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Chapter 3 Production Planning 1 Introduction; 2 Forecasting; 3 Inventory Models; 4 Aggregate Planning-Master Scheduling; 5 Materials Requirements Planning; 6 Job Sequencing and Scheduling; 7 Japanese Manufacturing Philosophy; 8 Supply Chain Management; References; Bibliography; Chapter 4 Production Processes and Equipment; 1 Metal-Cutting Principles; 2 Machining Power and Cutting Forces; 3 Tool Life; 4 Metal-Cutting Economics; 5 Cutting-Tool Materials; 6 Turning Machines; 7 Drilling Machine; 8 Milling Processes; 9 Gear Manufacturing; 10 Thread Cutting and Forming; 11 Broaching 12 Shaping, Planning, And Slotting 13 Sawing, Shearing, And Cutting Off; 14 Machining Plastics; 15 Grinding, Abrasive Machining, And Finishing; 16 Nontraditional Machining; References; Bibliography; Chapter 5 Manufacturing Systems Evaluation; 1 Introduction; 2 Components of ECM; 3 Manufacturing Systems; 4 System Effects on ECM; 5 Assessment; 6 Summary; References; Chapter 6 Metal Forming, Shaping, and Casting; 1 Introduction; 2 Hot-working Processes; 3 Cold-working Processes; 4 Metal Casting And Molding Processes; 5 Plastic molding Processes; 6 Powder Metallurgy; 7 Surface Treatment Bibliography Chapter 7 Coatings and Surface Engineering: Physical Vapor Deposition; 1 Introduction; 2 Glow Discharge Plasma; 3 Film Formation and Growth; 4 Process Details; 5 Final Comments; References; Chapter 8 Mechanical Fasteners; 1 Introduction to Fastening and Joining; 2 Introduction To Fastening With Bolts And Rivets; 3 Bolted and Riveted Joint Types; 4 Efficiency; 5 Strength Of A Simple Lap Joint; 6 Sample Problem Of A Complex Butt Joint (Bearing-Type Connection); 7 Friction-Type Connections; 8 Upper Limits On Clamping Force; 9 Theoretical Behavior Of The Joint Under Tensile Loads
10 Evaluation Of Slip Characteristics

Sommario/riassunto

Full coverage of manufacturing and management in mechanical engineering Mechanical Engineers' Handbook, Fourth Edition provides a quick guide to specialized areas that engineers may encounter in their work, providing access to the basics of each and pointing toward trusted resources for further reading, if needed. The book's accessible information offers discussions, examples, and analyses of the topics covered, rather than the straight data, formulas, and calculations found in other handbooks. No single engineer can be a specialist in all areas that they are called upon to work in. It's a discipline
