DESCRIPTION

This book explores the domain of reliability engineering in the context of machine tools. Failures of machine tools not only jeopardize users’ ability to meet their due date commitments but also lead to poor quality of products, slower production, down time losses etc.

Poor reliability and improper maintenance of a machine tool greatly increases the life cycle cost to the user. Thus, the application area of the present book, i.e. machine tools, will be equally appealing to machine tool designers, production engineers and maintenance managers. The book will serve as a consolidated volume on various dimensions of machine tool reliability and its implications from manufacturers and users point of view.

From the manufacturers’ point of view, it discusses various approaches for reliability and maintenance based design of machine tools. In specific, it discusses simultaneous selection of optimal reliability configuration and maintenance schedules, maintenance optimization under various maintenance scenarios and cost based FMEA.

From the users’ point of view, it explores the role of machine tool reliability in shop floor level decision- making. In specific, it shows how to model the interactions of machine tool reliability with production scheduling, maintenance scheduling and process quality control.
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