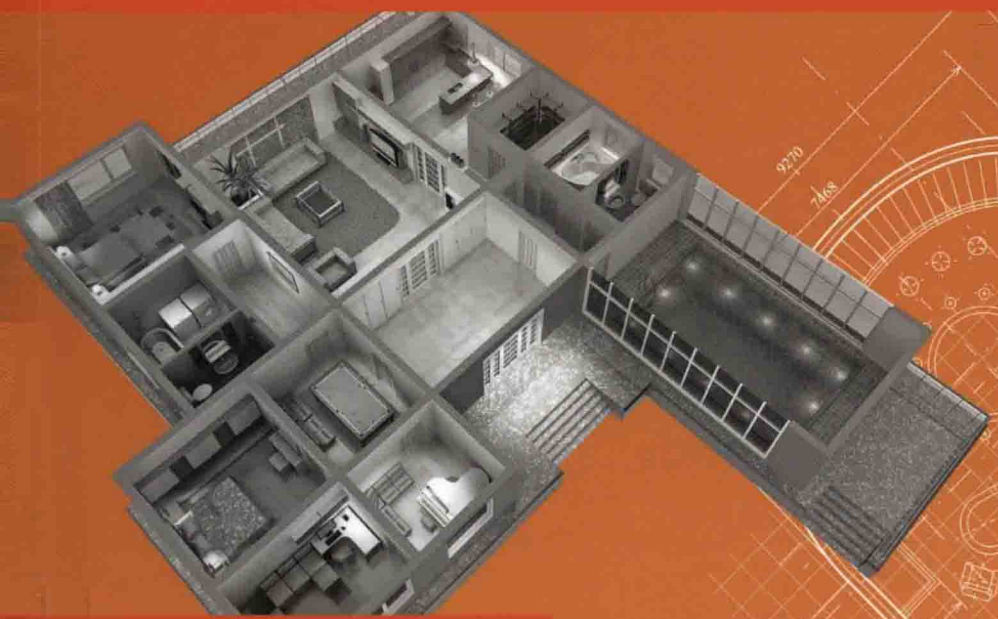
Introduction to AutoCAD® 2016

2D and 3D Design



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INTRODUCTION TO AUTOCAD® 2016

2D AND 3D DESIGN

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常州大学山书馆
藏书章

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2015
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

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British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Palm, Bernd S.
Introduction to AutoCAD 2016 : 2D and 3D design / Bernd S. Palm and Alf Yarwood.
pages cm
Includes index.
1. AutoCAD. 2. Computer-aided design. I. Yarwood, A. (Alfred), 1917- II. Title.
T386.A97.P35 2015
620'.0042028553--dc23
2015003273

ISBN: 978-1-138-92585-4 (pbk)
ISBN: 978-1-315-68353-9 (ebk)

Typeset in Sabon, Helvetica Neue and Trajan by
Servis Filmsetting Ltd, Stockport, Cheshire
Printed and bound in Great Britain by Ashford Colour Press Ltd

INTRODUCTION TO AUTOCAD® 2016

Master the complexities of the world's bestselling 2D and 3D software with *Introduction to AutoCAD® 2016*. Ideally suited to new users of AutoCAD, this book will be a useful resource for drawing modules in both vocational and introductory undergraduate courses in engineering and construction.

This book is a comprehensive, step-by-step introduction to the latest release of AutoCAD. Covering all the basic principles and acting as an introduction to 2D drawing, it also contains extensive coverage of all 3D topics, including 3D solid modelling and rendering.

- Written by members of the Autodesk Developer Network.
- Hundreds of colour pictures, screenshots and diagrams illustrate every stage of the design process.
- Worked examples and exercises provide plenty of practice material to build proficiency with the software.

Further education students in the UK will find this an invaluable textbook for City & Guilds AutoCAD qualifications as well as the relevant Computer Aided Drawing units of BTEC National Engineering, Higher National Engineering and Construction courses from Edexcel. Students enrolled in Foundation Degree courses containing CAD modules will also find this a very useful reference and learning aid.

Bernd S. Palm is an experienced Autodesk authorised author, lecturer and examiner. He works as a program manager, and develops course content, for online classes on different CAD software.

Alf Yarwood was a former Autodesk authorised author, lecturer and examiner who wrote numerous books covering the AutoCAD software package.

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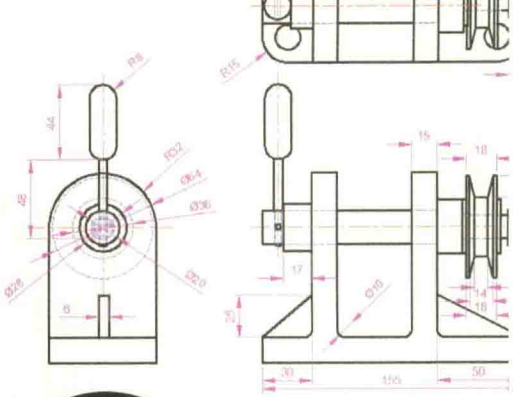

PART A

2D DESIGN

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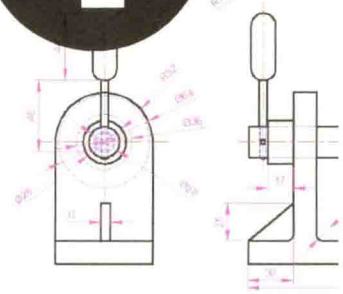
CHAPTER 1

INTRODUCING AUTOCAD 2016



AIMS OF THIS CHAPTER

The contents of this chapter are designed to introduce features of the AutoCAD 2016 window and methods of operating AutoCAD 2016.

OPENING AUTOCAD 2016

AutoCAD 2016 is designed to work in a Windows operating system. In general, to open AutoCAD 2016 *double-click* on the **AutoCAD** shortcut in the Windows desktop (Fig. 1.1).

Fig. 1.1 The **AutoCAD 2016** shortcut on the Windows desktop

When working in education or in industry, computers may be configured to allow other methods of opening AutoCAD, such as a list appearing on the computer in use when the computer is switched on, from which the operator can select the program he/she wishes to use.

When AutoCAD 2016 is opened, the Start page appears, giving access to recent drawings, system information and the Start Drawing button (Fig. 1.2). After starting a new drawing a new window is shown, depending upon whether a **3D Basics**, a **3D Modeling**, or a **Drafting & Annotation** workspace has been set as **QNEW** (in the **Options** dialog). In this example, the **Drafting & Annotation** workspace is shown and includes the **Ribbon** with **Tool** panels (Fig. 1.3). The **Drafting & Annotation** workspace shows the following details:

Ribbon: which includes tabs, each of which when *clicked* will include a set of panels containing tool icons. Other tool panels can be seen by *clicking* an appropriate tab.

Introduction to AutoCAD 2016. ISBN: 978-1-138-92585-4
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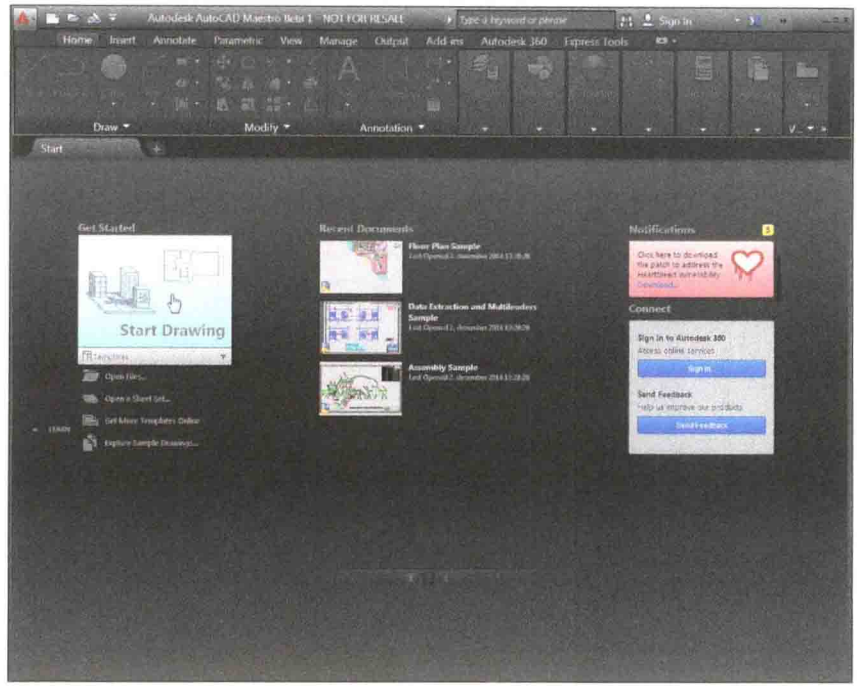

Fig. 1.2 The Start Page

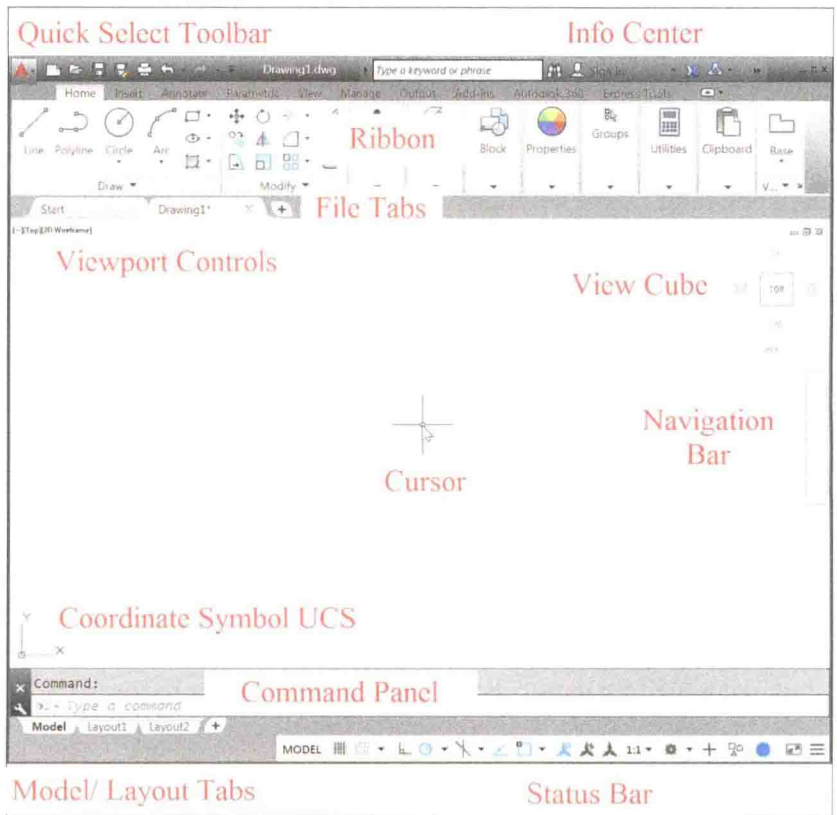

Fig. 1.3 The AutoCAD 2016 **Drafting & Annotation** workspace

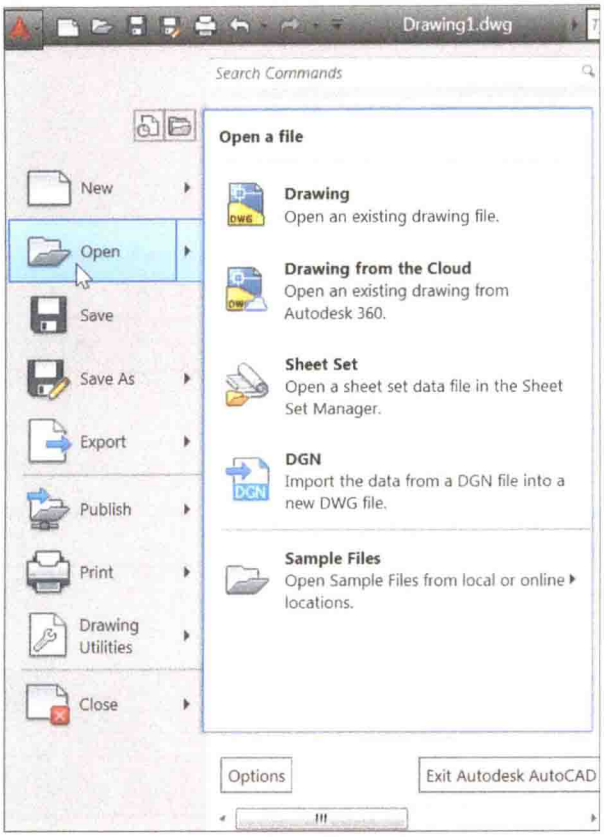

Fig. 1.4 The Menu Browser

Menu Browser icon: A *left-click* on the arrow to the right of the **A** symbol at the top left-hand corner of the AutoCAD 2016 window causes the **Menu Browser** menu to appear (Fig. 1.4).
Workspaces Switching menu: appears with a *click* on the **Workshop Switching** button in the status bar (Fig. 1.5).
Command line: can be changed as shown in Fig 1.6.
Tool panels: each includes tool icons appropriate to the panel. Taking the **Home/Draw** panel as an example, Fig. 1.7 shows that placing the mouse cursor on one of the tool icons in a panel brings a tooltip on screen showing details of how the tool can be used. Two types of tooltip can be used in AutoCAD 2016. In the majority of future illustrations of tooltips, the smaller version will be shown. Other tool icons have popup menus appearing with a *click*. In the example given in Fig. 1.8, place the cursor over the **Circle** tool icon and a tooltip appears. A *click* on the arrow to the right of the tool icon brings down a popup menu showing the construction method options available for the tool.
Quick Access toolbar: The toolbar at the top left of the AutoCAD 2016 window holds several icons, one of which is the **Open** tool icon. A *click* on the icon opens the **Select File** dialog (Fig. 1.9).
Navigation bar: contains several tools that may be of value.

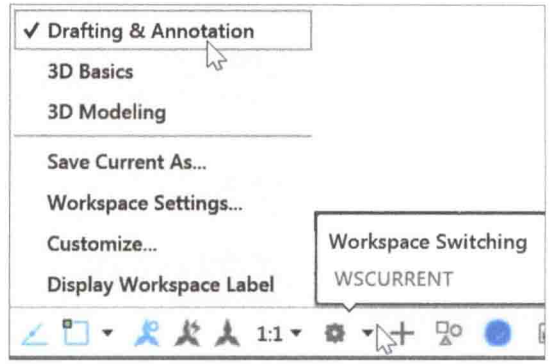

Fig. 1.5 The **Workspace Switching** popup menu

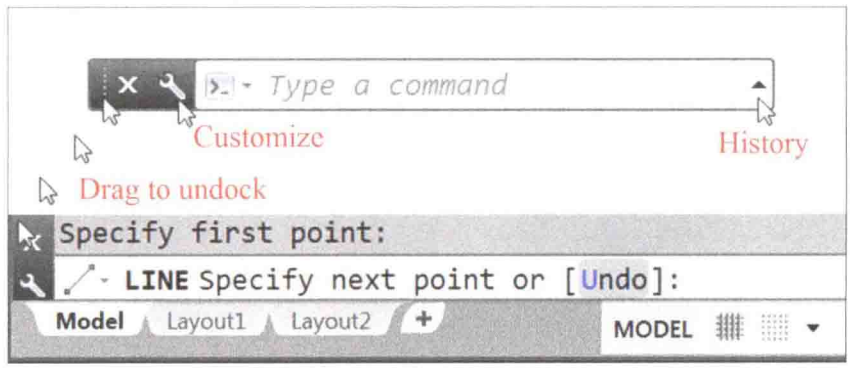

Fig. 1.6 The command palette when *dragged* from its position at the bottom of the AutoCAD window

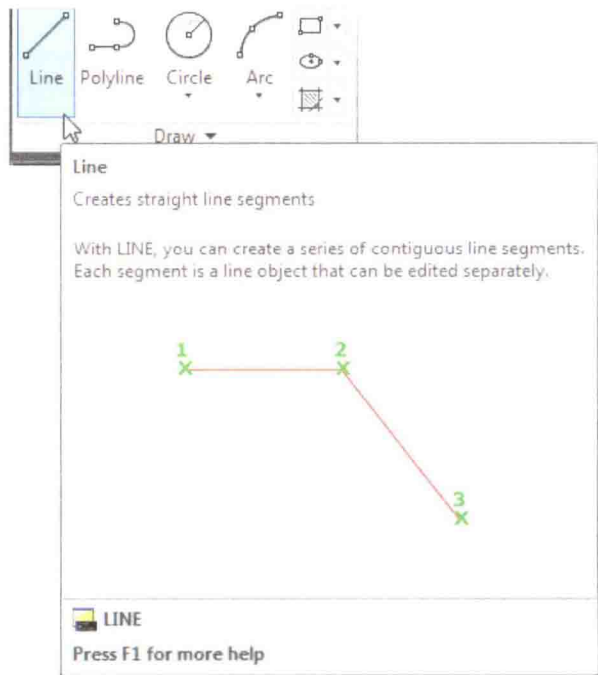

Fig. 1.7 The extended tooltip appearing with a *click* on the **Line** tool icon

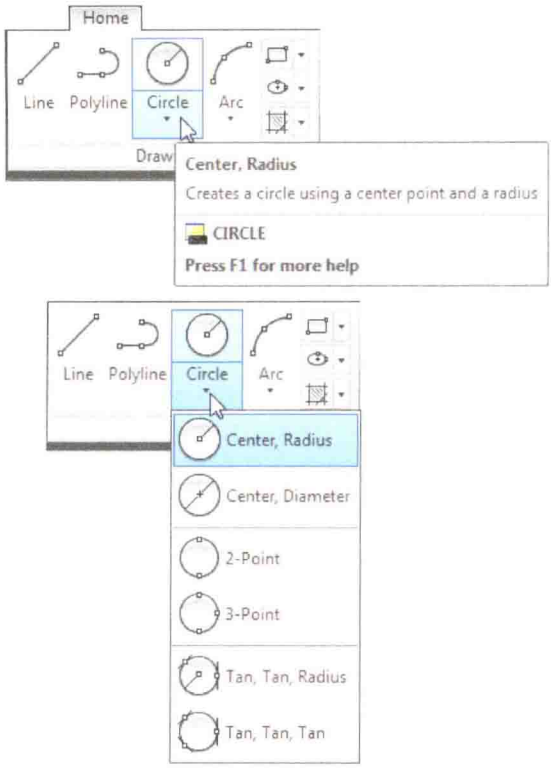

Fig. 1.8 The tooltip for the **Circle** tool and its popup menu

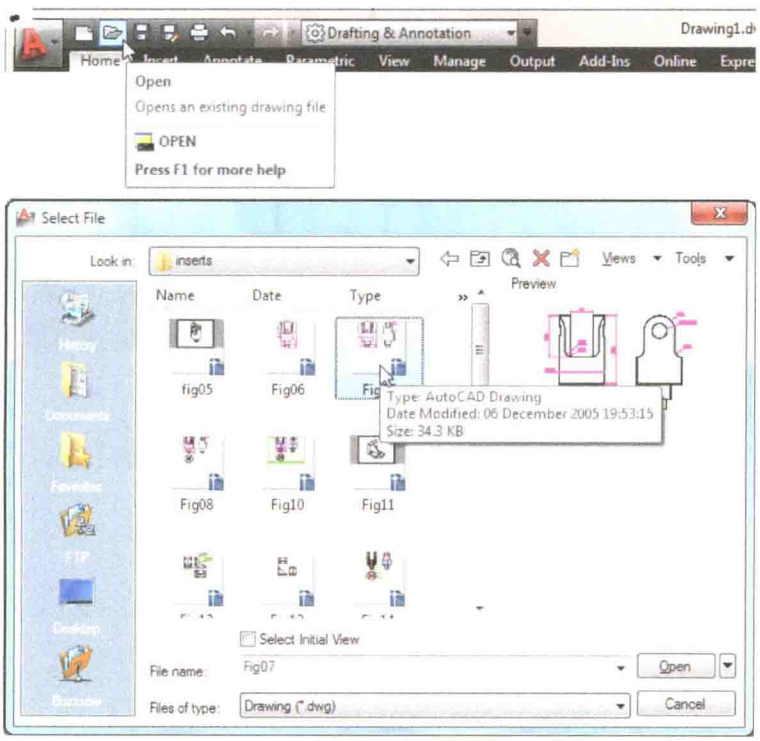

Fig. 1.9 The **Open** icon in the **Quick Access** toolbar brings the **Select File** dialog to screen

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