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		Machinery and Machine Elements
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	Nota di contenuto	Gears: general concepts, definitions and basic quantities -- The geometry of involute spur gears -- Quantities of cylindrical spur gear and their determination -- Interference between external spur gears -- Interference between internal spur gears -- Profile shift of spur gear involute toothing -- Cylindrical involute helical gears -- Straight bevel gear -- Crossed helical gear -- Worm gears -- Spiral bevel and hypoid gears -- Gear trains and planetary gears -- Face gear pair.
	Sommario/riassunto	The book explores the geometric and kinematic design of the various types of gears most commonly used in practical applications, also considering the problems concerning their cutting processes. The cylindrical spur and helical gears are first considered, determining their main geometric quantities in the light of interference and undercut problems, as well as the related kinematic parameters. Particular attention is paid to the profile shift of these types of gears either generated by rack-type cutter or by pinion-rack cutter. Among other things, profile-shifted toothing allows to obtain teeth shapes capable

of greater strength and more balanced specific sliding, as well as to reduce the number of teeth below the minimum one to avoid the operating interference or undercut. These very important aspects of geometric-kinematic design of cylindrical spur and helical gears are then generalized and extended to the other examined types of gears most commonly used in practical applications, such as: straight bevel gears; crossed helical gears; worm gears; spiral bevel and hypoid gears. Finally, ordinary gear trains, planetary gear trains and face gear drives are discussed. Includes fully-developed exercises to draw the reader's attention to the problems that are of interest to the designer, as well as to clarify the calculation procedure Topics are addressed from a theoretical standpoint, but in such a way as not to lose sight of the physical phenomena that characterize the various types of gears which are examined The analytical and numerical solutions are formulated so as to be of interest not only to academics, but also to designers who deal with actual engineering problems concerning the gears.