

Pro/ENGINEER for Designers Release 2001

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CADCIM Technologies

(www.cadcim.com)

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Pro/ENGINEER for Designers: Release 2001 Sham Tickoo

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ISBN 0-9663537-2-2

Cover designer: *CADCIM Technologies*

Copy editor: *Vivek Kumar*

Cover illustration: *Created by Deepak Maini and Puja Bahl Manchanda using Pro/ENGINEER and MAX software*

Technical editors: *Deepak Maini, Abhinav Rai, Gurpreet Singh*

Typeface: *10/12 New Baskerville Bt*

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DEDICATION

*To teachers, who make it possible to disseminate knowledge
to enlighten the young and curious minds
of our future generations*

*To students, who are dedicated to learning new technologies
and making the world a better place to live*

THANKS

*To the faculty and students of the MET department of
Purdue University Calumet for their cooperation*

*To Deepak Maini, Abhinav Rai, Puja Manchanda, and
Gurpreet Singh of CADCIM Technologies for their valuable help*

Teaching Aids for Faculty

The following teaching aids are available to faculty:

1. All Part files (.prt), Assembly files (.asm), and Drawing files (.drw) used for tutorials and exercises in this book.
2. PowerPoint presentations for every chapter of the book.
3. Instructor's Guide with answers to review questions and solution to exercises.
4. Course outlines.
5. Students projects.
6. Free online technical support by contacting cadsoft@vsnl.com

To access the web site that contains these teaching aids, please contact the author, Prof. Sham Tickoo, at the following address:

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- Animation of assemblies using Autodesk Inventor and SolidWorks.

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- SolidWorks, and • 3D Studio VIZ/MAX.

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For Faculty: Please contact the author at stickoo@calumet.purdue.edu or tickoo@cadcim.com to access the web site that contain the PowerPoint presentations, solid models used in the text book, Instructor's Guide, and other related material.

For Students: You can download solid modeling exercises, tutorials, and special topics by accessing the author's web site at <http://www.calumet.purdue.edu/public/mets/tickoo/index.htm>

Preface

PRO/ENGINEER 2001

Pro/ENGINEER, developed by Parametric Technology Corporation, is one of the world's fastest growing solid modeling softwares. It is a parametric feature-based solid modeling tool and it not only unites the 3D parametric features with 2D tools but also addresses every design-through-manufacturing process. Based mainly on the solid modeling users feedback, this solid modeling tool is remarkably user-friendly and it allows you to be productive from day one.

This solid modeling tool allows you to easily import the standard format files with an amazing compatibility.

The 2D drawing views of the components are automatically generated in the Drawing mode. The drawing views that can be generated include detailed, orthographic, isometric, auxiliary, section, and so on. You can use any predefined drawing standard files for generating the drawing views. You can display the model dimensions in the drawing views or add reference dimensions whenever you want. The bidirectional associative nature of this software ensures that any modification made in the model is automatically reflected in the drawing views and any modification made in the dimensions in drawing views automatically updates the model.

Pro/ENGINEER for Designers is a book that is written with an intent of helping the people who are into 3D design. This book is written with the tutorial point of view with learn-by-doing as the theme. The mechanical engineering industry examples and tutorials are used in this book to ensure that the user can relate his knowledge of this book with the actual mechanical industry designs. The main features of the book are as follows:

- **Tutorial approach.**

The author has adopted the tutorial point-of-view with learn-by-doing as the theme throughout the book. This approach will guide the users through the process of creating the model in the tutorial.

- **Real-World Projects as Tutorials.**

The author has used the real-world mechanical engineering projects as tutorials in this book so that the reader can correlate the tutorials in this book with the real-time models in the mechanical engineering industry.

- **Tips and Notes.**

The additional information related to the topics is provided to the users in the form of tips and notes.

- **Learning Objectives.**

The first page of every chapter provides in brief the topics that will be covered in that chapter. This will help the users to easily refer to a topic.

- **Tools section.**

Every chapter begins with the tools section that provides the detailed explanation of the Pro/ENGINEER tools.

- **Self-Evaluation Test, Review Questions, and Exercises.**

Every chapter ends with a Self-Evaluation Test so that the users can assess their knowledge of the chapter. The author has given the answers of the Self-Evaluation Tests so that the users can compare their answers with the correct answers. The Review Questions and Exercises are also given at the end of each chapter and can be used by the Instructors as test questions and exercises in the classroom.

- **Heavily illustrated text.**

The text in this book is heavily illustrated with the help of around 500 line diagrams and 700 photos that support the tools section and tutorials.