previously saved.

Map Name

Select the name of the report you wish to produce. The list will contain all of the Report Maps that have been created by your System Administrator.

Fiscal Year

Select the entry from the list that matches the fiscal year and month you wish to report. If the desired period does not appear in the list, it means the Ship Schedule has not been calculated. Run the *Calculate Ship Schedule* option, then return to this screen to run the report.

Country Code

Enter a specific Country Code, or leave this field blank to select all Countries.

Warehouse

Enter a specific Warehouse, or leave this field blank to select all Warehouses.

Currency

If your company has defined Currency Codes in your Manfact system, you may select one from this list. The report will be produced in the selected currency, based on the Exchange Rate.

Exchange Rate

The system displays the default Exchange Rate for the selected Currency Code, and you may change it if desired. If blank, the report will be produced in domestic currency.

Disable Superseding Part Summarization

If you have used the Superseding Parts Entry screen to phase out obsolete products, the system will combine sales history and forecast information for the old and new part numbers, and report the total under the new Replacement Part Number. Check this box if you wish to disable this feature.

Export

Click the [Export] button to generate the report and export it to Microsoft Excel.

Information Reported

The content of each report will vary depending on the columns chosen for export. Following is a list of data fields your System Administrator can choose from. Quantity fields may be reported for virtually any time period. Please refer to the *Sales Forecasting System Administrator's Guide* for more details.

Fields Available for Mapped Excel Export

Customer Number	May be designated as either a Header or Detail field
Customer Name	May be designated as either a Header or Detail field
Warehouse	May be designated as either a Header or Detail field
Country Code	May be designated as either a Header or Detail field
Part Number	May be designated as either a Header or Detail field
Description	May be designated as either a Header or Detail field
Normal Build Cycle	Weekly, Bi-Monthly, or Monthly
Forecast Date Detail	Un-bucketed forecast detail dates within the specified time period
Forecast Qty Detail	Un-bucketed forecast detail quantities within the specified time period
Forecast Qty	Total Forecast Quantity for Time Period
Backlog Qty	Total Backlog Quantity for Time Period
Shipped Qty	Total Shipped Quantity for Time Period
Unit Price	Effective Selling Price as of last date in Time Period
Unit Cost	Frozen Standard Cost as of last date in Time Period
Projected Qty	As calculated in Ship Schedule
Projected Revenue	Projected Qty * Unit Price
Projected Cost	Projected Qty * Unit Cost
Projected Margin$	Projected Revenue – Projected Cost
Projected Margin%	Projected Margin / Projected Revenue
Budget Sales	Entered using Ncc_SfAdmin
Warranty%	Entered using Ncc_SfAdmin
Actual Warranty	Entered using Ncc_SfAdmin

Import Revised Forecast From Excel

This option may be used to import revised Sales Forecast Quantities from a Ship Schedule report.
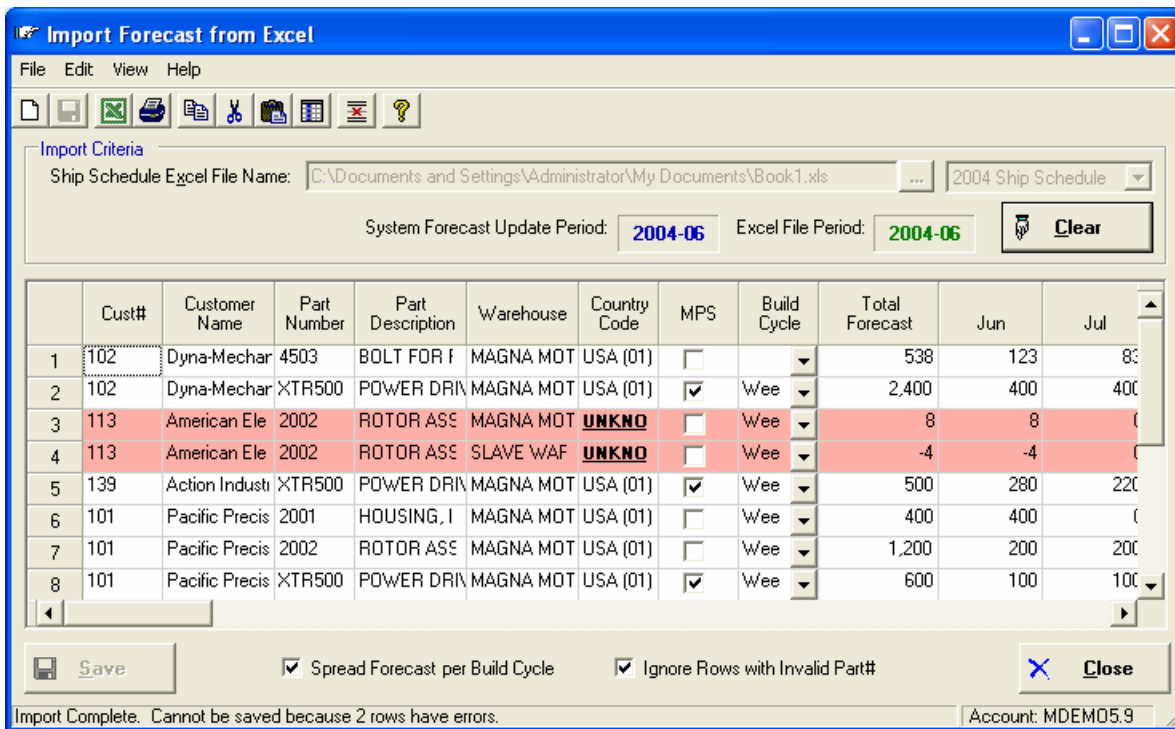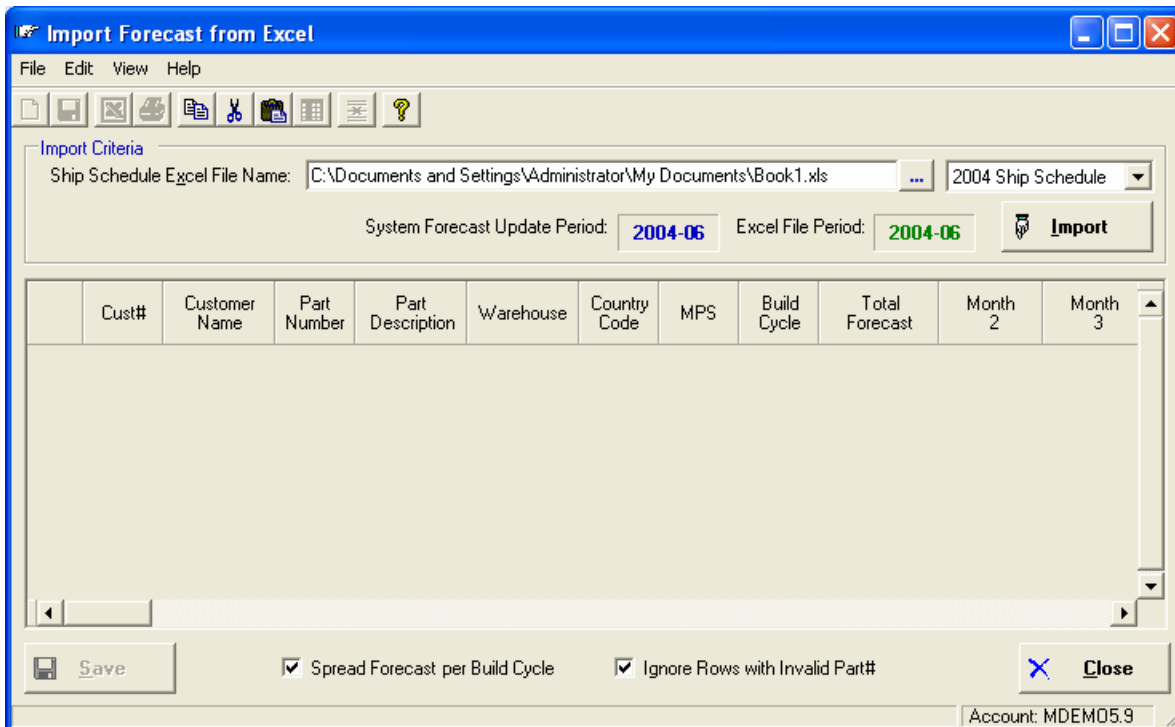
Upon import, forecast quantities are automatically spread into weekly, bi-monthly, or monthly buckets according to the *Normal Build Cycle* specified for each Customer/Part Number combination. The

Normal Build Cycle may be updated using the Forecast Detail tab on the Main form, or it may be imported from the spreadsheet. Note, the system will not import a forecast for a period that begins prior to the start date of the current period.

Importing the Forecast

The Import feature assumes the Excel spreadsheet you are importing is the exact same format as the Ship Schedule. This allows you to export the Ship Schedule to Excel, make the necessary adjustments to the Forecast, then import your changes back into the system.

Enter the name and location of the file you wish to import at the *Ship Schedule Excel File Name* prompt, or use the browse button to locate the file. If the file is in the correct format, the Excel File Period will be displayed.

When you click the [Import] button, the results will be displayed for your review and update. Note that you must resolve all errors in the data before you will be allowed to Save the imported information.

Consolidated Ship Schedule for Phoenix International

This feature was developed specifically for Phoenix International, Inc. Customers with similar requirements are encouraged to contact NorthClark Computing, Inc.

The Consolidated Ship Schedule allows sales and forecast information from two different Manfact accounts to be combined into one report. In this case, one account is used for the business in the United States, and a second account has been established for operations in Mexico.
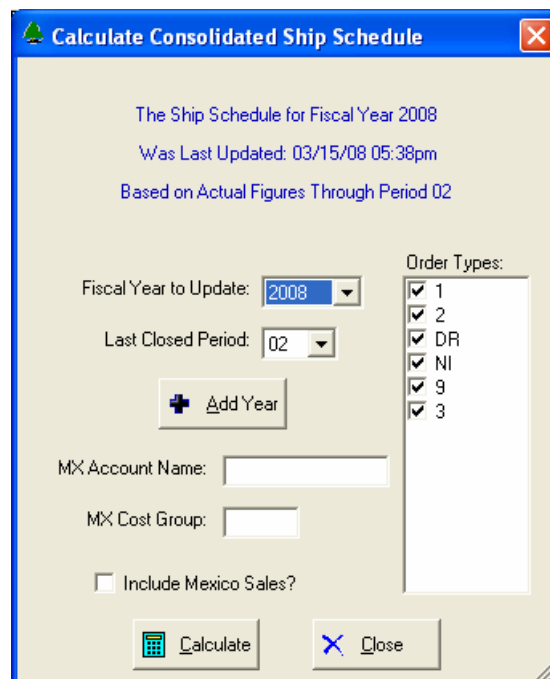
A record in the Manfact TABLE file named "MEXICO" lets the system know whether we are in the U.S. account or the Mexico account. Field 1 of this record is set to "Y" in the Mexico account.

Before creating the Consolidated report, you must first generate the standard Ship Schedule in the Mexico account. Login to the Mexico account and select the Calculate Ship Schedule option. Next, login to the U.S. account, and select the *Accounting Consolidated Ship Schedule* option from the *Ship Schedule* menu. Note, if your company is not Phoenix International, this option will not appear.

When in the Mexico account, all prices and costs are converted from pesos to U.S. dollars for Ship Schedule reporting. So, by the time the consolidation occurs, everything is in the same currency.

When in the US account, the system identifies direct shipments that were shipped from Mexico but invoiced as directs in the US account. When the option is chosen to consolidate the US and Mexico Ship Schedules, the records from the Mexico account are copied to the US account. Any direct shipments billed from the US are eliminated to prevent doubling.

Reporting

The following options are available from the Reporting menu:

- Forecast Accuracy Over Time
- Review / Revise Forecast
- Forecast / Actual Comparison

Each of these reports allows you to enter Report Parameters, along with Customer and Part Number Selection criteria. They are available as a Summary by Customer, or in detail by Customer and Part Number.

Definitions

The following metrics are calculated and displayed on these reports.

FE – Forecast error is the difference between actual sales and forecast.

CFE – Cumulative forecast error is the sum of forecast error over a given time period.

MAD – Mean absolute deviation. It is the mean (average) of the errors made by the forecast model over a series of time periods, without regards to whether error was an overestimate or an underestimate.

MFE – Mean forecast error. The average forecast value over several time periods should be very close to the average of the actual values over these same time periods.

MAPE – Mean absolute percent error.

TS – Tracking signal. It is a measurement that indicates whether the forecast average is keeping pace with any genuine upward or downward changes in demand.

Forecast Accuracy Over Time

This report measures forecast error by targeting a specific month (Current Month), and then looking back to see what the forecast quantity was for that same month in each of several prior periods.

Customer		Actual 01-2006	01-2005	07-2005	Forecast for 01-2006 in 09-2005	10-2005	11-2005	12-2005
100		10	20	20	20	20	20	10
**********	TS		-1.0	-2.0	-3.0	-4.0	-5.0	-6.0
Overall		10	20	20	20	20	20	10
	TS		-1.0	-2.0	-3.0	-4.0	-5.0	-6.0

	01-2005	07-2005	Forecast Error/CFE for 01-2006 in 09-2005	10-2005	11-2005	12-2005	MAD	MFE	MAPE	TS Low	High
FE	-10	-10	-10	-10	-10	0					
CFE	-10	-20	-30	-40	-50	-50	8.3	-8.3	83.33	-6.0	-1.0
FE	-10	-10	-10	-10	-10	0					
CFE	-10	-20	-30	-40	-50	-50	8.3	-8.3	83.33	-6.0	-1.0

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Review / Revise Forecast

This report is designed for the purpose of reviewing the prior quarter forecast in order to update the next quarter forecast. The Current Month is entered by the user on the Report Options screen.

Customer 101 Pacific Precision, Inc.

	-------------------- Previous Year --------------------			-------------------- Previous Quarter --------------------		
	Act/Fcst	Act/Fcst	Act/Fcst	Act/Fcst	Act/Fcst	Act/Fcst
Part Number	05-2003	06-2003	07-2003	02-2004	03-2004	04-2004
2001	0/0	0/0	0/0	0/400	0/400	0,0
Fcst Err/Cum FE	0/0	0/0	0/0	-400/-400	-400/-800	0/-800
Customer Summary	0/0	0/0	0/0	0/400	0/400	0,0
101	0/0	0/0	0/0	-400/-400	-400/-800	0/-800
Overall	0/0	0/0	0/0	0/400	0/400	0,0
	0/0	0/0	0/0	-400/-400	-400/-800	0/-800

-------- Previous Quarter --------			---------- Next Quarter ----------		
Forecast Statistics			Forecast		
MAD	MFE	MAPE	05-2004	06-2004	07-2004
266.7	-266.7	0.00	0	0	0
TS: Range = -3 to -1					
266.7	-266.7	0.00	0	0	0
TS: Range = -3 to -1					
266.7	-266.7	0.00	0	0	0
TS: Range = -3 to -1					

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Forecast vs. Actual Comparison

This report compares the forecasted quantity to the actual quantity shipped during each of 12 prior periods plus the current period. The Current Month is entered by the user on the Report Options screen.

Customer 101 Pacific Precision, Inc.

Part Number		04-2003	05-2003	06-2003	07-2003	08-2003	09-2003	10-2003	11-2003	12-2003	01-2004
2001	Act	0	0	0	0	0	0	0	0	0	0
**********	Fcst	0	0	0	0	0	0	0	0	0	400
Customer Summary	Act	0	0	0	0	0	0	0	0	0	0
101	Fcst	0	0	0	0	0	0	0	0	0	400
Overall	Act	0	0	0	0	0	0	0	0	0	0
	Fcst	0	0	0	0	0	0	0	0	0	400

						----------- TS -----------	
02-2004	03-2004	04-2004	CFE	MAD	MFE	MAPE	Low	High
---	---	---	---	---	---	---	---	---
0	0	0	-1200	92.3	-92.3	0.00	-13.0	0.0
400	400	0						
0	0	0	-1200	92.3	-92.3	0.00	-13.0	0.0
400	400	0						
0	0	0	-1200	92.3	-92.3	0.00	-13.0	0.0
400	400	0						

Security

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 may be added to the Manfact security tables:

Procedure Name	Enables This Feature
NCC_SFADMIN	Access System Administration Utility
NCC_SFWBQ	Start the Workbench, use inquiry and reporting functions only.
NCC_SFWB	Start the Workbench, use all functions except where otherwise noted.
SFW.N	Update Manfact's Sales Forecast (SFW) file
MPS.N	Update Manfact's Master Schedule (MPS) file

NorthClark Computing

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