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A Problem-Solving Approach

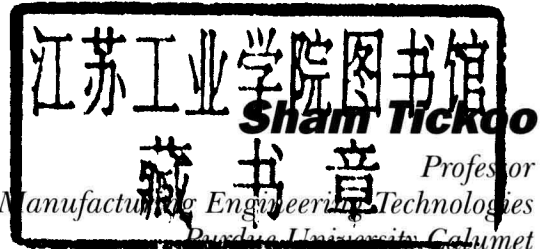
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Sham Tickoo

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AutoCAD 2002

A Problem Solving Approach



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Preface

AutoCAD, developed by Autodesk Inc., is the most popular PC-CAD system available in the market. Over two million people in 80 countries around the world use AutoCAD to generate various kinds of drawings. In 1998 the market share of AutoCAD grew to 78 percent, making it the worldwide standard for generating drawings. Also, AutoCAD's open architecture has allowed third-party developers to write application software that has significantly added to its popularity. For example, the author of this book has developed a software package "SMLayout" for sheet metal products that generates flat layout of various geometrical shapes such as transitions, intersections, cones, elbows, and tank heads. Several companies in Canada and the United States are using this software package with AutoCAD to design and manufacture various products. AutoCAD has also provided facilities that allow users to customize AutoCAD to make it more efficient and therefore increase their productivity.

This book contains a detailed explanation of AutoCAD 2002 commands and how to use them to solve drafting and design problems. The book also unravels the customizing power of AutoCAD. Every AutoCAD command and customizing technique is thoroughly explained with examples and illustrations that make it easy to understand their function and application. At the end of each topic, there are examples that illustrate the function of the command and how it can be used in the drawing. When you are done reading this book, you will be able to use AutoCAD commands to make a drawing, create text, make and insert symbols, dimension a drawing, create 3D objects and solid models, write script files, define linetypes and hatch patterns, write your own menus, and write programs in the AutoLISP programming languages.

The book also covers basic drafting and design concepts — such as orthographic projections, dimensioning principles, sectioning, auxiliary views, and assembly drawings — that provide you with the essential drafting skills you need to solve drawing problems with AutoCAD. In the process, you will discover some new applications of AutoCAD that are unique and might have a significant effect on your drawings. You will also get a better idea of why AutoCAD has become such a popular software package and an international standard in PC-CAD. Please refer to the following table for conventions used in this text.

Convention

- Command names are capitalized and bold.
- A key icon appears when you should respond by pressing the ENTER or RETURN key.

Example

The **MOVE** command

 Enter

Convention

- Command sequences are indented. The responses are indicated by boldface. The directions are indicated by italics and the comments are enclosed in parentheses.
- The command selection from the toolbars, menus, and Command prompt are enclosed in a shaded box.
- AutoCAD 2002 features are indicated by an asterisk symbol at the end of the feature.

Examples

Command: **MOVE**

Select object: **G**

Enter group name: *Enter a group name (the group name is group1)*

Toolbar:	Draw > Arc
Menu:	Draw > Arc
Command:	ARC

Block Attribute Manager*

e-resource

This is an educational resource that creates a truly electronic classroom. It is a CD-ROM containing tools and instructional resources that enrich your classroom and make your preparation time shorter. The elements of **e-resource** link directly to the text and tie together to provide a unified instructional system. With **e-resource** you can spend your time teaching, not preparing to teach.
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Web Tutor on Web CT and Blackboard online resources are available to support this title. Web Tutor provides content rich, web-based teaching and learning that reinforces and clarifies complex concepts.

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Author's Web Sites

For Faculty: Please contact the author at stickoo@calumet.purdue.edu to access the Web site that contains the following:

1. **PowerPoint presentations**, program listings, and **drawings** used in this textbook.
2. Syllabus, chapter objectives and hints, and questions with answers for every chapter.

For Students: You can download drawing-exercises, tutorials, programs, and special topics by accessing the author's Web site at www.cadcim.com or www.calumet.purdue.edu/public/mets/tickoo/index.html.

Visual LISP on the Web Site

For the users who are interested in learning Visual LISP, the author of this book has posted a chapter on Visual LISP on the following Web sites:

1. www.calumet.purdue.edu/public/mets/tickoo/index.html
2. www.cadcim.com

This chapter explains the concept of Visual LISP in detail with the help of examples.

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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

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