

Planit Training Manual

First Class Training for World Class Software



**Essential Milling License
(Incorporating Solid
Loader Modules).**



Copyright

Copyright © 2011 Planit Software Ltd. All rights reserved.

Any copyright or other intellectual property right of whatever nature which subsists or may subsist in the presentation and/or content of the programs (including without limitation its look, feel, visual or other non-literal elements) remains the property of Planit Software Ltd or its licensor(s) absolutely.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language, in any form or by any means, electronic, mechanical, optical, chemical, manual or otherwise, without the express written permission of Planit Software Ltd.

Unauthorised reproduction or distribution of these programs or any part thereof is unlawful and may result in civil or criminal penalties.

Edgecam and the Edgecam Logo are trademarks of Planit Software Ltd.

Windows is a trademark of Microsoft Corporation.

All product names mentioned in this publication, and not listed above, are acknowledged as the trademarks of the respective manufacturers and producers of such products.

Planit Software Ltd makes no representations or warranties with respect to the contents hereof and specifically disclaim any implied warranties of satisfactory quality or fitness for any particular purpose. Further, Planit Software Ltd reserves the right to revise this publication and to make changes in the contents hereof without obligation to notify any person of such changes or revisions.

The information contained within this document is subject to change without notice and does not represent a commitment on the part of the vendor. The software described in this document is furnished under a licence agreement and may be used or copied only in accordance with the terms of the agreement.



Contents

Copyright	2
Contents	3
License Restrictions.....	6
Example Part Files.....	6
Conventions Used in This Guide.....	7
Terminology	7
Differentiating Between Solids and Wireframe	8
System Requirements for Edgecam and Part Modeler.	9
Supported Operating Systems	9
Minimum Specifications	10
Trainee Notes	11
Pre-Requisites	12
Licensing Requirements	12
Before You Start	12
Setting Your Profile.....	12
Setting Your Defaults.....	12
Overview of the Lesson	13
What is Edgecam Solid Machinist?	14
Datum Position	15
Translate.....	15
Rotate	16
Scale.....	16
Exercise 1 – Transforming Solid Parts	17
Align Body for Milling Command.....	23
Exercise 2 - Align Body for Milling	24
Preparing Solid Models for Manufacture	29
Feature Types (AFR).....	29
Identifying features	30
The Features Window.....	30
Auto Component Selection.....	31
Feature Capping.....	32
Holes.....	32
Find Radial.....	33
Find All Holes.....	33
Mill.....	33
Nesting.....	34
Open Pocket.....	34
Open Mill.....	34
Flat Face Features.....	35
Properties Window.....	35
Exercise 3 – Using the Feature Finder	36
Manual Feature Finding	39
Exercise 4 – Manual Features.....	40
Exercise 5 – Nesting.....	42
Stock	45
Automatic Stock: Box.....	46
Automatic Stock: Cylinder.....	46
Digitise: Solid or STL	46
Profile.....	46
Exercise 6 – Stock Options	47



Box Example – Not Automatic	47
Cylinder Example – Not Automatic	48
Profile Example	49
Exercise 7 - Creating Automatic Box Stock.....	51
Exercise 8 - Extracting Wireframe Geometry	53
Exercise 9 - Creating Fixturing	55
Exercise 10 – Feature Find Packing Adaptor.....	59
Switch to Manufacture Mode.....	61
Manufacturing Environment	61
Exercise 11 – Starting a New Machining Sequence.....	63
Miscellaneous Manufacturing information.....	65
Exercise 12 – Defining Fixtures.....	67
Creating CAM Instructions	69
Manual.....	69
Manually Created Machining Instructions	70
Automatic	70
Automatically Created Machining Instructions	71
Machining Process for Packing Adaptor Component	71
Exercise 13 – Creating a Face Mill within the ToolStore	72
Edgecam ToolStore	72
Machining in Edgecam	76
Operation Preferences.....	76
Exercise 14 – Face Milling Operation.....	77
Changing Playback Speed.....	80
Viewing the Toolpath in Edgecam.....	81
Editing	83
Exercise 15 – Editing the Face Milling Operation.....	83
Exercise 16 – Roughing Operation	85
Operation.....	85
Depth.....	89
Viewing the Operation.....	91
Depth.....	94
Exercise 17 – Viewing The Toolpaths	95
Exercise 18 – Profiling Operation Pockets	96
Cutter Radius Compensation.....	97
Exercise 19 – Profiling Operation Outer Profile.....	100
Hole Operation	103
Process for Drilling Packing Adaptor With The Hole Operation.....	105
Exercise 20 – Hole Operation	106
Chamfer Operation	110
Exercise 21 – Chamfer Operation	113
Associative Reloading of Solids	117
Reloading Manually.....	117
Automatic Reloading.....	118
Reload Preferences	118
Exercise 22 – Reloading a Modified Solid.....	119
Manipulating Machining Instructions	122
Moving/Copying & Inserting a Machining Instruction	122
Inserting a CAM Instruction.....	122
Trainee Notes	123
Exercise 23 – Generating the CNC Program	124
Edgecam Simulator	126
About Simulate Machining	126



- About Rapid Result..... 126
- Changing Playback Speed 127
- Pausing the Simulator..... 127
- Output Window 128
- Machine Simulation and Graphics..... 129
- Using STL Files 129
- Using the STL File Model 129
- Waste Stock Removal 129
- Full Machine Collision Checking..... 130
- Recording AVIs..... 130
- Exercise 24 – Workshop 1..... 132
- Exercise 25 – Workshop 2..... 133
- Tool Selection and Cycles 134**
 - Toolstore Selection 134
 - Tools Created On The Fly 134
 - Toolchange Dialog Box..... 135
- The Roughing Cycle 137**
 - Stock Type 140
 - Using Containment Boundaries in the Roughing Cycle 141
 - Approach Types..... 144
 - Approach Moves, Order of Preference..... 145
- Geometry Selection for the Roughing Cycle. 145**
 - What you can use. 145
 - What you can't use. 145
- Set Safe Start Position..... 146**
- Update Stock 147**
 - Exercise 26 - The Roughing Cycle 148
 - Insert Command 164
- Profiling Cycle..... 181**
- Geometry Selection for the Profiling Cycle..... 185**
 - What you can use. 185
 - What you can't use. 185
- Exercise 27 – The Profiling Cycle..... 186**
 - Start & End Positions Within The Profiling Cycle. 192
- Hole Cycle 199**
 - Exercise 28 – Hole Cycle 203
 - Document Revision Control..... 210