Manufacturing Graphical Planner Guide

Sage (UK) Limited Copyright Statement

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Chapter 1

Welcome to the Sage Manufacturing Graphical Planner Guide

Welcome to the Graphical Planner - a powerful graphical scheduling tool which, along with SageManufacturing, puts you in control of scheduling your manufacturing time and resources graphically.

Note: If you are using Sage 50 Manufacturing, you must use Manufacturing Controller with this program. Graphical Planner cannot be used with any other variant.

Graphical Planner is Powered by Preactor .

In this chapter:

The Sage and Preactor Relationship 2
Get the Most from this User Guide..... 3
Using Help..... 7
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The Sage and Preactor Relationship

Sage Manufacturing has integrated an OEM Graphical Planner module from Preactor International. Together, they have formed a robust finite capacity tool which enables you to analyse and run resource plans for all demands within Sage Manufacturing.

Different production plans can be produced and saved for the same set of demands, so that you can assess the impact of your resources on your day-to-day scheduling needs. For example, you may want to add overtime or extra shifts to be able to meet a particular deadline. Once you have defined your production plan in Graphical Planner, you can then action the works orders/MRP recommendations.

Important Note: The Preactor copyright and licence agreement should be considered to be contained within the Sage End User Licence Agreement.

Get the Most from this User Guide

This user guide's structure contains the following elements:

- Chapter Contents Summary
- Terms You Should Know...
- Headings Used in this Guide
- Other Signposts and Symbols

Chapter Contents Summary

Use the following table to familiarise yourself with the content of each chapter.

Chapter 1 Welcome to Graphical Planner	This chapter describes the structure of the user guide, heading usage and other locations for user assistance.
Chapter 2 Installing Graphical Planner	This chapter describes how to register, install, activate, and if required, upgrade Graphical Planner.
Chapter 3 Setting Up Manufacturing	This chapter describes what to set up in Sage Manufacturing in order to import data into Graphical Planner.
Chapter 4 Getting to Know Graphical Planner	This chapter describes the various components that make up Graphical Planner.
Chapter 5 Setting up Graphical Planner	This chapter describes what must be set up in Graphical Planner to enable you to schedule your plan.
Chapter 6 Scheduling in Graphical Planner	This chapter describes what tasks you can perform within Graphical Planner to create your plan.
Chapter 7 Glossary	This chapter contains the terms that you may want to define while reading this user guide.

Terms You Should Know...

Under the heading "Terms You Should Know in this Chapter" on the second page of each chapter, you will see a list of words and their definitions. Refer to this list if you would like an explanation of a term that is used within the chapter. These terms also appear in *Glossary Terms on page 208* at the end of this user guide.

Headings Used in this Guide

Each chapter contains some of the following general headings.

Terms You Should Know in this Chapter	Contains terms and their descriptions that may not be familiar to you. For more information, see Terms You Should Know...located at the beginning of each chapter.
Overview	Contains a brief description of the main topic. Located at the beginning of each chapter.
Before Setting Up...	Contains a check list of what is required for you to set up in order to use Graphical Planner. Located at the beginning of each chapter.
What's Next?	Contains a list of what you can expect to do within the current chapter. Usually located at the beginning of each chapter but depending on the context, may appear elsewhere.
How Does this Affect...?	Explains how the associated subject affects either Sage Manufacturing or Graphical Planner. Located within each chapter.
What is..?	Identifies a specific subject. Located within a process.
Where Do I Access...?	Explains where to access a specific window. Located within each chapter.
What Settings Can I Change?	Contains information about settings required in order to use Graphical Planner. This section is most frequently located within a process that requires settings to be modified.
Why Use...?	Explains the purpose for using a specific subject. This section is located within a process.
Summary	Provides a recap of the main subjects and directs you to the next chapter. This section is located at the end of each chapter.

Other Signposts and Symbols

This table describes other commonly used terminology included within this user guide.

Windows	Refers to each screen, view or pane that is described within the user guide.
Menu Options	Refers to a list of options that appear on a menu when you right-click.
Record	Refers to a row of data located within a PREdit window.
N/A	"Not Applicable" - Applies to those fields that appear in Graphical Planner but are not available for you to use.
Examples	Refers to the screen shots shown in this user guide. **Note:** Please note that all screen shots depict only one demonstration company's data. **Help:** For more information about selecting a company, see the 'Running Manufacturing' section in the Sage Manufacturing User Guide.
✔	Symbol used to identify a checklist item.
Note:	Refers to additional information related to a specific subject.
Help:	Indicates where to find additional information about the subject.
Path:	Directs you to a specific window.

Table Shading

The following colours apply to specific tables within the guide. This is primarily to support you when you view the PDF on screen.

Blue	Identifies the tables that contain the details of the components used within the Graphical Planner User Guide.

Yellow	Identifies the tables that contain field defaults and their descriptions. These tables appear primarily in the "Setting Up" chapters.

Green	Identifies the tables that contain information about the menu bar and toolbars within Graphical Planner.

Using Help

You also have the Sage Graphical Planner help system at your disposal. Use the online help system to search for information at any stage. You can access it from the Sage Manufacturing Help menu.

Overview	Contains a brief description of the main topic.
Before Setting Up...	Contains a check list of what is required for you to set up in order to use Graphical Planner.
How Does this Affect...?	Explains how the associated subject affects either Sage Manufacturing or Graphical Planner.
What is..?	Identifies a specific subject.
Where Do I Access...?	Explains where to access a specific window.
What Settings Can I Change?	Contains information about settings required in order to use Graphical Planner.
Why Use...?	Explains the purpose for using a specific subject.
I want more information on:	Provides a list of hyperlinks to other help pages directly related to the topic you are in.
Related Topics	Provides a list of hyperlink suggestions for other help pages.

Further Assistance

About SageCover

When you buy Sage Manufacturing, you are entitled to receive SageCover for a 60-day period. Your cover begins when you register your Sage product. After you have registered with Sage, our technical support team will help you with installation, setup and general navigation queries.

For other queries, you will need to take out full SageCover, which gives you access to technical support advisors, who can give you the best professional advice to help you get the most from your investment. If you want to take out full cover, you can call the Customer Development Team on 0845 111 9988 if you are a UK resident or 0800 2553000 for residents of the Republic of Ireland, or complete the order forms that are sent to you following registration of your Sage Manufacturing software.

SageCover Online Support

If you have SageCover and access to e-mail, you can send online queries to technical support.

sage.co.uk and sage.ie

The Sage UK web site, www.uk.sage.co.uk (or www.sage.ie for users in the Republic of Ireland), is a valuable resource available to you 24 hours a day and seven days a week. You can find information on our products and services, print your latest invoice from us or sign up for a free newsletter. It's a convenient place to buy Sage products, find out how to get help and advice locally from a Sage business partner and much more. We are constantly adding new features to the website so visit regularly to take advantage of our online services. To access the website, click the Sage icon displayed below the 'Navigation Bar'.

What Next?

Once you have verified that you have the necessary tools, you are ready to consult your BP to complete the following:

- Register as an End User

  Help: For more information, see *Registering as an End User on page 14*
- Install Graphical Planner

  Help: For more information, see *Installing Graphical Planner on page 16*.
- Install the License Site Manager

  Help: For more information, see *About the License Site Manager on page 21*.
- Activate the License

  Help: For more information, see *Activating a License on page 26*.

Chapter 2

Installing Graphical Planner

This chapter describes how to register, install, create a new license site and activate Sage Graphical Planner so that you can use it with Sage Manufacturing.

In this chapter:

What is Graphical Planner? 11
Registering as an End User 14
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About the License Site Manager 21
Creating a License Site 22
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Terms You Should Know in this Chapter

Demands	Works orders/MRP recommmendations to be processed.
Finite Capacity Planning	Computer controlled re-scheduling of Works Orders based on capacity resource levels and fixed scheduling rules.
License Site	A 'license site' refers to the folder in which the Copy Control key and license account resides. These are needed to install Graphical Planner. You can install the license site locally on your PC, or in a network location.

What is Graphical Planner?

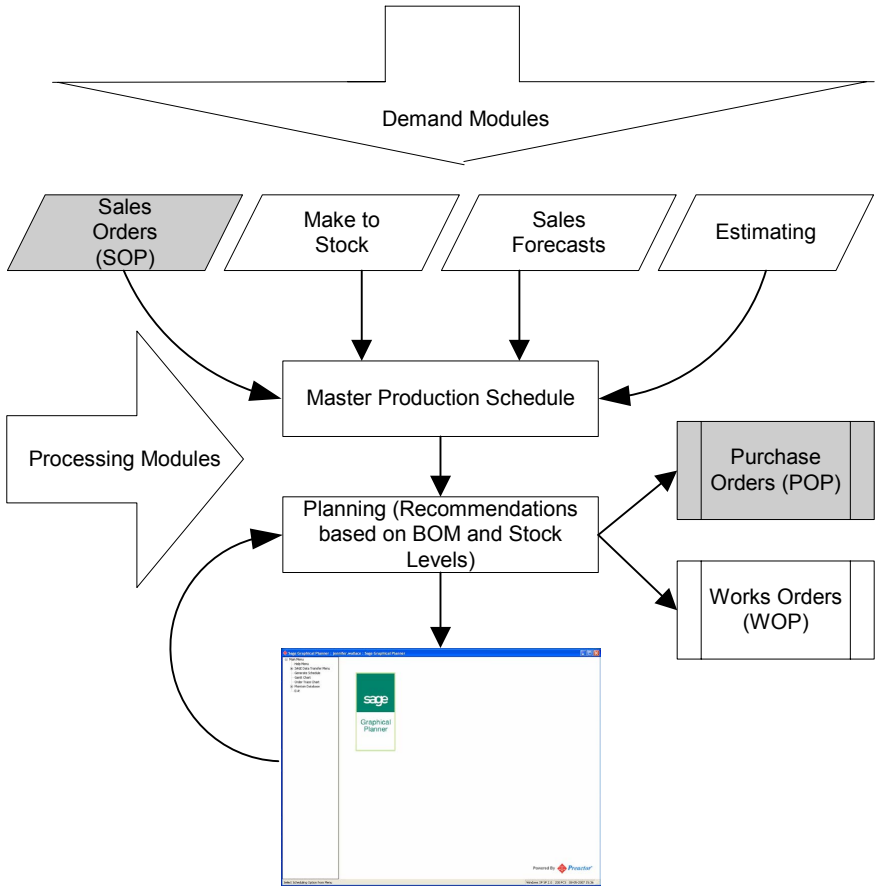
Graphical Planner is a finite capacity graphical planning tool. It integrates with Sage 50 Manufacturing Controller or Sage 200 Manufacturing, and enables you to calculate and run resource plans for all demands.

Why Use Graphical Planner?

Graphical Planner enables you to assess the impact of your resources, i.e. adding overtime or extra shifts, by producing and saving different production plans for the same set of demands.

Once the plan is made, it is used to update expected works order and MRP recommendation Start and End dates. This allows for more accurate scheduling.

View the following planning process flow chart to see how Graphical Planner interacts with Manufacturing.



Before Installing Graphical Planner...

Before you install Graphical Planner, please ensure you have verified that you have the following:

- ✔ Sage Manufacturing CD.
- ✔ A suitable email address for contact details.

What Next?

Once you have verified that you have the necessary tools, you are ready to consult your Business Partner to complete the following:

- Register as an End User

  Help: For more information, see *Registering as an End User on page 14*.

- Install Graphical Planner

  Help: For more information, see *Installing Graphical Planner on page 16*.

- Create a New License Site

  Help: For more information, see *Creating a License Site on page 22*

- Activate the License Key

  Help: For more information, see *Activating a License on page 26*.

Registering as an End User

Before installing Graphical Planner, your BP must register your company as an end user. Preactor needs this information to issue you with a site license. **The site license is specific to the computer you install and run Graphical Planner from.**

Important: Your BP must use this procedure to install Graphical Planner for Line 50 Manufacturing, Sage 50 Manufacturing or Sage 200 Manufacturing.

How to Register as an End User

To begin, you must fill in the request form located on sage.co.uk.

To help you register, follow the procedure below.

To register

1. Login to the Business Partner section in sage.co.uk:
   www.sage.co.uk.> BP Partners> Login> Login
2. From the navigation bar, select 'Product Support'.
   The 'Product Support' page appears.
3. Select 'Sage 50 Manufacturing Solution'.
   The 'Sage 50 Manufacturing Solutions' page appears.
4. Click 'Technical News'.
   The 'Technical News' page appears.
5. Click the "Line 50 Manufacturing Controller..." link.
   Information about registering Graphical Planner appears.
6. Click the "**document**" link.
   The 'Download Centre' page appears.
7. Click 'Download'.
   The 'File Download' prompt appears.
8. Click 'Open'.
   The 'End User Contact Registration Form' appears.
9. Save the form to your hard drive.
10. Fill out the form including the required information (marked with an asterisk).
11. Save the form again.
12. Return to sage.co.uk> Technical News> Line 50 Manufacturing Controller...link> registration information.

13. Click the 'reseller.services@sage.com' link.
    An email window appears addressed to reseller services.

14. Attach and send the completed form to the Sage Reseller Services.
    Upon receipt, Preactor will send you your registration information.
    Note:
    The license key and account number are emailed to the user email address which you have stated on your completed form. Sage recommends that you keep this information in a safe place.

What Next?

Once you have your license key and account number, you are ready to install Graphical Planner onto your computer.

Help: For more information, see *Installing Graphical Planner on page 16*.

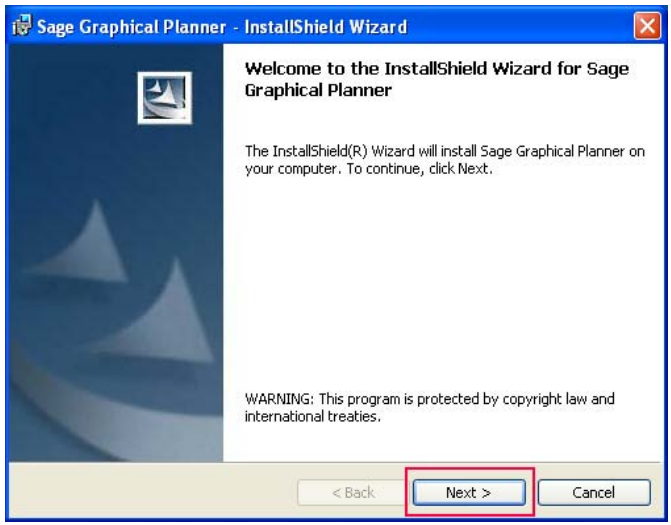
Installing Graphical Planner

You can install Graphical Planner from the Sage Manufacturing CD.

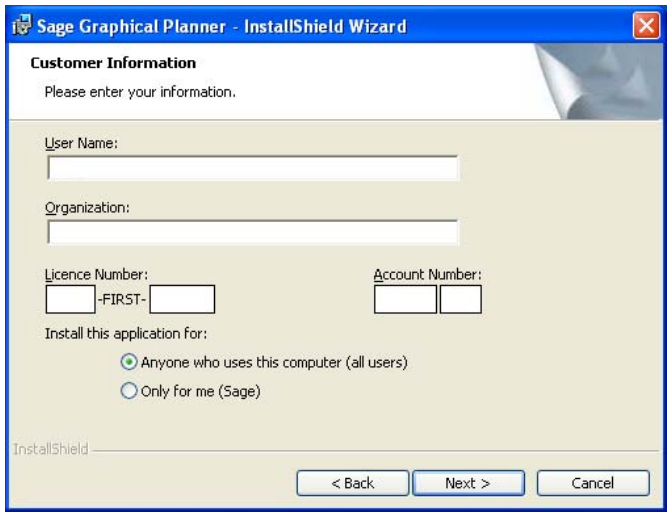
To install Graphical Planner

1. Insert the CD into the computer's CD rom.
   The 'Sage Manufacturing Welcome' window appears.
2. Click 'Install Graphical Planner'.
   The Welcome window of the InstallShield Wizard appears.
3. Select 'Install Graphical Planner' from the CD .

   The 'Welcome' window of the 'Graphical Planner InstallShield Wizard' appears.



4. Click 'Next'.
   The 'Customer Information' window appears.



5. Using the information that was sent to you by Preactor, perform the following:

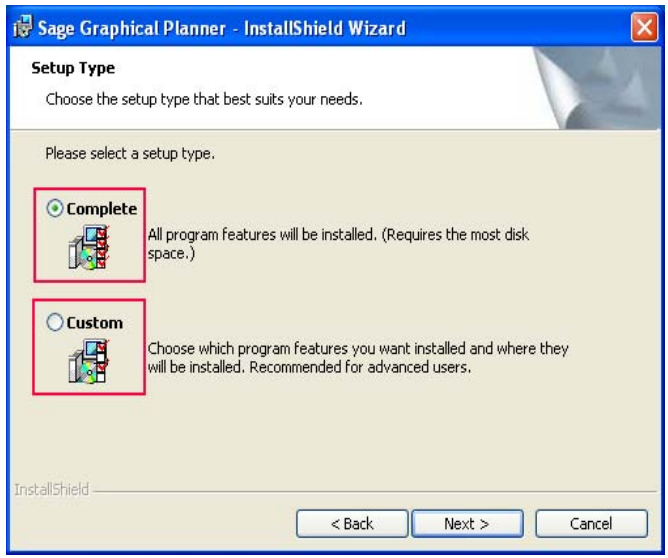
   5.1. Enter the 'User Name'.

   5.2. Enter the 'Organization'.

   5.3. Enter the 'License Number' and 'Account Number'.

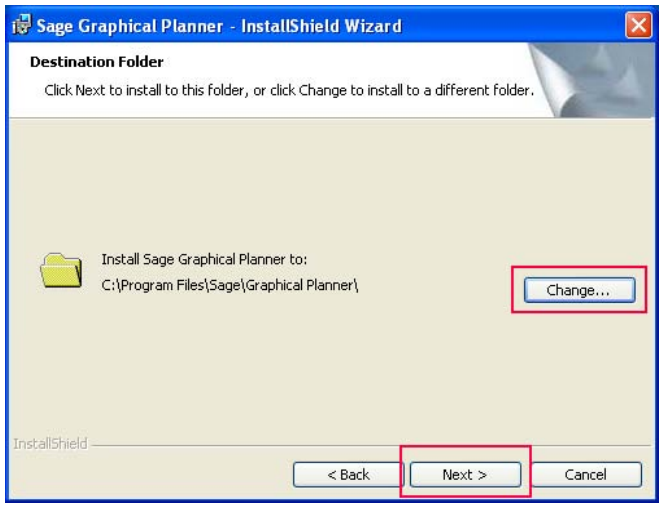
   5.4. Identify who you are installing the application for.
   Note:
   The option 'Anyone who uses this computer (all users)' is automatically set as the default.

6. Click 'Next'.
   The 'Setup Type' window appears.

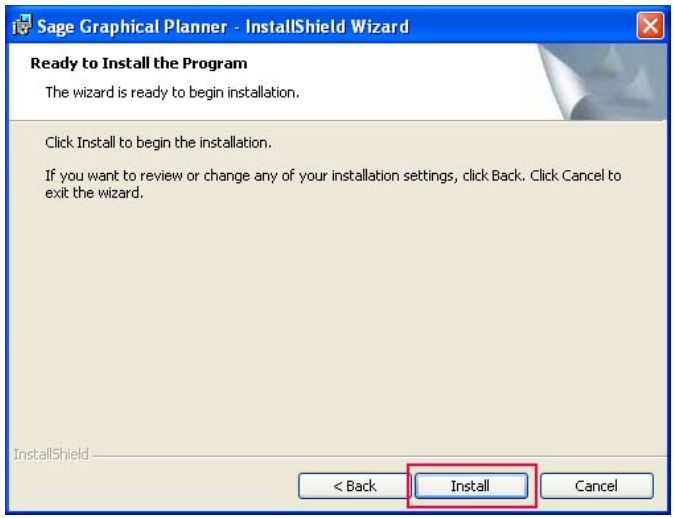


7. Select either the 'Complete' or 'Custom' option. (Read the onscreen text to help you choose.)
   Note:
   The option 'Complete: All program features will be installed. (Requires the most disk space)' is automatically set as the default.

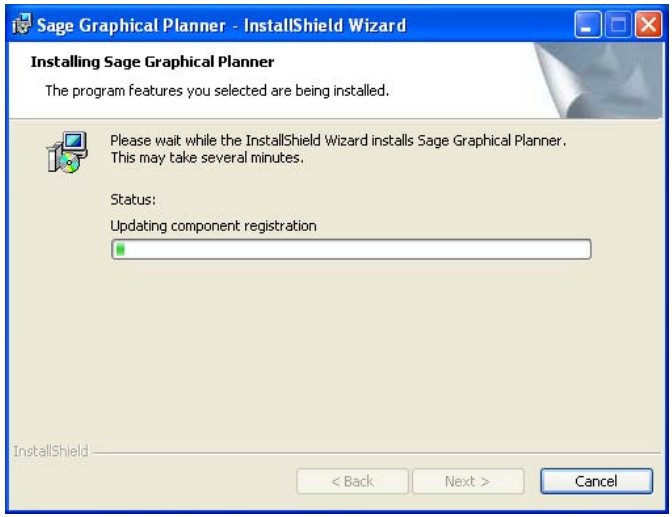
8. Click 'Next'.
   The 'Destination Folder' window appears.



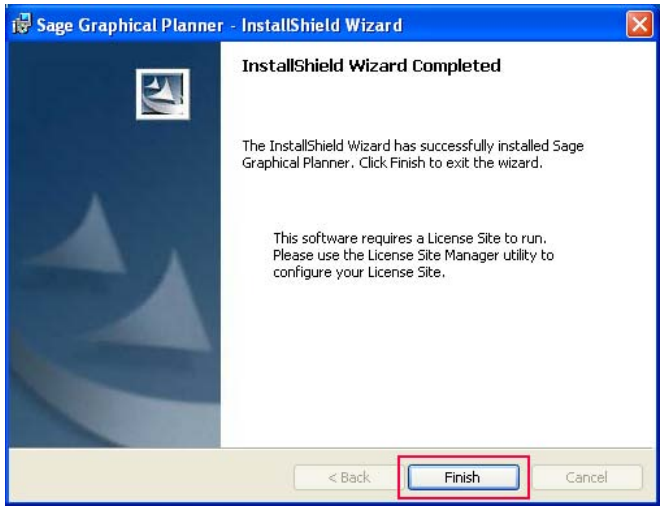
9. Determine where the Graphical Planner Program files will be installed on your computer.
   Click 'Change' to change the default path.
10. Click 'Next'.
    The 'Ready to Install the Program' window appears.



11. Click 'Install'.
    The installation process begins.



When finished, the 'InstallShield Wizard Completed' window appears.



12. Click 'Finish'.
    Graphical Planner has been successfully installed and you are returned to the 'Sage Manufacturing Welcome' window.
13. Click 'Quit' to exit.

What Next?

Now that you have registered Graphical Planner with Preactor, and installed Graphical Planner on your computer, you are ready to create a new license site.

Help: For more information, see *Creating a License Site on page 22*.

About the License Site Manager

Important: The 'License Site' folder contains the license number and account number needed to install Graphical Planner.

If you want to run Graphical Planner across a network and use the program from different workstations, install the 'License Site' on the server drive. The Graphical Planner path will remain pointed to the local workstation.

Note:
Any further workstation installations must also point to the same 'License Site' folder on the server. The Graphical Planner program allows one person to be logged on at a time. If you need more users, contact the Sage Customer Development Team directly to upgrade your license requirements. For more information, see *Further Assistance* on page 8.

Creating a License Site

You must create a license site once you have installed Graphical Planner for the first time.

Note:
If you have upgraded from a previous version, you must use only one license site. For more information, see *Upgrading Graphical Planner on page 29*.

To create the license site

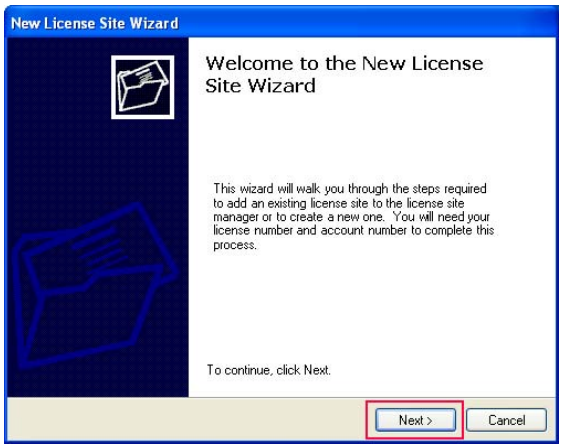
1. Navigate to the 'License Site Manager' window on your computer.

   Path: Start> Programs> Sage> Graphical Planner> Utilities> **License Site Manager**.

   The 'Preactor License Site Manager' window appears.

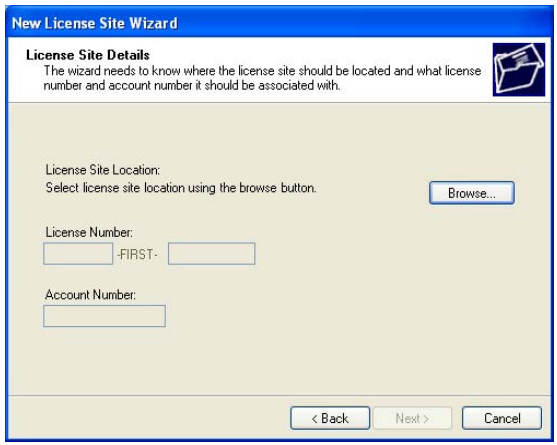
2. Select Tasks> New> License Site.

   The 'Welcome to the New License Site Wizard' window appears.



3. Click 'Next'.

   The 'License Site Details' window appears.



4. Perform the following:

   4.1. Click 'Browse' and specify the location of where the License Site is to be installed.

   For example, C:\Documents and Settings\(Window's domain account name)\My Documents\Sage\Graphical Planner.

   The 'License Number' and 'Account Number' boxes become active.

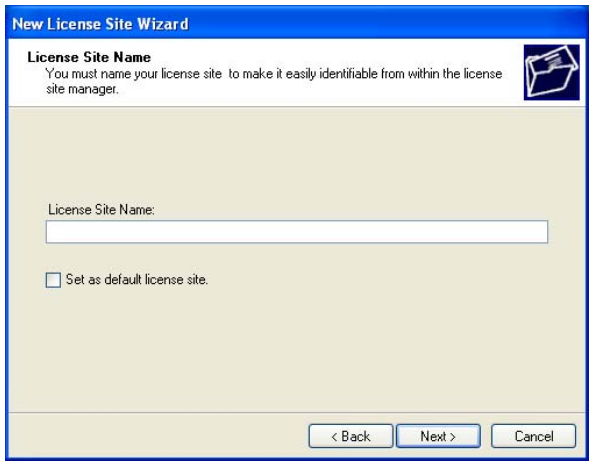
   Note:
   Once the license site is installed, you must use the License Site Manager only to activate, update, move or delete a site. The license site becomes invalidated if the License Site Manager is not used.

   When creating a location for your license site, ensure that the path has no more than six levels. A message is displayed if the path is too long.

   4.2. Enter the 'Account Number' and 'License Number'.

5. Click 'Next'.

   The 'License Site Name' window appears.

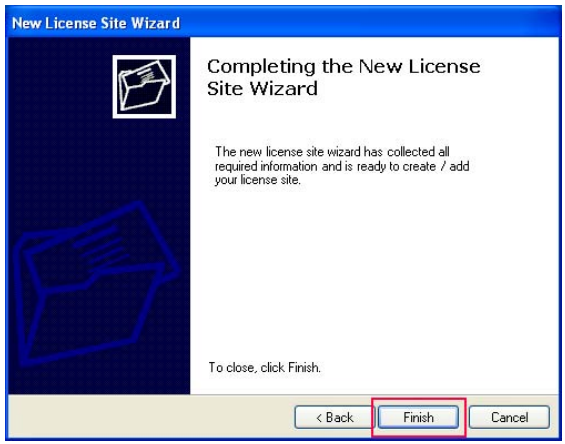


6. Enter a name for the license site that will appear in the 'License Site Manager' window.

   Note:
   Select 'Set as default license site' to set this license site as the default in the 'License Site Manager' window.

7. Click 'Next'.

   The 'Completing the New License Site Wizard' window appears.



8. Click 'Finish'.

   The 'Preactor License Site Manager' window appears displaying the new license site folder.

You are now ready to activate the license site. For more information, see *Activating a License on page 26*.

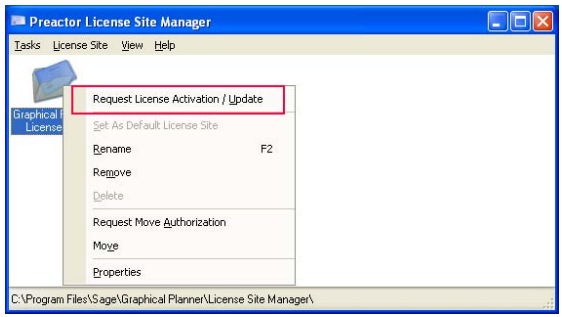
Activating a License

Now that you have registered your product, installed Graphical Planner onto your computer, and have created the license site, you are ready to activate the license.

To activate the license

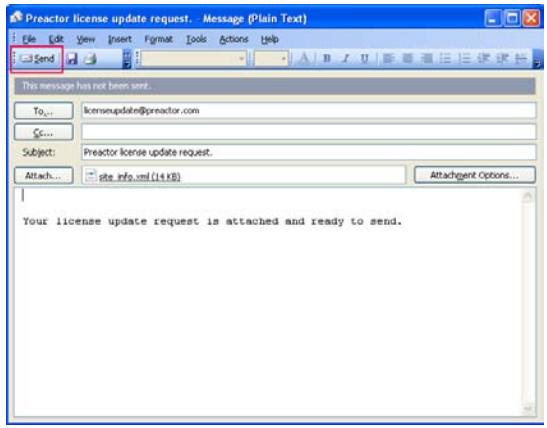
Path: Start> Programs> Sage> Graphical Planner> Utilities> **License Site Manager**

1. In the License Site Manager window, highlight the site you want to activate and right-click.



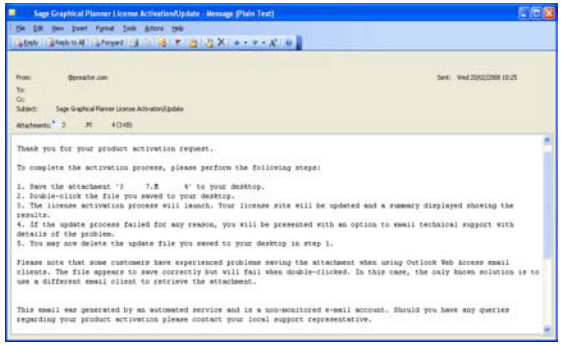
2. Choose 'Request License Activation/Update'.

   The 'Preactor license update request' window appears.



3. Click 'Send' to send the license update request to preactor.

   A 'Sage Graphical Planner License Activation/Update' e-mail is sent to you.

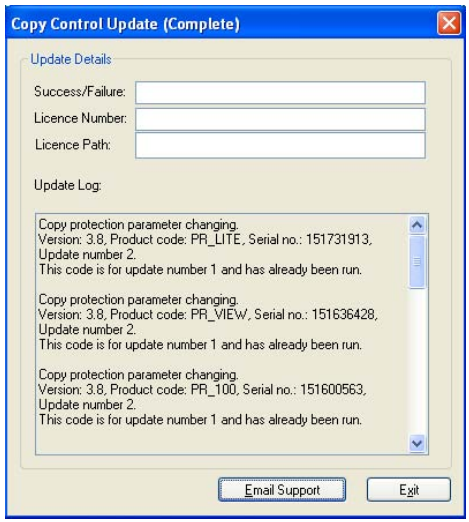


4. Complete the activation process by performing the following:

   4.1. Save the attached file to your desktop.

   4.2. Double-click the file.

   4.3. The license activation process is launched. Your license site is updated and a summary is displayed showing the results.



Note:
If the update process failed, a message appears allowing you to email technical support with the details of the problem.

5. Click 'Exit'.

6. Delete the desktop file.
   A confirmation message appears.

7 Click 'Yes'.
   The file is deleted. Graphical Planner is now activated.
   Note:
   You may experience problems saving the attachment if you are using Outlook WebAccess e-mail clients.The file appears to be saved correctly but fails if you double-click it. To solve this problem, use a different email client to retrieve the document. As this e-mailed response is automatically generated and is a non-monitored e-mail account, contact your local support representatives should you require more information.

Accessing Graphical Planner

You can access Graphical Planner through the following:

- Manufacturing Controller

  Select Manufacturing Controller> Planner> Links> Graphical Planner.

- Sage 200

  Select Sage 200 Manufacturing> Works Orders> Graphical Planner or
  Sage 200 Manufacturing> Planning> MRP> Graphical Planner

- Desktop icon

  Create a short cut of Start> Programs> Sage Graphical Planner.

  Note:
  When creating a short cut for your desk top, you must add (space)"Preactor.prcdf"(space)/DAB to the shortcut's Target path.

  For example,Target: C:\(location of license site key)\PREACTOR.EXE" "Preactor.prcdf" /DAB

Upgrading Graphical Planner

When you are ready to upgrade Graphical Planner, request the latest version from Manufacturing Technical Support. Uninstall the old version from your computer and either use the CD or download to install the latest version.

You do not need a new license key and account number from Preactor. But you will need to enter your existing license number and account number. Therefore you should have them ready to be used.

Summary

You should have now completed the following:

✔ Registered as an end user.

✔ Installed Graphical Planner.

✔ Created a License Site

✔ Activated the Licence Site.

What Next?

You are now ready to complete the following:

- Set up Manufacturing.

  Help: For more information, see *Chapter 3, Setting Up Manufacturing*.
- Familiarize yourself with Graphical Planner.

  Help: For more information, see *Chapter 4, Getting to Know Graphical Planner*.
- Set up Graphical Planner.

  Help: For more information, see *Chapter 5, Setting Up Graphical Planner*.
- Create schedules in Graphical Planner.

  Help: For more information, see *Chapter 6, Scheduling in Graphical Planner*.

Chapter 3

Setting Up Manufacturing

This chapter describes what you must set up in Manufacturing to import data into Graphical Planner in order to schedule your plan.

It is assumed that you have working knowledge of Manufacturing in order to set up the key points.

Note: The screenshots within this chapter refer to Sage 50 Manufacturing.

In this chapter:

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Specifying Resources 36
Setting Up the Planning Default Tabs 38
Master Production Schedule (MPS) 42
Running MRP 43
Setting Up Product Categories in Accounts . 44
Including or Excluding Data Types 45
Summary 48

Terms You Should Know in this Chapter

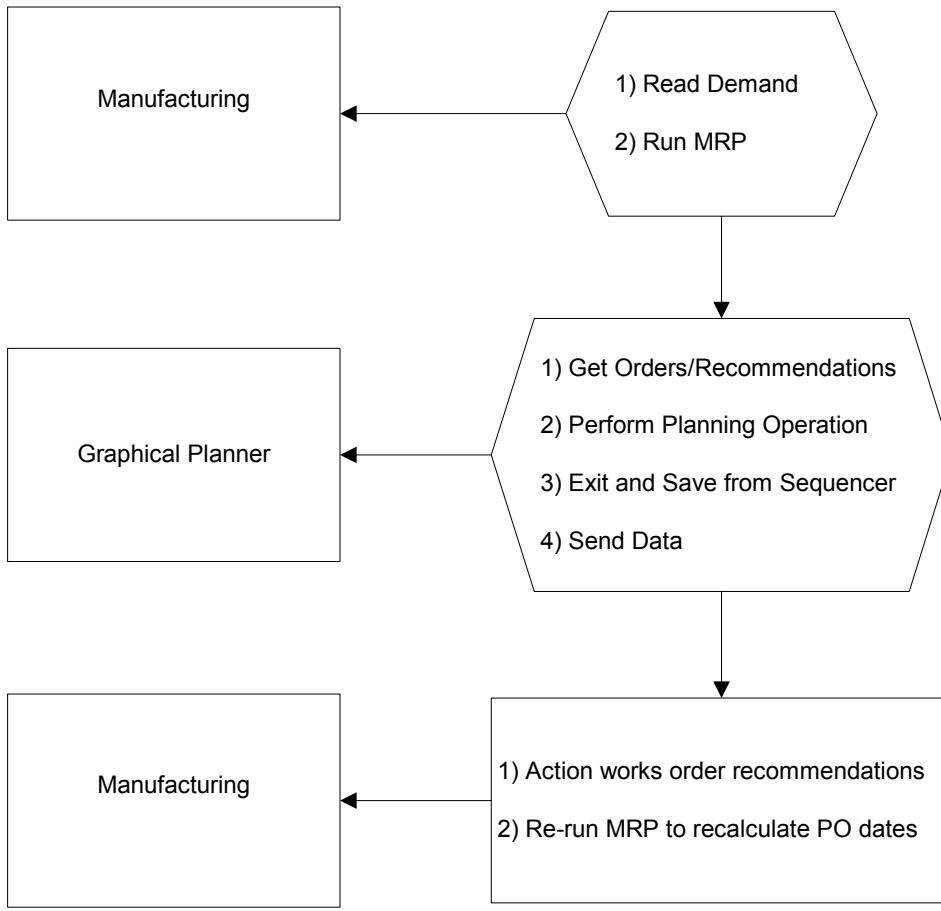
Constraint	Resource.
Operation	Job or task.
Primary Resource	Since Graphical Planner is a 'single constraint scheduler', the resource you select is the 'Primary Resource'. You can determine whether machine or labour is your primary resource by specifying the type in Manufacturing 'Planning Defaults' window.
Safety Planning Time	An allotted time which allows for delay in scheduled deliveries.
Secondary Resource	A secondary resource is an additional resource used to perform a task. For example, machines may be the primary resources and the labour or people needed to operate them are defined as secondary resources.
Sequencer	Planner or scheduler in Graphical Planner.
Single Constraint Scheduler	Schedules only one resource at a time. This is the primary resource.

Overview

The integration of Graphical Planner with Manufacturing means that Manufacturing controls and filters the data to be viewed and planned within Graphical Planner.

You must therefore set criteria to ensure that data is correctly imported into Graphical Planner and then exported back to Manufacturing.

The following planning process gives an overview of how Manufacturing and Graphical Planner interact.



Before Setting Up...

Use the following section to help you identify which tasks you have completed in Manufacturing before starting to work with Graphical Planner.

Manufacturing

Use the checklist below to verify that you have the prerequisites completed before you start the Graphical Planner process.

- ✔ Created resources (Labour Register and Machine Register).
- ✔ Created non-working periods.
- ✔ Allocated resources to BOMs and Estimates.
- ✔ Created a demand.
- ✔ Released the demand.
- ✔ Created a Master Production Schedule.

Note:
If any of the prerequisites above have not been implemented, refer to your Manufacturing User Guide for setup details.

What Next?

Once you have verified that you have the necessary prerequisites, you are now ready to complete the following:

- Specify Resources.

  Help: For more information, see *Specifying Resources on page 36*.

- Set up Planning Default Tabs

  Help: For more information, see *Setting Up the Planning Default Tabs on page 38*.

- Read Demand

  Help: For more information, see *Master Production Schedule (MPS)* on page 42.

- Run MRP

  Help: For more information, see *Running MRP on page 43*.

- Set up Product Categories

  Help: For more information, see *Setting Up Product Categories in Accounts* on page 44.

- Import Data into Graphical Planner

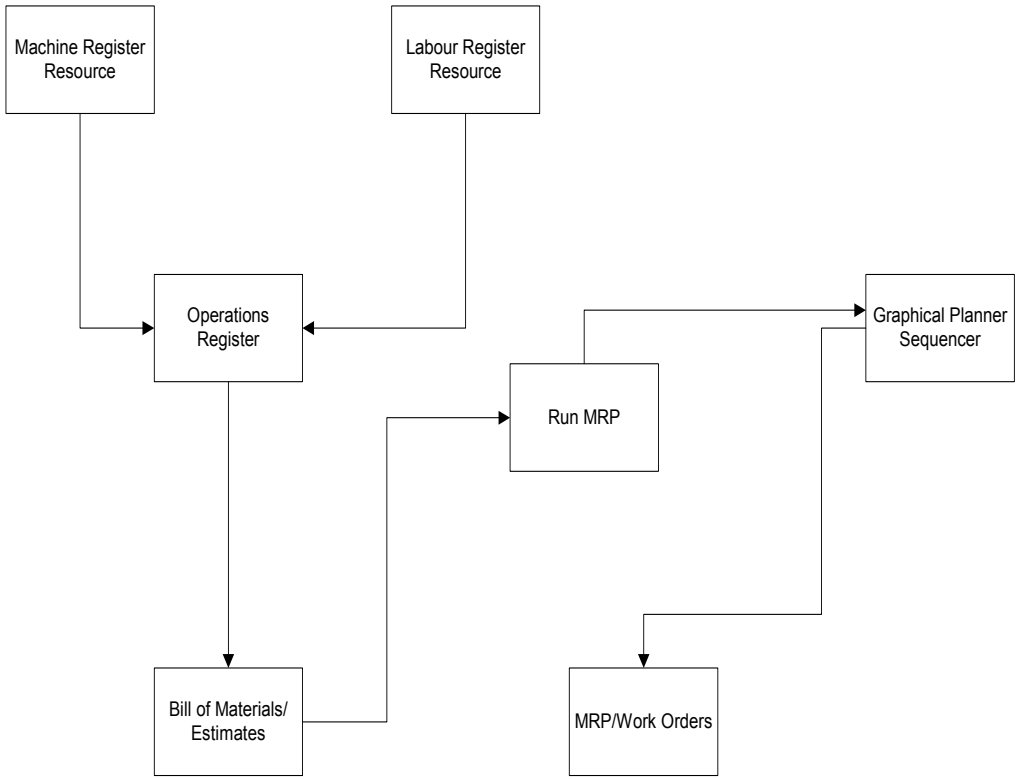
  Help: For more information, see *Including or Excluding Data Types on page 45*.

Specifying Resources

You can create resources within Manufacturing's BOM through the Machine Register and Labour Register. These resources are required to make orders and produce stock.

How Does this Affect Graphical Planner?

Resources are essential to ensure that work is allocated correctly in Graphical Planner's Sequencer. The following diagram describes the flow of how resources interact with Graphical Planner.



What Do I Do Next?

Verify that your operation times, labour skills for the operation, and set up times for machines are accurate. This enables the Planning Sequencer to reflect realistic information.

Because most manufacturers require machine and labour resources to produce their products, the system is set up to define this practice. To define another resource type, speak to your Business Partner or Sage Support for more information.

Help: For more information about the Labour Register, Machine Register and Operations Register, refer to the Labour Register, Machine Register and Operations Register chapters in your Manufacturing User Guide.

How Do Primary Resources Affect Graphical Planner?

Primary Resources are the only resources scheduled.

Note:
A group-level resource can contain one resource and still remain a group within Graphical Planner. To create a group-level resource, you must set up a "virtual resource" and save it under a group name. This resource acts as an "umbrella" for individual resources assigned to it.

How Do Secondary Resources Affect Graphical Planner?

Secondary resources are automatically included within Graphical Planner's Sequencer. Whichever resource is not defined as Primary (in Manufacturing's 'Planning Defaults' tab) is assumed to be secondary. i.e. If 'Machines' is defined as "primary", then 'Labour' is assumed to be "secondary" and vice versa.

Secondary resource capacities must be entered directly within Graphical Planner.

Help: For more information about entering secondary resource capacities, see *Editing a Secondary Resource on page 140*.

Setting Up the Planning Default Tabs

Before performing a 'Read Demand' action, ensure that the appropriate settings have been selected in the 'MRP' and 'Graphical Planner' tabs within the 'Planning Default' window.

Graphical Planner Tab

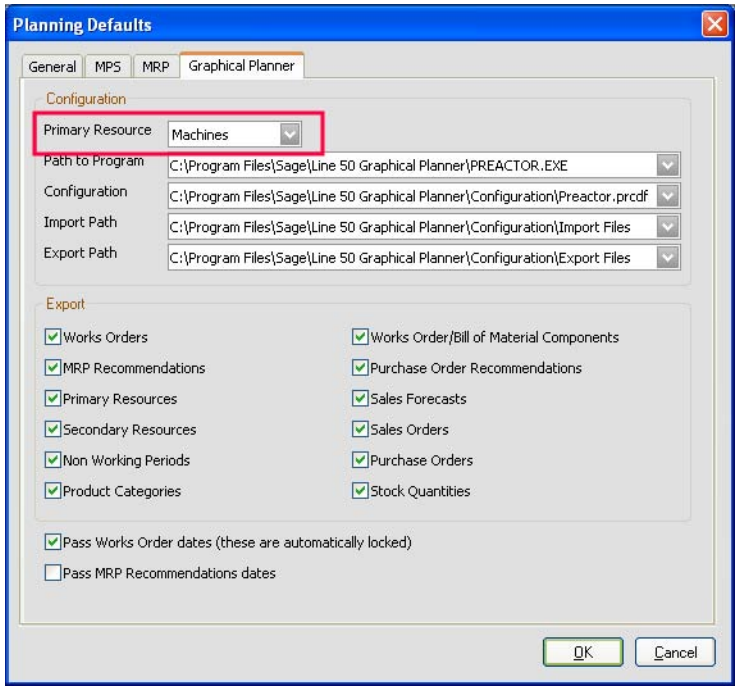
The fields in the Graphical Planner tab define the configuration and exportation criteria for Graphical Planner.

Note:
Please consult with your Sage Business Partner or Sage Support before changing these settings.

Where Do I Access the Graphical Planner Tab?

Path: Manufacturing Controller> Menu bar> Settings> Planning Defaults> Planning Defaults window> **Graphical Planner tab**

Path: Sage 200 Manufacturing> Planning> Setups> Planning Settings> PLN - Planning Settings window> **Graphical Planner tab**



What Settings Can I Change?

Configuration	Use this section to change the configuration and program settings.
Export	Use this section to export various types of data to the Graphical Planner.
Pass Works Order dates	With this check box selected, any existing Works Orders will be automatically displayed on the Sequencer with individual operations "locked". Changes to start/end dates may be made manually and revised dates will be sent back to Manufacturing's WOP. With the check box cleared, any existing Works Orders will be displayed as unallocated and processed along with any MRP recommendations. Revised dates will be sent back to Manufacturing's WOP.
Pass MRP Recommendations dates	When you run MRP, Manufacturing calculates start/end dates on a "backwards scheduling" basis. It is important to note that this calculation does not take resource availability into account. With this box selected, those start/end dates will be sent to the Planner and the jobs automatically allocated by the Sequencer.

Help: For more detailed field-level information, see the 'Planning' chapter in your Manufacturing User Guide.

MRP Tab

The MRP tab contains settings that allow you to filter, define planning periods, make recommendations, buy recommendations, set defaults and aggregate demands.

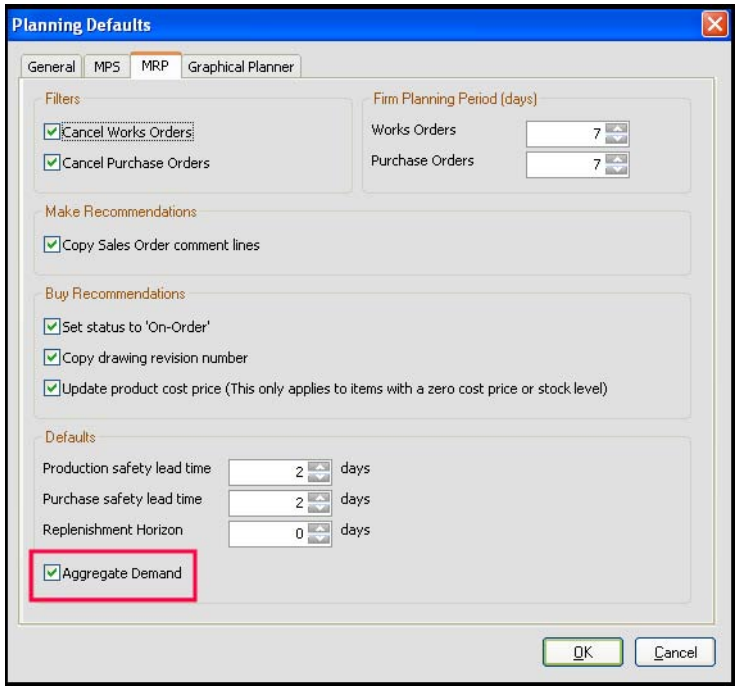
How Does this Affect Graphical Planner?

Key fields in the 'MRP' tab affect the behaviour of Graphical Planner.

Where Do I Access the MRP Tab?

Path: Manufacturing Controller> Menu bar> Settings> Planning Defaults> Planning Defaults window> **MRP tab**

Path: Sage 200 Manufacturing> Planning> Setups> Planning Settings> PLN - Planning Settings window> **MRP Tab**



What Settings Can I Change that affect Graphical Planner?

Production Safety Lead Time	Enter the number of working days to add to the lead time of every "make" recommendation. **How Does this Affect Graphical Planner?** This displays the time as a "safety planning time" in Graphical Planner's Sequencer. **Note:** MRP adjusts the safety production lead time for non-working periods.
Aggregate Demand	Select this option to combine demands for the same items based on the number of days set in the 'Aggregate Demand days' field in 'Product Information Record'. By selecting this option, when identifying sub-assembly recommendations within MRP, you can combine several requirements for the same manufactured components. **How Does this Affect Graphical Planner?** Within Graphical Planner's 'Edit Jobs Information' window, the 'Tag' field shows all top level demands that the sub assembly is associated with. **Note:** If you select a top level tag in the 'Locate' window, it will highlight all associated operations and all related orders/recs created by the MRP tag. **Help:** For more information, about highlighting top level tags, see *Locating Orders/Operations on page 196*.

Help: For more information, see the 'Planning and Product Information' chapters in your Manufacturing User Guide.

Master Production Schedule (MPS)

Once your demand has been created in one or more of Manufacturing's "demand" modules, you are ready to run the Master Production Schedule.

Why Use MPS?

Manufacturing's Master Production Schedule enables you to gather together demand from the various demand modules. Click on the 'Read Demand' icon to create the list. Using the 'Exclusions' view you can see details of any items excluded from processing e.g. because due dates are beyond the planning horizon. You can also use the 'Time Phased' view to see the days, weeks or months in which the demand due dates occur.

Help: For more information, see the 'Master Production Schedule (MPS)' section of the 'Planning' chapter in your Manufacturing User Guide.

Where Do I Access Master Production Schedule?

Path: Manufacturing Controller> Planning> **Master Production Schedule**

Path: Sage 200 Manufacturing> Planning> MPS> **Read Demand**

Running MRP

Once you have run your Master Production Schedule, you can run MRP.

When you import data into Graphical Planner, it retrieves your MRP recommendations in addition to details of any existing Works Orders.

Why Run MRP?

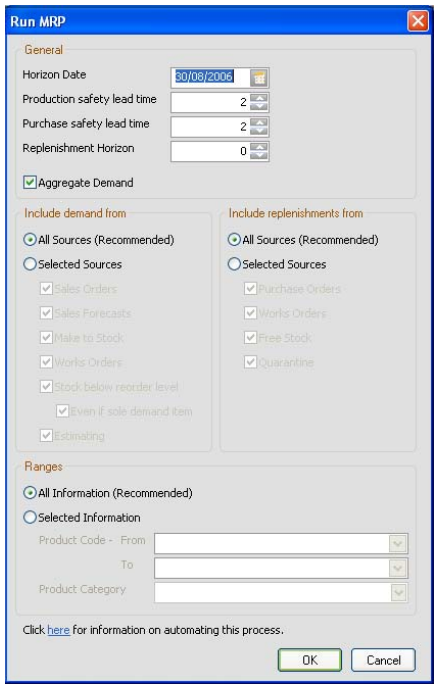
An MRP run explodes all manufactured items into component parts. It also calculates the total time needed to manufacture each item or batch, and also calculates initial start/end dates for each job. It is important to note that this calculation does not take into account resource capacity - that is the job of the Graphical Planner.

Help: For more information, see the 'MRP' section of the 'Planning' chapter in your Manufacturing User Guide.

Where Do I Access Run MRP?

Path: Manufacturing Controller> Planning> Tasks> Run MRP> **Run MRP window**

Path: Sage 200 Manufacturing> Planning> MRP> MRP window> **Run MRP window**



Setting Up Product Categories in Accounts

Before importing data into Graphical Planner, you may want to check that you have set up product categories in Sage 50 Accounts. These product categories will then be imported into Graphical Planner with the rest of the Manufacturing data.

Help: For more detailed information about setting up product categories, see your Sage 50 Accounts User Guide.

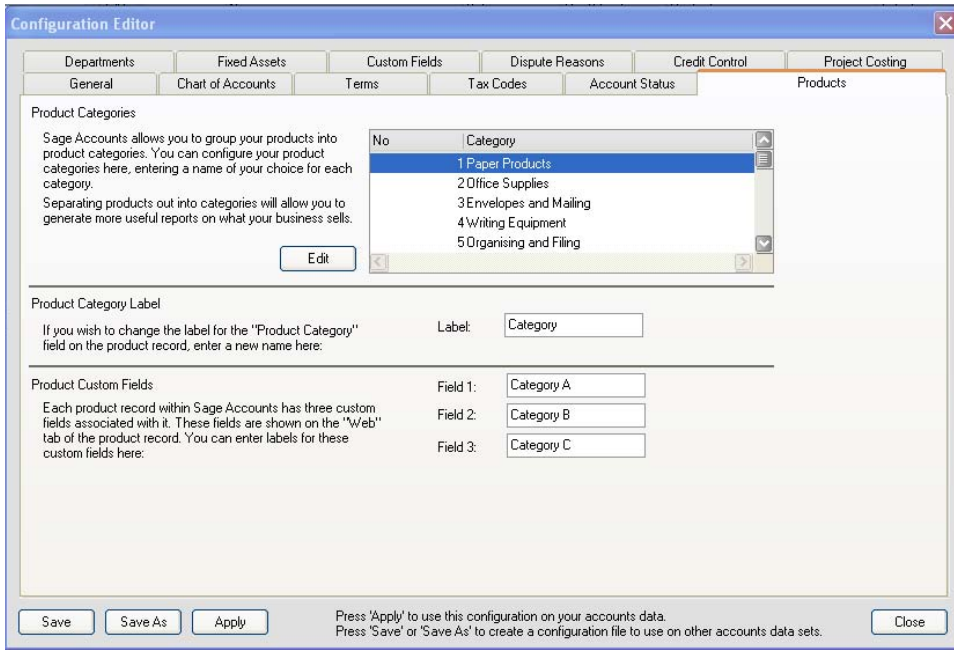
How Does this Affect Graphical Planner?

You can associate a colour and icon to a specific product category to differentiate each category on the Unallocated Jobs window. The colours selected are used on the Sequence Overview. For example, you can assign a different product category to finished products and sub-assemblies. This helps you to compare different product types on one window.

Help: For more detailed information, see *Customising Product Categories on page 147*

Where Do I Access Product Categories in Accounts?

Path: Accounts> Menu bar> Settings> Configuration Editor> **Products tab**



Help: For more information about creating product categories, see your Sage 50 Accounts User Guide.

Including or Excluding Data Types

You have full control over the data that is exported to the Graphical Planner. **However, Sage strongly recommends that you include all data types. Excluding any items could lead to the processing of incomplete planning information.** Data types should only be deselected in conjunction with your Business Partner or Sage Support.

Include or Exclude Data Types

By default, all data type check boxes in Manufacturing's Graphical Planner tab are selected. To exclude a particular data type, clear its check box.

Path: Manufacturing Controller> Menu bar> Settings> Planning Defaults> Planning Defaults window> **Graphical Planner tab**

Path: Sage 200 Manufacturing> Planning> Setups> Planning Settings> PLN - Planning Settings window> **Graphical Planner tab**

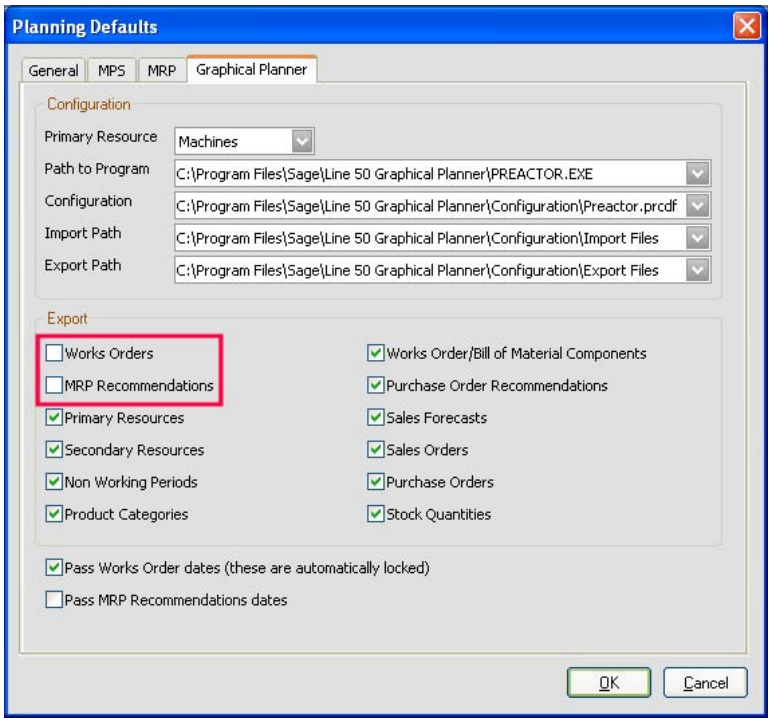
How Does this Affect Graphical Planner?

If the check boxes are selected, the details of each data type are exported to Graphical Planner through 'Get all data' or 'Get Orders and Recommendations Only' as appropriate.

Where Do I Access the Graphical Planner Tab?

Path: Manufacturing Controller> Planning> Links> Planning Defaults> Planning Defaults window> **Graphical Planner tab**

Path: Sage 200 Manufacturing> Planning> Setups> Planning Settings> PLN - Planning Settings window> **Graphical Planner tab**



Exporting Works Orders

You can include works orders in the export without having previously run MRP to create MRP recommendations.The works orders are passed through into Graphical Planner as part of the 'Get Orders/Recommendations' or 'Get All Data' information.

Path: Graphical Planner> Main Menu> SAGE Data Transfer Menu> **Send Data**

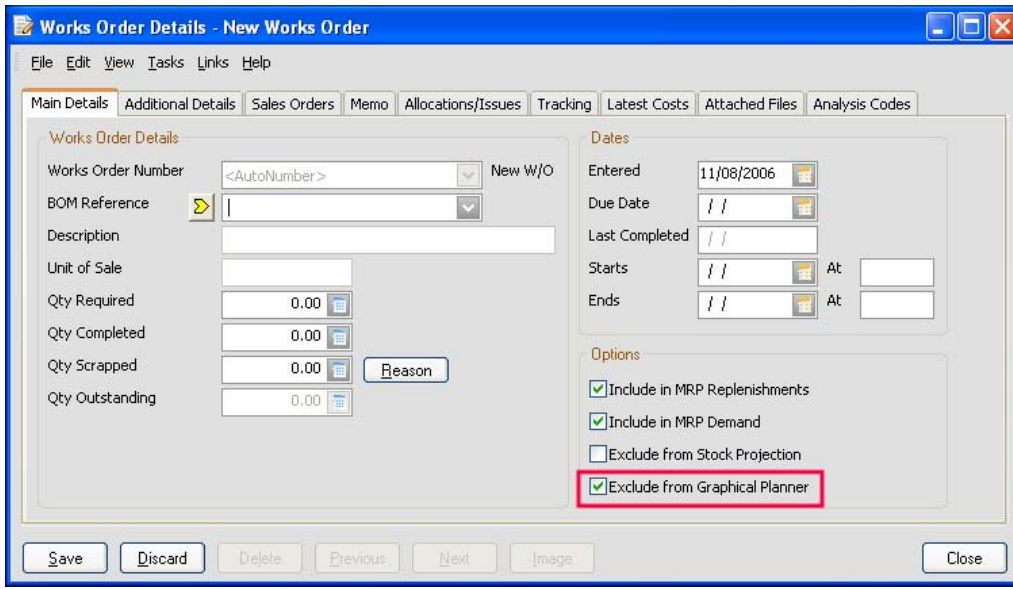
Exclude Individual Works Orders

You can exclude an individual works order from being imported into Graphical Planner by selecting the 'Exclude from Graphical Planner 'check box in the 'Works Orders Details' window.

Where Do I Access Works Orders Details?

Path: Manufacturing Controller> Orders> Record icon> Batch/One-Off> **Works Orders Details window**

Path: Sage 200 Manufacturing> Works Orders Details> Works Orders>Works Orders List window> New icon> Batch/One-off> **Works Orders Details window**



Summary

Before importing data to the Graphical Planner, remember to ensure that the following have been verified.

- ✔ Resources
- ✔ Graphical Planner tab
- ✔ MRP tab
- ✔ Run MPS
- ✔ Run MRP
- ✔ Product Categories (if used)

Chapter 4

Getting to Know Graphical Planner

This chapter guides you through the Graphical Planner interface.

Use this chapter to familiarise yourself with the various components of Graphical Planner.

In this chapter:

Overview 52

Before You Get to Know Graphical Planner.. 52

Accessing a Scheduling Option 53

Defining a Workspace..... 76

Summary..... 111

Terms You Should Know in this Chapter

Future Planning Horizon	The period after the current time that can be displayed on the Sequence Overview. The period usually extends beyond the longest total lead time for items being manufactured.
Constraints	Primary Resources, such as machines or labour, that limit the amount of work that can be performed.
Drag and Drop	Method of moving an operation from one position to another. Left-click the object, drag it to the desired area, and then release it.
Like to Like Setup Time	Provides a set-up time value allocated to change over between products and operations sharing similar characteristics, as defined in the 'Like to Like Setup' field in the 'Product Categories' menu option.
Master Calendar Files	The week day (Mon to Sun) files to which shift patterns are assigned.
Offset	Time shift.
Parent and Child Relationship	The principal order data record (parent) is linked to operations (children) which are required to complete the job.
Plot	Indicates the amount of work waiting to be processed at a selected resource across the period of the schedule. It can also display the utilisation of a resource as well as the queue.
Production Load	Demand placed on the factory, commonly measured in hours.
Routing	A sequence of operations through which a product is processed.
Schedule	Name of the default schedule file. Also refers to the production schedule represented by the Sequence Overview.

Sequence Overview	The window where you assign operations to the primary resources. An "interactive" planning board.
Sequencing	Placing operations onto the planning board (sequencer) following specified parameters and routings.
Shift Patterns	Time periods assigned for normal working hours, overtime, breaks and maintenance etc.
User Plot	A single plot window that displays an individual resource.
What-if Comparisons	Comparing two or more production plans.
Workspace	A configurable arrangement of windows displaying different sets of information.

Overview

Graphical Planner is a finite capacity graphical planning tool that allows you to create and save schedules based on the works orders and recommendations imported from Manufacturing.

By understanding Graphical Planner's components you will be able to create effective plans to suit your company's needs.

Before You Get to Know Graphical Planner

Use the checklist below to verify that you have the prerequisites set up before you start to explore.

✔ Registered, installed and activated Graphical Planner
Note:
For more detailed information, see Installing Graphical Planner.

✔ Set up Manufacturing.
Note:
For more detailed information, see Setting up Manufacturing.

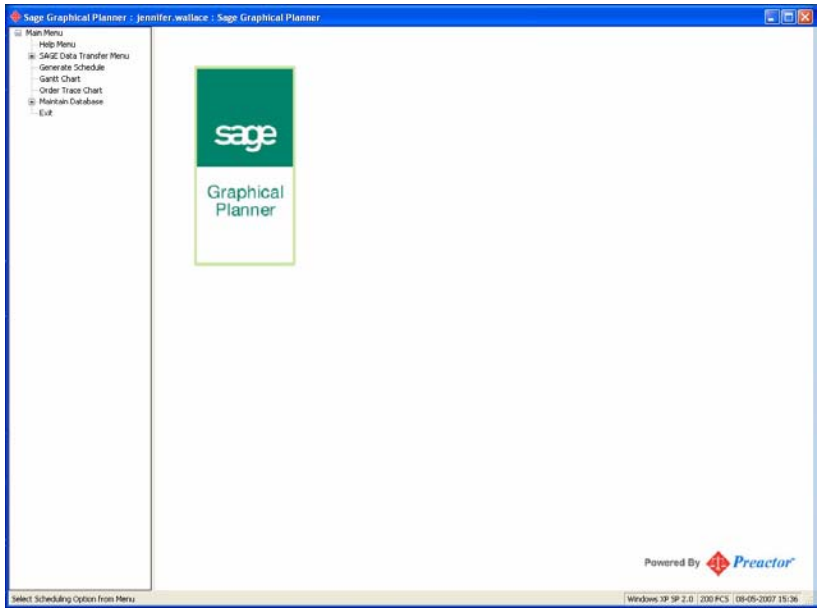
What Next?

Once you have verified that you have the necessary prerequisites, you are now ready to complete the following:

- Navigate through the Graphical Planner main menu
- Define a workspace

Accessing a Scheduling Option

The Graphical Planner navigation bar consists of a tree structure that is divided into a series of menus. Each menu contains submenus which allow you to configure the Graphical Planner appropriately before generating a schedule. This module offers you an explanation and view of each scheduling option.



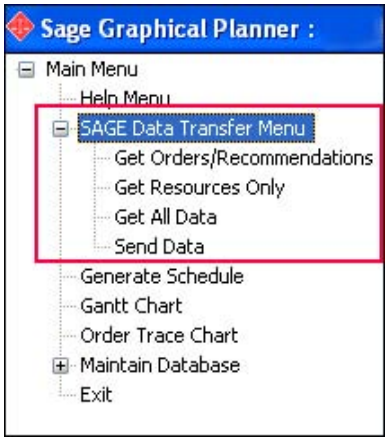
SAGE Data Transfer Menu

This menu provides options which allow data to be imported into the Sequencer and exported after the production plan has been created.

Note:
If your system is configured to contain more than one company, you may have to select from a list before you log on.

Where Do I Access the Sage Data Transfer Menu Option?

Path: Graphical Planner> Main Menu> **Sage Data Transfer Menu**



Get Orders/Recommendations

This option imports only works orders and MRP recommendations from Manufacturing. Use this option when there are new demands to be scheduled, and/or updates to existing MRP recommendations or works orders. Graphical Planner relies on works order tracking to record progress through production. 'Get Orders/Recommendations' will update it with actual production at the time of data transfer.

Where Do I Access the Get Orders/Recommendations Option?

Path: Graphical Planner> Main Menu> Sage Data Transfer Menu> **Gets Orders/ Recommendations**

To import works orders and recommendations

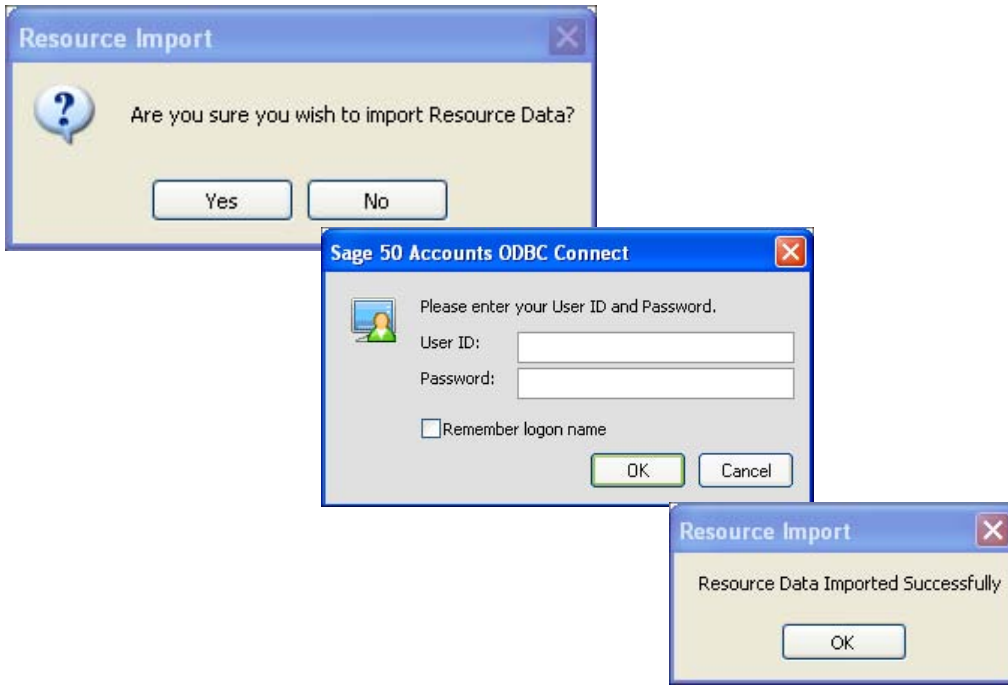
1. Double-click the 'Get Orders/Recommendations' menu option.
   The 'Sage 50 Accounts ODBC Connect' window appears.
   Note:
   If you are not connected to Sage 200 Manufacturing, you will be asked to 'Logon'.
2. Enter the 'User ID'. (This is your Sage 50 Accounts login ID.)
3. Enter the 'Password'. (This is your Sage 50 Accounts password.)
4. Click 'OK'.
   The 'Orders Import' prompt appears.
5. Click 'OK'.
   The works orders and recommendations are imported into Graphical Planner.

Get Resources Only

This option imports primary resources, secondary resources, product categories, and non-working periods from Manufacturing. Use this option when resources (Machines or Labour) have been changed in Manufacturing.

Where Do I Access the Get Resources Only Option?

Path: Graphical Planner> Main Menu> Sage Data Transfer Menu> **Get Resources Only**



To import resources only

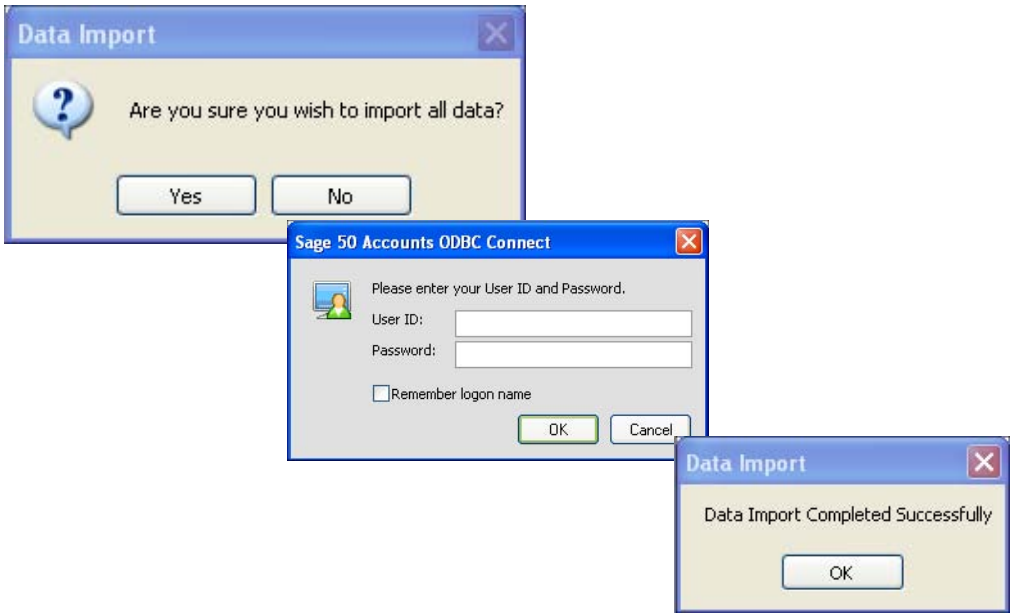
1. Double-click the 'Get Resources Only' menu option.
   The Resource Import prompt appears.
2. Click 'Yes'.
   The 'Sage 50 Accounts ODBC Connect' window appears.
   Note:
   If you are not connected to Sage 200 Manufacturing, you will be asked to 'Logon'.
3. Enter the 'User Name'.
4. Enter the 'Password'.
5. Click 'OK'.
   The 'Resource Import' prompt appears.
6. Click 'OK'.
   Only the resources have been imported into Graphical Planner.

Get All Data

This option performs both 'Get Orders/Recommendations' and 'Get Resources'.

Where Do I Access the Get All Data Option?

Path: Graphical Planner> Main Menu> Sage Data Transfer Menu> **Get All Data**



To import all data

1. Click the 'Get All Data' menu option.
   The ‘Data Import’ prompt appears.
2. Click 'Yes'.
   The Sage 50 Accounts ODBC Connect window appears.
   Note:
   If you are not connected to Sage 200 Manufacturing, you will be asked to 'Logon'.
3. Enter the 'User ID'.
4. Enter the 'Password'.
5. Click 'OK'.
   The 'Data Import' prompt appears.
6. Click 'OK'.
   All data has been imported into Graphical Planner.

Send Data

This option exports the scheduling data (created in Graphical Planner) back to Manufacturing.

Where Do I Access the Send Data Option

Path: Graphical Planner> Main Menu> Sage Data Transfer Menu> **Send Data**

To send data back to Manufacturing

- Double-click the 'Send Data' menu option. The Export progress bar appears. This sends information back to Manufacturing regarding the start and end dates/times of the operations and the resource they are allocated to.

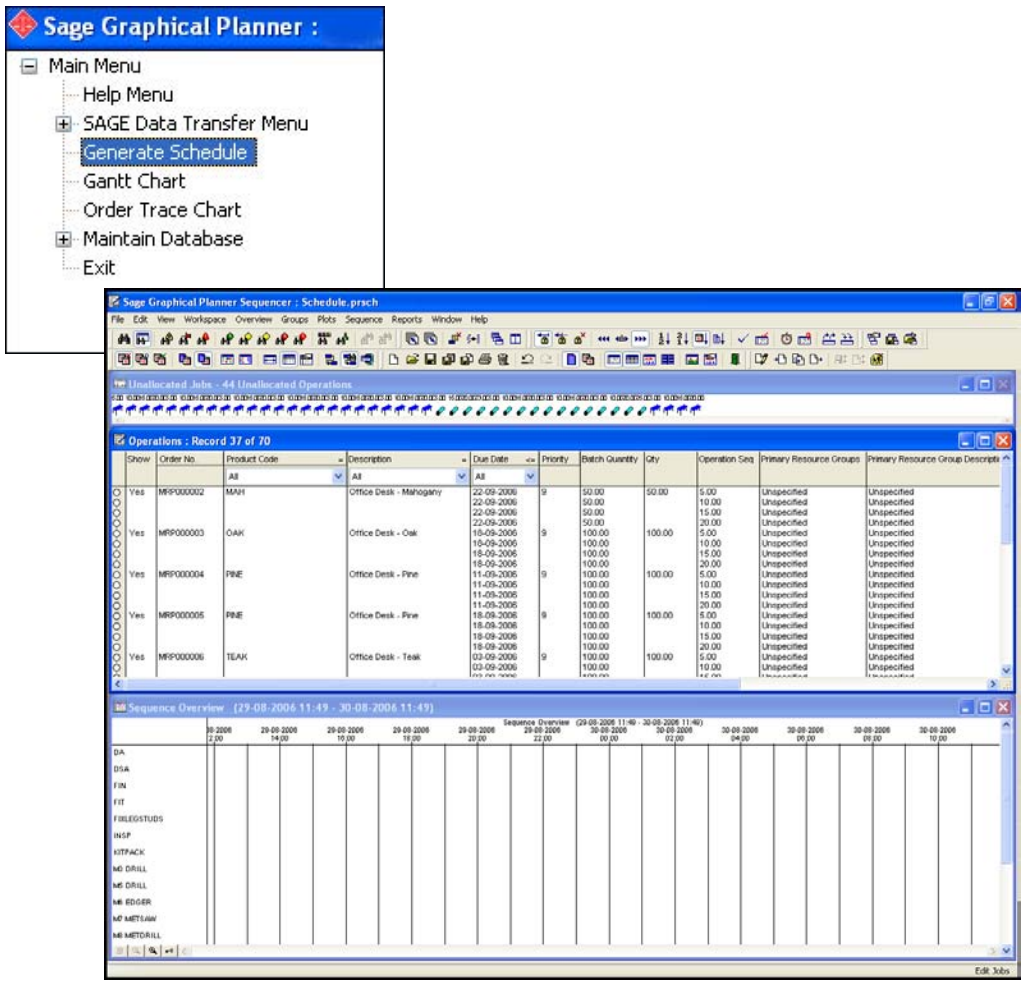
Generate Schedule

This option opens the Sequencer which displays the Unallocated Jobs, Operations, and Sequencer Overview windows. It is the main area to view and plan your day-to-day operations.

Help: For more information about planning your day-to-day operations, see *Scheduling in Graphical Planner on page 151*.

Where Do I Access the Generate Schedule Option?

Path: Graphical Planner> Main Menu> **Generate Schedule**



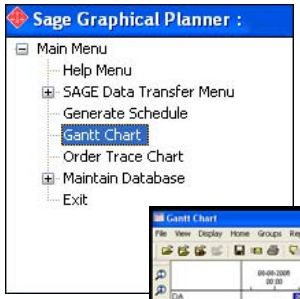
Gantt Chart

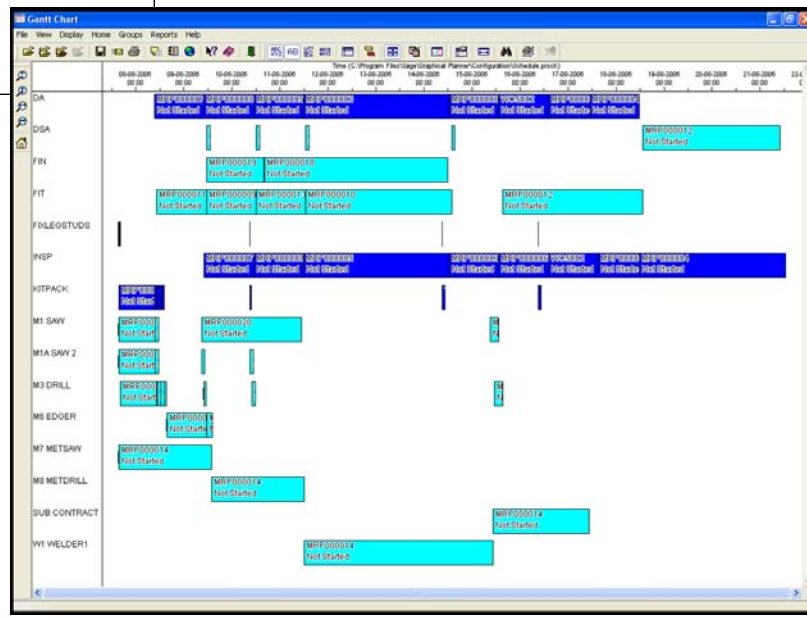
This option displays a Gantt chart with primary resources displayed on the Y axis and the Time displayed on the X axis. The chart displays the operations which are assigned to resources. It is a read-only snapshot of the schedule and can be published as a web page, printed or emailed.

Note:
The Gantt chart appears only after the schedule is generated within the Sequencer.

Where Do I Access the Gantt Chart Option?

Path: Graphical Planner> Main Menu> **Gantt Chart**





Order Trace Chart

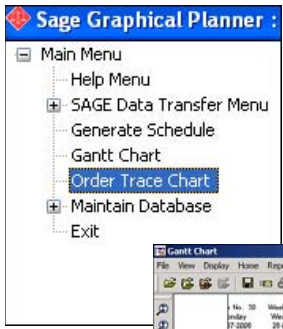
This option displays a Gantt chart with Jobs shown on the Y axis and the Time on the X axis. The chart displays the progress of each order through your process. It is a read-only snapshot of the schedule and can be published as a web page, printed or emailed.

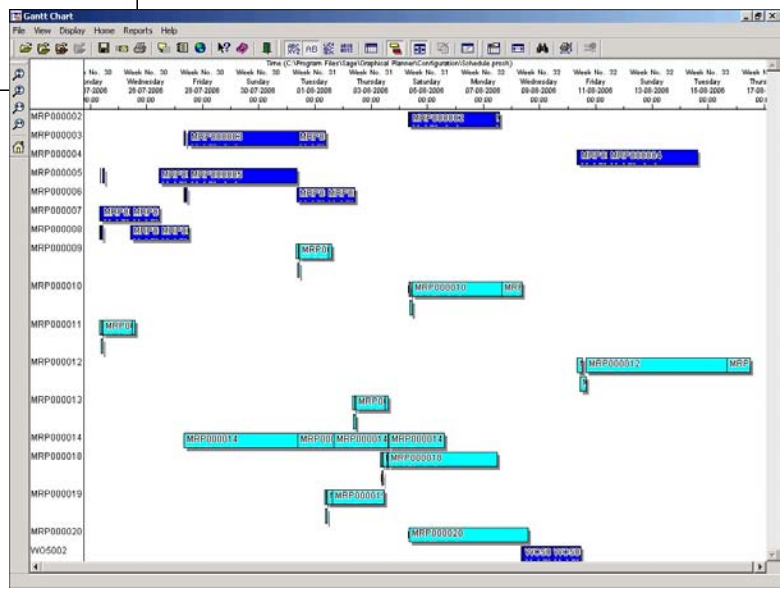
Note
The Order Trace chart appears only after the schedule is generated within the Sequencer.

Help: For more information about the chart, see *Comparing Schedules on page 190*

Where Do I Access the Order Trace Chart Option?

Path: Graphical Planner> Main Menu> **Order Trace Chart**





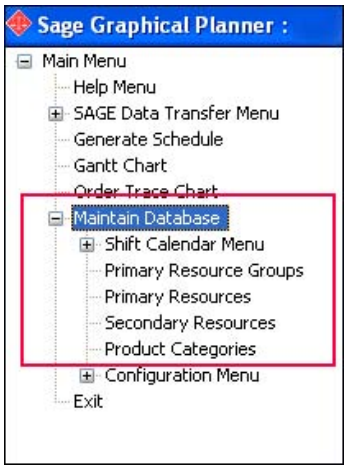
Maintain Database

This option provides access to the Sequencer's underlying data tables, where information on products, processes, resources, and shift patterns etc. are recorded.

Help: For more information about recording data, see *Setting Up Graphical Planner on page 113*.

To Access the Maintain Database Option

Path: Graphical Planner> Main Menu> **Maintain Database**



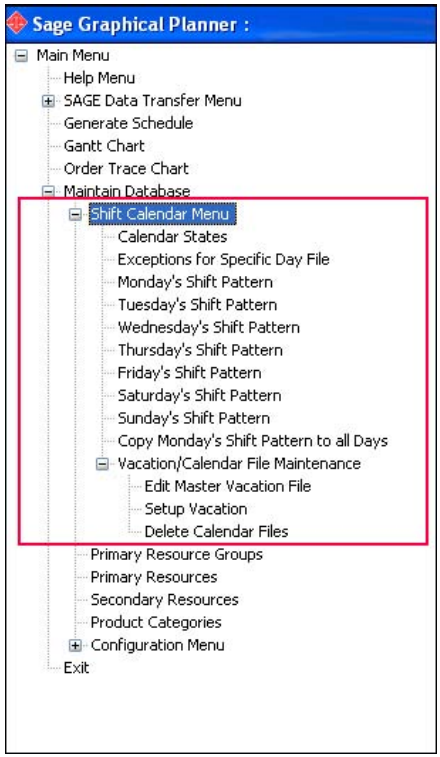
Shift Calendar Menu

The seven master calendar files are set up using the 'Shift Calendar Menu' and are used to define the duration of the shift pattern for both the primary and secondary resources. Once you have defined the actual shifts, you can apply them to each day of the week.

Help: For more information about creating and copying a shift pattern, see *Creating Shift Patterns on page 122*.

Where Do I Access the Shift Calendar Menu Option?

Path: Graphical Planner> Main Menu> Maintain Database> **Shift Calendar Menu**



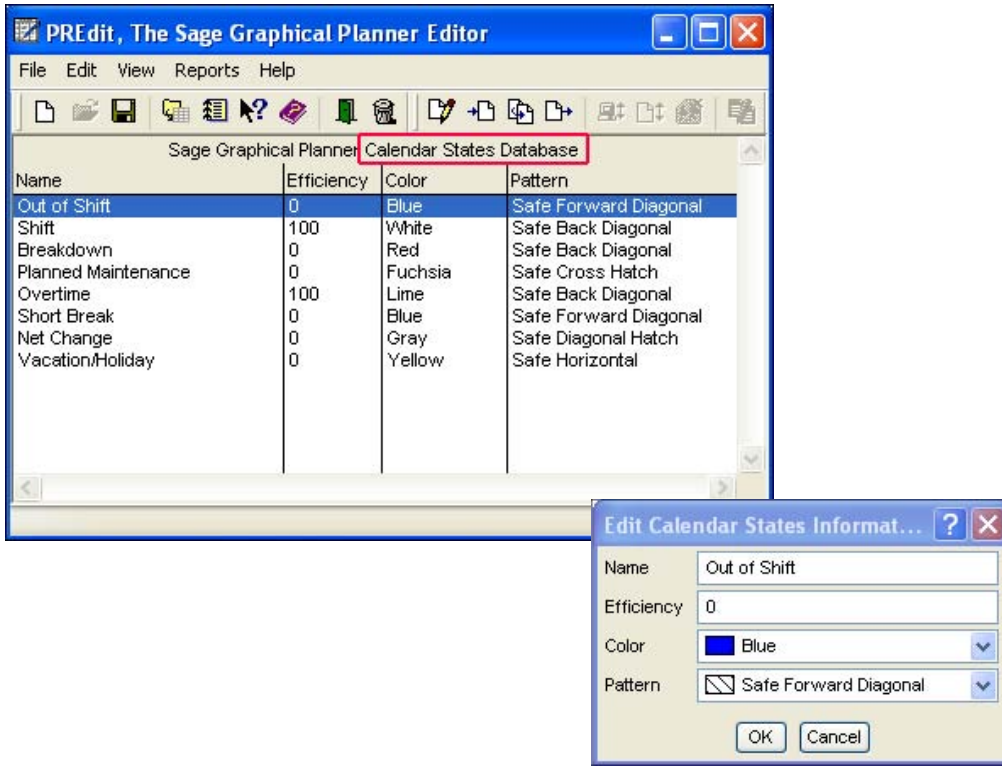
Calendar States

Use this option to create calendar states. They are used to identify the different types of working periods that affect Manufacturing. Calendar States are depicted in colour and pattern, and can have an efficiency rating applied to them.

Help: For more information about creating calendar states, see *Creating Calendar States on page 117*.

Where Do I Access the Calendar States Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Calendar States**



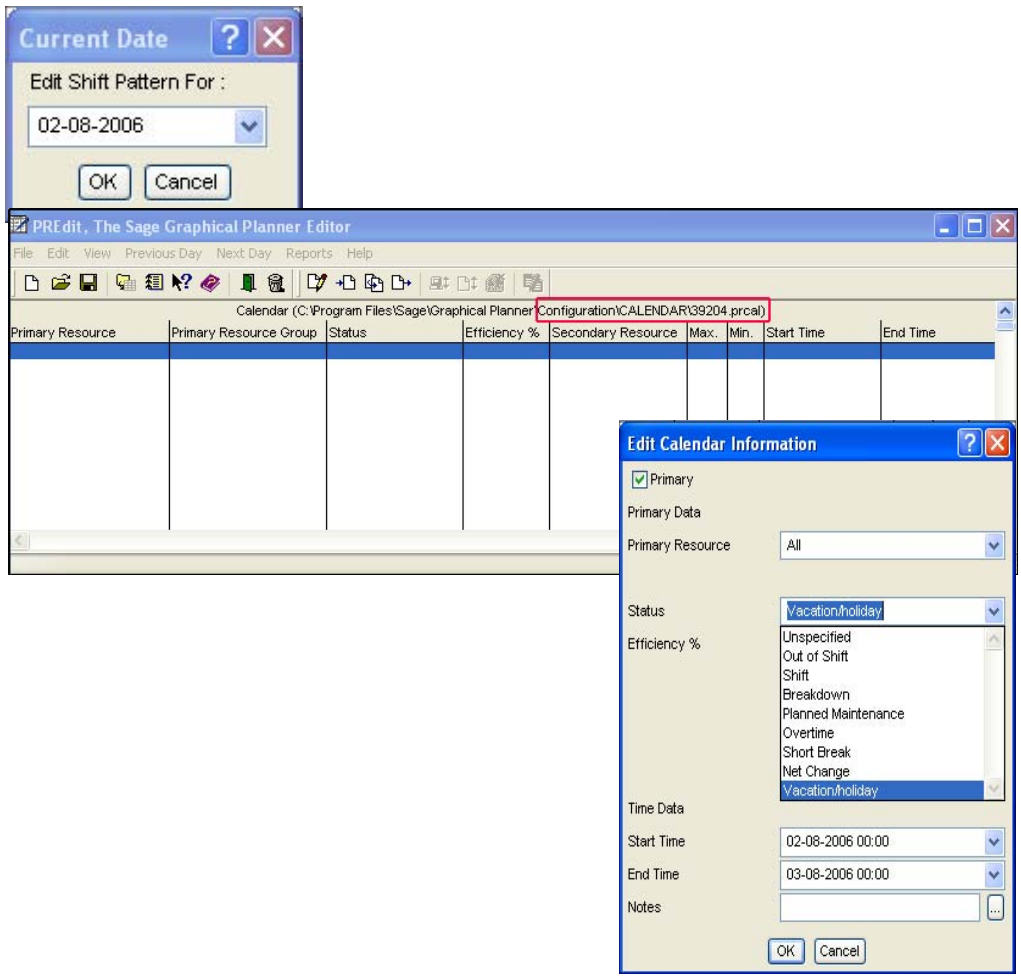
Exceptions for Specific Day File

Use this option to define exceptions from the normal shift routines for a specific week day. Exceptions may include a planned maintenance event or a breakdown.

Help: For more information about how to create an exception for specific day, see *Creating an Exception for a Specific Day on page 120*.

Where Do I Access the Exceptions for Specific Day File Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Current Date prompt**



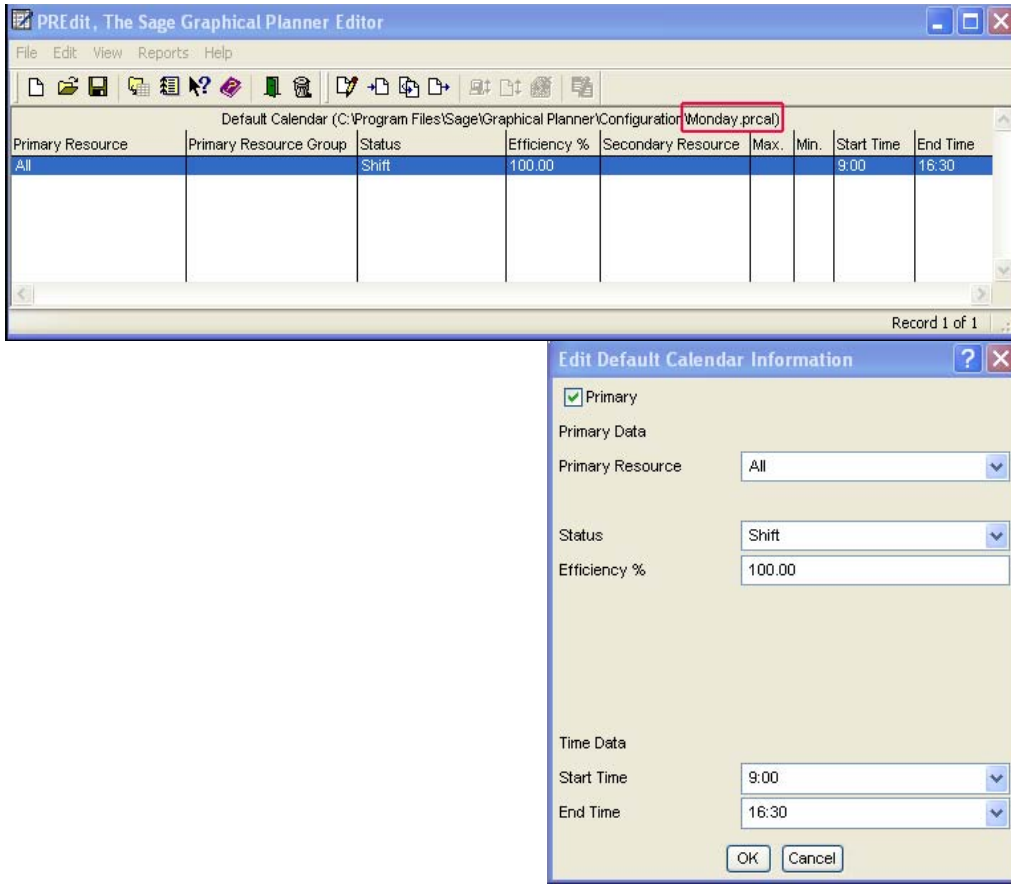
Monday's Shift Pattern

Use this option to create and assign primary and secondary shift patterns for Monday and the rest of the week days.

Help: For more information about creating Monday's shift pattern, see *Creating Shift Patterns on page 122*.

Where Do I Access the Monday's Shift Pattern Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Monday's Shift Pattern**



Note:
Except for the titles, the Tuesday through Sunday shift patterns have the same window display as Monday's.

Copy Monday's Shift Pattern to All Days

Use this function to copy Monday's shift pattern to the rest of the days in the week.

Where Do I Access the Copy Monday's Shift Patterns to all Days Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Copy Monday's Shift Pattern to all Days**

Help: For more information about weekly shift patterns, see *Creating Shift Patterns on page 122*.

Vacation/Calendar File Maintenance

This menu allows you to edit master vacation files, setup vacations, and delete calendar files. The following section describes each of these submenu items.

What is Edit Master Vacation File?

Use this option to apply a holiday shift pattern to all resources.

Once you have entered a holiday via the 'Edit Master Vacation' menu, this holiday takes priority over the existing Non-Working Periods (if it is the same day) in Graphical Planner and is saved to the calendar file.

If you want to keep the changes made to the calendar file, ensure that the Non-Working Periods check box is not selected in Manufacturing. Otherwise, the calendar changes will be overwritten the next time the Non-Working Periods are exported into Graphical Planner.

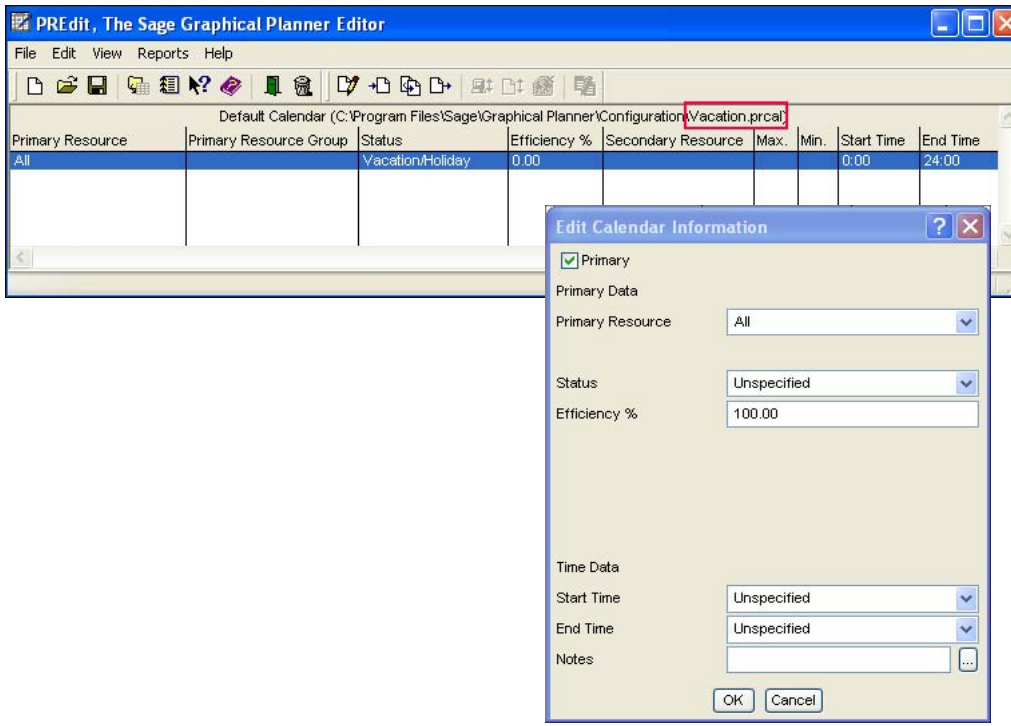
Path: Manufacturing Controller> Planning> Links> Planning Defaults> **Graphical Planner tab**

Path: Sage 200 Manufacturing> Planning> Setups> Planning Settings> PLN - Planning Settings window> **Graphical Planner tab**

Help: For more information about creating holidays and absences, see *Creating Holidays and Absences on page 130*.

Where Do I Access the Master Vacation File Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Vacation/ Calendar File Maintenance**



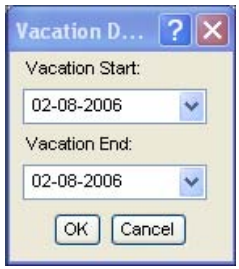
Setup Vacation

Use this option to apply a start date and end date to a holiday period.

Help: For more information about holidays, see *Creating Holidays and Absences on page 130*.

Where Do I Access the Setup Vacation Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> Vacation/ Calendar File Maintenance> **Vacation D... prompt**



Delete Calendar Files

Use this option to delete all calendar records (including breakdown and maintenance records) within a specific date range from the Master Vacation File. It does not affect the shift patterns.

Help: For more information about holidays and absences, see *Creating Holidays and Absences on page 130*.

Where Do I Access the Delete Calendar File Option?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> Vacation/ Calendar File Maintenance> **Delete Calendar Files**

Primary Resources Groups

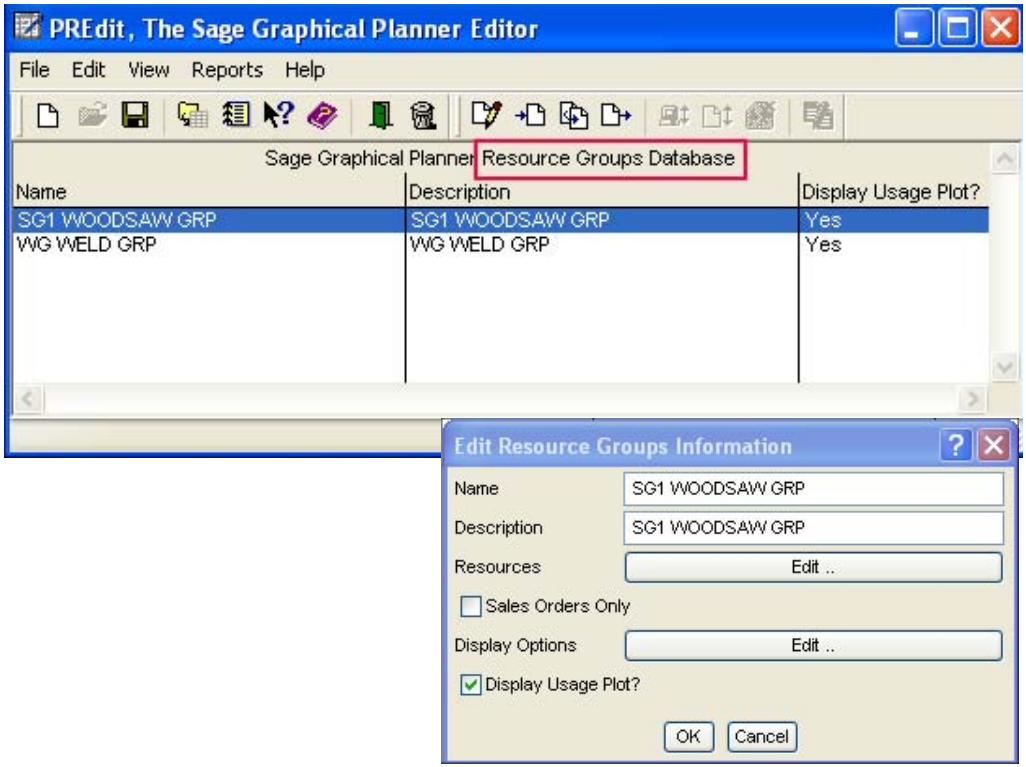
This option displays the list of Primary Groups that were created within the Labour and Machine Registers within Manufacturing's BOM. Either labour or machines can be defined as the Primary Resource in Graphical Planner. You can add or subtract resources from a group, and change the appearance of the information that is displayed in the Sequence Overview and Plots windows.

Help: For more information about the Labour Register and Machine Register, refer to the Labour Register and Machine Register chapters in the Manufacturing User Guide.

For more information about editing primary resource groups, refer to *Editing a Primary Resource Group on page 134*.

Where Do I Access the Primary Resource Groups Option?

Path: Graphical Planner> Main Menu> Maintain Database> **Primary Resource Group**



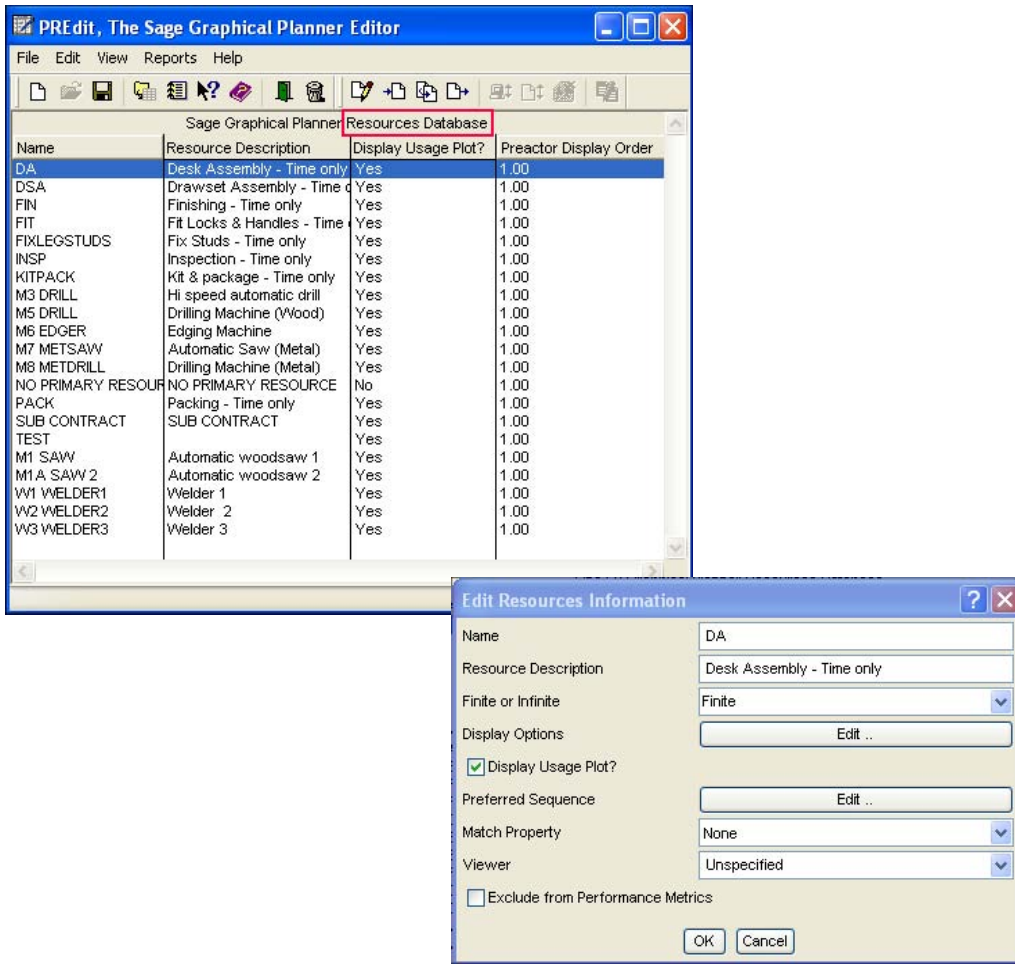
Primary Resources

This option lists the primary resources that were created in the Labour and Machine Registers within Manufacturing's BOM. You can change how the resources are displayed in the Sequence Overview or change the order in which they appear.

Help: For more information about editing primary resources, see *Editing a Primary Resource on page 137*.

Where Do I Access the Primary Resources Option?

Path: Graphical Planner> Main Menu> Maintain Database> **Primary Resources**



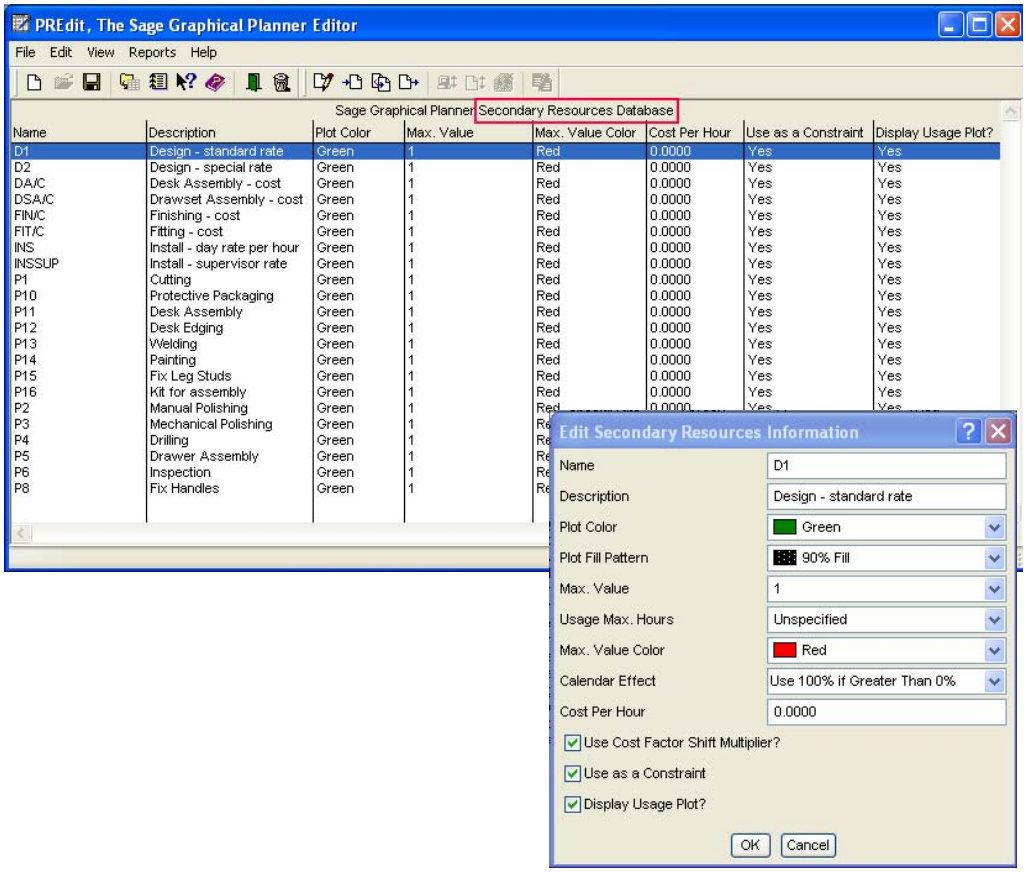
Secondary Resources

This option lists the secondary resources that were created in Labour and Machine Registers within Manufacturing's BOM. Although Graphical Planner is a single resource scheduler, you can still view the utilisation of the secondary resources.

Help: For more information about editing secondary resources, see *Editing a Secondary Resource on page 140*.

Where Do I Access the Secondary Resource Option?

Path: Graphical Planner> Main Menu> Maintain Database> **Secondary Resources**



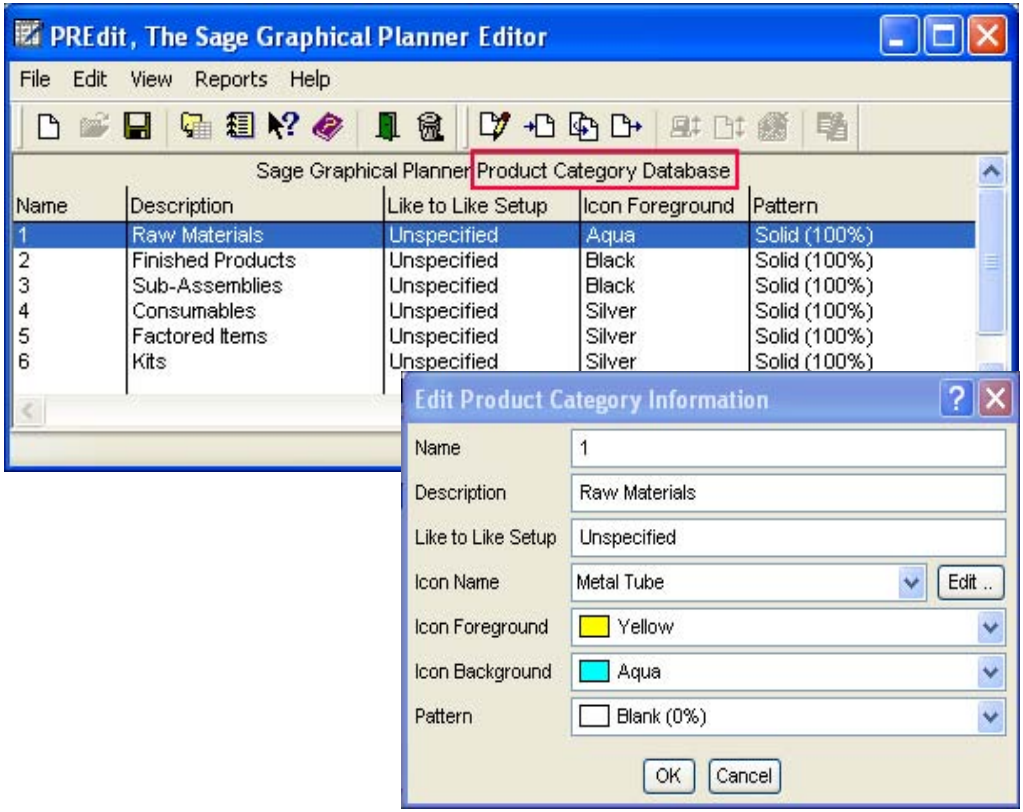
Product Categories

This option lists the product categories that were created in Sage 50 Accounts' Configuration Editor. You can associate a colour and icon to a specific product category to differentiate each category on the 'Unallocated Jobs' window. The colours selected are used on the Sequence Overview.

Help: For more information about customising product categories, see *Customising Product Categories on page 147*.

Where Do I Access the Product Categories Option?

Path: Graphical Planner> Main Menu> Maintain Database> **Product Categories**



Configuration Menu

The Configuration Menu contains technical functionality that applies to Preactor's advance set up.

Path: Graphical Planner> Main Menu> Maintain Database> **Configuration Menu**

Note:
If you want to make modifications to any of the following, Sage strongly recommends that you contact Manufacturing technical support to assist you.

- Web Publisher (PWP)
  - View/Edit Configuration
  - Publish Gantt Chart
  - View Gantt Chart
  - View Custom Chart
- Communications (PCO)
- Event Scripts (PESP)
  - Event Scripts
  - Script Categories
  - Custom Actions
  - Event Parameters Mapping
- Import -Export (PIO)
  - Import-Export Scripts
  - Import-Export Tables
  - Run Import-Export Script
- Schedule Analysis (PSA)
  - Order Comparison Configuration
  - Order Comparison Files

To contact the Manufacturing Technical Support team:

- By telephone

  0845 111 55 55
- By email

  For Sage 50 Manufacturing: Line50manufacturing@sage.com

  For Sage 200 Manufacturing: sage200manufacturing@sage.com

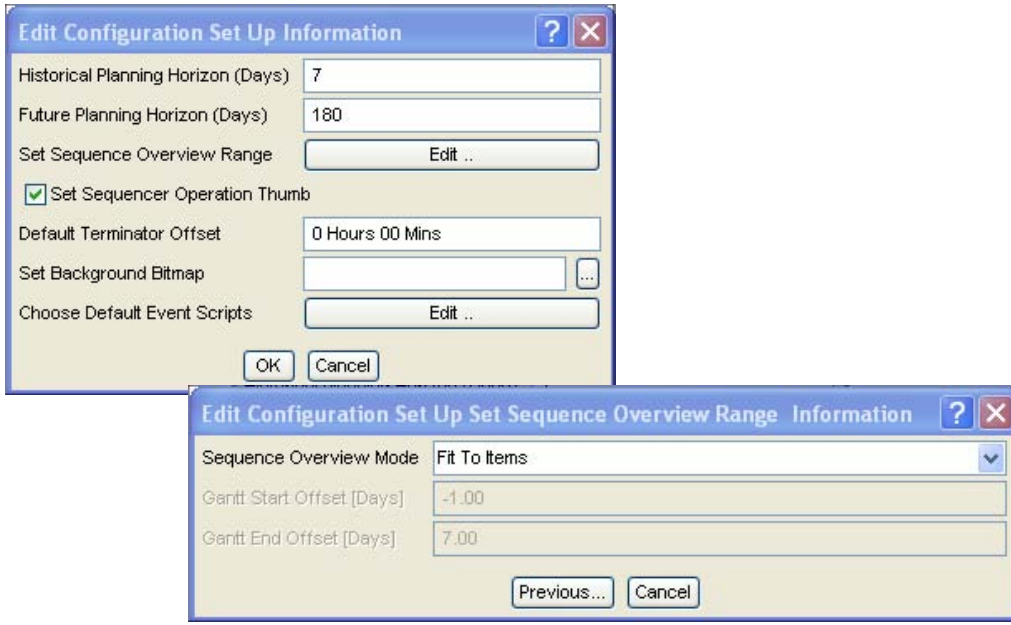
Configuration Data

The basic data used to run Graphical Planner is defined in the Configuration Data menu option. This option allows access to the 'Edit Configuration Set Up Information' window where the Planner's sequencing horizons, display options, and offsets for the default earliest start and due dates are established.

Help: For more information about editing configuration data, see *Editing the Configuration Data on page 144*.

Where Do I Access the Configuration Data Option?

Path: Graphical Planner> Maintain Database> Maintain Database> Configuration Menu> **Configuration Data**

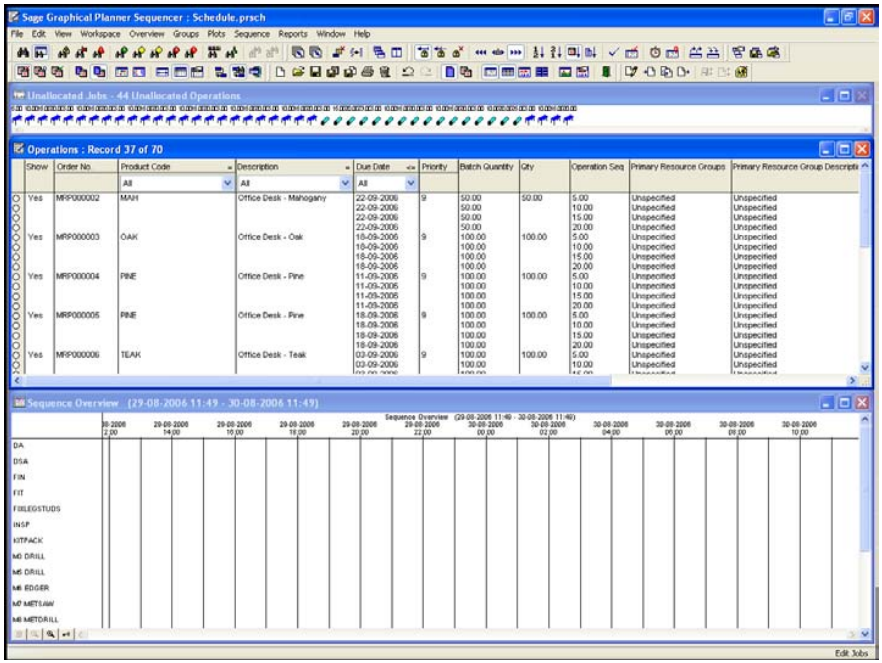


What Next?

Now that you are aware of the menu options, click 'Generate Schedule' to access the Sequencer.

Defining a Workspace

You can define the Graphical Planner's workspace according to your needs by customising the toolbars and formatting the Sequencer's layout.



What is the Workspace?

The workspace contains the following elements.

- Menu bar
- Toolbars
- Unallocated Jobs window
- Operations window
- Sequence Overview window
- Resource window
- Plot window(s)

Why Define the Workspace?

Sage highly recommends that you define your workspace before starting so that you are able to plan more easily.

Help: For more information about how to define your work space, see *Customising the Toolbars on page 105* and *Formatting the Sequencer's View on page 108*.

Where Do I Access the Workspace?

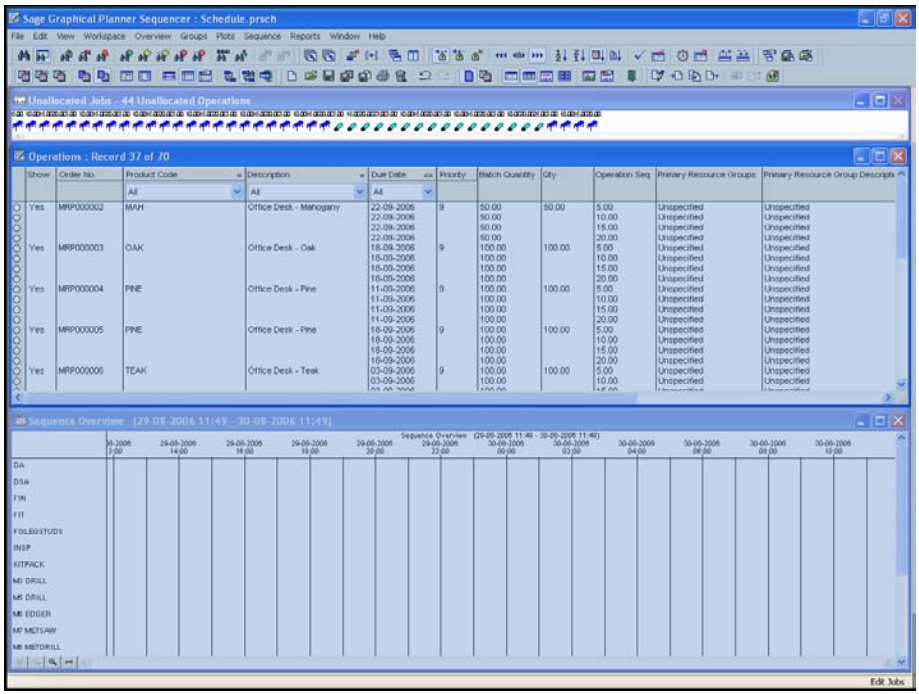
Path: Graphical Planner> Main Menu> **Generate Schedule**

Viewing the Windows

The default view displays three views; 'Unallocated Jobs', 'Operation', and 'Sequence Overview'. You can also view the 'Resource' and 'Plots' windows as well.

Unallocated Jobs Window

The icons in the 'Unallocated Jobs' window are used to represent each operation of any unscheduled order. Icons can be treated as the electronic equivalent of the cards that you would place in slots on a manual planning board.



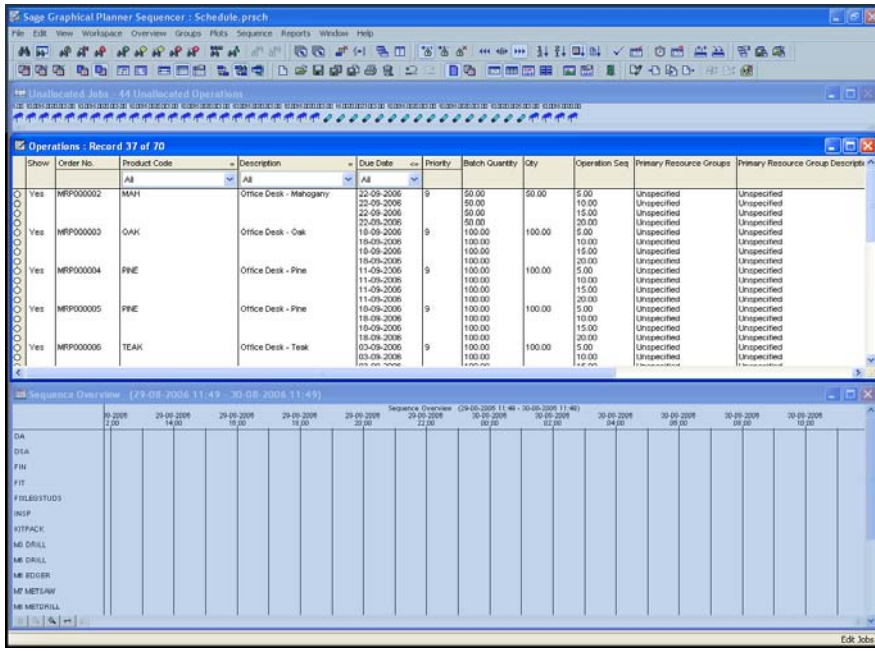
What Can You Do within the Unallocated Job Window?

- View details of the operation.
- Edit (for current session) operation's progress, priority, and resources.
- Drag and drop unallocated operations onto resources.
- Unallocate options. You can replan your schedule using this option.
- Sequence options.
- Highlight linked items against linked recommendations. (Link between sub-assemblies.)

Help: For more detailed information about how to perform these tasks, see *Scheduling in Graphical Planner on page 151*.

Operations Window

The 'Operations' window lists all jobs currently active in the system, whether they are sequenced or not. Once a job has been sequenced, the job status indicator to the left of the window changes colour.



What Can You Do within the Operations Window?

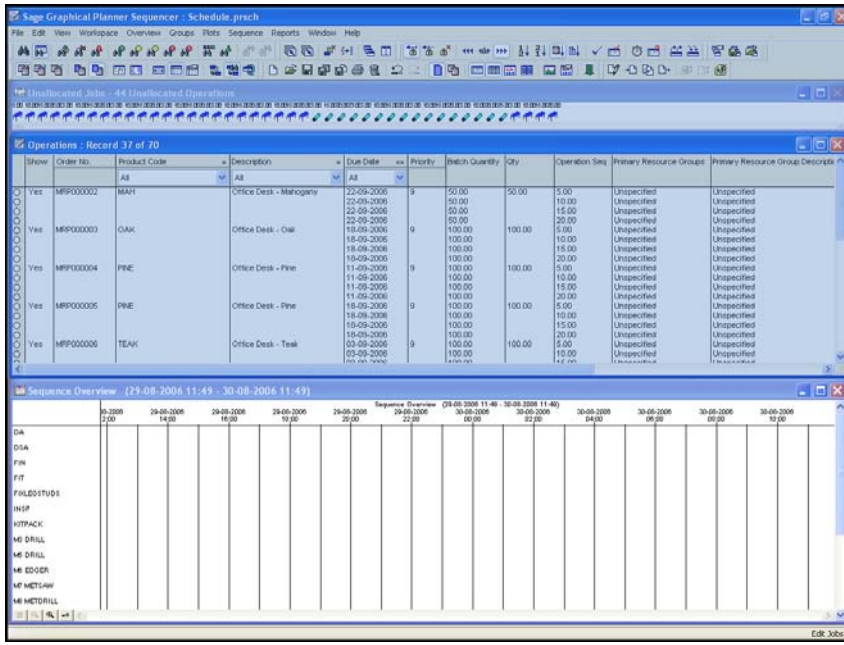
- Identify late operations or orders on the Sequence Overview.
- Identify "at risk" operations or orders.
- Identify bottlenecked operations after sequencing.
- Display all active operations within the system.
- Allocate operations to resources, then sequence.
- Unallocate operations.
- Highlight operations.
- Edit a priority etc.
- Edit operations.

Help: For more detailed information about how to perform these tasks, see *Scheduling in Graphical Planner on page 151*.

Sequence Overview Window

The 'Sequence Overview' window is an interactive planning board where you can drag and drop operations from one resource to another, and update the completion times on-screen.

The Sequence Overview provides a Gantt chart with resources displayed on the vertical axis and a time scale along the horizontal axis.



What Can You Do within the Sequence Overview

- View shift patterns, holidays etc.
- View the historical planning horizon.
- View the future planning horizon.
- Edit the job's 'Resources' and 'Operation Progress'.
- Compare schedules.
- Locate operations.
- Lock operations.
- Modify a calendar state.
- Reproduce a breakdown.

Help: For more detailed information about how to perform these tasks, see *Scheduling in Graphical Planner on page 151*.

Resource Window

Once all the operations have been allocated, you may want to zoom in on or resize the windows for easier viewing. You can focus on a single resource and make changes to its calendar state by editing the resource's job details. This is useful if you have to schedule a breakdown etc. and need to move the resource to another time slot.

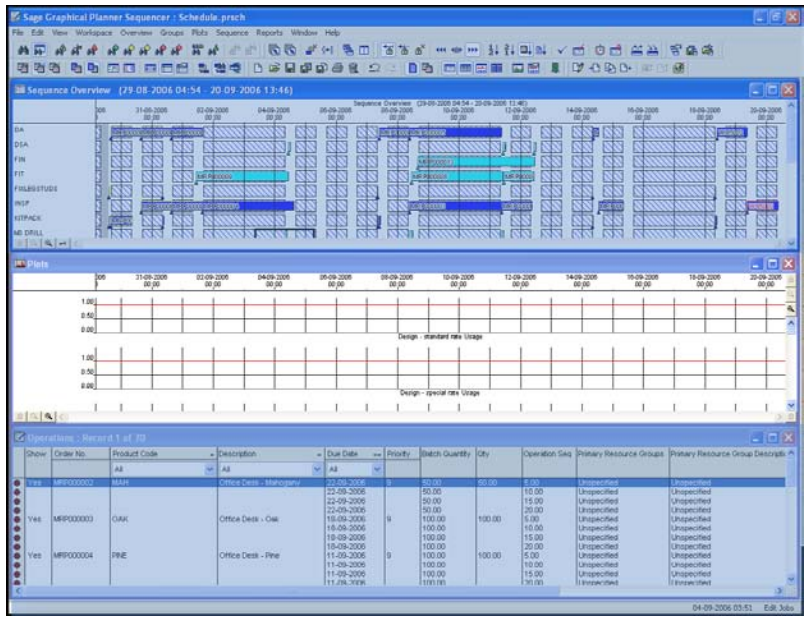
Help: For more information about how to modify a resource in the 'Resource' window, see *Reproducing Breakdowns on page 184*.

Plots Window

The 'Plots' window allows you to analyse the capacity of individual resources within one window and plan accordingly. You can configure and display more than one plot window. The window(s) act as a quick view of a specific point in time to show how resources are utilised by an operation.

Resource Waiting Plots

This option displays the amount of work waiting to be processed at each resource. This feature is useful for highlighting bottlenecks over time.



Note:
The colours displayed in the 'Plot' window can be modified within the 'Primary Resource Group' or 'Primary Resource' menu option.

Help: For more information about how to read a Plot, see *Reading a Plot on page 187*.

What is the Menu Bar?

The Menu bar provides access to options related to File, Edit View, Workspace, Overview, Groups, Plots, Sequence, Report, Window and Help. For the most part, the toolbar icons offer a short cut to these functions.

File Menu

The 'File' menu enables you to open, save and exit the schedule.

Note:
This menu reflects the 'Main' toolbar.

Help: For more information, see *Main toolbar on page 92*.

Open	Apart from the default file, other files may be selected and opened with the toolbar [icon].
Save Schedule	Saves the schedule.
Save Schedule As...	Saves the schedule under a different name to enable "what-if" comparisons.
Save Calendar	Saves the calendar. Use this if breakdowns etc. have been added.
Export	Exports the data back to Manufacturing.
Clear	Clears all data from the windows including unallocated jobs. **Note:** Sage strongly recommends that you do not use this option.
Undo Move Job	Undoes the last action in the Sequencer which is 'Can't Undo'. ('Can't Undo' is the command's inactive state.)
Redo Move Job	Redoes the previous action. ('Can't Redo' is the command's inactive state.)
Job Edit Mode	Displays 'Job Edit Mode'. Use this to edit the jobs displayed in the Sequence Overview. To edit, double-click a job on the Sequence Overview.

Calendar Edit Mode	Displays 'Calendar Edit Mode'. Use this to edit the availability of resources displayed in the Sequence Overview. To edit, double-click a time data bar on the Sequence Overview.
Exit	Saves the data to the current file name (not the Gantt chart, which is read-only) and exits to the navigation bar.
Abandon...	Abandons all changes to the data and exits to the navigation bar. You will be prompted to abandon (i.e. lose) all your changes. **Note:** This feature is not available on the Gantt charts.

Edit Menu

The 'Edit' menu enables you to change the data within the 'Operations' window.

Auto Expand	Automatically expands the windows within the Sequencer.
Expand Jobs	Enables automatic record expansion.
Change or Add	Displays the 'Edit Jobs Information' window in the 'Operations' window where you can change or add resource information, operation times, notes, or operations progress.
Insert	Inserts a new row in the 'Operations' window. **Note:** Sage does not recommend you use this option.
Delete	Deletes the highlighted record. **Note:** Sage does not recommend you use this option.
Copy	Copies the highlighted record. **Note:** Sage does not recommend you use this option.

Set 'Earliest Start Date' for all records	Sets a global 'Earliest Start Date' for all records in the 'Operations' window. **Note:** Sage strongly recommends that you do not use this option.
Set 'Due Date' for all records	Sets a global 'Due Date' for all records in the 'Operations' window. **Note:** Sage strongly recommends that you do not use this option.
View	
Hide Route	N/A
Hide Alternative Routes	N/A
Hide Initial Stock Records	N/A
Hide Children	Hides the child records (operations) located in the 'Unallocated Jobs' and 'Operation' windows.
System Font	Enlarges the font size within the window.
Locate	
By:Highlight	N/A
By: Order No.	Finds record by order number.
By: Product Code	Finds record by product code.
By: Description	Finds record by description.
By:Priority	Finds record by priority.
By:Top Level Tag	Finds record by top level tag.
By:Status	Finds record by status.
By:Locked Links	N/A
By: Shortages	N/A
Sort	
By:Order No.	Sorts records by order number.

By:Product Code	Sorts records by product code.
By:Due Date	Sorts record by due date.
By:Priority	Sorts record by priority.
By: Complete	N/A
Global Assign	
Earliest Start Date	N/A
Due Date	N/A
Priority	Assigns the same priority to all records.
Selective Assign	
Status	N/A

View menu

The 'View' menu displays the different views with the schedule.

Display Overview	Displays the 'Sequence Overview' window. You can view the calendar details and Gantt chart.
Display Operation Editor	Displays the 'Operation' window. You can edit job details here.
Display Plots	Displays the 'Plot' window.
Configure Plots	Allows you to define which resources will be displayed on the Plot.
Set Default Toolbar Positions	Displays the default toolbar at the bottom of the Sequencer's window.
Toolbars	Displays short cut icons to key functions.
Status Bar	Displays the toolbar definitions.

Workspace menu

The 'Workspace' menu acts as a planning board. It allows you to create and save several different workspace configurations to suit your needs.

Configure Predefined Workspace Toolbar	Opens a dialogue box to create customised views and assign them to a button. **Help:** For more information, see *Creating a Predefined Workspace Icon on page 109*.
Save Workspace	Saves the workspace to the hard drive.
Restore Workspace	Restores the current layout from the hard drive.
Use Virtual Screen	Displays windows on a virtual workspace.
Align All	Aligns the time period in all windows to that of the active window.
Cascade All	Stacks all windows in the view.
Tile	Tiles all windows.
Gantt Format	Sets the windows to 'Gantt Chart' mode.
Minimize All	Minimizes all the windows at the same time.
Restore All	Restores the size of all the windows.
Enable Unallocated Job Areas	N/A
Disable Unallocated Job Areas	N/A
Large Icons	Displays large icons in the 'Unallocated Jobs' window to make them easier to view. You will need to scoll to the left to view them all.
Small Icons	Displays small icons in the 'Unallocated Jobs' window.
Disable Workspace Tooltips	Hides the workspace tooltips that are displayed on the status bar.

Overview menu

The 'Overview' menu contains options that display operations in various modes.

Groups	
All	Displays all the groups within the 'Operations' window.
Change with main Group	N/A
Set Range	Defines the time scale to be displayed in the Sequencer.
Hide Calendar	Removes all the calendar states from the Sequence Overview.
Display Zero Efficiency Calendar	Displays any zero efficiency calendar states. e.g. holiday, breakdown etc.
Display All Calendar	Displays all calendar states.
Calendar On Top	Puts the calendar on top of the Operation bar (if the calendar is displayed) within Sequence Overview.
Operations On Top	Puts the operations bar on top of the calendar.
Show Operation Relationships	Shows the connection between operations.
Show Highlighted Operations Relationships	Shows the connection between operations for selected items only.
Compress Overview	Includes only those orders with operations allocated to them.
Locate	
Locate Orders	Opens the 'Locate' window to allow a search on various fields.
Show Outline	Shows the outline of all operations.
Highlight Locked Operations	Highlights locked operations in the Sequence Overview.
Highlight Actual Operations	N/A

Highlight Sequence Errors	Highlights operations that fail the sequence check.
Highlight Early Operations	Highlights operations that were sequenced before their earliest start time.
Highlight Op. with Delivery Buffer	Highlights operations that are sequenced within the Safety Lead Time.
Highlight Orders with Delivery Buffer	Highlights all operations for orders that have operations sequenced within the Safety Lead Time.
Highlight Late Operations	Highlights operations that are sequenced after their due date.
Highlight Late Orders	Highlights all operations for orders that have late operations.
Highlight Delayed Operations	Highlights all operations that are delayed due to resource availability.
Highlight Bottleneck Operations	Highlights the operation being delayed due to the lack of available resources.
Lock Highlighted Operations	Locks highlighted operations to prevent them from moving during a resequencing activity.
Unlock Highlighted Operations	Unlocks highlighted operations.
Outline Description Text	Turns on Outlining of Description Text. This useful if the operation has a dark background on the Sequence Overview and you want to see its description more clearly ,
Gauge Lines	Displays the gauge lines on the Gantt Chart.
Utilisation Display	Sets the 'Sequence Overview' window to utilisation mode, which displays the operations being used on a primary resource.
Print	Prints the contents of the Sequence Overview window.
Save Data to Disk	Saves the Utilisation Report to disk. The Utilisation Report contains the statistics of the amount of usage the operations have on the primary resources.
Publish to Web Page	Publishes the the Sequence Overview as a read-only .html file.

Groups menu

The 'Groups' menu allows you to display resource groups within the Sequencer.

All	Display all resource groups as individual windows.
Startup Default	Reverts the Sequencer to its original view.

Plots menu

The 'Plots' menu contains 'User Plots' and 'Waiting Time Plots' options which can display the capacity of individual resources.

User/Waiting Time Plots	
Display All	Displays all the user/waiting time plots within the Sequencer.
Tile All	Tiles all the windows.
Minimize All	Minimizes all the user/waiting time plots within the Sequencer at one time.
Close All	Closes all the user/waiting time plots within the Sequencer at one time.
Save Data to Disk	Saves the Plot's data to a .csv file.
More User/Waiting Time Plots	Search method to retrieve additional user plots.

Sequence menu

The 'Sequence' menu option controls how the arrangement of information is displayed within the Sequencer.

Lock Started Operations	Locks the history of orders that have started or finished.
Lock Started Jobs	Locks orders that have started.
Disable Operation Locking	Disables the locking of operations.
Schedule Despite Shortages	N/A
Animate Sequencer	N/A

Validate Schedule	Checks the Sequence Overview for sequence errors and the overuse of secondary resources.
Repair Schedule	Repairs the schedule by following scheduling calculations such as for overlaps and sequencing.
Performance Metrics	Displays the performance metrics window which contains a standard set of statistics.
Analyse Schedule	Runs a schedule comparison report within the Sequencer.
Hot Spot Grid	N/A
Create Production	N/A
Refresh Hots Spots Grid	N/A
Order Enquiry	N/A
Run SMC	N/A
Forward Sequence	
By Priority	Sequences the orders by priority using the Forward Scheduling calculations. (lowest number = highest priority)
By Reverse Priority	Sequences the orders by reverse priority using the Forward Scheduling calculations. (highest number = highest priority)
By Due Date	Sequences the orders by due date using the Forward Scheduling calculations.
First Come, First Served	Sequences the orders as they appear in the Schedule file.
Backward Sequence	
By Priority	Sequences the orders by priority using the Backward Scheduling calculations. (lowest number = highest priority)
By Reverse Priority	Sequences the orders by reverse priority using the Backward Scheduling calculations. (highest number = highest priority)
By Due Date	Sequences the orders by due date using the Backward Scheduling calculations.
First Come, First Served	Sequences the orders as they appear in the Schedule file.

Bi-Directional for All Locked Jobs	
By Priority	Sequences the orders forward and back around a bottleneck by priority. (lowest number = highest priority)
By Reverse Priority	Sequences the orders forward and back around a bottleneck by reverse priority. (highest number = highest priority)
By Due Date	Sequences the orders forward and back around a bottleneck by priority. (lowest number = highest priority)
First Come, First Served	Sequences the orders forward and back around a bottleneck as they appear in the Schedule file.
Sequence Using APS Rules	N/A
Unallocated All Jobs	Removes all unlocked operations from the Sequencer.

Reports menu

Opens the Report Viewer, a facility to create and view reports.

Why Use Toolbars?

You can customise the toolbars to suit your needs. Remember, you can use View> Toolbars to specify which toolbars are displayed on your workspace.

Help: For more information about customising toolbars, see *Customising the Toolbars on page 105*.

Main toolbar

The Main toolbar provides commands with options to open, view, edit and close files.

Each toolbar item is described in the following table:

	Clears all the data from the windows including unallocated jobs.
	Opens a previously saved schedule.
	Saves schedules. This allows you to change the file's name to compare or assess "what if".
	Save Calendar. Use this if breakdowns etc. have been added.

	Saves untilisation report as .csv file. This allows you to define the time scale and data to assess the resource workload.
	Prints the Sequence Overview data.
	Exits without saving any new changes.
	Undoes your last action.
	Returns you to the view before your last action.
	Toggles to 'Job Edit' mode.
	Toggles to 'Calendar Edit' mode. Use this before changing any calendar state.
	Toggles to the Sequence Overview.

	Toggles to the 'Operations' window.
	Opens the 'Plots' in a scrollable window.
	Sets the 'Resource' window to 'Gantt Chart' mode.
	Displays a single plot in a pop-up window.
	Defines which plots to display in the 'Plots' window.
	Saves and exits the view you are working in.

Workspace toolbar

Use this toolbar to configure your workspace on the Sequencer.

Each toolbar item is described in the following table:

	Switches to the previous window.
	Switches to the next window.
	Toggles the 'Tip' window on and off.
	Aligns the time period in all the windows to that of the active window.
	Stacks all the windows in the view.
	Tiles all the windows in the view.

Overview toolbar

Use this toolbar to configure the 'Sequence Overview' window.

Each toolbar item is described in the following table:

	Removes all the calendar states from the Sequence Overview.
	Displays any zero efficiency calendar states, e.g. holiday, breakdown etc.
	Displays all the calendar states.
	Puts the calendar on top of the Operation bar (if the calendar is displayed) in the Sequence Overview.
	Puts the Operation bar on top of the calendar. This is used as the default setting.
	Allows the selection of a group to display in the Sequencer, e.g. all milling machines.

	Switches the Sequencer to the 'Utilisation' mode.
	Defines the time scale to show in the Sequencer. The 'fit to items' default is normally used.
	Toggles the display of the gauge lines.
	Defines the properties of the gauge lines as in how they are displayed and their week/day setting.
	Shows the connection between operations.
	Shows the connection between operations for selected items only.
	Will remove unused operations from view. Use this if the window display space is an issue.

Sequence toolbar

Use this toolbar to arrange information within the Sequence Overview.

Each toolbar item is described in the following table:

	Locks the history of orders that have started or finished. Normally enabled as a default. **Note:** The grey section of the Sequence Overview represents the history.
	Locks orders that have started. Normally as a default. **Note:** The grey section of the Sequence Overview represents the history.
	Disables the locking of operations. Normally left unselected.
	Sequences orders using Backwards Scheduling calculations.
	Sequences orders bi-directionally around a bottlenecked resource.

	Sequences orders using Forward Scheduling calculations.
	Sequences in order of priority (low number = high priority).
	Sequences in order of reverse priority.
	Sequences in order of due date.
	Sequences in order of schedule file, which is the same as the Operation editor list.
	Checks the Sequence Overview for sequence errors and the overuse of secondary resources.
	Repairs the schedule by following the scheduling calculations such as overlaps and sequencing.
	Opens the performance metrics pop-up window.

	Runs the schedule comparison report in a window. Needs an alternative "what-if" for comparison.
	Un-allocates work from the Sequencer Overview. It can be used with the Forward, Backwards, or Bi-directional sequencing modes.
	Allocates work from the Sequencer Overview. It can be used with the Forward, Backwards, or Bi-directional sequencing modes.

Locate toolbar

Use this toolbar to search for information within the Sequencer.

Each toolbar item is described in the following table:

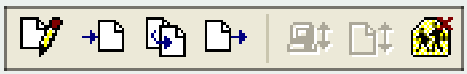
	Opens the 'Locate' window and finds the product code, order number etc.
	Shows or hides the other operations when using the Locate functions.
	Shows all the Locked operations.

	Shows all the Actual (i.e. started) operations.
	Shows all the operations sequence errors (within a single order).
	Shows all the early operations.
	Shows all the operations finishing within the delivery buffer (safety lead time).
	Shows all the orders finishing within the delivery buffer (safety lead time).
	Shows all the operations that are late.
	Shows all the orders that are late.
	Shows all the operations that are starting after the theoretical start time.

	Shows all the bottlenecked operations by order of the longest delay.
	Locks the selected operations.
	Unlocks the selected operations.

Edit toolbar

Use this toolbar to edit the 'Operations' window.



Each toolbar item is described in the following table:

	Works in the 'Operations' window. It has the same effect as double-clicking on the record.
	Works in the 'Operations' window. **Note:** Sage does not recommend you use this option.

	Copies the highlighted record. **Note:** Sage does not recommend you use this option.
	Deletes the highlighted record. **Note:** Sage does not recommend you use this option.
	N/A
	N/A
	Toggles between displaying and hiding child records in the 'Unallocated Jobs' and 'Operation' windows.

Predefined Workspace toolbar

Use this toolbar to create and save a workspace layout that you want to use again.

Help: For more information about how to create a workspace, see *Formatting the Sequencer's View on page 108* and to predefined a workspace icon, see *Creating a Predefined Workspace Icon on page 109*.

Each toolbar item is described in the following table:

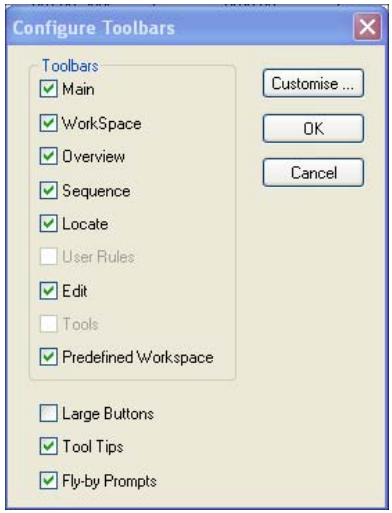
	Opens the dialog box to enable you to create customised views and assign them to an icon.
	Saves a workspace view.
	Opens a workspace view.

Customising the Toolbars

Once you have generated the schedule, you can configure and customise the toolbars to suit your scheduling needs as many of the existing icons displayed may not be relevant.

Where Do I Configure a Toolbar?

Path: Menu bar> View> Toolbars...> **Configure Toolbars window**



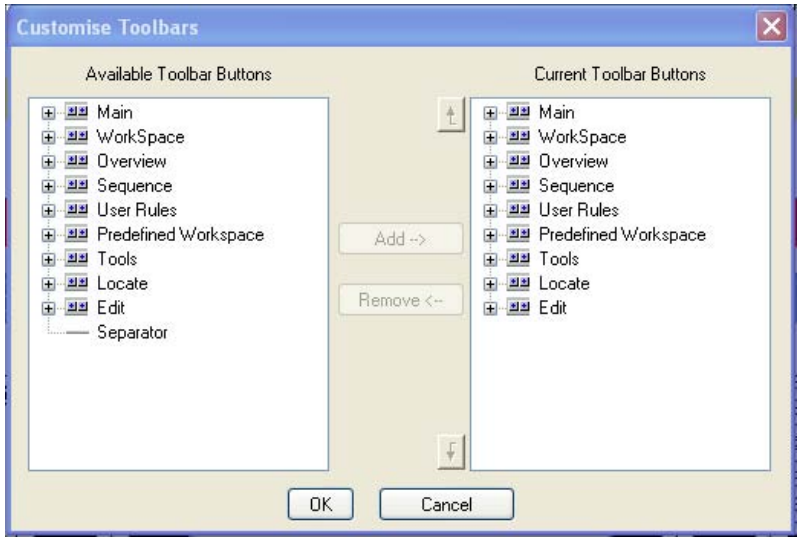
To configure a toolbar

1. Clear the check box(es) of any of the toolbars you do not want to view.
2. Exit.
   Click 'OK'.
   The remaining toolbars appear in the Sequencer.
   Note:
   This will not affect the customisation of the toolbars.

To customise a toolbar

Once you have opened the Configure Toolbar window, perform the following:

1. Click 'Customise'.
   The 'Customise Toolbars' window appears.



2. Activate the 'Available Toolbar Buttons' list.

   Double-click on a toolbar menu from the 'Available Toolbar Buttons' list.
   The icon options become active.

3. Activate the 'Current Toolbar Buttons' list.

   Double-click on the corresponding toolbar menu from the 'Current Toolbar Buttons' list.
   The icon options become active.

4. Add to the current toolbar if necessary:

   4.1. Select an icon in the 'Available Toolbar Buttons' list.

   4.2. Click 'Add'.
   The icon appears in the 'Current Toolbar Buttons' list.

5. Remove an icon from the 'Current Toolbar Buttons' list (if necessary):

   5.1. Select an icon from the 'Current Toolbar Buttons' list.

   5.2. Click 'Remove'.
   The icon appears in the 'Available Toolbar Buttons' list.

6. Continue to modify.

7. Exit.

   Click 'OK'.
   You are returned to the 'Configure Toolbar' window.

8. Exit.

   From the 'Configure Toolbars' window, click 'OK'.
   The customised toolbars appear in the Sequencer.

Formatting the Sequencer's View

Once the schedule has been generated, the Sequencer's default view is displayed. It contains the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows. You can change the layout of each plan to suit your needs.

Why Format the Sequencer's View?

You may want to work with other windows especially after all of the operations have been allocated. For instance, you may want see the plot of a particular resource and refer to it at a later date.

Note:
You can only save the Sequencer's layout, not the actual data within the windows. Data must be saved through the 'File' menu on the 'Menu' bar.

Path: Menu bar> File> **Save Schedule** or **Save Schedule As...**

How Do I Format and Save the Sequencer's View?

Note:
Before making any modifications, Sage strongly recommends that you save the default view.

To save the default view

1. Click the 'Save Workspace'  icon.
   The 'Save As' prompt appears.
2. Name the view as "Default".

   Enter the the file name as "Default", using ".PRWPI" as the extension.
3. Save.

   Click 'Save'.
   The workspace is saved to Program Files\ Sage\ Line 50 Graphical Planner\Configuration folder.

To create another view

1. Modify the current view.

   Minimise the window or deselect a display's icon from the 'Main' toolbar.

   Help: For more information, see *Main toolbar on page 92*.

2. Save the view.

   2.1. Click the 'Save Workspace' icon.
   The 'Save As' prompt appears.

   2.2. Name the view.

   Enter the the file name other than "Default", using ".PRWPI" as the extension.

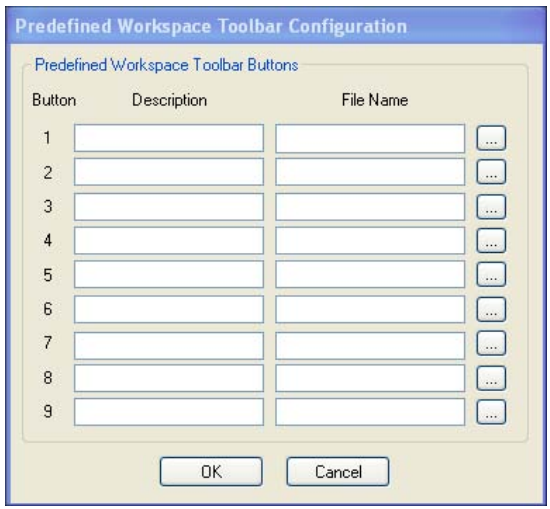
   2.3. Save.

   Click 'Save'.
   The workspace has been saved to Program Files\Sage\ Line 50 Graphical Planner\Configuration folder.

Creating a Predefined Workspace Icon

You may have already saved a workspace view and would like to make it available to compare it to another plan or to use at a later date. You can create a short cut to it so that it is easily accessed from your 'Predefined Workspace' toolbar.

1. Select the 'Configure Predefined Workspace Toolbar' icon.
   The 'Predefined Workspace Toolbar Configuration' window appears.



2. Enter the 'Description' of the icon.
3. Enter or browse for the 'File Name'.
4. Click 'OK'.
   The icon appears in the 'Predefined Workspace' toolbar. When clicked, the linked workspace view is displayed.

Note:
Each workspace that is defined as a short cut appears with a number attached to its icon.

Summary

Now that you have familiarised yourself with Graphical Planner by:

- ✔ accessing the scheduling options
- ✔ viewing the different menus and toolbars
- ✔ configuring your workspace

you are ready to set up Graphical Planner to suit your needs and then schedule your day-to-day operations.

Chapter 5

Setting Up Graphical Planner

This chapter describes what must be set up in Graphical Planner in order for you to schedule your plan.

In this chapter:

Overview 115
Before Setting Up Graphical Planner... ... 115
Creating Calendar States 117
Creating an Exception for a Specific Day 120
Creating Shift Patterns 122
Creating Holidays and Absences 130
Editing a Primary Resource Group 134
Editing a Primary Resource 137
Editing a Secondary Resource 140
Editing the Configuration Data 144
Customising Product Categories 147

Terms You Should Know in this Chapter

Calendar States	A period of time displayed in the Sequence Overview's calendar which reflects a specific purpose using a colour and pattern.
Finite Resource	Processes multiple orders simultaneously. It assumes that infinite capacity is available.
Infinite Resource	Processes multiple orders simultaneously with the defined shift pattern.
Infinite Resource Shift Pattern	Processes multiple orders simultaneously, but only within the defined shift patterns when production time is available.
Plot Fill Pattern	The graphical bar pattern that is displayed in a 'Plot' window, which represents a resource. This pattern can be a solid colour, lines, dots, cross hatches, waves, or blank.
Primary Resource Shift Pattern	An operator (primary resource) may be required to work on one type of machine (secondary resource) in the morning and another in the afternoon to finish the job. Therefore, you can create a shift pattern for that person using those machines specific to those times.
Secondary Resource Shift Pattern	If your factory output is machine constrained, and the machine is set as the primary resource, your labour group would be considered as secondary resource and is associated with this shift pattern.
Sequencer	Graphical Planner's virtual board on which to plan your schedules.
Shift	A working period identified as a calendar state.
Toggle	Switch from one display to another.

Overview

Now that you know your way around the Graphical Planner, you can configure certain aspects of the planner to suit your needs.

Before Setting Up Graphical Planner...

Manufacturing

Use the checklist below to verify that you have the prerequisites completed in Manufacturing before you start the setting up process.

- ✔ Created new company-specific non-work time periods.
- ✔ Created labour or machine as a primary resource.
- ✔ Created the labour primary resource as a group.
- ✔ Set the Planning Default tabs.

Note:
If any of the prerequisites above have not been implemented, refer to your Manufacturing User Guide for setup details.

Have You Already Imported Data into Graphical Planner?

Help: For details to import data into Graphical Planner, see *Get All Data on page 57*.

What Next?

Once you have verified that you have the necessary prerequisites, you are now ready to complete the following:

- Create a Calendar State.

  Help: For more information, see *Creating Calendar States on page 117*.
- Create an Exception for a Specific Day.

  Help: For more information, see *Creating an Exception for a Specific Day on page 120*.
- Create Weekly Shift Patterns.

  Help: For more information, see *Creating Shift Patterns on page 122*.
- Create Holidays and Absences.

  Help: For more information, see *Creating Holidays and Absences on page 130*.
- Edit a Primary Resource Group.

  Help: For more information, see *Editing a Primary Resource Group on page 134*.
- Edit a Primary Resource.

  Help: For more information, see *Editing a Primary Resource on page 137*.
- Edit a Secondary Resource.

  Help: For more information, see *Editing a Secondary Resource on page 140*.
- Edit the Configuration Data.

  Help: For more information, see *Editing the Configuration Data on page 144*.
- Customise Product Categories.

  Help: For more information, see *Customising Product Categories on page 147*.

Creating Calendar States

You can create calendar states to identify the different types of working periods required to run your business. Creating a calendar state helps you plan for any problems that may arise.

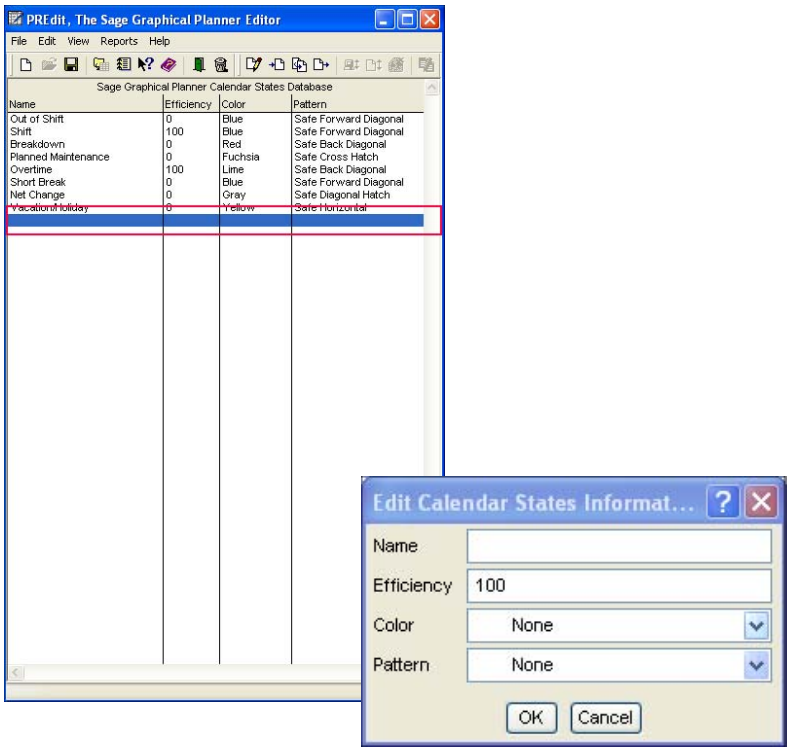
How Does this Affect the Sequencer?

Once you have created and saved the new calendar state (shift), it appears in a shift pattern's 'Edit Calendar Information' window. You can then assign the state to a primary resource and view it within the Sequence Overview.

Help: For more information about shift patterns, see *Creating Shift Patterns on page 122*.

Where Do I Access the Calendar States?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Calendar States**

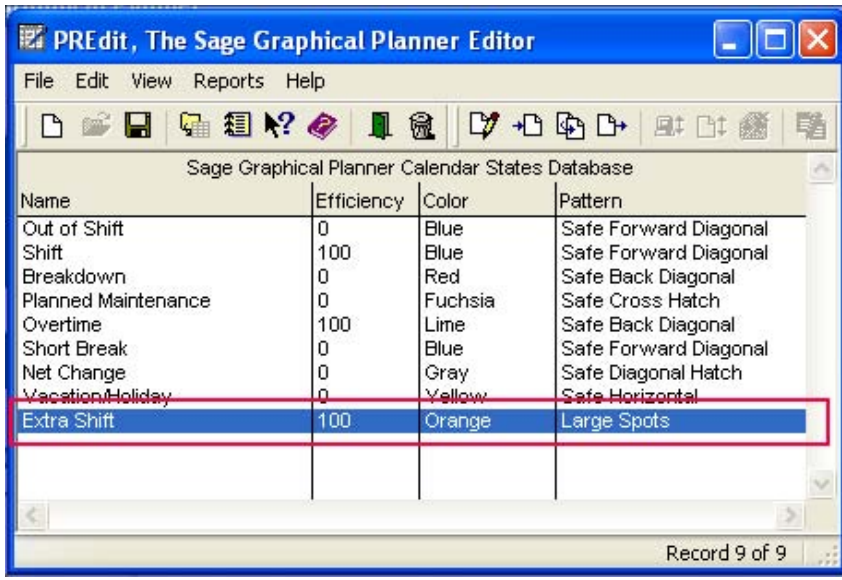


What Settings Can I Change?

Name	This option describes the type of calendar state you are creating.
Efficiency	This option applies an efficiency rating to the calendar state. **Example:** The normal efficiency figure is set to 100% and all other states should be assigned a percentage in relation to this shift. If the state is less efficient, the percentage is reduced. Therefore the job is extended accordingly. If the state is more efficient, the percentage is increased, and the job is shortened accordingly.
Color	This option defines the display colour of the state.
Pattern	This option defines the display pattern of the state.

To create a calendar state

1. Double-click the empty record.
   The 'Edit Calendar States Information' window appears.
2. Enter a 'Name'.
3. Enter an 'Efficiency' number.
4. Select a 'Color'.
5. Select a 'Pattern'.
6. Click 'OK'.
   The calendar state is created and appears in the 'Calendar States' database.



7. Save.
   Click the 'Save' icon on the 'Main' toolbar.
8. Exit.
   Click the 'Exit' icon on the 'Main' toolbar.

Creating an Exception for a Specific Day

You may need to create an exception to the regular shift patterns. For example, you may need to change a shift pattern because of planned maintenance, a holiday, or a training course that affects a particular resource.

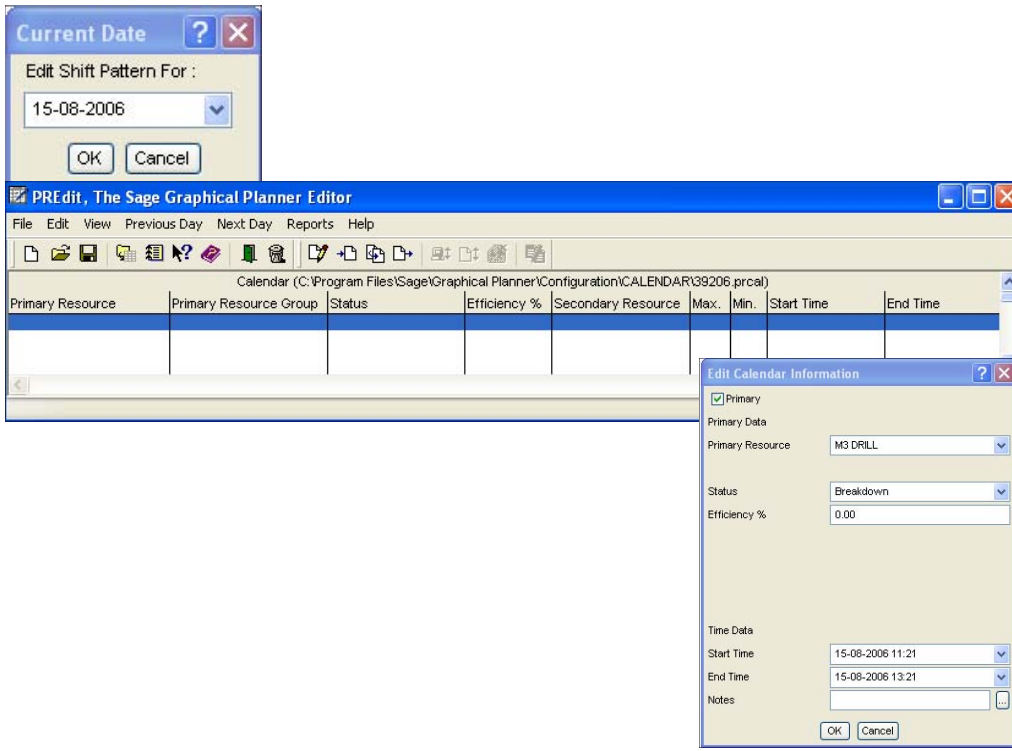
How Does this Affect the Sequencer?

After you have created the exception, and the schedule has been generated, you will be able to see that under the resource's name, the exception has been applied for the specified period in the Sequence Overview.

Help: For more information about shift patterns, see *Creating Shift Patterns on page 122*.

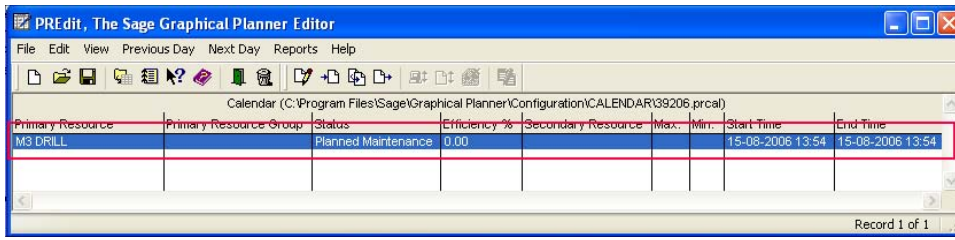
Where Do I Access the Exceptions for Specific Day File?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Exceptions for Specific Day File**



To create an exception for a specific day

1. Confirm the date(s) for the specific day you want to create an exception for (and edit if necessary).
2. Click 'OK'.
   The 'PREdit' window appears.
3. Double-click on an empty record.
   The 'Edit Calendar Information' window appears.
4. Select a 'Primary Resource'.
5. Select a 'Status'.
6. Enter a 'Start Time'.
7. Enter an 'End Time'.
8. Enter a 'Note' if necessary.
9. Click 'OK'.
   The exception for the specific day is created.



10. Save.
    Click the 'Save'  icon on the 'Main' toolbar.
11. Exit.
    Click the 'Exit'  icon on the 'Main' toolbar.

Note:
You can create an exception for a secondary resource by clearing the 'Primary Resource' check box and modifying the defaults. This the same process as *Creating a Secondary Resource Shift Pattern on page 127*.

You can also change a specific day time period to cover more days by editing the 'End' time period.

Creating Shift Patterns

Instead of assigning a complete work day to a primary or secondary resource, you can create a series of shift patterns and assign them accordingly. Prepare a shift pattern for Monday and then copy it to all other days. Modify the records where appropriate.

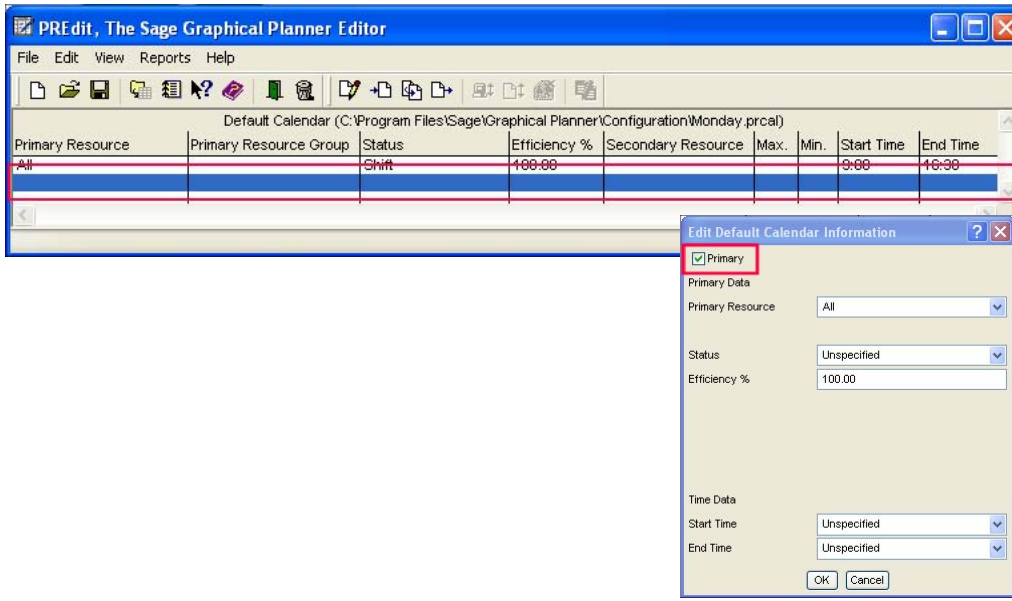
How Do the Shift Patterns Affect the Sequencer?

Once the shift patterns have been created, you can view them in the Sequence Overview and apply them to operations.

Note:
The shift pattern data is created and updated within Graphical Planner. It is not affected by any data transfers from Manufacturing.

Where Do I Create the Primary Resource Shift Pattern?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> Monday's Shift Pattern> **Edit Default Calendar Information**



What Settings Can I Change?

Primary Data	'Primary Resource' - contains the primary resources imported from Manufacturing. You can select all, a group, or an individual resource. ■ All - Use this item to apply the shift pattern that is selected in 'Status' to every primary resource. **Note:** This list can be modified in the 'Primary Resource' menu option. ■ Use Group - Use this item to apply a specific shift that is selected in 'Status' to a group of resources. **Note:** Once this option is selected, the 'Primary Resource Group' field appears. This list can be modified in the 'Primary Resource Group' menu option. 'Status' - contains the calendar states defined in the 'Calendar States' menu option. 'Efficiency' - applies an efficiency rating to the shift. **Note:** When creating a shift pattern, the efficiency rating is read from the Calendar States data when you pick from the 'Status' drop down selection, which is the default efficiency. You can change it to a specific shift by changing the value in the 'Efficiency' field. **Example:** The normal efficiency figure is set to 100% and all other states should be assigned a percentage in relation to this shift. If the state is less efficient, the percentage is reduced. Therefore the job is extended accordingly. If the state is more efficient, the percentage is raised, and the job is shortened accordingly.
Time Data	Select or enter a specific time for a given period. 'Start Time' - the beginning of the time period. 'End Time' - the finish of the time period.

Creating Primary Resource Shift Patterns

To create a Primary Resource shift pattern, perform the following procedure.

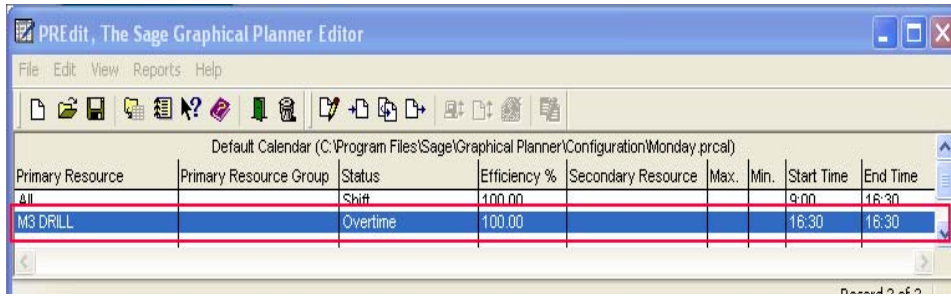
To create a primary resource shift pattern

Note:
Ensure that the first record in the 'Edit Default Calendar Information' window is set for 'All' resources. This is the default pattern so if there is only one resource that has a different shift, you only need to create the single shift.

1. From the 'Shift Calendar Menu', select 'Monday's Shift Pattern'.
   The 'Monday.prcal' file appears.
2. Double-click the blank row.
   The 'Edit Default Calendar Information' window appears.
3. Select the 'Primary Resource'.
   Note:
   'All' is set as default.

   Select 'infinite with shift pattern' when creating a Sub Contractor as a primary resource. This is to ensure that the shift pattern is available as a 'Shift' when required.
4. Select the 'Status'.
5. Enter the 'Efficiency %'.
6. Select or enter a 'Start Time'.
7. Select or enter a 'End Time'.
8. Click 'OK'.

   Example:
   The M3Drill appears in the 'Edit Default Calendar' window under 'Primary Resources'.



9. Save.
   Click the 'Save' icon on the 'Main' toolbar.

10. Exit.

    Click the 'Exit'  icon on the 'Main' toolbar.

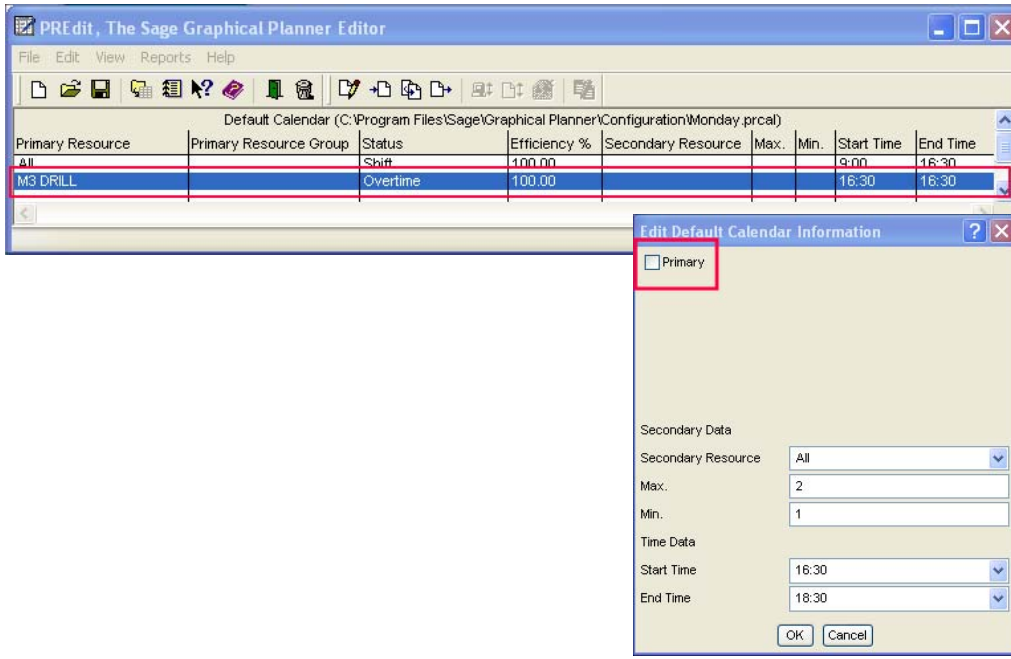
    Note:

    Prepare a shift pattern for Monday and then copy it to all other days deleting the records where appropriate. For more information, see *Copying a Shift Pattern on page 128*.

    Alternatively, if the shift is not relevant for a specific day, set its efficiency to 0% instead.

Where Do I Create a Secondary Resource Shift Pattern?

Path: Graphical Planner> MainMenu> Maintain Database> Shift Calendar Menu options> Monday's Shift Pattern> **Edit Default Calendar Information**



What Settings Can I Change?

Secondary Data	'Secondary Resources' contains the secondary resources imported from Manufacturing. ■ All - use this item to apply the same maximum and minimum values to every secondary resource. 'Max.' - enter the maximum number of people assigned to work during the time period. 'Min.' - enter the minimum number of people assigned to work during the time period.
Time Data	Select or enter a specific time for a given period. 'Start Time' - the beginning of the time period. 'End Time' - the finish of the time period.

Creating a Secondary Resource Shift Pattern

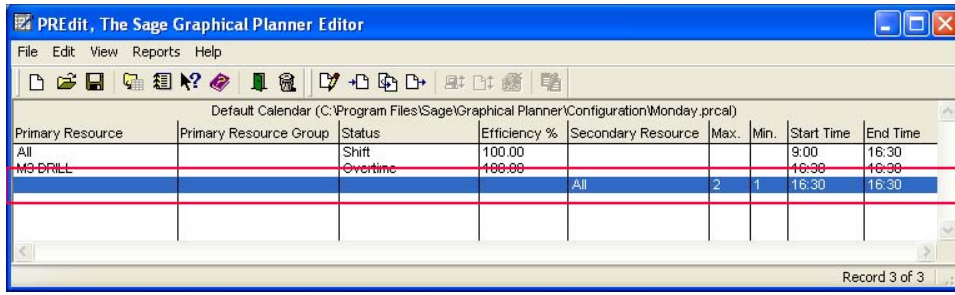
To create a secondary resource shift pattern, perform the following procedure.

To create a secondary resource shift pattern

Note:
Prepare a shift pattern for Monday and then copy it to all other days deleting the records where appropriate.

Help: For more information about how to copy a shift pattern, see *Copying a Shift Pattern on page 128*.

1. From the 'Shift Calendar Menu', select 'Monday's Shift Pattern'.The 'Monday.prcal' file appears.
2. Double-click the blank row.The 'Edit Default Calendar Information' window appears.
3. Clear the 'Primary' check box.The Secondary Data information appears.
4. Select a 'Secondary Resource'.
5. Enter the 'Max.' amount assigned to the resource.
6. Enter the 'Min.' amount assigned to the resource.
7. Enter a 'Start' date.
8. Enter an 'End' date.
9. Click 'OK'.
   The information appears in the .prcal file under 'Secondary Resource'.



10. Save.
    Click the 'Save' icon on the 'Main' toolbar.

11. Exit.

    Click the 'Exit'  icon on the 'Main' toolbar.

    Note:
    Setting secondary resource shift patterns is not always necessary. If no shifts are defined, then Graphical Planner assumes that the secondary resources follow the 'All' resource shift pattern. It assumes that when a primary resource is available, then any specified secondary resource is as well.

Copying a Shift Pattern

Once Monday's shift pattern(s) has been created, you can repeat the pattern(s) throughout the week by copying the existing pattern(s) and applying it to each day of the week.

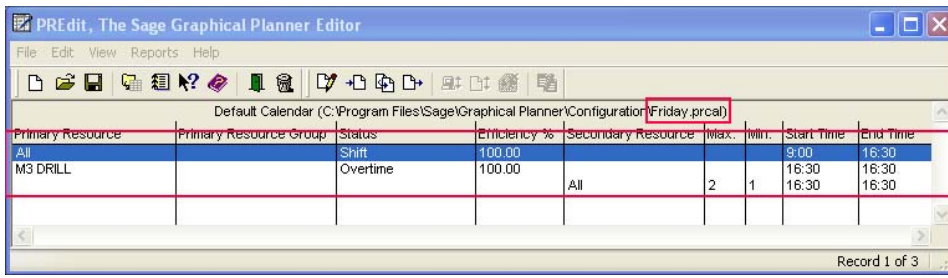
Note:
The copy function automatically copies all of the records contained in 'Monday's .prcal' file to the rest of the week days. You must therefore manage the other week days' .prcal files independently of Monday's.

Where Do I Copy a Shift Pattern to the Rest of the Week?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Copy Monday's Shift Pattern to all**

To copy a shift pattern

1. Create the Monday shift pattern(s).
2. Click 'Copy Monday's Shift Pattern to all'.
   The shift pattern(s) is automatically copied to every week day's .prcal file.

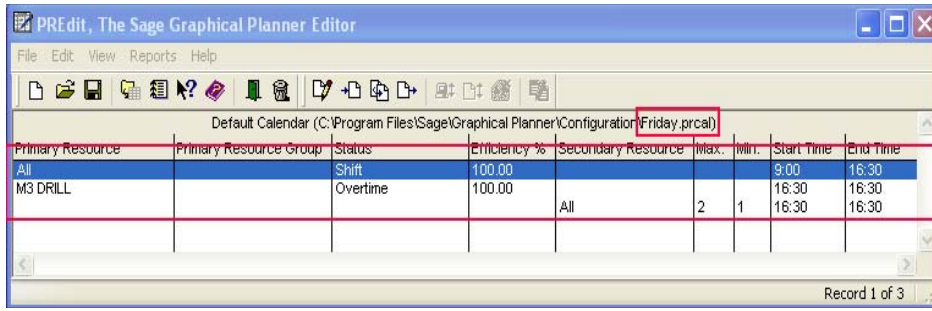


Deleting a Shift Pattern

To delete a shift pattern, perform the following procedure.

To delete a shift pattern

1. Open the .prcal file for one of the weekdays.
2. Select the desired record.
3. Press 'Delete' on your keyboard.
   A message appears stating "Do you really want to delete".
4. Click 'Yes'.
   The record is deleted from the file.



5. Save.
   Click the 'Save'  icon on the 'Main' toolbar.
6. Exit.
   Click the 'Exit'  icon on the 'Main' toolbar.

Creating Holidays and Absences

Graphical Planner allows you to define holidays and other absences for individual operators, teams of people, or a whole factory. How they appear in Graphical Planner depends on how the application is configured with Primary Resource Groups and whether the primary resource is defined as labour.

If labour is set up as the primary resource, then the operators can be assigned to primary resource groups that have recurring absences defined for them. For example, a team of operators may have to go to a monthly meeting concerning health and safety.

Alternatively, an individual operator could be the Health and Safety representative for the company and be required to attend a regular meeting.

Help: For more information about non-working periods, see 'Non-Working Periods' in your Manufacturing User Guide.

How Does this Affect the Sequencer?

Absences and holidays are created as a type of state and then applied to a resource just as you would do for any calendar period. You can view the shift patterns in the Sequence Overview and plan you schedule accordingly.

Help: For more information about calendar states, see *Creating Calendar States on page 117*.

Create an Absence if the Primary Resource is Labour

You must create a calendar state if it has not already been done. Then using 'Exceptions for Specific Day File', define the duration of the absences and apply it to the primary resource.

Help: For more information about how to create a calendar state, see *Creating Calendar States on page 117* and to create an exception for a specific day, see *Creating an Exception for a Specific Day on page 120*.

What if the Primary Resource is a Machine?

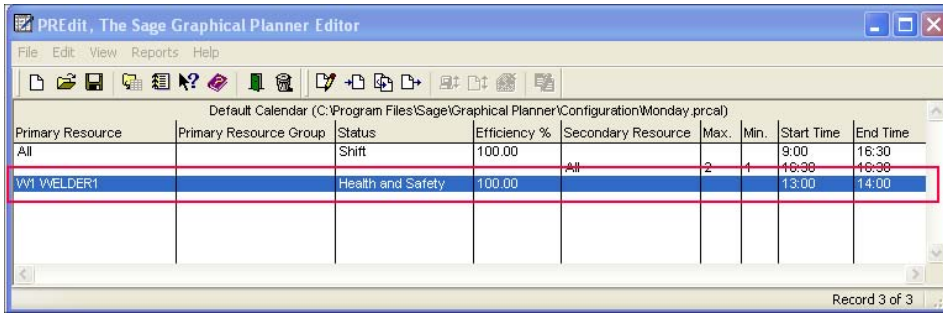
If a machine is set as the primary resource, labour would be secondary. As secondary resources are defined within Graphical Planner, you can assign an absence to an individual secondary resource. The absence will not be taken into account when sequencing because Graphical Planner is a single constraint scheduler. Although, you can view the effect in a user plot.

Help: For more information about user plots, see *Reading a Plot on page 187*.

You can also assign the individual operators to teams whose members have common skills. These groups could then have absences applied to them.

For example, the primary resources could be the machinery, drill, CNC, and paint booth. The various people who can operate more than one primary resource would be considered

secondary resources. These multi-taskers would be grouped into teams. An absence type could then be allocated to the team.



Applying a Global Holiday

In some cases such as bank holidays, factories may have complete shut downs. To ensure consistency, Sage strongly recommends that you create your holidays in Manufacturing. This ensures that the dates are identical in Manufacturing and Graphical Planner when the 'Get All Data' option is run.

Help: For more information about non-working periods, see 'Non-Working Periods' in your Manufacturing User Guide.

Applying a Global Holiday in Graphical Planner

You can enter a holiday within Graphical Planner, but you must be aware that this holiday date stays local to the plan.

Note:
When the plan's information is sent back to Manufacturing, the holidays defined in the Graphical Planner do not update the non-working periods. However, the start and end dates of orders and recommendations will reflect the actual capacity, including all absences.

To apply a global holiday in graphical planner

1. Apply a 'Vacation/Holiday' to a resource.

    1.1. Select the 'Edit Master Vacation File'.
    Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> Vacation/Calendar File Maintenance> **Edit Master Vacation**
    The 'PREdit'window appears.

    1.2. Double-click the blank row.
    The 'Edit Default Calendar Information' window appears.

    1.3. Select the 'Primary Resource'.
    Note:
    'All' is set as default.

    1.4. Select 'Vacation/holiday' from 'Status'.

    1.5. Enter the 'Efficiency %'.

    1.6. Select or enter a 'Start Time'.

    1.7. Select or enter a 'End Time'.

    1.8. Click 'OK'.
    The information appears in the 'Vacation.prcal' file under 'Primary Resource'.

OR

    1.1. Clear the 'Primary' check box.
    The Secondary Data information appears.

    1.2. Select a 'Secondary Resource'.

    1.3. Enter the 'Max.' amount assigned to the resource.

    1.4. Enter the 'Min.' amount assigned to the resource.

    1.5. Enter a 'Start' date.

    1.6. Enter an 'End' date.

    1.7. Click 'OK'.
    The information appears in the 'Vacation.prcal' file under 'Secondary Resource'.

2. Define the duration of the vacation.

    2.1. Select 'Setup Vacation'.
    The 'Vacation D...' window appears.
    Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> vacation/Calendar File Menu> **Vacation D...**

    2.2. Enter or select the 'Vacation Start:' date.

2.3. Enter or select the 'Vacation End:' date.

2.4. Click 'OK'.
The information is displayed in the 'Exceptions for Specific Day File'.

3. View 'Exceptions for Specific Day File'.
The global holiday is created as an exception. The exception is displayed the next time you generate a schedule.
Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Exceptions for Specific Day File**
Note:
Once verified, return to 'Edit Master Vacation File' and delete the record you just entered. This will avoid duplicating holidays when you create another record.

To apply a specific holiday

When a specific holiday is needed for a team or individual operators, use the 'Exceptions for Specific Day File' and change the 'Status' to "Vacation/holiday".

Help: For more information creating an exception, see *Creating an Exception for a Specific Day on page 120*.

Editing a Primary Resource Group

Modifying a Primary Resource Group is essential if you have multi functional or multi-skilled resources that could form part of several resource groups.

Why Edit a Primary Resource Group?

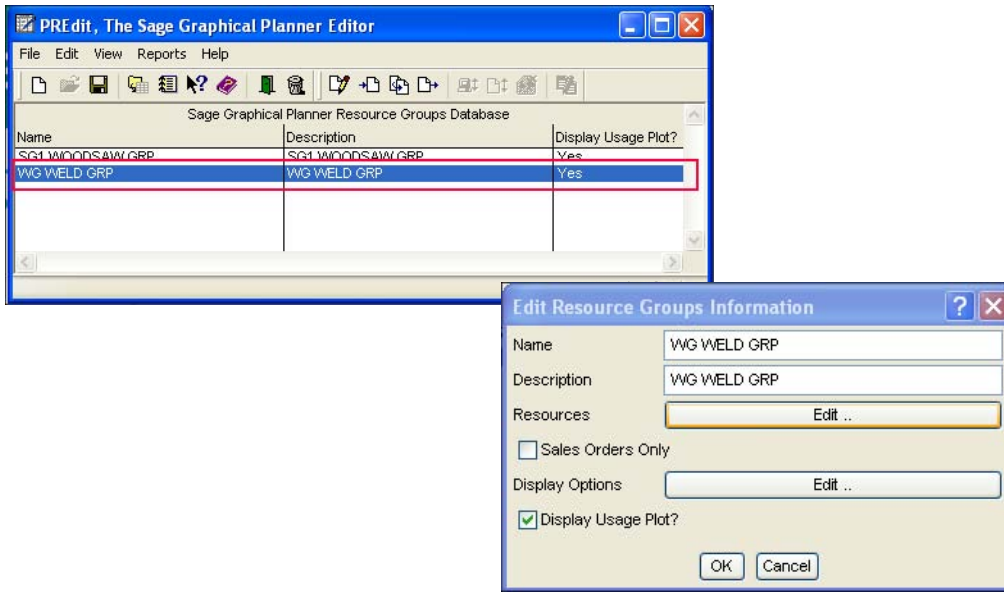
As Manufacturing BOM only allows a one to one relationship, you may need to manually adjust the Primary Resource using the 'Primary Resource Group' menu option. Maintaining the data within the Sequencer allows a one to many option so that one resource can be part of several resource groups. For example, a multi-skilled operator could use several machines.

Note:
Make sure that you only create a resource in Manufacturing and not Graphical Planner. There are no links between Manufacturing's resource references and Graphical Planner once all data has been imported into Graphical Planner.

It is important to remember that records which are stored in Graphical Planner are overwritten when 'Get Resources Only' or 'Get All Data' is selected from 'SAGE Data Transfer Menu'.

Where Do I Edit a Primary Resource Group?

Path: Graphical Planner> Main Menu> Maintain Database> **Primary Resource Groups**



What Settings Can I Change?

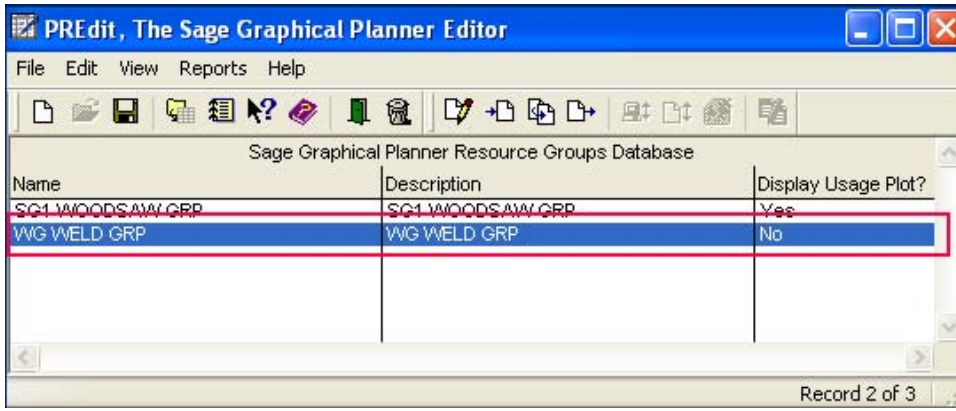
Resources	Identifies the valid resources for the group. A resource may be a member of more than one group.
Display Options	Holds information about the way in which a resource or resource group is displayed in the 'Sequence Overview' and 'Plots' window.
Display Usage Plot	Toggles to display a usage plot for the resource group located in the Sequencer's multi plot window.

Note:
You must not change the 'Name' or 'Description' because Graphical Planner will not allocate work correctly. You must edit the Primary Resource Group's name and description in Manufacturing.

To edit a primary resource group

1. Double-click the desired primary resource group on the 'Pre-Edit' window.
   The 'Edit Resource Groups Information' window appears.
2. Edit the 'Resources'.
   2.1. Click the Resources' 'Edit' button.
   The 'Select Valid Resources' window appears.
   2.2. 'Add' or 'Remove' the appropriate 'Resources'.
   2.3. Click 'OK'.
3. Select the 'Sales Orders Only' check box if necessary.
4. Reset any 'Display Options'.
   4.1. Click the 'Display Options' 'Edit' button.
   The 'Edit Resource Groups Display Options Information' window appears.
   4.2. Make the modifications.
   4.3. Click 'Previous...'
5. Select the 'Display Usage Plot?' check box if necessary.
6. Click 'OK'.
   The Primary Resource Group is modified.

Example:
Notice that the 'Displayed User Plot' option has been changed. Refer to the orginal screenshot of *Where Do I Edit a Primary Resource Group? on page 134*.



7. Save.
   Click the 'Save' icon on the 'Main' toolbar.
8. Exit.
   Click the 'Exit' icon on the 'Main' toolbar.

Note:
When sequencing, Graphical Planner looks at the BOM routing to see if there is a resource group specified. It will then select a resource member of the group on which to place the operation. If you subsequently manually move the operation, you will only be allowed to select another resource that lies within the group.

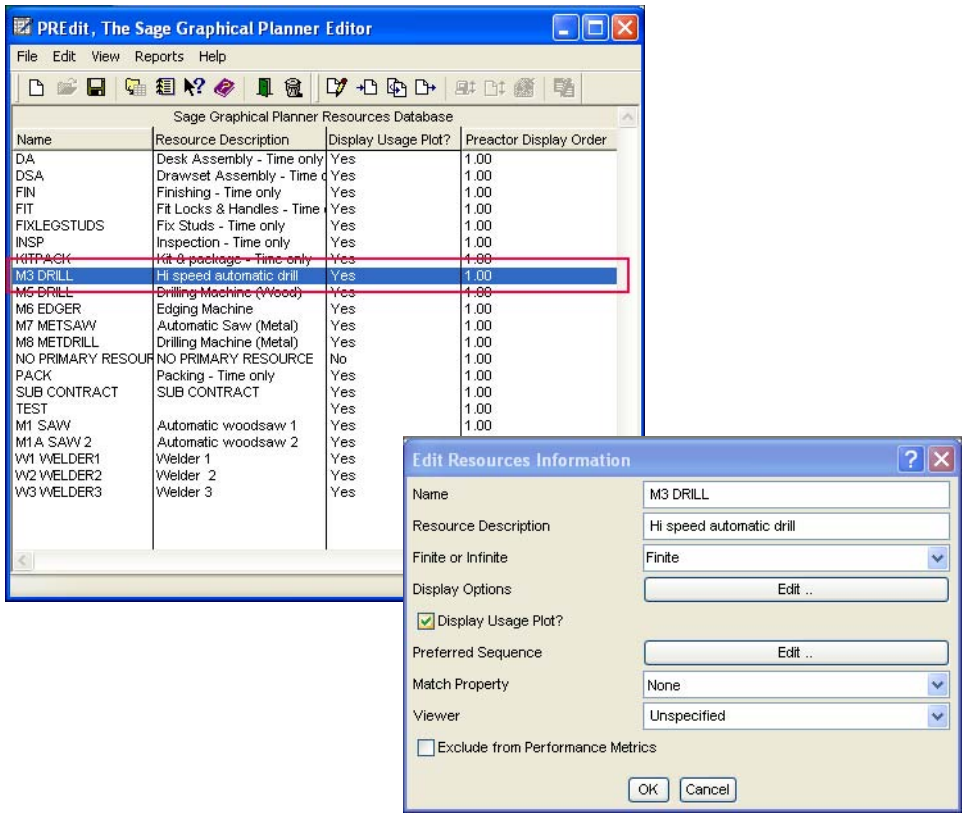
If the BOM routing defines a specific resource, when sequenced the operation is allocated to that resource. Should you manually move it, there is no validation to ensure a "legal" resource has been selected. Therefore, you can select any resource you want.

Editing a Primary Resource

You can change how the resources are displayed in the Sequence Overview or change the order in which they appear.

Where Do I Edit a Primary Resource?

Path: Graphical Planner> Main Menu> Maintain Database> **Primary Resources**



What Settings Can I Change?

Finite or Infinite	Allows a capacity to be set to finite, finite, or infinite with shift patterns.
Display Options	Holds information about the way in which a resource or resource group is displayed in the Sequence Overview window and User Plots.
Display Usage Plot?	Toggles to display a usage plot for the resource group located in the Sequencer's multi plot window.

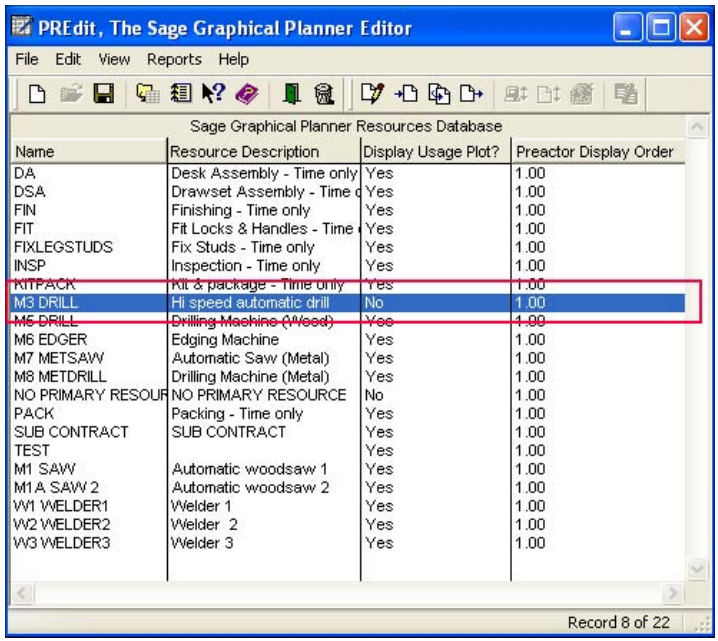
Note:
You must not change the 'Name' or 'Description' because Graphical Planner will not allocate work correctly. You must edit the Primary Resource Group's name and description in Manufacturing.

To edit a primary resource

1. Double-click the desired primary resource on the 'PREdit' window
   The 'Edit Resource Information' window appears.
2. Select 'Finite', 'Infinite' or 'Infinite with Shift Patterns'.
3. Reset any 'Display Options'.
   3.1. Click the Display Options 'Edit' button.
   The 'Edit Resource Display Options Information' window appears.
   3.2. Make the modifications.
   3.3. Click 'Previous...'
4. Select the 'Display Usage Plot?' check box if necessary.
5. Click 'OK' .
   The primary resource is modified.

Example:

Notice that the resource no longer displays usage plots. Refer to the original screenshot of *Where Do I Edit a Primary Resource? on page 137*.



6. Save.

   Click the 'Save' icon on the 'Main' toolbar.

7. Exit.

   Click the 'Exit' icon on the 'Main' toolbar.

Note:

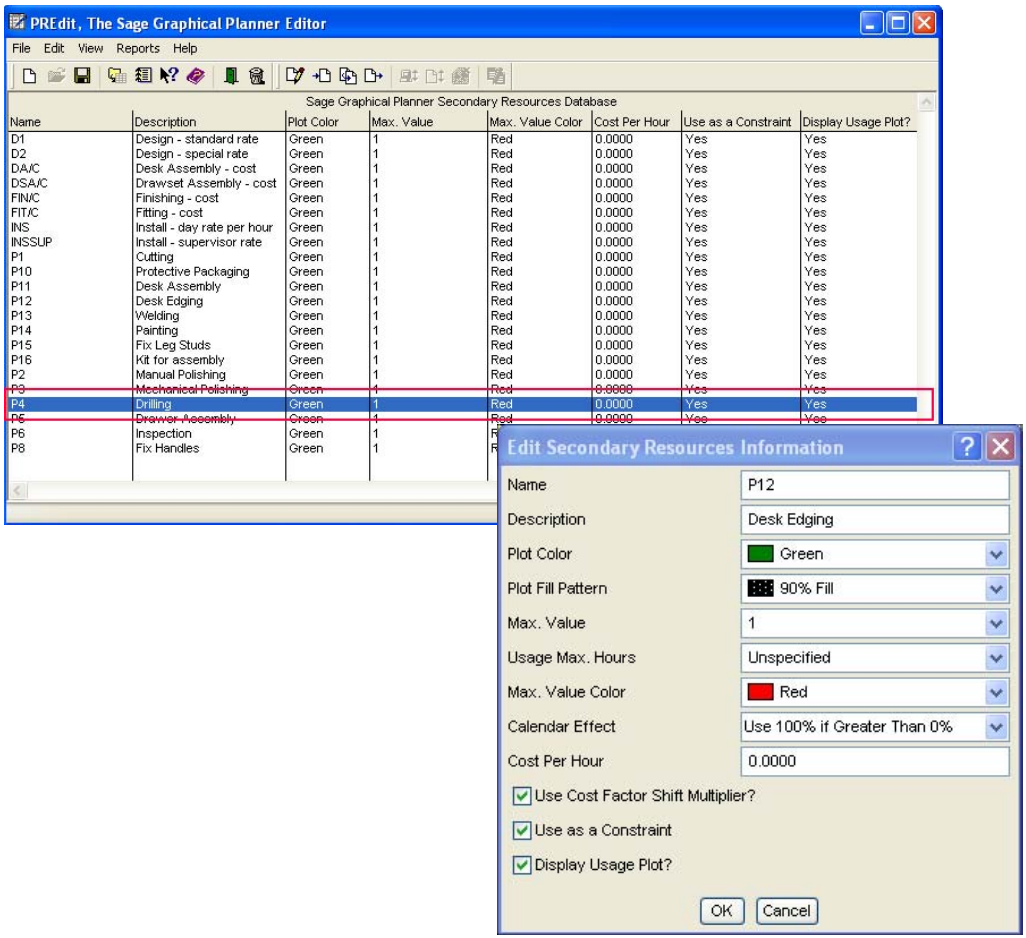
You can hide a resource in the Sequence Overview by selecting Edit Resource Display Options Information> Display Options> Resource Display Options> Hide. This is useful if you want to hide a resource on the Sequence Overview, but still keep the record.

Editing a Secondary Resource

You can edit the number of resources assigned to a task and change how the information will be displayed on the Sequence Overview.

Where Do I Edit a Secondary Resource?

Path: Graphical Planner> Main Menu> Maintain Database> **Secondary Resources**



What Settings Can I Change?

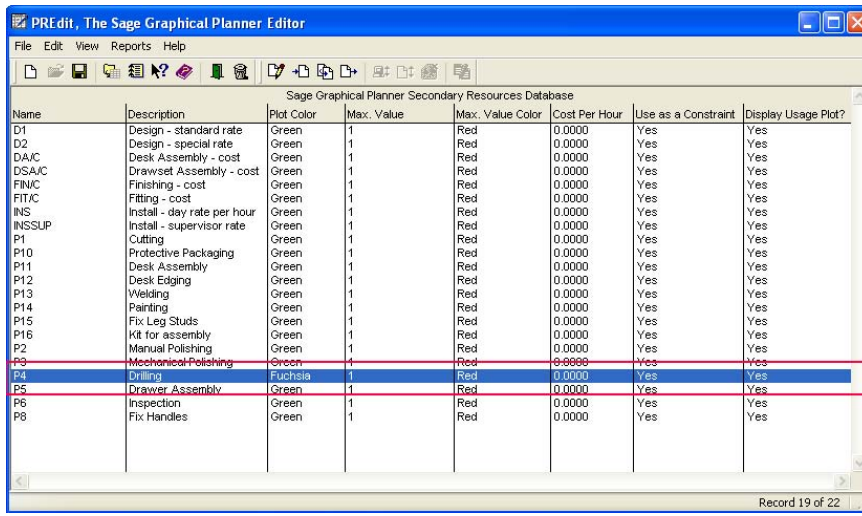
Plot Color	Allows you to select the colour of the Sequencer User Plot when the values are between the high and low limits.
Plot Fill Pattern	Sets the plot fill pattern. For example, a pattern can be a solid colour, lines, dots, cross hatches, waves, or blank.
Max. Value	Maximum value of the secondary resource capacity, which also forms the plot's upper limit.
Usage Max. Hours	Determines what value acts as the maximum number of hours where the usage plots should change colour as defined by the colour selected in the 'Max. Value Color' field. When set to 'Unspecified', the plot will draw a line on the usage plot to display the maximum number of hours available. Alternatively, a value can be entered in this field that will act as the maximum number of hours.
Max. Value Color	Plot fill colour if the plot should pass the upper plot limit.
Calendar Effect	Determines how the primary resource calendar efficiency affects the usage of this secondary resource.
Cost Per Hour	The hourly cost of running the resource.
Use Cost Factor Shift Multiplier	Applies "Cost Value %", established in the Master Calendar records to the hourly cost of the resource.
Use as a Constraint	If this check box is clear, this function will stop the Sequencer from issuing warnings if the limits set for this secondary resource are exceeded.
Display Usage Plot?	This toggles to display a usage plot for the secondary resource in the 'Plot' window.

Note:
You must not change the 'Name' or 'Description' because Graphical Planner will not allocate work correctly. You must edit the Primary Resource Group's name and description in Manufacturing.

To edit a secondary resource

1. Double-click the desired secondary resource.
   The 'Edit Secondary Resources Information' window appears.
2. Select a 'Plot Color'
3. Select a 'Plot Fill Pattern'.
4. Select a 'Max. Value'.
5. Select a 'Usage Max. Hours'.
6. Select a 'Max. Value Color'.
7. Select a 'Calendar Effect'.
8. Enter a 'Cost Per Hour'.
9. Select the 'Display Usage Plot?' check box if necessary.
10. Click 'OK'.
    The resource has been modified.

Example:
Notice that the Plot Colour has changed. Refer to the original screenshot of *Where Do I Edit a Secondary Resource? on page 140*.



Name	Description	Plot Color	Max. Value	Max. Value Color	Cost Per Hour	Use as a Constraint	Display Usage Plot?
D1	Design - standard rate	Green	1	Red	0.0000	Yes	Yes
D2	Design - special rate	Green	1	Red	0.0000	Yes	Yes
DA/C	Desk Assembly - cost	Green	1	Red	0.0000	Yes	Yes
DSA/C	Drawset Assembly - cost	Green	1	Red	0.0000	Yes	Yes
FIN/C	Finishing - cost	Green	1	Red	0.0000	Yes	Yes
FIT/C	Fitting - cost	Green	1	Red	0.0000	Yes	Yes
INS	Install - day rate per hour	Green	1	Red	0.0000	Yes	Yes
INSSUP	Install - supervisor rate	Green	1	Red	0.0000	Yes	Yes
P1	Cutting	Green	1	Red	0.0000	Yes	Yes
P10	Protective Packaging	Green	1	Red	0.0000	Yes	Yes
P11	Desk Assembly	Green	1	Red	0.0000	Yes	Yes
P12	Desk Edging	Green	1	Red	0.0000	Yes	Yes
P13	Welding	Green	1	Red	0.0000	Yes	Yes
P14	Painting	Green	1	Red	0.0000	Yes	Yes
P15	Fix Leg Studs	Green	1	Red	0.0000	Yes	Yes
P16	Kit for assembly	Green	1	Red	0.0000	Yes	Yes
P2	Manual Polishing	Green	1	Red	0.0000	Yes	Yes
P3	Mechanical Polishing	Green	1	Red	0.0000	Yes	Yes
P4	Drilling	Fuchsia	1	Red	0.0000	Yes	Yes
P5	Drawer Assembly	Green	1	Red	0.0000	Yes	Yes
P6	Inspection	Green	1	Red	0.0000	Yes	Yes
P8	Fix Handles	Green	1	Red	0.0000	Yes	Yes

How is a Secondary Resource Linked to a Works Order?

The operation details within Manufacturing's Operation Register link to the Graphical Planner's secondary resources.The 'Reference' field and 'Description' field within the 'Secondary Resources 'window is reflected in Manufacturing.

Path: Manufacturing Controller> Bill of Materials> Links> Operations Register> Operation record> **Operation Details**

Path: Sage 200 Manufacturing> Manufacturing System Manager> Operations Register> Enter New Record or Amend Record> **Op - Operation Details**

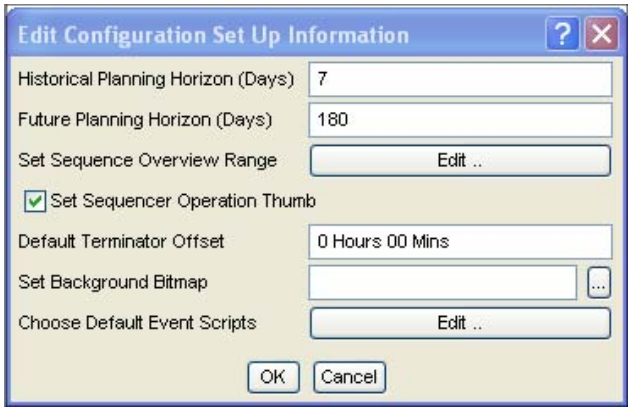
Editing the Configuration Data

You can edit the configuration data to set the horizon defaults and Sequence Overview Range. This enables you to control how much of a segment of time you want to view.

Note:
Sage strongly recommends that you contact Manufacturing Technical Support if you want to modify more than the horizon defaults and Sequence Overview Range.

Where Do I Access the Edit Configuration Set Up Information Window?

Path: Graphical Planner> Main Menu> Maintain Database> Configuration Menu> Configuration Data> **Edit Configuration Set Up Information**



What Settings Can I Change?

Historical Planning Horizon	Use this field to specifiy how many days of past production you want to see displayed in the Sequencer Overview.
Future Planning Horizon (Days)	Use this field to set the period of days (after the current time) that you want to see displayed in the Sequencer Overview. This date is also displayed in the 'Operations' window. **Note:** It is recommended that the 'Run MRP' horizon date is reflected in the 'Future Planning Horizon'. For example, if the MRP horizon is set to three months, and the 'Future Planning Horizon' is one month, then Graphical Planner will not sequence all the work on the plan as it has insufficient time available.
Set Sequence Overview Range	Use this field to define the length of the views in the Sequencer Overview. It configures how many days can been seen at one time. **Help:** For more information, see *Setting Sequence Overview Range on page 146*.
Default Terminator Offset	Use this field to set the amount of time to offset the grey terminator line from the current time. **Note:** Zero represents the current time.
Set Background bitmap	Use this field to customise your background screen. **Note:** Option not active.
Choose Default Event Scripts	The Default Event scripts are pre-configured and are used to perform the data transfer routines. For more information, contact Manufacturing Technical Support.

Note:
You must not change the 'Name' or 'Description' because Graphical Planner will not allocate work correctly. You must edit the Primary Resource Group's name and description in Manufacturing.

Setting Sequence Overview Range

Instead of viewing an operation's complete time period, you can define a Sequence Overview Range to display a segment of the allotted time.

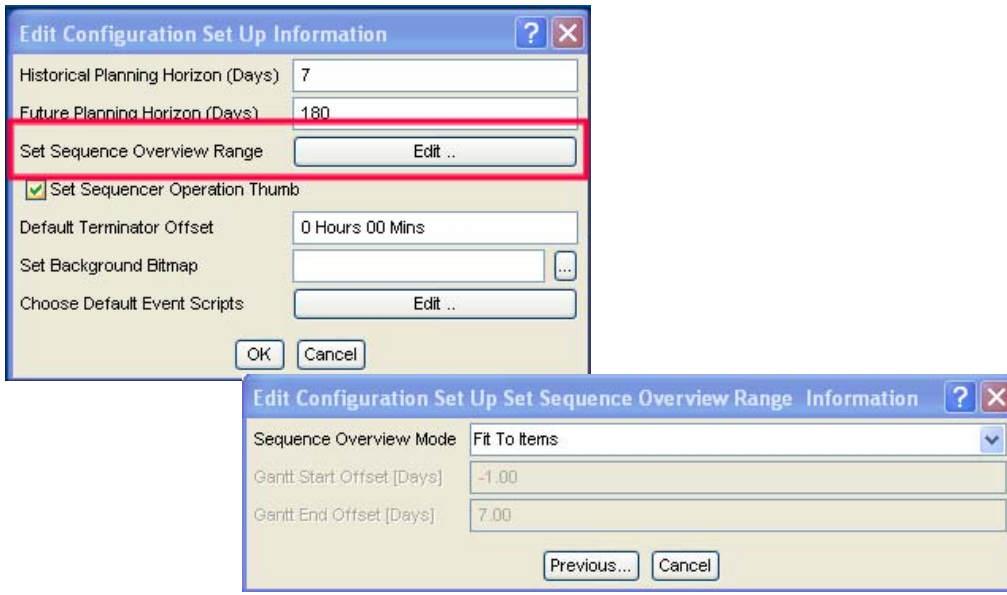
How Does this Affect Graphical Planner?

The values that are defined in the Configuration Editor's 'Sequence Overview Range' are shown within the Sequencer's 'Utilisation View' to reflect the utilisation of each resource.

Help: For more information about how to view the display, see *How Do I View the Utilisation Display? on page 202*.

Where Do I Access the Edit Configuration Set Up?

Path: Graphical Planner> Main Menu> Maintain Database> Configuration Menu> Configuration Data> Edit Configuration Set Up Information window> Set Sequence Overview Range: Edit> **Edit Configuration Set Up Sequence Overview Range Information**



Customising Product Categories

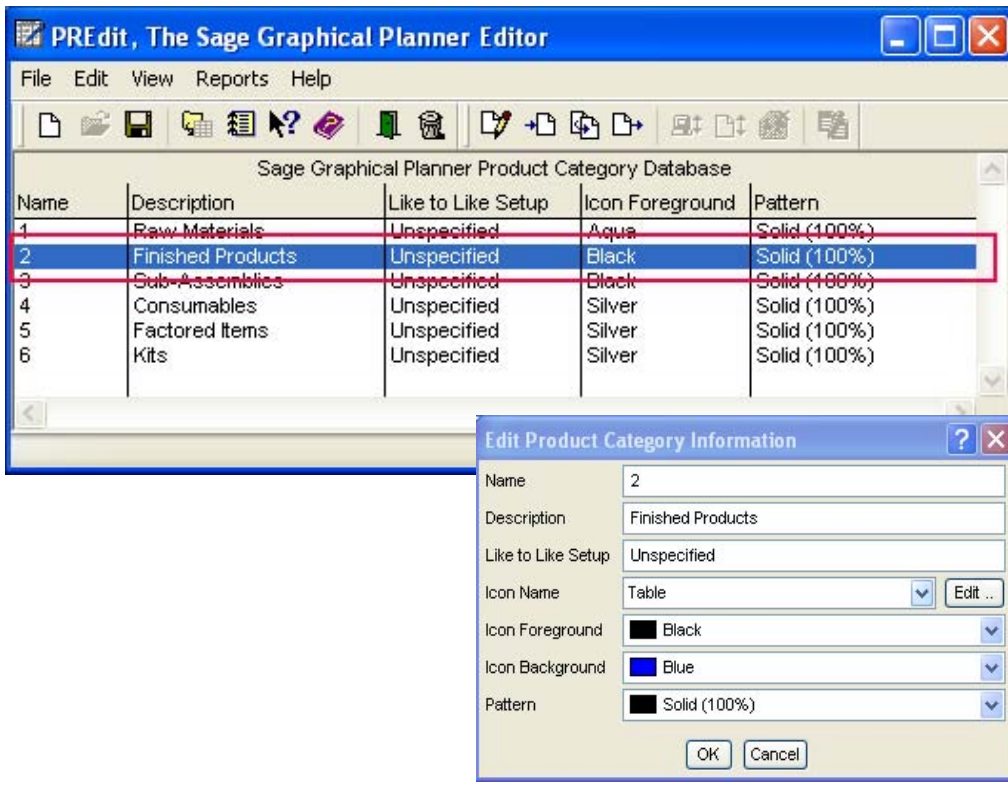
You can associate a colour and icon to a specific product to identify different categories, such as assemblies and sub-assemblies within the Sequencer Overview. This helps you to compare different product types on one window.

Note:
The product categories should have already been created in Sage 50 Accounts.

Help: For more information about creating Product Categories, see your Sage 50 Accounts User Guide.

Where Do I Access Product Categories?

Path: Graphical Planner> Main Menu> Maintain Database> **Product Categories**



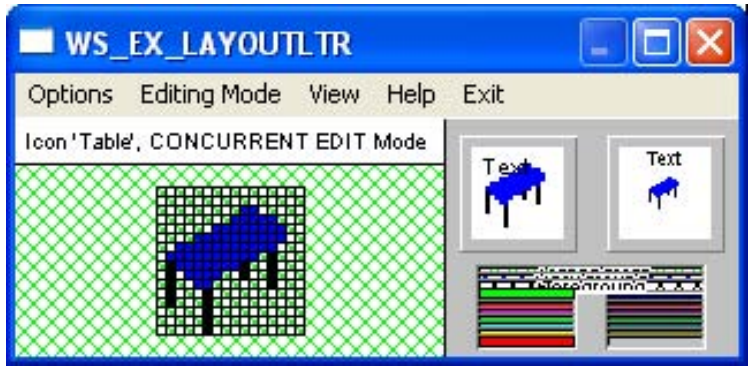
What Settings Can I Change?

Like to Like Setup	Allows set up times to be defined for similar products that overrules the set up time defined in Manufacturing's Operations Editor. **Example:** A welding operation normally has a 45 minute set up between jobs to allow for adjustment to the fixture. If you enter a time of 10 minutes against a product category, and two different products from the same category follow one another, they will have a set up time of 10 minutes rather than 45. This is because they use a common fixture arrangement.
Icon Name	Describes the visual representation of the product category.
Edit	Allows you to edit the layout of the icon.
Icon Foreground	Defines the icon's foreground.
Icon Background	Defines the icon's background.
Pattern	Defines the icon's pattern.

Note:
You must not change the 'Name' or 'Description' because Graphical Planner will not allocate work correctly. You must edit the Primary Resource Group's name and description in Manufacturing.

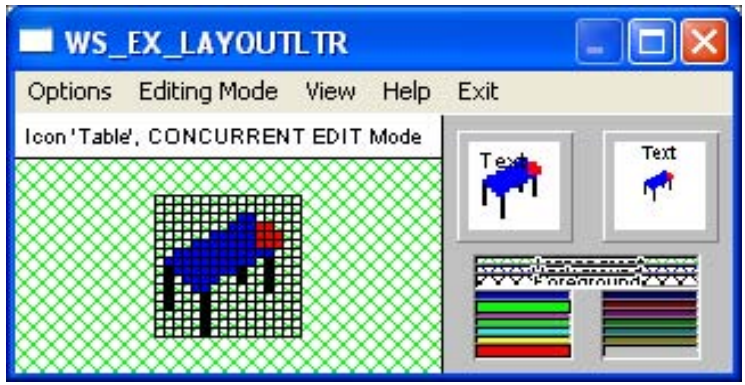
To edit a product category

1. Double-click an existing product category record.
   The 'Edit Product Category Information' window appears.
2. Select an 'Icon Name'.
3. Edit the layout of the icon (if necessary).
   3.1. Within the 'Edit Product Category Information' window, click 'Edit'.
   The 'WS_EX_LAYOUTTLTR' window appears.



3.2. Select a colour and apply it to a section within the layout.

3.3. Continue applying until all of the surface is completely covered.



3.4. Exit.

Click the 'Exit' Exit icon the 'Main' toolbar.
The icon's layout is modified.

5. Select an 'Icon Foreground'.
6. Select an 'Icon background'.
7. Select an 'Pattern'.
8. Click 'OK'.
The product category appears with the new layout in the Sequencer once the schedule has been generated.

Summary

You should now be familiar with:

- ✔ Creating a Calendar State
- ✔ Creating an Exception for a Specific Day
- ✔ Creating Weekly Shift Patterns
- ✔ Creating Holidays and Absences
- ✔ Editing a Primary Resource Group
- ✔ Editing a Primary Resource
- ✔ Editing a Secondary Resource
- ✔ Editing the Configuration Data
- ✔ Customising Product Categories

and are ready to schedule your day-to-day operations.

Chapter 6

Scheduling in Graphical Planner

This chapter describes the tasks you can perform in Graphical Planner's Sequencer to create effective schedules for your planning needs.

In this chapter:

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Unallocating Operations 163
Sequencing Operations 165
Analysing Late or "At Risk" Orders/ Operations 173
Planning for Maintenance or Machine Breakdown 182
Reproducing Breakdowns 184
Viewing the Resource 185
Reading a Plot 187
Comparing Schedules 190
Locking/Unlocking Operations 192
Locating Orders/Operations 196
Using the Options Menu 199
Generating a Utilisation Report 201
Summary 204

Terms you should know in this chapter

Operations and sub-assemblies	Jobs
Bottleneck	Resources with a critical impact on the schedule. Calculated by Graphical Planner using the waiting time of jobs to be processed on the resource. Those with a long queue of work are likely to be identified as bottlenecks.
.CSV File	Contains a comma delimited format which allows one application to transfer the data to another application. This file will transfer data from Manufacturing to Graphical Planner and back again.
Normalised Gantt Chart View	Use this view to display the performance of each operation against the due date. The 'Normalised Gantt Chart' is a simplified view of the Sequencer. Those operations displayed in the red section are late.
Manning Level	Use this box to determine how many people work on a machine. For example, if the Manning level is set to 2 and operation time per item takes one hour, each person works thrity minutes. The operation is rescheduled based on the new amount of time required.

Overview

Scheduling is important to keep a business organised and successful. Creating a project plan allows you to keep up-to-date with your changing business climate. You can plan the continuity of your production line yet still assess the impact of the unexpected. You can create many plans to fit your needs.

Before Starting to Schedule...

Use the checklist below to verify that you have the prerequisites set up before you start to schedule.

- ✔ Set up Manufacturing.
- ✔ Familiarised yourself with Graphical Planner's menu options, windows and toolbars.
- ✔ Configured your workspace.
- ✔ Set up shift patterns and define any absences or other unavailable time.
- ✔ Imported all data from Manufacturing.

Help: For more detailed information, see *Setting Up Manufacturing on page 31*, *Getting to Know Graphical Planner* on page 49, and *Setting Up Graphical Planner on page 113*.

What Next?

Once you have verified that you have the necessary prerequisites, you are now ready to complete the following:

- Perform basic tasks.

  Help: For more information, see *Performing Basic Tasks on page 155*.
- Placing Operations

  Help: For more information, see *Placing Operations on page 159*.
- Unallocating Operations

  Help: For more information, see *Unallocating Operations on page 163*.
- Sequencing Operations

  Help: For more information, see *Sequencing Operations on page 165*.
- Analysing Late or "At Risk" Orders/Operations

  Help: For more information, see *Analysing Late or "At Risk" Orders/Operations on page 173*.

- Planning for Maintenance or Machine Breakdown

  Help: For more information, see *Planning for Maintenance or Machine Breakdown on page 182*.
- Reproducing Breakdowns

  Help: For more information, see *Reproducing Breakdowns on page 184*.
- Viewing the Resource

  Help: For more information, see *Viewing the Resource on page 185*.
- Reading a Plot

  Help: For more information, see *Reading a Plot on page 187*.
- Comparing Schedules

  Help: For more information, see *Comparing Schedules on page 190*.
- Lock/Unlocking Operations

  Help: For more information, see *Locking/Unlocking Operations on page 192*.
- Locating Orders/Operations

  Help: For more information, see *Locating Orders/Operations on page 196*.
- Identifying Sequence Errors

  Help: For more information, see *Identifying Sequence Errors on page 198*.
- Using the Options Menu

  Help: For more information, see *Using the Options Menu on page 199*.
- Generate a Utilisation Report

  Help: For more information, see *Generating a Utilisation Report on page 201*.

Performing Basic Tasks

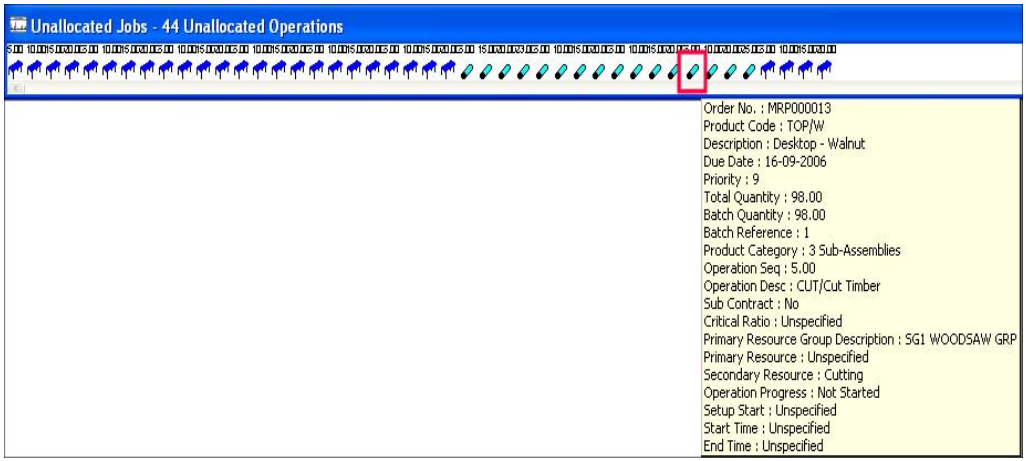
In order to schedule your operations, you need to know how to manoeuvre around your workspace and implement the procedures that create a plan. This section explains basic tasks which allow you to begin to create a plan.

How Do I View Operation Details?

You can view details of the operation in both the 'Unallocated Job' and 'Sequence Overview' windows. These details are taken from the 'Edit Job Information' window.

To view the operation's details

- Hover your mouse over an unallocated job icon in the 'Unallocated Job' window or over an operation in the 'Sequence Overview' window.
  The operation's details appear.



Editing Operation Details

You can edit (for current session) the operation's progress, priority, and resources in the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows. These details are taken from the data imported from Manufacturing.

How Does this Affect Manufacturing?

Only the modifications to the operation's progress and priority remain within Graphical Planner. Once the operation has been sequenced, the modified resource details are updated in Manufacturing when the 'Send Data' option is selected.

Where Do I Access the Operation's Details?

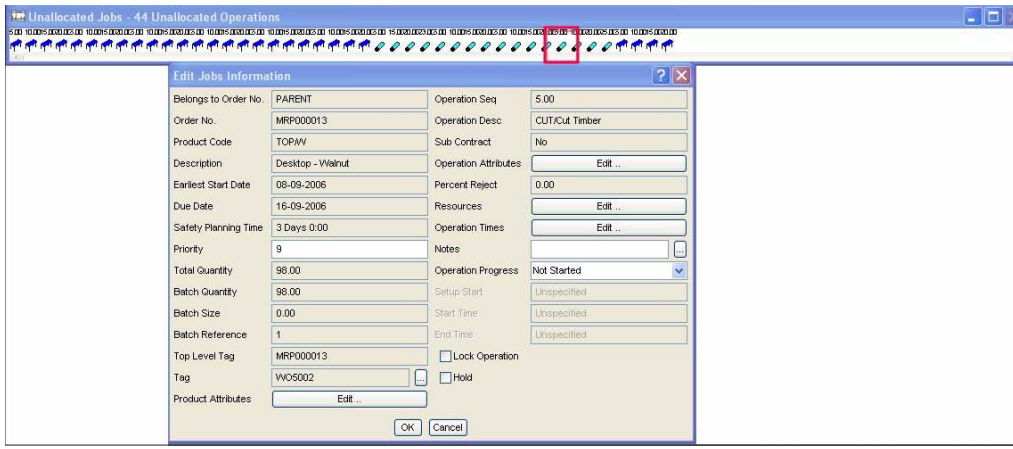
Path: Manufacturing Controller> Orders> Works Orders Processing-List window> Orders record - Batch> Works Order Details> Tracking> Description> Operation Details> **Resource Details**

Path: Sage 200 Manufacturing> Works Orders> Record> WOP - Works Order Details> Works Order Details> Tracking tab> Description> Operation Details> **Resource Details**

To edit the operation's details

1. Double-click the desired operation in either the 'Unallocated Jobs', 'Operations', or 'Sequence Overview' windows.
   The 'Edit Job Information' window appears.
2. Edit accordingly.
3. Click 'OK'.

Note:
Any changes made are kept locally. They do not carry through to Manufacturing once all the data is sent.



Editing an Operation Time

Normally the operation times are taken from the 'Qty per run/Run time' field when the works orders or recommendations are generated. You may want to change an operation's time to reflect more accurately the time being spent on the shop floor.

Note:
This should only be done if there is a change that applies to a short term period, such as a shift or day. Longer term changes in process time should be controlled within Manufacturing's BOM module.

How Does this Affect Manufacturing?

The modified operation time will be replaced with the original 'Qty Per Run/Run Time' defaults from Manufacturing the next time you 'Get All Data' or 'Get Orders/Recommendations'.

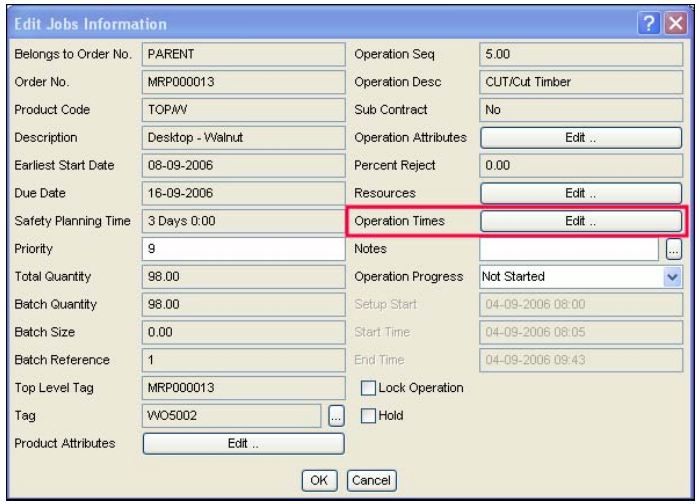
However, the 'End Date' in Manufacturing's 'Works Order/Recommendation' will be updated with the Graphical Planner modification, provided the user performs a 'Send Data' operation after the modification. This will remain changed until the next 'Send Data' update from Graphical Planner.

Path: Manufacturing Controller> Bill of Materials> Links> Operations Register> Operation record> Operation Details> Options tab> **Qty Per Run/Run Time Defaults section**

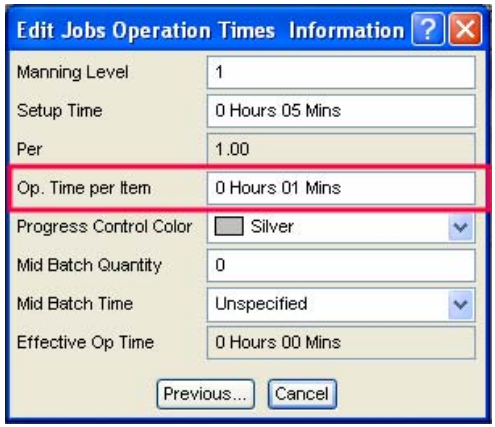
Path: Sage 200 Manufacturing> Manufacturing System Manager> Operations Register> Enter New Record or Amend Record> OP-Operation Details> Options tab> **Qty Per Run/Run Time Defaults section**

To edit an operation time

1. Within Sequence Overview, double-click on an operation.
   The 'Edit Job's Information' window appears.



2. Click Operation Time's 'Edit' button.
   The 'Edit Jobs Operation Times Information' window appears.



3. Change the 'Op. Time per Item'.
4. Click 'Previous...'.
   You are returned to the Sequencer.
5. Click the 'Validate' icon on the 'Sequence toolbar'.
   This process identifies any errors.
6. Click the 'Schedule Repair' icon on the Sequence toolbar.
   This repairs any errors.
7. Click the 'Save' icon.
   This saves the modified operation time.

Placing Operations

You can place one or more operations onto the Sequence Overview automatically or manually. The automatic method allows you to place all or a group of unallocated operations onto the Sequence Overview at one time. The manual method allows you to assess, operation by operation, what should be placed on the Sequence Overview and where.

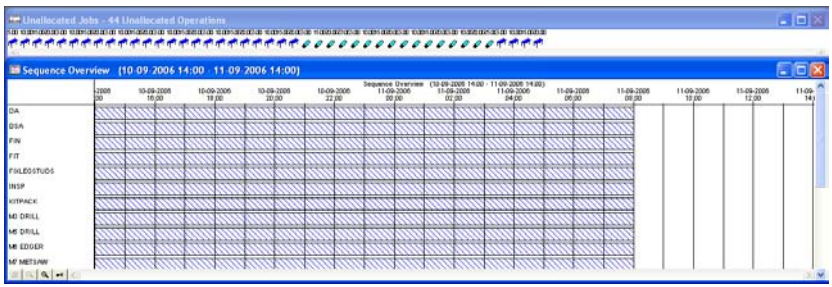
Note:
There are three different methods of sequencing operations while they are being placed on the Sequence Overview. By default, the Sequencer sets the 'Sequence' icon to sequence forward. When doing any type of sequencing, you must select one of the following order processing methods.

- Due Date
- Priority
- Reverse Priority
- Schedule file order

Help: For more detailed information about the sequencing methods, see *Sequencing Operations on page 165*. For more information about the order processing methods, see *How Do the Operations Display on the Sequence Overview When Sequenced? on page 172*

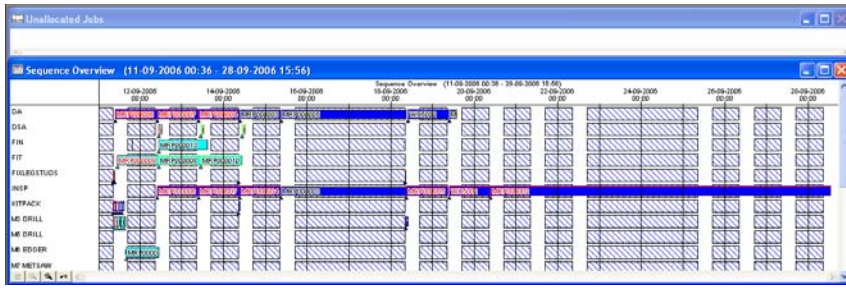
Automatically Placing All Operations onto the Sequence Overview

You can automatically place all of the unallocated operations from the 'Unallocated Jobs' window onto the Sequence Overview at one time.



To place all operations onto the sequence overview

- Click the 'Sequencer'  icon on the 'Sequence' toolbar.
  The unallocated jobs are now placed on the Sequence Overview.
  Note:
  There may be operations remaining in the 'Unallocated Jobs' window. These are operations that cannot be scheduled due to resource limitations or timing issues.

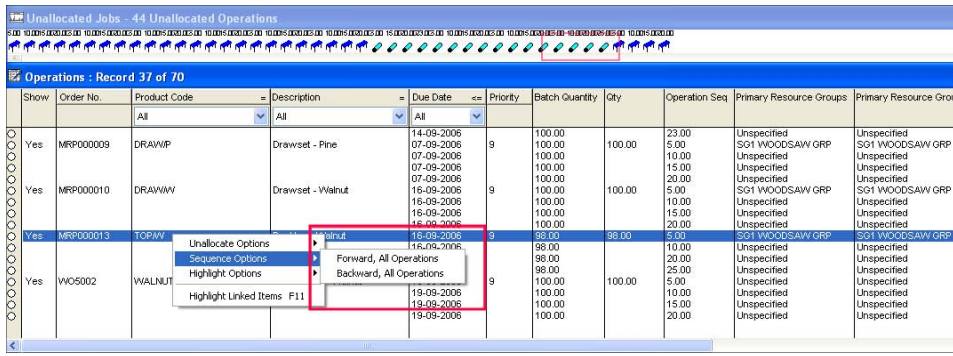


Automatically Placing a Group of Operations

You can automatically place a group of operations onto the Sequence Overview without sequencing all unallocated jobs from the 'Unallocated Jobs' window.

To place a group

1. Right-click on an order in the 'Operations' window.
   An options menu appears.
2. Select Sequence Options> Forward, All Operations or Backward, All Operations
   The operations are removed from the 'Unallocated Jobs' window and appear in the Sequence Overview. The group of operations are highlighted in the 'Operations' window.
   Help: For more detailed information about the sequencing methods, see *Sequencing Operations on page 165*.

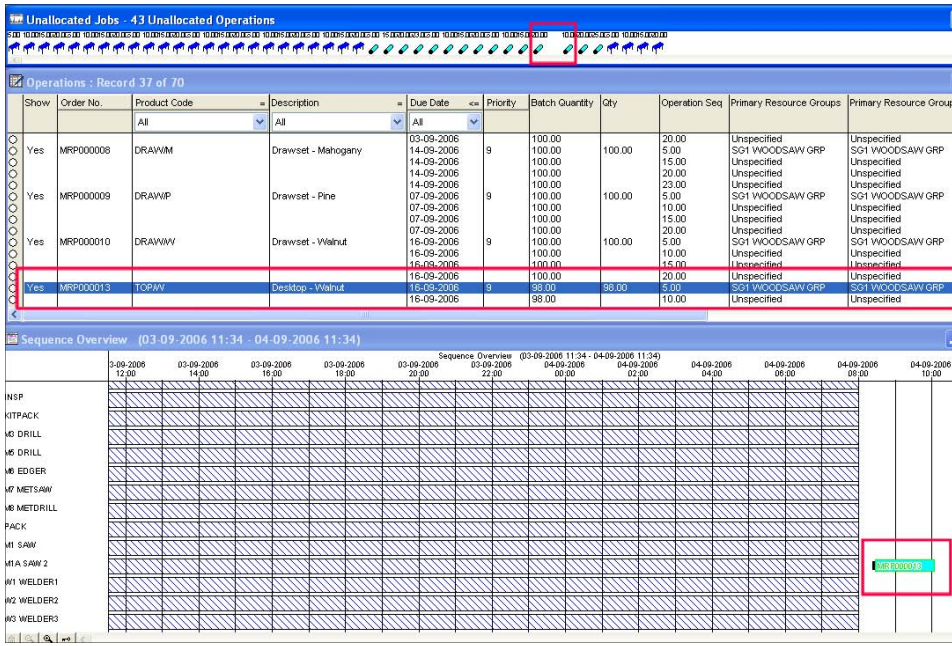


Manually Placing an Individual Operation

You can manually place an unallocated operation onto the Sequence Overview. This allows you to assess what impact it has on another.

To drag and drop an unallocated operation onto a resource

- Select the desired job from the 'Unallocated Jobs' window and drop it into the appropriate time frame in the Sequence OverviewSelect the desired job from the 'Unallocated Jobs' window and drop it into the appropriate time frame in the Sequence Overview.



Note:
Once the operation has been moved onto the Sequence Overview, the length of time required to complete the operation is represented by the length of the bar.

Placing Using the Locate Function

You can also use the 'Locate' function to select a range of operations on the basis of a number of selection criteria and automatically place them on the Sequence Overiew. You can sequence by:

- Product code
- Top level tag. (This identifies all related orders and operations of a final assembly.)
- Priority
- Description

To place a selection:

1. Open the 'Locator' window.
2. Click the 'Locate'  icon.
   The 'Sage Graphical Planner Locator' window appears.
3. Choose the critera.

   Select a option from the 'Search Field' list.
4. Sequence either Forward, Backward, or Bi-directional.

   Click 'Forward'  'Backward'  'Bi-directional'  , and 'Sequence'  icons on the 'Sequence' toolbar.
5. Click 'Close'.
   The selected criteria is automatically placed on the Sequence Overview.
6. Save.

   Click the 'Save'  icon.

Unallocating Operations

From time-to-time, you may need to replan your schedule. You can unallocate operations and then re-sequence to accommodate your changing needs.

Unallocate Operations

As with placing an operation, there are several ways of unallocating them.

To unallocate...

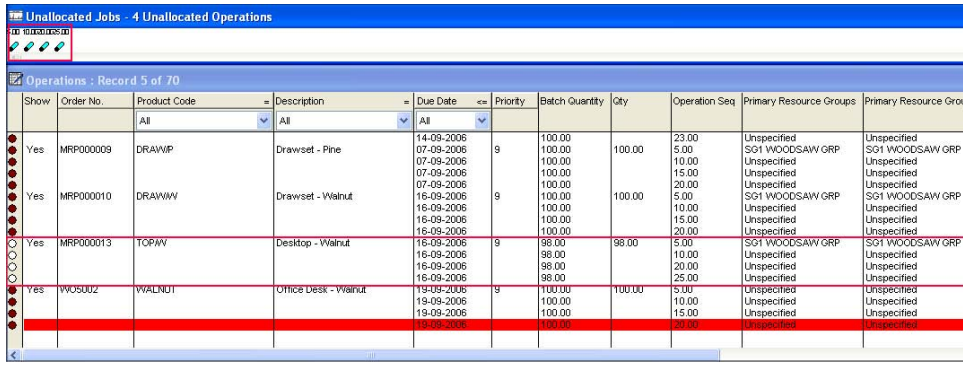
- All of the operations displayed on the Sequence Overview.

  Click the 'Unallocated'  icon. The operations are returned to the 'Unallocated Job' window.

  Note:
  Operations that are locked or lie within the terminator line will not be unallocated unless you have selected the 'Disable Operation Locking' or 'Lock History' icons.

- A group of operations displayed on the Sequence Overview.

  Right-click on an operation in Sequence Overview, and select Unallocate Options> Unallocate, All Operations.
  Those operations within the group are removed from the Sequence Overview and appear unallocated in the 'Operations' and 'Unallocated Jobs' windows.



- An individual operation displayed on the Sequence Overview.

  Drag an operation from the Sequence Overview and drop it back onto the 'Unallocated Jobs' window.

- by Locator.

  Click the 'Locate'  icon. Choose the critera in the 'Locator' window. Click the 'Unallocated'  icon. Click 'Close'. The operations are returned to the 'Unallocated Job' window.

- by resource.

  Right-click on a resource's name in the Sequence Overview and select 'Unallocate All Jobs' from the option menu.

Sequencing Operations

The Graphical Planner offers three methods of sequencing operations which you can use to suit your needs.

- Forward
- Backward
- Bi-directional

Each Sequencing method allows Graphical Planner to govern the order in which the Sequencer processes the operations. Each method can be processed by priority, due date, or order file. These processes are specific to sequencing all operations. Depending on the nature of your business, you may favour one method over another. Or you can use any method depending on the circumstances.

Help: For more information, see *How Do the Operations Display on the Sequence Overview When Sequenced? on page 172*.

Forward Sequencing

The Forward sequencing method automatically allocates operations (jobs) onto the appropriate resources within the Sequence Overview. The application looks at the earliest start date and time of the jobs and positions them from that point onwards.

Why Forward Sequence?

The advantage of forward scheduling is that work is placed on the factory as soon as possible, thereby utilising resources and ensuring the shortest possible delivery time. This could mean that there is more work in progress and finished goods could be placed into stock earlier than needed.

On the other hand, it may cause practical issues such as strain on the warehouse if space is limited.

Note:
Care needs to be taken when setting products up in BOM if there are sub-assemblies. The 'Lead Time' field in 'Product Information' should reflect the time taken to manufacture the sub-assemblies prior to final assembly.

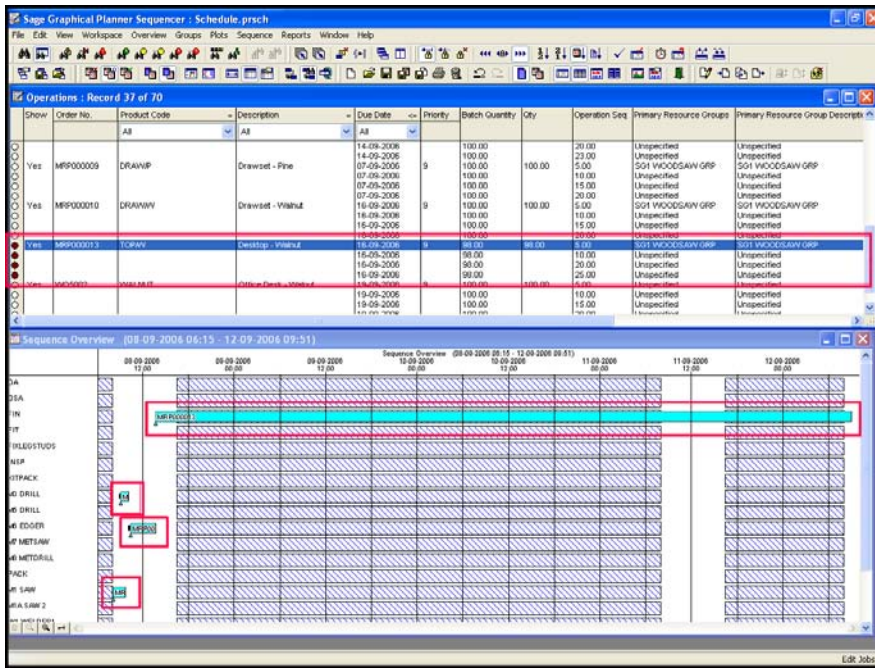
Path: Manufacturing Controller> Bill of Materials> Modules> Product Information> List> Product Information> record> Product Details> Main Details tab> **Lead Times (days) field**

Path: Sage 200 Manufacturing> Stock Control> St-Amend Stock Item Details> Suppliers tab> Edit> ST-Edit Supply Details for Item> Supply Details> **Lead Times (days) field**

To forward sequence an operation

1. Right-click an order in the 'Operations' window.
   An options menu appears.

   Select Sequence Options> Forward, All Operations.
   All the operations assigned to the order are allocated onto the Sequence Overview starting from the operations' earliest start date.



Note:
The maroon circles in the 'Operations' window indicate that the order has been sequenced. The calendar is displayed in the 'Sequence Overview' window.

Backward Sequencing

This method starts at the due date of the works order based on the customer delivery date and applies any safety planning time specified during MRP. This is the date it sets as the target date for the completion of the last operation of the works order.

Based on the routing and available capacity, it then works backwards, calculating when that operation should start in order to achieve the target date. The previous operation is then calculated by working backwards. This is repeated until the start of the first operation is calculated.

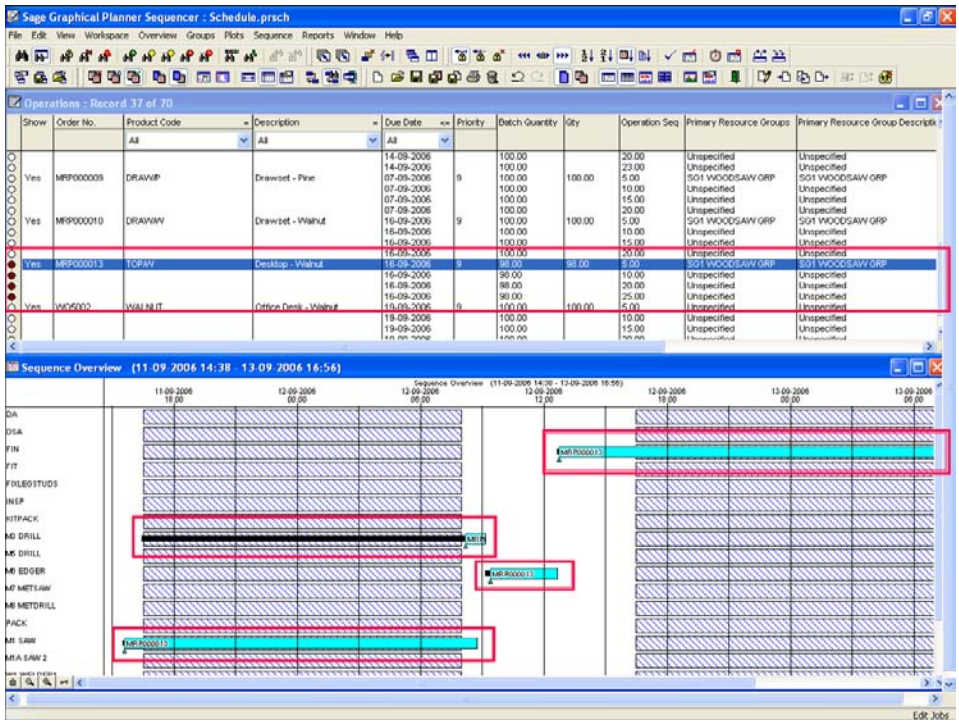
Why Backward Sequence?

The advantage to backward sequencing is that the finished goods inventory is kept at a low level and could potentially reduce the risk of write-offs, if changes are made to the demand.

On the other hand, if the due dates are too far in advance, and process times are short, the Sequencer will leave resources idle until it is time to start. Also, if due dates are near, and/or process times are long, there may be insufficient time to backward sequence the work on time. Therefore, operations would remain unallocated.

To backwards sequence

1. Right-click an order in the 'Operations' window.
   An options menu appears.
2. Select Sequence Options> Backward, All Operations.
   All the operations assigned to the order are allocated onto the Sequence Overview starting from the order's due date.



Note:
The dark circles in the 'Operations' window indicate that the order has been sequenced. The operations in the Sequence Overview are not displayed in backward order because the resources are displayed in alphabetical order, rather than the order of the actual manufacturing process.

Bi-Directional Sequence

The Bi-Directional Sequencing method allocates operations on the Sequence Overview around a calculated bottleneck operation. Operations before the bottleneck are backward sequenced from its start time. Operations after the bottleneck are forward sequenced from its end time.

Why Sequence Bi-Directionally?

This method is very useful in identifying bottlenecks and rescheduling unallocated jobs around them. Operations can be reallocated to resources that may otherwise remain idle due to the disruption. It aims to ensure that the Sequencer prioritises work before the bottleneck resource. This is to minimise potential delays.

This method may also be used to schedule around a "fixed" operation, which may only be carried out at a specific time; e.g. a sub-contractor is booked to paint the item on Tuesday morning.

Note:
When applying bi-directional sequencing, you should be aware of the potential impact on sub-assemblies. You can highlight "top level tags" to see the relationship between a product and its sub-assemblies.

Help: For more information about how to highlight "top level tags", see *Identifying Relationships Between Two Operations on page 196*.

To sequence bi-directionally

1. Forward sequence the unallocated jobs.

   Click the 'Forward'  and 'Sequence'  icons on the 'Sequence' toolbar.
   All of the allocations appear forwarded on the Sequence Overview.

2. Highlight the bottlenecked operations.

   Click the 'Highlight Bottleneck Operations'  icon on the 'Locate' toolbar.
   Those operations causing the bottleneck are highlighted. They appear bolded in the 'Operations' window and active in the Sequence Overview.

3. Lock the highlighted operations that appear in the Sequence Overview.

   Click the 'Locked Highlighted Operations'  icon on the 'Locate' toolbar.
   The bottlenecked operations remain locked on the Sequence Overview.

4. Assess the problem.

5. Unlock the bottleneck.

   Deselect the 'Bottleneck'  icon on the 'Locate' toolbar.
   All operations revert to active mode in the 'Operations' window and Sequence Overview.

6. Unallocate all of the orders.

Click the 'Unallocate'  icon on the 'Sequence' toolbar.
The bottlenecked operations remain locked on the relevant resources in the Sequence Overview.

7. Reschedule the rest of the jobs around the bottlenecked operations.

   Click the 'Bi-directional'  and 'Sequence'  icons on the 'Sequence' toolbar.
   The operations that contain a bottleneck are identified and the operations are reallocated around the bottleneck. Any proceeding operations are sequenced with a higher priority.
   Note
   Not all operations may have been reallocated due to various reasons. For more information, see *Reasons for not Allocating Jobs on page 171*.

8. Forward sequence any remaining unallocated jobs.

   Click the 'Forward'  and 'Sequence'  icons on the 'Sequence' toolbar.
   All of the allocations appear forwarded on the Sequence Overview.

9. Repair the schedule.

   Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.
   Any errors in the schedule have been automatically repaired.

10. Save.

    Click the 'Save'  icon.

Reasons for not Allocating Jobs

After using either of the Forward, Backward, or Bi-directional methods of scheduling, some operations still remain unallocated in the 'Unallocated Jobs' window. This unallocation relates to the due date.

To view an unallocation reason

1. Right-click a Finished Product on the 'Unallocated Jobs' window.
   An option menu appears.
2. Select 'Reasons not Allocated'.
   One of the following prompts appears stating the reason for the operation remaining unallocated.

Note:
These reasons usually appear because the resource cannot be fitted into the plan before the due date. Therefore, the resource's capacity must be extended.

Help: For more information about extending a resource's capacity, see *Increasing a Resource's Capacity on page 175*.

3. Click 'OK'.
   The prompt has disappeared.

How Do the Operations Display on the Sequence Overview When Sequenced?

Graphical Planner governs the order in which the Sequencer places the operations. They can be processed by priority, due date, or order file. These processes are specific to sequencing all operations at one time.

You can sequence by:

- Order of priority onto the Sequence Overview.

  Click either the 'Priority'  or 'Reverse Priority'  , (directional) and 'Sequence'  icons on the 'Sequence' toolbar.

- Order of due date.

  Click the 'Due-Date'  , (directional) and 'Sequence'  icons on the 'Sequence' toolbar.

- Order of how they appear in the operations list.

  Click the 'Schedule File Order'  , (directional) and 'Sequence'  icons on the 'Sequence' toolbar.

Analysing Late or "At Risk" Orders/Operations

Following an MRP run, you would normally pass recommendations into the Graphical Planner which is ideal for identifying orders/operations that are either going to be late or will fall into the safety lead time.

How Does this Affect Manufacturing?

Those late or "at risk" orders/recommendations within Manufacturing display the same colour codes as those late or "at risk" orders/recommendations in Graphical Planner.

How Do I Solve Late or "At Risk" Orders?

- Increase resource's capacity.
- Reduce manufacturing time.
- Re-prioritise workload.
- Seek customer agreement for delay.

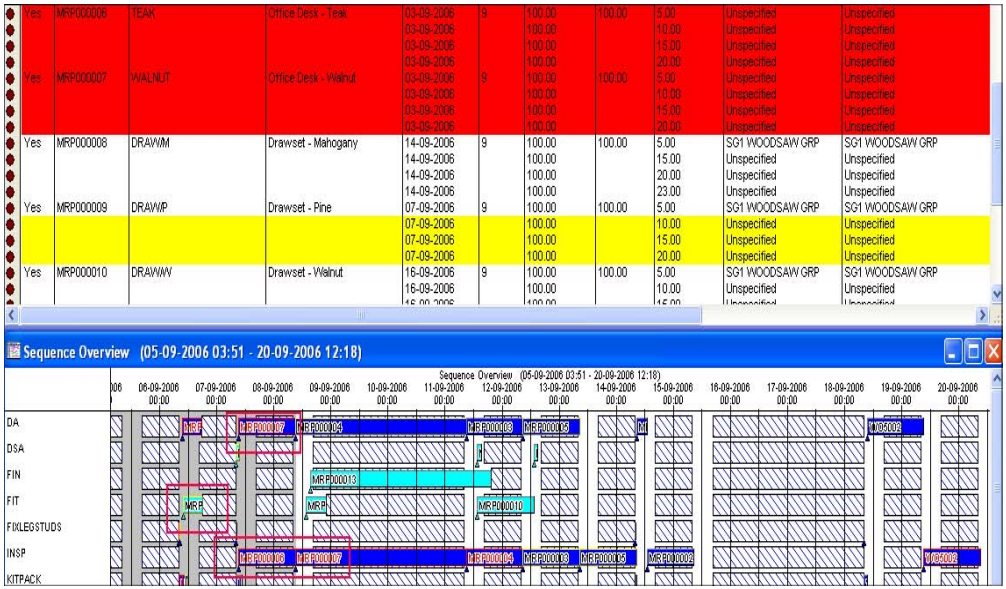
How Do I Identify Late or "At Risk" Orders?

If any of the orders in the 'Operation' window are late or "at risk", they are identified by colour.

- Yellow represents "At Risk". The order is within the safety lead time calculation and due date.
- Red represents Late. The order is scheduled after the due date.

Note:
The colours are automatically defined.

In the Sequence Overview, late or "at risk" orders/operations are outlined with the corresponding colour of those operations in the 'Operations' window.



Note:
For easier analysis, you can enlarge the view by using the zoom tool on the Sequence Overview.

How Do I Highlight "At Risk" Orders on the Sequencer?

1. Identify those operations/orders that are "at risk".

   Click the 'Highlight Operations within Delivery Buffer'  or 'Highlight Orders within Delivery Buffer'  icons on the 'Locate' toolbar.

   The "at risk" operations/orders are highlighted in the Sequence Overview.

2. Identify those operations that are late.

   Click the 'Highlight Late Operations'  or 'Highlight Late Orders'  icons on the 'Locate' toolbar.

   The late operations/orders are highlighted in the Sequence Overview.

How Do I Generate an "At Risk" Report?

- Generate a report of either late or "at risk" operations or orders.

  Select Main Menu> Reports> Format> Late Jobs> All Operations or Orders.
  A report is generated specifying all the late operations/orders.

Increasing a Resource's Capacity

You can increase a resource's capacity by adding an overtime shift which will help enable operations to be completed by their due dates. You can apply the overtime within the Sequencer and also within the 'Maintain Database' menu.

Where Do I Apply Overtime via the Sequencer?

Path: Graphical Planner> Main Menu> Sage Date Transfer Menu> Generate Schedule> **Sequence Overview window**

Applying Overtime via the Sequencer

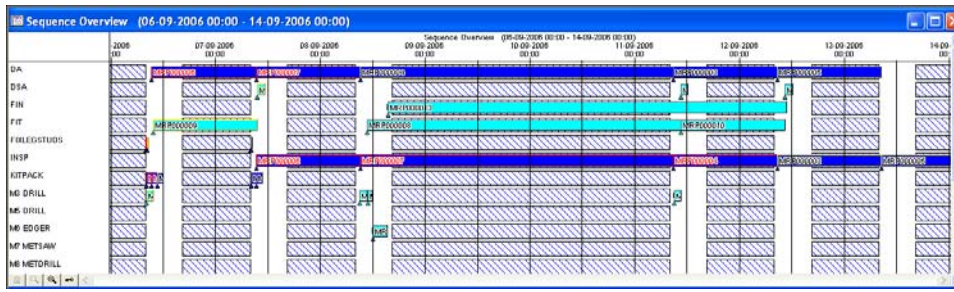
To apply overtime via the Sequencer, perform the following procedure.

To apply overtime

1. Select the operation that you need to re-plan.
2. Adjust the time view to see more detail if necessary.
   Note:
   Use the Zoom tool on the Sequence Overview or perform the following.
   2.1. Click the 'Range'  icon from the 'Overview' toolbar.

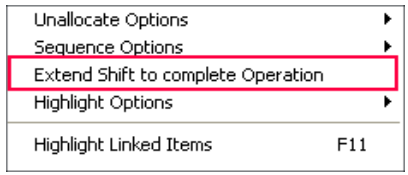
   The 'Set Overview Range' window appears.

   2.2. Select the time period to view.
   The Sequence Overview has changed to display the selected 'Start Time' and 'End Time' dates.
   Help: For more information about setting the *Setting Sequence Overview Range on page 146*.
3. Display the calendar to show the off shift times.
   Click the 'Zero Efficiency Calendar'  icon.
   The off shift time is displayed with the colour and pattern that was defined in 'Calendar States'.

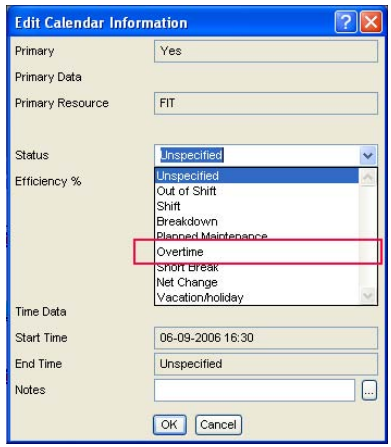


4. Extend the shift.

4.1. Right-click an operation/order.
An option menu appears.



4.2. Select 'Extend Shift to Complete Operation'.
The 'Edit Calendar Information' window appears.



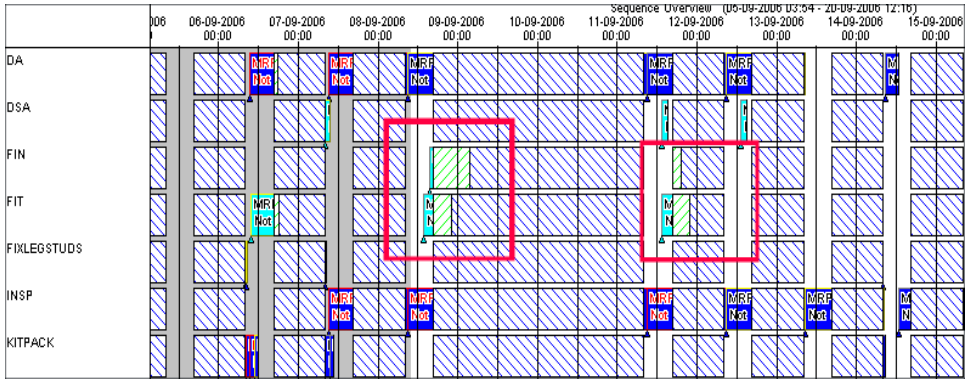
4.3. Enter an 'Efficiency %' if necessary.
Note:
This reflects the use of resources which take either a longer or shorter time than the

standard length of time. E.g. Setting the 'Efficiency %' at 200 will cause the operation to be completed in half the time.

4.4. Click 'OK'.
A prompt appears asking if you want to add the shift.

4.5. Click 'Yes'.
The shift has been added to the Sequence Overview.

5. View the added shift.
Click the 'Display Calendar'  and 'Calendar on Top'  icons on the 'Overview' toolbar.
The overtime shift is displayed on top of the operation in the Sequence Overview.



Note:
The shift's colour and pattern is defined in Graphical Planner> Main Menu> Maintain Database> Calendar States. You can also view the operation by using the 'Zoom' button in the Sequence Overview.

6. Repair the schedule.

Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.
This adjusts the Sequence Overview to take into account the extra capacity.

7. Save.
   Click the 'Save'  icon.

Where Do I Apply Overtime via Maintain Database?

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Exceptions for Specific Day File**

Applying Overtime via Maintain Database

To apply overtime via the Maintain Database, perform the following procedure.

To apply overtime via maintain database

1. Exit the Sequencer.
   Click the 'Exit'  icon.
   You are returned to the 'Graphical Planner Welcome' window.
2. Click 'Exceptions for Specific Day File'.
   The 'PREdit' window appears.
3. Double-click the first empty record.
   The 'Edit Calendar Information' window appears.
   From 'Primary Resources', select the resource you want to add the overtime to.
4. From 'Status', select 'Overtime'.
5. From 'Start Time', enter the date and time you want the shift to begin.
6. From 'End Time', enter the date and time you want the shift to end.
7. Click 'OK'.
   You are returned to the 'PREdit' window.
8. Exit.
   Click the 'Exit'  icon.
   The extended overtime is saved.
9. Return to the Sequencer.
   Click Main Menu> SAGE Data Transfer Menu> Generate Schedule.
   The overtime is displayed in Sequence Overview.
   Note:
   The shift has automatically been extended.

10. View the added shift.

    Click the 'Display Calendar'  and 'Calendar on Top'  icons on the 'Overview' toolbar.
    The overtime shift is displayed on top of the operation in the Sequence Overview.

11. Repair the schedule.

    Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.
    This adjusts the Sequence Overview to take into account the extra capacity.

12. Save.

    Click the 'Save'  icon on the'Main' toolbar.

Deleting a Shift from the Sequence Overview

After a shift has been assigned to a resource, you may realise that you have made a mistake and want to reapply it to another instead. You can delete the shift by immediately undoing the action or by changing the shift back to its out of shift state. For example, the 'Overtime' shift that was used to increase a resource's capacity was placed on the incorrect resource.

To delete the shift

1. Delete the shift immediately.

   Click the 'Undo Move Job'  icon on the 'Main' toolbar.
   The shift reverts back to its original state.

2. Change the availability of the resource.

   2.1. From 'File' menu, select 'Calendar Edit Mode'.
   A watch symbol is attached to your cursor.

   2.2. Double-click on the operation you want to delete the shift from.
   The 'Edit Calendar Information 'window appears.

   2.3. Change the 'Status' from 'Overtime' to 'Out of Shift'.
   The Efficiency % is automatically set to 0.

   2.4. Click 'OK'.
   The shift is no longer displayed as 'Overtime'.

   2.5. Reapply the shift.

Note:
You can also delete the shift in the 'Exceptions for Specific Day File' by selecting the day and pressing 'Delete' on your keyboard.

Moving an Operation to Another Resource

If you are concerned about meeting a required due date once the operation has been placed on the Sequence Overview, you can move the operation to another resource.

Note:
You must ensure that you take into account the appropriate resources, otherwise the plan will not reflect realistic information. Ensure that your primary resource groups contain the appropriate resources.

Help: For more information, see *Editing a Primary Resource Group on page 134*.

How Does this Affect Manufacturing?

The 'Group' field in Manufacturing's Machine Register or Labour Register determine whether the resources in Graphical Planner are contained within a group. If no Group has been defined in Manufacturing, Graphical Planner allows you to place an operation onto any resource within the Sequence Overview.

Path: Manufacturing Controller> Bill of Materials> Labour or Machine Registers> record> Labour or Machine Details> **Group field**

Path: Sage 200 Manufacturing> Manufacturing System Manager> Labour or Machine Registers> Enter New Record or Amend Record> MACH or LAB Details window> Details> **Group field**

To validate and repair the schedule

1. Check the sequencing of the operation.

   1.1. Click the 'Validate'  icon on the 'Sequence' toolbar.
   This checks for any errors. If there are any problems, a message appears for that operation.
   Note:
   More than one message may appear depending on the impact of the placement. The operations may be out of sequence or the operations may overlap.

   1.2. Click 'Yes'.
   The schedule continues to be validated.

3. Repair the schedule.

Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.

This function assesses the whole schedule and assigns the operation to the first available resource.

4. Save.

   Click the 'Save'  icon on the 'Main' toolbar.

   Note:
   If the opertions are locked, they will not be moved during a 'Schedule Repair' action.

To manually move an operation

Drag the operation in the Sequence Overview from the current resource within the resource group and drop it in the appropriate time frame of another resource.

Note:
A circle with a bar across it appears if the operation cannot be performed by the selected resource. For example, a sawing operation cannot be put on a drilling machine resource. It is recommended that the schedule is validated and repaired following any manual adjustments.

Highlighting Operations

Once you have sequenced the operations and have moved them around, you can see the effect by highlighting them.

You can highlight by either using the icons on Locate toolbar or by right-clicking on an operation and selecting a highlight option.

Help: For more information, see *Locating Orders/Operations on page 196*.

Planning for Maintenance or Machine Breakdown

Any business using production machinery as part of their process will from time to time suffer breakdowns that will affect the performance of the plan. Clearly any scheduling method needs to realistically reflect this. Some businesses run a preventative maintenance programme whereby the Engineering department undertakes overhauls and servicing on key pieces of equipment. Other businesses operate until the machine fails.

Graphical Planner will help you to rapidly model the down time and assess the impact on the plan in order to see if the breakdown has an adverse affect on deliveries, or determine the optimum time to schedule the planned maintenance.

Note:
The Planned Maintenance or Machine Break Down calendar state are predefined in Main Menu> Maintain Database> Shift Calendar Menu> Calendar States.

Where Do I Plan for Maintenance Times?

Pre-planned maintenance can be set up in the calendar states menu. Graphical Planner stores the details in the calendar file for the specific day. This file contains all the details no matter where they are entered. Any updates made in the Sequence Overview are also stored in the file.

Path: Graphical Planner> Main Menu> Maintain Database> Shift Calendar Menu> **Exceptions for Specific Day File**

To define a planned maintenance event

1. Select the date you need for the start date.
   The 'PREdit' window appears.
2. Double-click on the blank row.
   The 'Edit Calendar Information' window appears.
3. Enter the resource information.
   3.1. Select the resource
   3.2. Select 'Planned Maintenance' as the 'Status'.
   3.3. Enter an 'Efficiency %'.
   3.4. Enter the 'Time' data
   3.5. Click 'OK'.
4. Exit.
   Click the 'Exit'  icon on the 'Main' toolbar.
   The information is saved.
5. Return to the Sequence Overview.

Click Main Menu> SAGE Data Transfer Menu> Generate Schedule.

6. Validate the schedule to check the downtime you have just created.
   Click the 'Validate'  icon on the 'Sequence' toolbar.
7. Repair the schedule.
   Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.

8 Save.
   Click the 'Save'  icon on the 'Main' toolbar.

Reproducing Breakdowns

The mechanism for building breakdowns into the Sequence Overview is exactly the same as in Planned Maintenance. Both events can be created within either the Sequence Overview or 'Exceptions for Specific Day File'.

Note:
What is created in the Calendar Edit mode will be automatically be reflected in the 'Exceptions for Specific Day File' for that specific day.

Model Breakdowns within the Sequence Overview

To model a breakdown, perform the following procedure.

To model a breakdown

1. In the Sequence Overview, click the resource you want to assign a break down to.
   The 'Resource' window appears.
2. Change the Sequence Overview to 'Calendar Edit Mode'.
   Click the 'Calendar Edit Mode'  icon.
   The 'Resource' window can now be edited for time.
3. Define the breakdown.
   3.1. Double-click on a shift within the 'Resource' window.
   3.2. Change the 'Status' to 'Breakdown'.
   3.3. Change the 'Time Data' to reflect the estimated break down time.
   3.4. Click 'OK'.
   The resource window is now highlighted in red, detailing the breakdown.
4. Repair the shift.
   Click the 'Schedule Repair'  icon on the 'Sequence' toolbar.
   This adjusts the Sequence Overview to take into account the extra capacity.
5. Save.
   Click the 'Save'  icon on the 'Main' toolbar.

Note:
If the breakdown carries to another shift, the newly created breakdown shift overwrites the existing shift. To solve this problem, return to the 'Exceptions for Specific Day File' and delete the breakdown. This takes off the override.

On the other hand, if the breakdown time is longer than the current shift, create it in the 'Exception for Specific Day file' first. The breakdown in the 'Exceptions for Specific Day File' automatically appears in the Sequence Overview.

Viewing the Resource

You can open a 'Resource Calendar' window to modify a calendar state such as adding a breakdown. You can view all, a group, or a single 'Resource Calendar' window.

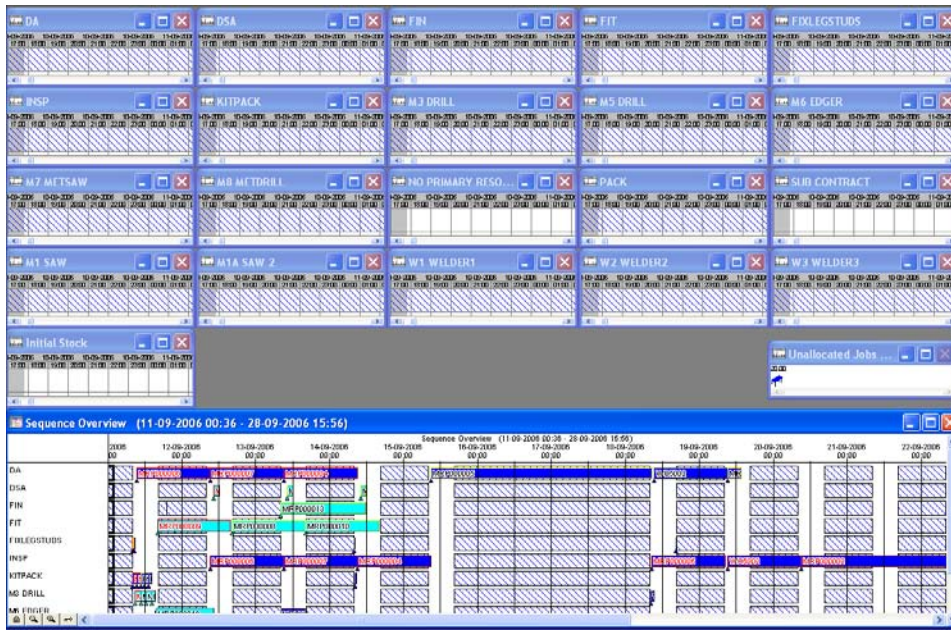
Help: For more information about reproducing a breakdown, see *Reproducing Breakdowns on page 184*.

To view all of the resources

- You can view all the resources in their own individual windows.

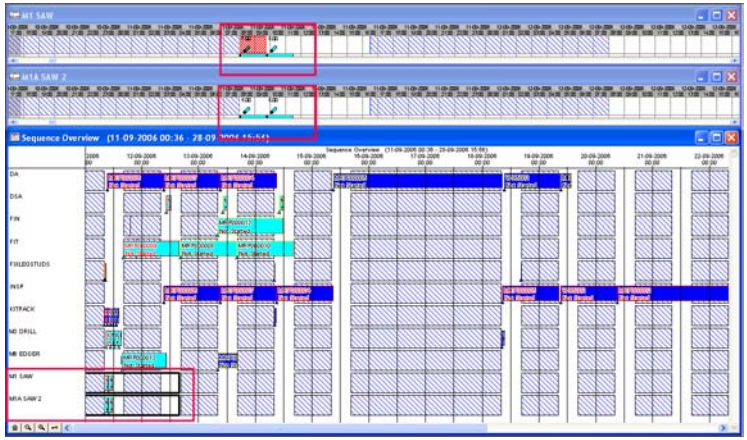
  Path: Menu bar> Groups> **All**

  Note:
  The 'Startup Default' menu options return you to the original view to select a resource.



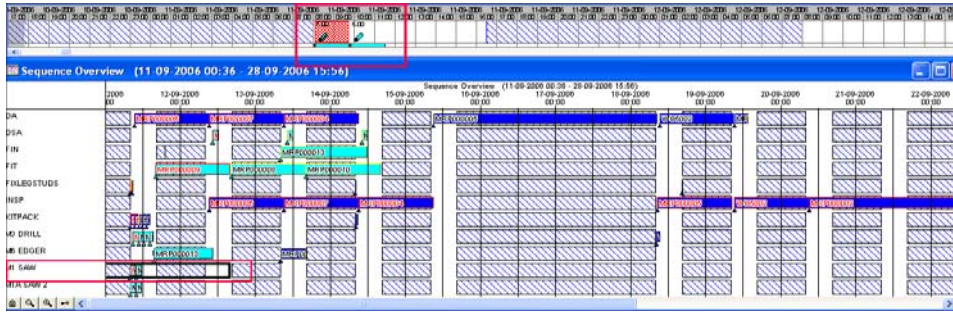
To view a resource group

- You can open a skill or machine group by selecting Menu bar> Groups menu and choosing one to view.



To view a single resource

- Double-click on the resource you want to view on the left-hand side of the 'Sequence Overview' window.



Note:
The black slider box around the selected resource identifies the operation that appears in the 'Resource' window.

Reading a Plot

The 'Plots' menu displays plots, which are of the following three types.

- Usage of primary resources and group.

  Displays time used against capacity in hours.
- Usage of secondary resources.

  Displays number used against number available.
- Waiting time.

  Displays queue of work in hours by primary resource.

Why Use Plots?

Plots can be useful for assessing the impact of operations. i.e. such as bottlenecks. You can view: multiple plots in one window, or a single plot in a single window.

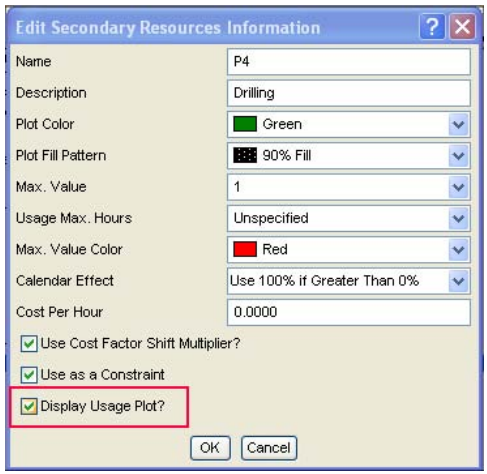
- Multiple Plots

  Use this facility to view the various plots available.
- Single Plot

  View a single plot to easily assess the usage of a specific secondary resource.

Setting the Display Usage Plot Option

The primary resource groups, primary resources, and secondary resources contained in 'Maintain Database', each have an option to display the resource in a plot window. For easier display in the Sequencer, allow only key resources to be displayed as plots.



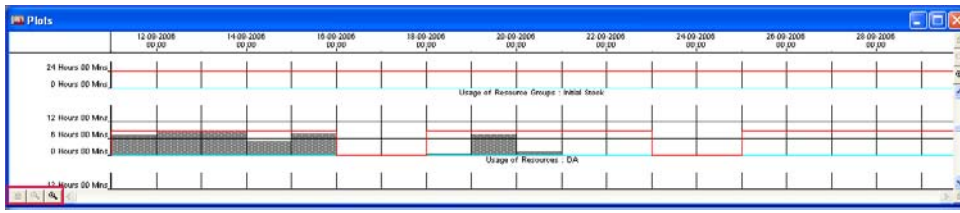
Viewing a Multiple Plot Window

You can view multiple plots in a single multi-plot window and define which plots appear in it. This offers the advantage of scrolling through one window instead of many. You can also filter the window to display only those resources you want to analyse.

Where Do I Access the Multiple Plots Window?

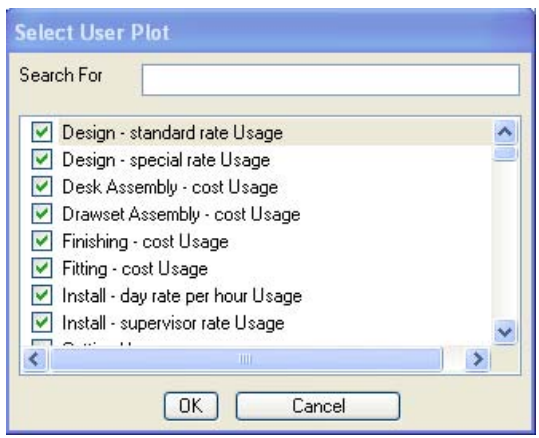
- Click the 'Display Plots'  icon on the 'Main' toolbar. The multi 'Plots' window appears on the Sequencer.

  Note:
  As with the Sequence Overview, you can zoom in and out to view the resources easily.



To configure the multi plot window

1. Click the 'Configure Plots'  icon on the 'Main' toolbar.
   The 'Select User Plot' window appears containing all of the resources within the system.



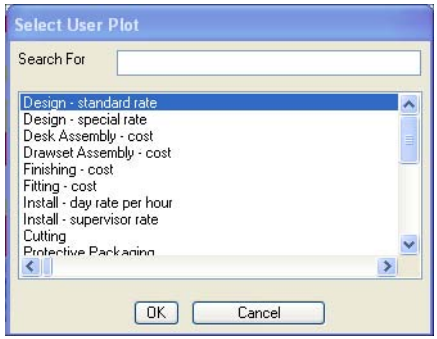
2. Clear the check boxes of the resources you do not want displayed.
3. Click 'OK'.

4. Save the selection as part of the workspace.

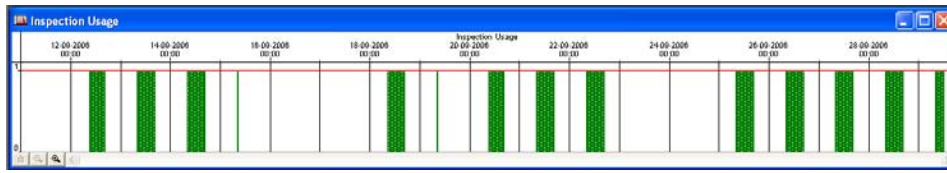
   Select Main Menu> Workspace> Save Workspace

To view a single user plot

1. Click the 'User Plots'  icon on the 'Main' toolbar.
   The 'Select User Plot' window appears.



2. Search for the resource you want displayed.
3. Click 'OK'.
   The single resource '...Usage' window is displayed.



Comparing Schedules

You can use the 'Order Trace Chart' to compare different schedules side-by-side as there may be some changes in the sequencing method. On the other hand, you are may want to do a "what-if" to see the effect of building in some planned maintenance.

This section explains how to use the 'Order Trace Chart'.

Comparing Two Schedules

To compare two schedules, perform the following procedure.

To compare two schedules

1. Save your data as a .prsch file.

   1.1. Click File> Save Schedule As...

   1.2. Name the file other than Schedule.
   Note:
   Schedule.prsch is the default file. This transfers the data back to Manufacturing. The Schedule file is used as the basis of the comparison.

   1.3. Click 'Save'.
   You are returned to the Sequencer.

2. Exit the Sequencer.

   Click the 'Exit'  icon on the 'Main' toolbar.
   The information is saved.

3. Open the 'Order Trace Chart' window.

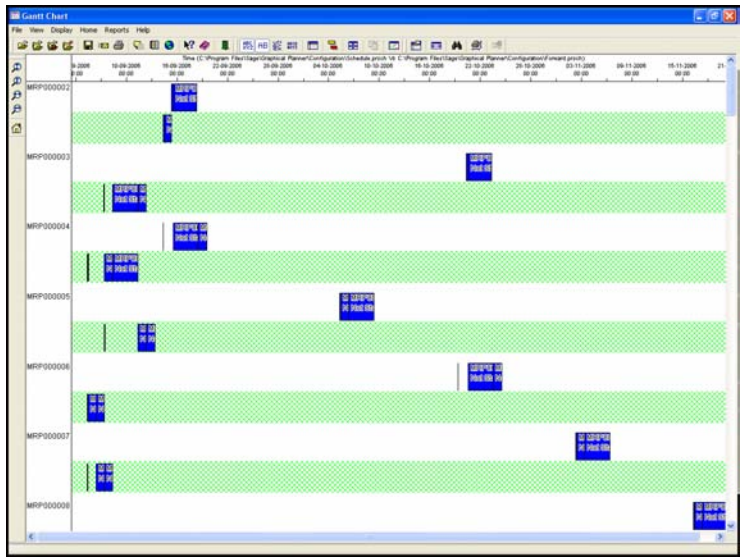
   Click Main Menu> SAGE Data Transfer Menu> Order Trace Chart.
   Graphical Planner automatically defaults to the Schedule.prsch file.
   Note:
   This view is oriented around orders and recommendations only. It can be saved as web page or bitmap format.

4. Open a .prsch file to compare.

   4.1. Select File> Open Comparative File.
   The Open window appears.

   4.2. Select the file you want compared.
   The 'Order Trace Chart' view displays both files.

   4.3. Assess the schedule.



Note:
This view has been enlarged. The white background contains the Schedule. prsch file information and the green background contains the other file's information.

5. Exit.
Click the 'Exit'  icon on the 'Main' toolbar.
The information is saved.
Note:
You can also compare two schedules in the Gantt Chart using this procedure, but against primary resources instead of orders and recommendations.

Locking/Unlocking Operations

It is possible to lock and unlock all operations contained on the Sequence Overview for a certain time period. You may want to do this because you have previously set a plan that is now locked and have now brought some more demand across from Manufacturing that requires scheduling.

Using this method, you can leave a week, for example, locked on the Sequence Overview, save the schedule and then unlock it after so you can reschedule a larger amount of orders. In other words, you can maintain a fixed plan for a period of time, and then add to it.

This section describes how you can lock and unlock all operations and an individual operation.

Locking All Operations

To lock all operations, perform the following procedure.

To lock all operations

1. Retrieve the schedule you want to update.

   Click File> Open.
   The schedule appears in the Sequencer.

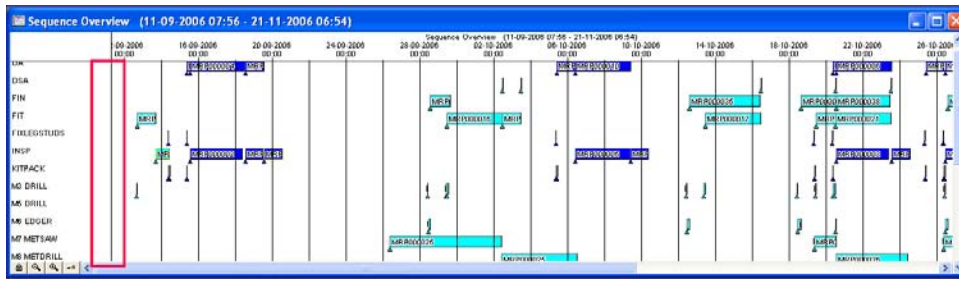
2. Hide the calendar for easier viewing.

   Select Main menu> Overview> Hide Calendar.
   The calendar view is removed from the Sequence Overview.

3. Select 'Calendar Edit Mode'.

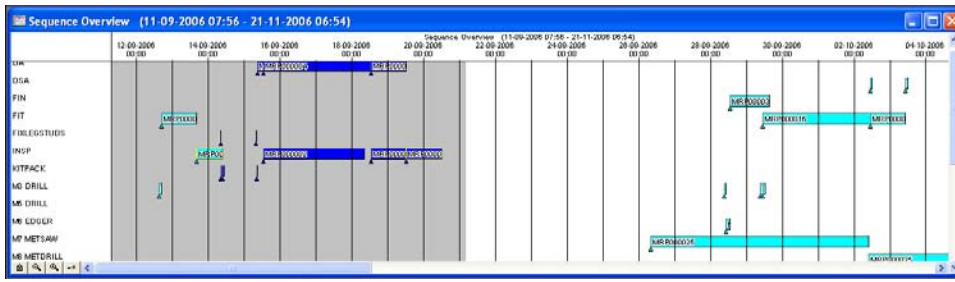
   Click the 'Calendar Edit Mode'  icon on the 'Main' toolbar.
   The watch symbol appears with the cursor in the Sequence Overview.

4. Drag the terminator line to the time you want locked.



   In the Sequence Overview, drag the terminator line from left to right.
   The locked area is highlighted in grey.

Help: For more information about the terminator line, see *Grey Terminator Line on page 195*.



Note:
This view has been enlarged.

5. Unallocate the remaining operations
   Click the 'Unallocate' icon on the 'Sequence' toolbar.
6. Drag the terminator line back to the current date/time.
7. Lock the operations that have already started or lock the orders that have already started.
   Click either the 'Lock History' or 'Lock Started Jobs' icons on the 'Sequence' toolbar.

To lock all operations associated to a resource

1. Right click a Resource in Sequence Overview.
   The option menu appears.
2. Select 'Lock All Jobs'.
   All operations are locked for that resource.

   Note:
   Locking prevents the system from unallocating or moving an operation during a repair. You can still move the locked operation manually if required. If the manual movement conflicts with another operation, a message appears asking you to confirm the change.

Locking an Individual Operation

Once sequenced and highlighted, operations can be locked onto the Sequence Overview one at a a time. They will not be unallocated once the Sequence Overview is re-sequenced or when the schedule is repaired.

To lock an individual operation

1. Click the 'Lock Highlighted Operations'  icon on the ‘Locate’ toolbar.
   The operation is locked.
2. Click the 'Highlight Locked Operations'  icon on the ‘Locate’ toolbar.
   This selects and highlights all locked operations.

To manually lock an individual operation

1. Double click an operation in the ‘Sequence Overview’.
   The Edit Jobs Operation window appears.
2. Select the ‘Lock Operation’ checkbox.
3. Click ‘OK’.
   The operation is locked.

Locking a Selected Range of Operations

Lock an order or group of operations and/or orders by performing one of the following procedures.

To lock a full order

1. Right click an operation in the Sequence Overview.
   An options menu appears.
2. Select ‘Highlight Operations’> ‘Entire Order’.
3. Click the 'Lock Highlighted Operations'  icon on the ‘Locate’ toolbar.
   The operation is locked.
4. Click the 'Highlight Locked Operations'  icon on the’Locate’ toolbar.
   This selects and highlights all locked operations.

To lock a group of operations and/or orders using the locator

1. Click the ‘Locate’ icon on the ‘Locate’ toolbar.
   The ‘Sage Graphical Planner Locator’ window appears.
2. Enter a ‘Priority’, ‘Product Code’, or ‘Top Level Tag’ in the ‘Search Field’.
   The group and/or orders are highlighted.
3. Click the 'Lock Highlighted Operations'  icon on the ‘Locate’ toolbar.
   The operations are locked.
4. Click the 'Highlight Locked Operations'  icon on the ‘Locate’ toolbar.
   This selects and highlights all locked operations.

Grey Terminator Line

If any operations are within the grey terminator line, (i.e. the operations have started) they have been locked onto the Sequence Overview. By default they cannot be unallocated.

- To unlock:

  Deselect Main menu> Sequence> Locked Start Jobs.

- To unallocate:

  Click the 'Unallocate'  icon on the 'Sequence' toolbar.

Unlocking Operations

Any locked operations outside of the selected area will not be automatically unallocated when the 'Unallocate'  icon is clicked.

To Unlock Operations

1. Locate the locked operations.

   Click the 'Highlight Locked Operations'  icon on the 'Locate' toolbar.
   The remaining locked operations are highlighted.

2. Unlock the highlighted operations.

   Click the 'Unlock Highlighted Operations'  icon on the 'Locate' toolbar.

3. Unallocate the operations.

   Click the 'Unallocate'  icon on the 'Sequence' toolbar.
   The unallocated operations appear in the 'Unallocated Jobs' window.

To unlock an individual operation

- Click the 'Unlock Highlighted Operations'  icon.
  This unlocks all operations.

Locating Orders/Operations

There are a range of location and highlighting options in the Sequencer, which can be accessed from either the 'Main' menu or the 'Locate' toolbar. This section explains how to:

- Identify relationships between two operations.
- Identify same or similar parts.
- Identify sequence errors.
- Locate within the Sequencer.

Identifying Relationships Between Two Operations

You can determine if there are any errors when sequencing two separate operations where one must be completed prior to the start of the second.

The parent-child order relationship is based on an hierarchy where one operation is assigned as the parent ('Belongs to Order No.') and is linked to another operation ('Order No'). This can be seen by double-clicking on any operation in the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows.

Note:
Either a sub-assembly or finished product can be a parent.

Where Do I Identify a Relationship?

The 'Order No.' entry is linked to the entry in the 'Tag' field. Tags are automatically created when generating works orders in Manufacturing.

Path: Manufacturing Controller> Planning> Links> MRP> MRP - Recommendations record> MRP Recommendations Details> **Tags tab**

Path: Sage 200 Manufacturing> Planning> MRP> MRP - Recommendations> record> PLN - MRP Recommendations Details> **Tags tab**

To view the relationship between the two orders

1. From the 'Locate' toolbar, select the  icon.
   The Sage Graphical Planner Locator window appears.
2. In the 'Search Field', select 'Top Level Tag'.
   A list of orders appear in the 'Search Field'. The items in the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows are greyed out.

3. In the 'Search For' field, enter the order you want to search for.
   The item is highlighted in the list.
4. Click the item in the list.
   The relationship of the associated operations is displayed in the Sequence Overview.
5. Clear the 'Show Outline of All Items' check box.
   Only the selected order remains active in 'Operations' and 'Sequence Overview' window.

Identifying Same or Similar Parts

You can use the 'Locate' facility to search for operations by product code.

Searching for a Product Code

To search for a part number, perform the following procedure.

To search by product code

1. From the 'Locate' toolbar, select the 'Locate'  icon.
   The 'Sage Graphical Planner Locator' window appears.

2. In the 'Search Field', select 'Product Code'.
   A list of orders appear in the 'Search Field'. The items in the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows are greyed out.
3. Click the item in the list.
   The relationship of the associated operations is displayed in the Sequence Overview.
4. Clear the 'Show Outline of All Item' check box.
   Only the selected order remains active in 'Operations' and 'Sequence Overview' windows.

Note:
Once you have located a range of operations, you can then sequence, unallocate or lock the selected range.

Identifying Sequence Errors

The 'Highlight Sequence Errors' icon applies to operations within a single order. Identifying sequence errors can be useful if you have moved operations from one resource to another on the Sequence Overview.

Note:
The 'Highlight Sequence Errors' icon does not identify where components are scheduled for completion later than jobs for the assemblies which require those same components.

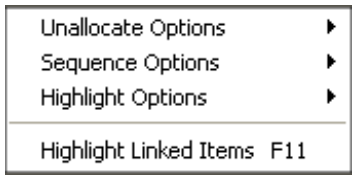
The 'Validate' icon identifies any errors on the Sequence Overview through a message prompt whereas the 'Highlight Sequence Errors' icon highlights the errors.

Using the Options Menu

Use the Options menu to perform a range of actions within the 'Unallocated Jobs', 'Operations' and 'Sequence Overview' windows which include sequencing, unallocating, and highlighting.

To access the options menu

- Right-click on an operation in either the 'Unallocated Jobs', 'Operations', and 'Sequence Overview' windows.
  The options menu appears.



Each option is described in the table below.

Unallocate Options	
Unallocate All Operations	Unallocates all operations that were set on the Sequence Overview.
All Previous Operations	Unallocates the operations that are previous to the selected operation.
All Subsequent Operations	Unallocates all the operations that are after the selected operation.
Sequence Options	
Forward, All Operations	Sequences all operations forward.
Backward, All Operations	Sequences all operations backward.
Extend Shift to Complete Operation	Allows you to extend the shift to complete the operation. **Note:** Only applicable to the Operations and Sequence Overview windows.
Highlight Options	
Entire Order	Highlights all the operations assigned to a specific order.

Subsequent Operations	Highlights the operation after the selected operation.
All Subsequent Operations	Highlights all the operations after the selected operation.
Previous Operations	Highlights the previous operation to the selected operation.
All Previous Operations	Highlights all of the previous operations to the selected operation.
Bi-Directional Ops.	Highlights the individual bi-directional operation.
All Bi-Directional Ops.	Highlights all the bi-directional operations.
Highlight Linked Items	N/A

Generating a Utilisation Report

You can generate a 'Utilisation' report to understand what impact allocating operations onto resources has had.

You can report on the

- % Working
- % Unavailability
- % Utilisation
- % Setup
- % Idle
- % Quantity Processed

What is a Utilisation Report?

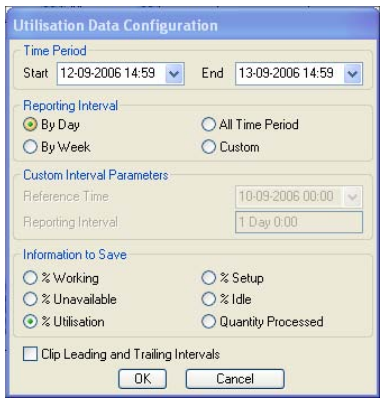
This file is used when you want to assess how the resources have been utilised. You can convert a user-defined report to a .CSV file which can then be opened in Excel.

Note:
Customised reports can be created using the 'Report' menu on the menu bar.

To save the utilisation report as a .csv file

1. Save the data.

   Click 'Save Utilisation Report'  icon on the 'Main' toolbar.
   The 'Utilisation Data Configuration' window appears.



2. Enter the 'Time Period'.

   Enter both a 'Start' and 'End' date.

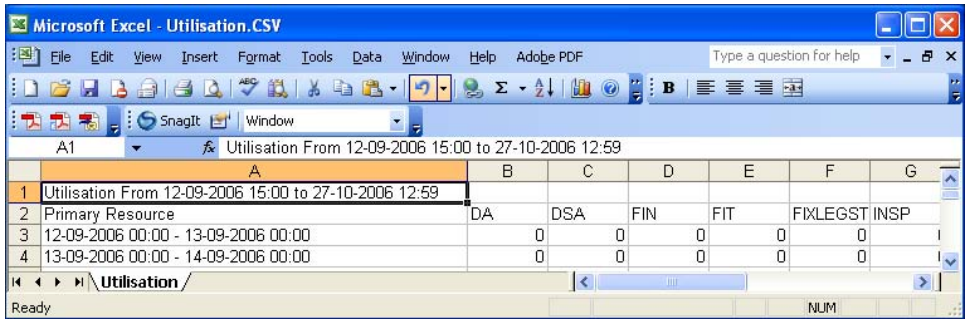
3. Select the 'Reporting Interval'.

   Select a day, week, the whole period, or customise through the 'Custom Interval Parameters' section.

4. Select the information to save.
   - % Working
   - % Unavailable
   - % Utilisation
   - % Setup
   - % Idle
   - % Quantity Processed

5. Click 'OK'.
   The report has been saved.

6. Open the .CSV file in Excel.



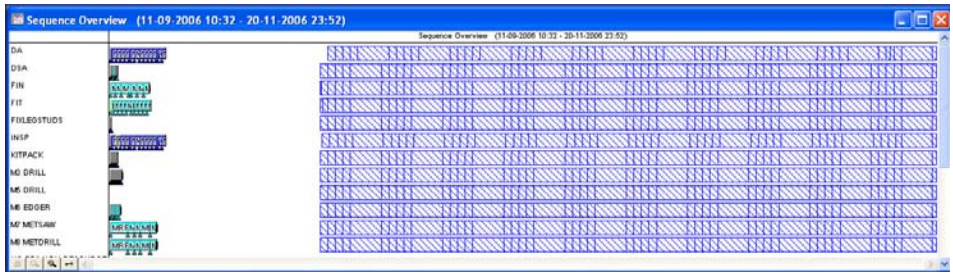
How Do I View the Utilisation Display?

The Sequence Overview can display the utilisation of each resource, which is indicated by the length of its bar.

To view the utilisation display

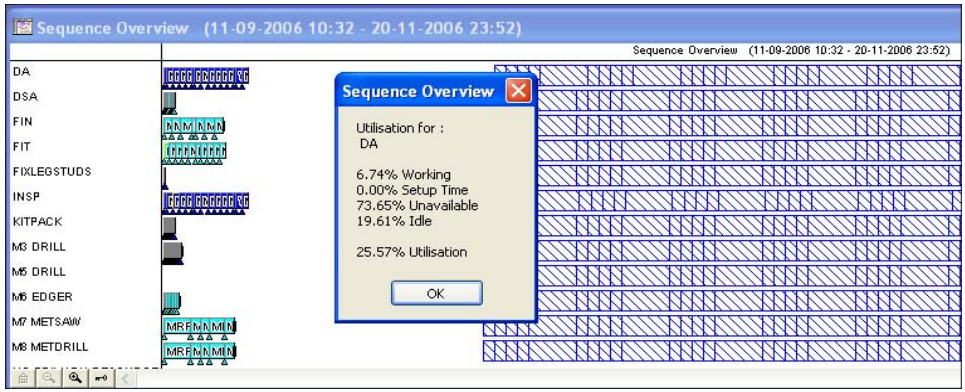
- Switch to the Utilisation view.

  Click the 'Utilisation Mode'  icon on the 'Overview' toolbar.
  The Sequence Overview has changed to the Utilisation view.



To check the utilisation of each resource

- Click the resource.
  The 'Sequence Overview' prompt appears detailing the resource's statistics.



Summary

You should now know how to do the following:

- Perform Basic Tasks
- Place Operations
- Unallocate Operations
- Sequence Operations
- Analyse Late or "At Risk" Orders/Operations
- Plan for Maintenance or Machine Breakdown
- Reproduce Breakdowns
- View the Resource
- Read a Plot
- Compare Schedules
- Lock/Unlock Operations
- Locate Orders/Operations
- Identify Sequence Errors
- Use the Options Menu
- Generate a Utilisation Report

Chapter 7

Glossary of Graphical Planner Terms

This glossary defines frequently used Graphical Planner terms and their meanings.

For Manufacturing or Accounting terminology please refer to the glossaries supplied in the documentation for Sage Manufacturing and Sage 50 Accounts.

In this chapter:

Glossary Terms 206

Glossary Terms

A list of the following terms and definitions can be found on the second page of each chapter.

B

Backward Sequencing	This method starts at the due date of the works order based on the customer delivery date and applies any safety planning time specified during MRP. This is the date it sets as the target date for the completion of the last operation of the works order. Based on the routing and available capacity, it then works backwards, calculating when that operation should start in order to achieve the target date. The previous operation is then calculated by working backwards. This is repeated until the start of the first operation is calculated.
Bi-Directional Sequencing	The Bi-Directional Sequencing method allocates operations on the Sequence Overview around a calculated operation.
Bottleneck	Resources with a critical impact on the schedule. Calculated by Graphical Planner using the waiting time of jobs to be processed on the resource. Those with a long queue of work are likely to be identified as bottlenecks.

C

Calendar States	An period of time displayed in the Sequence Overview's calendar which reflects a specific purpose using a colour and pattern.
Constraints	Primary Resources, such as machines or labour, that limit the amount of work that can be performed.
Constraint	Resource.
.CSV File	Contains a comma delimited format which allows one application to transfer the data to another application. This file will transfer data from Manufacturing to Graphical Planner and back again.

D

Demands	Works orders/MRP recommmendations to be processed.

Drag and Drop	Method of moving an operation from one position to another. Left-click the object, drag it to the desired area, and then release it.

F

Finite Capacity Planning	Computer controlled re-scheduling of Works Orders based on pre-set capacity resource levels and fixed scheduling rules.
Finite Resource	Processes multiple orders simultaneously. It assumes that infinite capacity is available.
Forward Sequencing	The Forward sequencing method automatically allocates operations (jobs) onto the appropriate resources within the Sequence Overview. The application looks at the earliest start date and time of the jobs and positions them from that point onwards.
Future Planning Horizon	The period after the current time that can be displayed on the Sequence Overview. The period usually extends beyond the longest total lead time for items being manufactured.
Infinite Resource	Processes multiple orders simultaneously with the defined shift pattern.
Infinite Resource Shift Pattern	The resource's unlimited is extended to include an extra shift.

L

License Site	A 'license site' refers to the folder in which the copycontrol key and license account resides. These are needed to install Graphical Planner. You can install the license site locally on your PC, or in a network location.
Like to Like Setup Time	Provides a set-up time value allocated to change over between products and operations sharing similar characteristics, as defined in the 'Like to Like Setup' field in the 'Product Categories' menu option.

M

Manning Level	Use this box to determine how many people work on a machine. For example, if the Manning level is set to 2 and operation time per item takes one hour, each person works thrity minutes. The operation is rescheduled based on the new amount of time required.
Master Calendar Files	The week day (Mon to Sun) files to which shift patterns are assigned.

N

Normalised Gantt Chart view	Use this view to display the performance of each operation against the due date. The 'Normalised Gantt Chart' is a simplified view of the Sequencer. Those operations displayed in the red section are late.

O

Offset	Time shift.
Operation	Job or task.
Operations and Sub-assemblies	Jobs

P

Parent and Child Relationship	The principal order data record (parent) is linked to operations (children) which are required to complete the job.
Plot	Indicates the amount of work waiting to be processed at a selected resource across the period of the schedule. It can also display the utilisation of a resource as well as the queue.
Plot Fill Pattern	The graphical bar pattern that is displayed in a 'Plot' window, which represents a resource. This pattern can be a solid colour, lines, dots, cross hatches, waves, or blank.
Primary Resource	Since Graphical Planner is a 'single constraint scheduler', the resource you select is the 'Primary Resource'. You can determine whether machine or labour is your primary

	resource by specifying the type in Manufacturing's 'Planning Defaults' window.
Primary Resource Shift Pattern	An operator (primary resource) may be required to work on one type of machine (secondary resource) in the morning and another in the afternoon to finish the job. Therefore, you can create a shift pattern for that person using those machines specific to those times.
Production Load	Demand placed on the factory, commonly measured in hours.

R

Routing	A sequence of operations through which a product is processed.

S

Safety Planning Time	An allotted time which allows for delay in scheduled deliveries.
Schedule	Name of the default schedule file. Also refers to the production schedule represented by the Sequence Overview.
Secondary Resource	A secondary resource is an additional resource used to perform a task. For example, machines may be the primary resources and the labour or people needed to operate them are defined as secondary resources.
Secondary Resource Shift Pattern	If your factory output is machine constrained, and the machine is set as the primary resource, your labour group would be considered as secondary resource and is associated with this shift pattern.
Sequencing	Placing operations onto the planning board (sequencer) following specified paramters and routings.
Sequencer	Graphical Planner's virtual board on which to plan your schedules.

Sequence Overview	The window where you assign operations to the primary resources. An “interactive“ planning board.
Shift	A working period identified as a calendar state.
Shift Patterns	Specific periods of time that are repeatedly assigned to a labour or machine resource.
Single Constraint Scheduler	Schedules only one resource at a time. This is the primary resource.

T

Toggle	Switch from one display to another.

U

User Plot	A single plot window that displays an individual resource.

W

What-if Comparisons	Comparing two or more production plans.
Workspace	A configurable arrangement of windows displaying different sets of information.

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