1.	Record Nr.	UNISALENTO991003235629707536
	Autore	Rong, Yiming, 1958-
	Titolo	Advanced computer-aided fixture design [e-book] / Yiming (Kevin) Rong, Samuel H. Huang, Zhikun Hou
	Pubbl/distr/stampa	Amsterdam ; Boston : Elsevier, 2005
	ISBN	9780125947510
		0125947518
	Descrizione fisica	x, 414 p. : ill. ; 23 cm
	Altri autori (Persone)	Huang, Samuel H.
		Hou, Zhikun
	Disciplina	621.992
	Soggetti	Jigs and fixtures - Computer-aided design
		Electronic books.
	Lingua di pubblicazione	Inglese
	Formato	Risorsa elettronica
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references and index
	Nota di contenuto	Preface; Ch1. Background; 1.1 Mass customization and fixture design in manufacturing; 1.2 Introduction to Computer-Aided Fixture Design; 1.3 Recent development of CAFD; 1.4 Objectives; content; and organization of the book; Ch 2. Machining Setup Planning; 2.1 Feature representation of inter-setup tolerance stack-up; Manufacturing resource model; 2.4 Setup planning generation; 2.5 System implementation; Ch.3 Fixture Planning; 3.1 Geometric model of fixturing; 3.2 Kinetic model of fixturing; 3.3 Fixture locating datum surface determination; 3.4 Fixture locating position optimization; 3.5 Fixture clamping design and optimization; 3.6 System implementation; Ch. 4 Fixture Configuration Design; 4.1 Automated modular fixture design; 4.2 Automated permanent fixture design with pre-defined component types; 4.3 Variation fixture design for part families; 4.4 Computer-aided fixture design with operation constraints; Ch. 5 Fixture Design Verification; 5.1 Geometric constraint verification; 5.2 Locating tolerance verification; 5.3 Locating tolerance assignment; 5.4 Fixturing surface accessibility verification; 5.6 Minimum clamping force determination; 5.7 Fixturing stiffness analysis; 5.8 System implementation; Index
	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 science-based technical specification and cost estimation in business quoting, especially in current supplier-based manufacturing. It also provides case study examples. * This book provides a total solution of CAFD, including planning, design, and design verification * Practical and comprehensive theoretical analysis of fixturing from real industrial application projects * Introduces the integration of fixture design and analysis with CAD/CAM so that detailed geometric information can be processed and complex fixture designs can be designed and analyzed