DESCRIPTION

Building on the first edition published in 1995 this new edition of Kinematic Geometry of Gearing has been extensively revised and updated with new and original material. This includes the methodology for general tooth forms, radius of torsure’, cylinder of osculation, and cylindroid of torsure’; the author has also completely reworked the ‘3 laws of gearing’, the first law re-written to better parallel the existing ‘Law of Gearing’ as pioneered by Leonard Euler, expanded from Euler’s original law to encompass non-circular gears and hypoid gears, the 2nd law of gearing describing a unique relation between gear sizes, and the 3rd law completely reworked from its original form to uniquely describe a limiting condition on curvature between gear teeth, with new relations for gear efficiency are presented based on the kinematics of general toothed wheels in mesh. There is also a completely new chapter on gear vibration load factor and impact.

Progressing from the fundamentals of geometry to construction of gear geometry and application, Kinematic Geometry of Gearing presents a generalized approach for the integrated design and manufacture of gear pairs, cams and all other types of toothed/motion/force transmission mechanisms using computer implementation based on algebraic geometry.
ABOUT THE AUTHOR

David B Dooner, University of Puerto Rico-Mayagüez, Puerto Rico and Ali A Seireg, University of Wisconsin at Madison and University of Florida at Gainesville, USA

David B Dooner is a Professor in the Department of Mechanical Engineering at the University of Puerto Rico-Mayagüez. He received his doctorate from the University of Florida at Gainesville in 1991 where he remained as a Post-Doctoral Fellow from 1991-1994. He worked at the General Motors Gear Center in 1989 and was a visiting scientist at the Mechanical Sciences Research Institute of the Russian Academy of Sciences in Moscow in 1992.

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