

1. Record Nr.	UNINA9910784569703321
Autore	Rong Yiming <1958->
Titolo	Advanced computer-aided fixture design [[electronic resource] /] / Yiming (Kevin) Rong, Samuel H. Huang, Zhikun Hou
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier, 2005
ISBN	1-281-02004-4 9786611020040 1-4237-2246-9 0-08-048827-7
Descrizione fisica	1 online resource (425 p.)
Altri autori (Persone)	HuangSamuel H HouZhikun
Disciplina	621.9/92
Soggetti	Jigs and fixtures - Computer-aided design Machine-tools - Computer-aided design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Advanced Computer-aided Fixture Design; Copyright Page; Preface; Author Biographies; TABLE OF CONTENTS; Chapter 1. Introduction; References; Chapter 2. Computerized Manufacturing Setup Planning; 2.1 An Overview; 2.2 Tolerance Analysis in Setup Planning; 2.3 System Development; 2.4 Advanced Topics; References; Chapter 3. Computer-aided Fixture Design; 3.1 An Overview of Computer-aided Fixture Design; 3.2 Automated Dedicated Fixture Design: Basic Design; 3.3 Automated Dedicated Fixture Design: Detail Design; 3.4 Variation Fixture Design for Part Family 3.5 Case-based Reasoning Fixture Design3.6 Sensor based Fixture Design and Verification; References; Chapter 4. Computer-aided Fixture Design Verification; 4.1 Framework and Modeling; 4.2 Fixturing Tolerance Analysis; 4.3 Fixturing Stability Analysis; References; Chapter 5. Fixturing Stiffness Analysis; 5.1 Deformation of Fixtured Workpiece; 5.2 Finite Element Analysis of Fixture Unit Stiffness; 5.3 Contact Stiffness Identification; References; Chapter 6. Fixturing Modeling and Analysis; 6.1 Fixture Modeling; 6.2 Modeling of Locating Deviation; 6.3 Locating Characteristics Analysis

Sommario/riassunto

Fixtures--the component or assembly that holds a part undergoing machining--must be designed to fit the shape of that part and the type of machining being done. This book discusses the fundamentals of Computer-Aided Fixture Design (CAFD) techniques and covers fixture planning, fixture design (both modular and dedicated fixtures), fixture design verifications, and the overall integration with CAD/CAM. The book shows how CAFD may lead to a significant reduction of product and process development time and production cost, and how CAFD can increase quality assurance through simulation and scienc