

New Book For Gear Purchasers & Specifiers

Gears and Gear Manufacture, The Fundamentals by Richard H. Ewert, Chapman & Hall, New York, 1997. ISBN 0-412-10611-6. \$54.95.

This book is written for those among us, with or without a technical background, who have an occasional need to use, purchase or specify gears. The author assumes an audience that is not made up of experienced gear designers, but of people who do need to have a basic understanding of the criteria used by the designer. The subjects covered include not only the gears themselves, but their manufacturing methods, the systems that contain them and the terms used to describe them.

The traditional approach to beginning a gear book is to start with a historical lesson, move on to the types of gears and then to the geometry of the involute curve. Ewert follows this same path, but does so by quoting and referencing several classic books on gearing. This has the two-fold effect of not only covering important material, but also exposing the reader to valuable sources for further study. In fact, throughout the book, the reader will find a liberal amount of material from Earle Buckingham, Darle Dudley and AGMA. The experienced individual might find this basic approach somewhat disappointing, but, remember, the book is directed to the beginner.

While Ewert has taken a traditional approach to beginning a gear book, he has added some material not always found in a basic volume. A chapter on noise gives the reader some idea of the complexity of this factor and the concepts used to deal with gear noise. This chapter quotes heavily from Bucking-

ham and Dudley. A chapter on drafting practice is included, but it could have been much better if some discussion of gear data blocks had been included. One of the most interesting additions is the chapter on cost. Ewert suggests that those who feel they can produce gears better than their suppliers should read this chapter before ordering their hobbing machine. Other interesting additions throughout the book are the numerous definitions of various gear terms. While the AGMA nomenclature standard is cited as a reference, it is valuable to note that Ewert is also co-author of the *Encyclopedic Dictionary of Gears and Gearing*, published by McGraw-Hill.

The book, like most gear books, is peppered throughout with illustrations. Unfortunately, not all are of good quality. Some of the photos are dark, and some even appear to be photocopies of photographs. At least one of the line drawings is distorted as if copied out of a book near its binding. Two of the tables, consisting of numerous pages, are also copied from Buckingham. Buckingham's original book was printed in his own handwriting to eliminate any typesetting errors. The handwritten material has a unique appearance, but is not as easy to read as it should be. Given current typesetting technology, these tables could easily have been reproduced in a much more legible format. Some of the other tables are reproduced from out-of-date AGMA standards. To be fair, Ewert states this was done for simplicity. A basic book doesn't have to be cutting edge.



Despite the aforementioned faults, the book is a welcome library addition for anyone interested in gears. Those that are new to gearing or those who will have only an occasional exposure to gears will find this volume most useful. The book may also be a useful textbook for a manufacturing technician or an engineering student.

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