

99 Tricks and Traps for
Microsoft® Office Project
Including Microsoft® Project
2000 to 2007

The Casual User's "Survival Guide"

By

Paul E Harris

of

Eastwood Harris Pty Ltd

©Copyright 2007 by Eastwood Harris Pty Ltd. No part of this publication may be reproduced or used in any form or by any method without the written permission of the author.

Windows, XP, Microsoft® Project 2000, Microsoft® Project Standard 2002, Microsoft® Project Professional 2002, Microsoft® Project Standard 2003, Microsoft® Project Professional 2003, Microsoft® Office Project 2007, PowerPoint, Word, Visio and Excel are registered trademarks of Microsoft Corporation.

Adobe® and Acrobat® are registered trademarks of Adobe Systems Incorporated.

All other company or product names may be trademarks of their respective owners.

Screen captures were reprinted with authorization from Microsoft Corporation.

This publication was created by Eastwood Harris Pty Ltd and is not a product of Microsoft Corporation.

DISCLAIMER

The information contained in this book is to the best of the author's knowledge true and correct. The author has made every effort to ensure accuracy of this publication, but cannot be held responsible for any loss or damage arising from any information in this book.

AUTHOR AND PUBLISHER

Paul E Harris
Eastwood Harris Pty Ltd
PO Box 4032
Doncaster Heights 3109
Victoria
Australia

harrispe@eh.com.au

<http://www.eh.com.au>

Tel: +61 (0)4 1118 7701

Fax: +61 (0)3 9846 7700

Please send any comments on this publication to the author.

ISBN 978-1-921059-19-3

24 May 2007

CURRENT BOOKS PUBLISHED BY EASTWOOD HARRIS

Planning and Scheduling Using Microsoft Office Project 2007
Including Microsoft Project 2000 to 2003, published March 2007
ISBN 978-1-921059-15-5 - B5 Paperback, ISBN 978-1-921059-16-2 - A4 Spiral

PRINCE2 Planning & Control Using Microsoft Project
Updated for Microsoft Office Project 2007, published March 2007
ISBN 978-1-921059-17-9 - B5 Paperback

Planning and Control Using Microsoft Project and PMBOK® Guide Third Edition -
Updated for Microsoft Office Project 2007, published March 2007
ISBN 978-1-921059-18-6 - B5 Paperback

Planning Using Primavera® Project Planner P3® Version 3.1 Revised 2006,
published March 2000
ISBN 1-921059-13-3 Spiral Bound

Planning Using Primavera® SureTrak Project Manager Version 3.0 Revised 2006,
ISBN 1-921059-14-1 A4 Spiral Bound, published June 2000

Project Planning and Scheduling Using Primavera® Contractor Version 4.1
for the Construction Industry, published January 2005
ISBN 1-921059-04-4 A4 Paperback, ISBN 1-921059-05-2 A4 Spiral Bound

Planning and Scheduling Using Primavera® Version 5.0 for E&C,
published December 2005
ISBN 1-921059-09-5 A4 Paperback, ISBN 1-921059-10-9 A4 Spiral Bound

Planning and Scheduling Using Primavera® Version 5.0 for IT Project Office,
published December 2005
ISBN 1-921059-11-7 A4 Paperback, ISBN 1-921059-12-5 A4 Spiral Bound

SUPERSEDED BOOKS BY THE AUTHOR

Planning and Scheduling Using Microsoft® Project 2000
Planning and Scheduling Using Microsoft® Project 2002
Planning and Scheduling Using Microsoft® Project 2003
Project Planning and Scheduling Using Primavera Enterprise - Team Play
Project Planning and Scheduling Using Primavera Enterprise - P3e & P3e/c
Project Planning and Scheduling Using Primavera® Version 4.1
for IT Project Office
Project Planning and Scheduling Using Primavera® Version 4.1 for E&C
Planning Using Primavera Project Planner P3 Version 2.0
Planning Using Primavera Project Planner P3 Version 3.0
Project Planning Using SureTrak for Windows Version 2.0

SERVICES OFFERED BY EASTWOOD HARRIS PTY LTD

Eastwood Harris specializes in setting up and running project controls systems with a focus on Primavera Systems and Microsoft Project software; we offer the following services:

Project Planning and Scheduling Training Courses using Primavera Enterprise, Contractor, P3, SureTrak or Microsoft Office Project

- Eastwood Harris offers one-to-one training to get your new schedulers up and running quickly, without the delay of waiting for the next course and at the same time building up your own project schedule.
- We also run in-house training courses on any of these software packages. This is a very cost efficient method of training your personnel.
- We are able to assist you in setting up a scheduling environment. This includes designing coding structures, writing procedures, training and other implementation processes.
- Eastwood Harris can write specialized training material that will incorporate your organization's methodology into the Eastwood Harris training manuals and develop student workshops tailored to your requirements. Project personnel will be able to use these books as reference books after the course.

Selection and Implementation of Project Management Systems

- Eastwood Harris will assist you by conducting an internal review of your requirements and match this requirement analysis against the functionality of packaged software.
- We are then able to assist you in the implementation of these systems, including writing policies and procedures and training personnel, to ensure a smooth transition to your new system.

Dispute Resolution

- Eastwood Harris is able to analyze your subcontractor's schedules in the event of claims and provide you with a clear picture of the schedule in relation to the claim.

Schedule Conversion

- Eastwood Harris is able to convert your schedules from one software package to another. The conversion of schedules is often time consuming, so let us do it for you.

Please contact the author for more information on these services.

TABLE OF CONTENTS

1	IMPORTANT THINGS	1
1.1	The “Delete” Key.....	1
1.2	Typing a Date or Dragging a Task Sets a Constraint!	1
1.3	Indicators Column.....	2
1.4	Why Are Tasks Scheduled before the Predecessors?	3
1.4.1	<i>Actual Start Date</i>	3
1.4.2	<i>Tasks Will Always Honor Their Constraint Dates</i>	3
1.5	The Logic Keeps Changing!.....	5
1.6	The Project Will Not Open!.....	5
1.7	Why Do New Tasks Have an Early Start Constraint?	7
1.8	Recommended Schedule Options	8
2	CALENDAR SURVIVAL GUIDE	9
2.1	Role of the Project Calendar	9
2.2	Guidelines for Creating Calendars	10
2.3	Display of Duration in Days	11
2.4	How to Assign Task Calendars.....	13
2.5	Other Things Task Calendars Affect	14
2.5.1	<i>Float</i>	14
2.5.2	<i>Lags</i>	14
2.6	Resource Calendars	15
2.7	Which Calendar is the Task Using?	16
2.8	Default Start and End Time.....	17
2.9	Finish Variance Calculation.....	18
3	TRICKY STUFF	19
3.1	Task Splitting	19
3.1.1	<i>What is Splitting?</i>	19
3.1.2	<i>Splitting a Task Manually</i>	19
3.1.3	<i>Splitting In-progress Tasks</i>	20
3.1.4	<i>Hiding a Bar Split</i>	21
3.1.5	<i>Removing a Bar Split</i>	22
3.2	Deadline Date	22
3.3	Negative and Free Float Bars.....	23
3.4	As Late As Possible Constraint	24

4	INTERESTING FEATURES	25
4.1	Wildcard Filters for Text Searching	25
4.2	Interactive Filters	26
4.3	Selecting Dates	26
4.4	Understanding Start and Finish Milestones	28
4.5	Converting a Finish Milestone into a Start Milestone	29
4.6	Elapsed Durations, Leads and Lags	30
4.6.1	<i>Elapsed Durations</i>	30
4.6.2	<i>Float on Tasks with Elapsed Durations</i>	30
4.6.3	<i>Elapsed Leads and Lags</i>	31
4.7	Establishing Two Relationships between Two Tasks	31
4.8	% Lags	32
4.9	Task Drivers	33
4.10	Tracing the Logic	34
4.11	Creating a Hammock or LEO Task	35
5	MAKING IT LOOK RIGHT	36
5.1	Date Format Dangers	36
5.2	Preventing the Date Format from Changing on Other Computers	37
5.3	The Smart Way to Create Views	38
5.4	Bar Formatting	39
5.4.1	<i>Bar Date Format</i>	39
5.4.2	<i>Bar Heights</i>	39
5.4.3	<i>Always Roll Up Gantt Bars</i>	40
5.4.4	<i>Round Bars to Whole Days</i>	41
5.4.5	<i>Bar Text</i>	42
5.5	Format Colors	42
5.6	Displaying an S-Curve	43
5.7	Displaying Cumulative Histogram	44
5.8	Displaying a Project Summary Task	44
5.9	Display Tasks without Successors as Critical	45
5.10	Preventing Descriptions from Indenting	46
5.11	Reducing Column Widths	47
5.12	How to Display a Task ID that Will Not Change	48
5.13	Hiding Task Information	49
5.13.1	<i>Hiding Bars</i>	49
5.13.2	<i>Hiding Text</i>	49
5.14	Anchor a Vertical Line to a Milestone	50

6	GETTING IT OUT - PRINTING	51
6.1	Printing to One Page Wide.....	51
6.2	Printing a Date Range	52
6.3	Printing a Gantt Chart and Resource Graph or Usage Table on One Page.....	53
6.4	Printing the Calendar.....	53
6.5	Hiding Some of the Bars in the Legend.....	54
7	RESOURCE BASICS	55
7.1	How Many Resources Should I Have?	55
7.2	The Balance Between the Number of Activities and Resources	56
7.3	Durations and Assignments Change as Resources are Assigned	57
7.3.1	<i>Task Type – Fixed Duration, Fixed Units, Fixed Work</i>	57
7.3.2	<i>Effort-Driven or Non Effort-driven?</i>	59
7.3.3	<i>Task Type and Effort-Driven Options</i>	60
7.4	Assigning Resources to Tasks	61
7.5	Resources and Summary Tasks	61
8	UPDATING ESSENTIALS	62
8.1	Baselines and Updating a Project.....	62
8.2	Which Baseline Should Be Used?.....	63
8.3	In-progress Task Finish Date Calculation	64
8.4	Current Date and Status Date	65
8.5	Auto Statusing Using Update Project.....	66
8.6	Moving Incomplete Work into the Future by Splitting.....	67
8.7	Tracking Toolbar	68
8.8	Why Do Calculation Options – Move end of completed parts...Not Work?	69
8.9	Comparing Progress with Baseline	71
8.10	Progress Lines.....	72
8.11	Simple Procedure for Statusing a Schedule – Using Auto Status	73
8.12	Procedure for Detailed Statusing	75
8.13	Preparing to Update with Resources	77
8.14	Updating Resources	79

9	OTHER THINGS OF INTEREST	80
9.1	Standardizing Projects.....	80
9.2	Global.mpt.....	80
9.3	Templates.....	81
9.4	Copying Views, Tables and Filters	82
9.5	Editing Tool Bar Icons	82
9.6	Right-Clicking with the Mouse.....	83
9.7	Always Displaying Full Menus.....	83
9.8	Dynamically Linking Cells	84
9.9	How Does Negative Float Calculate for Summary Activities?	85
9.10	Float and Constraints	86
9.11	Using Custom Fields	87
9.12	Custom Columns Formulas and Drop-Down List	88
9.13	Custom Outline Codes	89
9.13.1	<i>Define a Custom Outline Code Structure.....</i>	<i>89</i>
9.13.2	<i>Assigning the Custom Codes.....</i>	<i>92</i>
9.13.3	<i>Grouping with Custom Data</i>	<i>93</i>
9.14	Exporting to Excel.....	96
9.15	Turning Off Getting Started and Project Guide.....	96
9.16	Contingent Time.....	96
9.17	Do I Have All the Scope?	97
9.17.1	<i>Stakeholder Analysis.....</i>	<i>97</i>
9.17.2	<i>Risk Analysis.....</i>	<i>97</i>
9.18	Preparing for Dispute Resolution	98
9.18.1	<i>Keeping Electronic Copies of Each Update</i>	<i>98</i>
9.18.2	<i>Clearly Record the Effect of Each Change.....</i>	<i>98</i>

1 IMPORTANT THINGS

Readers of this book should be familiar with:

- ❖ The basic functions of Microsoft Project and
- ❖ The theory of Critical Path including Early dates, Late dates and Float calculations. Microsoft Project uses Slack for term Float.

Microsoft Project has functions that catch out users. You should understand these functions and be able to identify when they have been used inadvertently.

1.1 The “Delete” Key

Striking the delete key will delete data without warning. So keep your fingers away from it. I usually place the Tasks ID in the description of the last task so I know if I have deleted a task in error.

1.2 Typing a Date or Dragging a Task Sets a Constraint!

Functions that set a task constraint without warning::

- ❖ Typing or selecting a start date in a **Start** date field will set a **Start No Earlier Than** constraint
- ❖ Typing or selecting a finish date in a **Finish** date field will set a **Finish No Earlier Than** constraint
- ❖ Dragging a bar in the Gantt Chart View will set a **Start No Earlier Than** constraint

Note: You need to be very careful when dragging tasks or typing into date fields as this will set a constraint and the tasks will not move forward in time when predecessors are removed.

1.3 Indicators Column

The **Indicators** column is a very useful feature that specifies when a task has an attribute that is different from a normal task created by inserting a new task. The indicators column will display a constraint icon when a constraint has been set:

- ❖ Before entering a date in a Start or Finish field or Dragging a Task, the indicator column is blank:

	Task Name	Dur	Start	Finish	2 May	9 May
1	Task Name	5 d	3 May	7 May	S S M T W T F S	S S M T W T F

- ❖ After entering a date in a Start or Finish field or Dragging a Task, a constraint is set. There now is a Constraint indicator in the Indicator column:

	Task Name	Dur	Start	Finish	2 May	9 May
	Task Name	5 d	7 May	13 May	S S M T W T F S	S S M T W T

- ❖ A note displays when the indicator field has the mouse pointer placed over the indicator cell:

	Task Name	Dur	Start	Finish	2 May	9 May
1	Task Name	5 d	7 May	13 May	S S M T W T F S	S S M T W T
2	 This task has a 'Start No Earlier Than' constraint on 7 May.					
3						

- ❖ The indicator column shows a different icon when tasks have Notes, Task Calendar or a Constraint conflict causing Negative Float (Slack):

	Task Name	Dur	Start	Finish	2 May	9 May
1	Task with a note	5 d	3 May	7 May	S S M T W T F S	S S M T W T
2	Task with a constraint	5 d	6 May	12 May		
3	Task with constraint conflict	2 d	3 May	4 May		

Note: No indicator is displayed with a Deadline Date, unless Negative Float is created.

1.4 Why Are Tasks Scheduled before the Predecessors?

There are a couple of reasons why tasks would be displayed before a predecessor relationship would allow them to be scheduled:

- ❖ An **Actual Start** date has been set, or
- ❖ **Tasks will always honor their constraint dates** is set and a task has been assigned Late constraint.

1.4.1 Actual Start Date

You may have assigned an Actual Start to a task by entering a date in the Actual Start field or entering a % Complete.

- ❖ Once an Actual Start Date has been set a predecessor relationship does not affect the Actual Start date.
- ❖ A predecessor relationship may cause an in-progress Task with an Actual Start date to split when the **Tools, Options..., Schedule** tab **Split in progress tasks** option has been checked.

1.4.2 Tasks Will Always Honor Their Constraint Dates

There is an option in the **Tools, Options..., Schedule** form titled **Tasks will always honor their constraint dates**. This option allows a task to be scheduled before the predecessors when the successor has a **Finish no later than** or **Start no later than** constraint. In effect, this option will make all constraints override relationships.

For example, a task with a **Must Start On** constraint, which is prior to a predecessor's Finish Date, will display an Early Start on the constraint date and not the scheduled date. The **Total Slack** may not calculate as the difference between Late Start and Early Start. Examine the following two examples with the option box checked and unchecked:

- ❖ Tasks will always honor their constraint dates: option box checked:

	Start	Finish	Late Finish	Total Slack	Constraint Date	Constraint Type
1	27 Mar	4 Apr	2 Apr	-2d	NA	As Soon As Possible
2	5 Apr	6 Apr	4 Apr	-2d	NA	As Soon As Possible
3	4 Apr	4 Apr	4 Apr	-2d	4 Apr	Finish No Later Than

Task 3 starts before the predecessor finishes and the total slack of the second task is calculated as - 2 days, which is not the difference between the Early Finish and the Late Finish. This constraint does not adhere to commonly accepted Total Float calculations.

- ❖ Tasks will always honor their constraint dates: option box NOT checked and the Total Float is calculated correctly:

	Start	Finish	Late Finish	Total Slack	Constraint Date	Constraint Type
1	27 Mar	4 Apr	2 Apr	-2d	NA	As Soon As Possible
2	5 Apr	6 Apr	4 Apr	-2d	NA	As Soon As Possible
3	6 Apr	6 Apr	4 Apr	-2d	4 Apr	Finish No Later Than

It is suggested that this option is NEVER switched on, as the schedule may appear to be achievable when it is not.

1.5 The Logic Keeps Changing!

The logic will change if a task is dragged to another position when **Autolink inserted or moved tasks** option is turned on.

This option is intended to be used to automatically link new inserted tasks with a predecessor to the task above and a successor to the task below.

The downside of this function is that when the task is moved this function will change the existing predecessors and successors of the:

- ❖ Moved task,
- ❖ Original tasks that were above and below the moved task, and
- ❖ New tasks that are now above and below the moved tasks.

This function will potentially make substantial changes to your project logic and may affect the overall project duration. It is suggested that this option is **NEVER** switched on, as dragging an activity to a new location may completely change the logic of a schedule without warning.

Select **Tools, Options...**, **Schedule** tab and uncheck **Autolink inserted or moved tasks**.

1.6 The Project Will Not Open!

Microsoft Project 2007 has a new file format that may not be opened with Microsoft Project 2000-2003. Microsoft Project 2000-2003 format may be saved from Microsoft Project 2007.

An example of this process is shown below:

❖ Original Logic:

	Task Name	Duration	Predecessors	Successors	Apr '07					
					12	19	26	2	9	16
1	A	5 days		2						
2	B	5 days	1	3						
3	C	5 days	2	4						
4	D	5 days	3	5						
5	E	5 days	4							

❖ Task D dragged with **Autolink inserted or moved tasks** checked. Note the logic has changed on many tasks:

	Task Name	Duration	Predecessors	Successors	Apr '07					
					12	19	26	2	9	16
1	A	5 days		2						
2	D	5 days	1	3						
3	B	5 days	2	4						
4	C	5 days	3	5						
5	E	5 days	4							

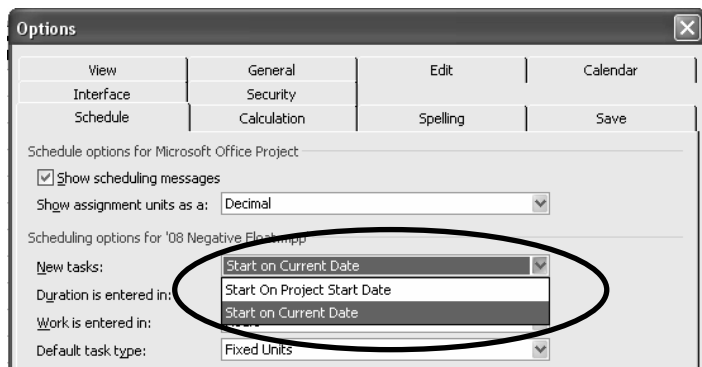
❖ Task D dragged with **Autolink inserted or moved tasks** unchecked. The logic has not changed:

	Task Name	Duration	Predecessors	Successors	Apr '07					
					12	19	26	2	9	16
1	A	5 days		3						
2	D	5 days	4	5						
3	B	5 days	1	4						
4	C	5 days	3	2						
5	E	5 days	2							

1.7 Why Do New Tasks Have an Early Start Constraint?

Unlike other scheduling software, Microsoft Project normally ignores the Status Date when calculating a progressed schedule. It schedules tasks without an Actual Start or predecessors or constraints on the Project Start Date, or as close to the Project Start Date as calendars permit. It does not commence the incomplete portions of Tasks after the Status Date. The **Tools, Options..., Schedule** tab has a **New tasks:** option of either:

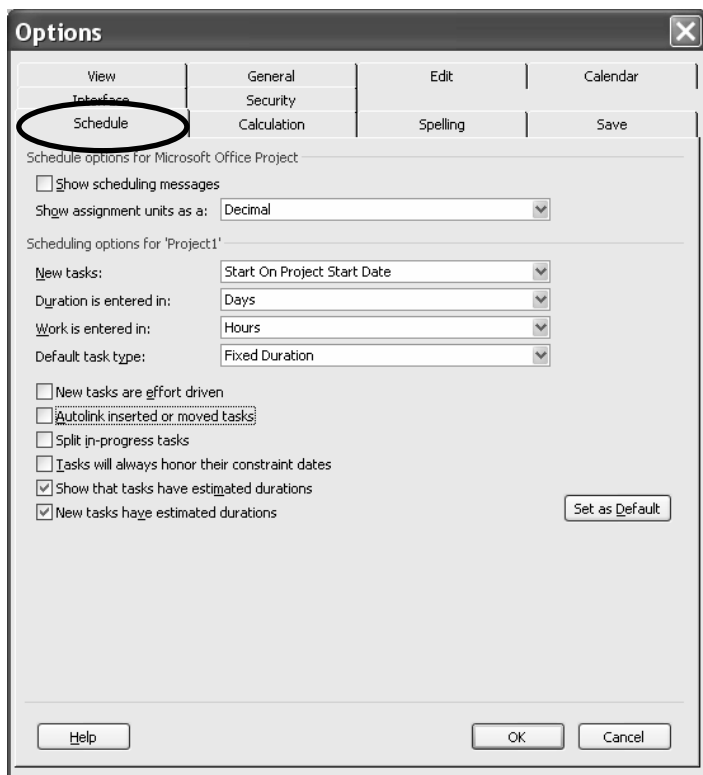
- ❖ **Start on Current Date**, or
- ❖ **Start on Project Start Date**.



- ❖ When set to **Start on Current Date**, new tasks are created with an **Early Start Constraint** set to the **Current Date**.
- ❖ When set to **Start on Project Start Date**, new tasks are created without a constraint. When the **Autolink inserted or new tasks:** is switched off all new tasks will schedule on the Project Start Date.

1.8 Recommended Schedule Options

It is best to keep a schedule as simple as possible. I recommend that you consider the following Schedule Options as a good starting point if you have limited experience in scheduling software:



- ❖ The option of displaying a new task with a “?” after the duration is called an **Estimated Duration**. The default setting may be changed in the **Tools, Options..., Schedule** tab.

Note: Most of the other options are covered in this book.