
Preface

Handbooks are generally considered to be concise references for specific subjects. Today's fast-paced manufacturing culture demands that such reference books provide the reader with how-to information with no frills. Some use handbooks to impart buzzwords on a particular technical subject that will allow the uninitiated to gain credibility when discussing a technical situation with more experienced practitioners.

The second edition of *The Manufacturing Engineering Handbook* was written to equip executives, manufacturing professionals, and shop personnel with enough information to function at a certain level on a variety of subjects. This level is determined by the reader.

The second edition of this handbook is divided into four main sections on issues that face the mechanical engineer as he or she attempts to learn the process of manufacturing. The progression from product and factory development, factory operations, parts fabrication, and assembly processes is a natural progression of information for one learning how a product flows through a manufacturing facility.

A manufacturing engineer is expected to be a problem solver and a person who is capable of working closely with all involved departments to resolve issues and improve designs on a daily basis. The manufacturing engineer is also challenged with the task of improving products and facilities to make the entire process more efficient.

As a manufacturing engineer uses this handbook to study history and apply principles to an existing manufacturing firm, new ideas will be spawned that will allow improvements in process flow and product flow. The successful efforts of many years' experience are captured in these chapters and can be used profitably by any reader willing to think out of the box when facing challenges on a daily basis.

Volume II of this book focuses on the role of the manufacturing engineer as a key component of the operation of the factory. Planning and instruction in the factory fall to the manufacturing engineer. This is the reason that detailed descriptions of successful methods are presented in this section.

As many manufacturing engineers develop firsthand knowledge of engineering principles, some will accept positions as design engineers or managers of design engineering.

This book and the knowledge gained as a manufacturing engineer will serve as a reminder that designing something that is not properly communicated to the fabricators and assemblers will never achieve the design goals desired. The manufacturing engineer may change titles and blend responsibilities, but will always be a manufacturing engineer at heart, if the goals of design and manufacturing are merged.

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