Preface
Introduction
Historical Development of the Assembly Process
Choice of Assembly Method
Social Effects of Automation
References
Automatic Assembly Transfer Systems
Continuous Transfer
Intermittent Transfer
Indexing Mechanisms
Operator-Paced Free-Transfer Machine
Reference
Automatic Feeding and Orienting--Vibratory Feeders
Mechanics of Vibratory Conveying
Effect of Frequency
Effect of Track Acceleration
Effect of Vibration Angle
Effect of Track Angle
Effect of Coefficient of Friction
Estimating the Mean Conveying Velocity
Load Sensitivity
Solutions to Load Sensitivity
Spiral Elevators
Balanced Feeders
Orientation of Parts
Typical Orienting System
Effect of Active Orienting Devices on Feed Rate
Analysis of Orienting Systems
Performance of an Orienting Device
Natural Resting Aspects of Parts for Automatic Handling
Analysis of a Typical Orienting System
Out-of-Bowl Tooling
References
Automatic Feeding and Orienting--Mechanical Feeders
Reciprocating-Tube Hopper Feeder
Centerboard Hopper Feeder
Reciprocating-Fork Hopper Feeder
External Gate Hopper Feeder
Rotary-Disk Feeder
Centrifugal Hopper Feeder
Stationary-Hook Hopper Feeder