L341 - Fitting and Machining Technical Book
640 Pages

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ORDER CODE: L341
Title: Fitting & Machining & Technical Book

Number of pages (No.): 640

Description

Fitting and Machining by Ron Culley published by TAFE publications

The definitive "book of the trade" for trainees in fitting and machining, related area, qualified tradespeople and for the keen home hobbyist. The practical focus, clear explanations and hundreds of diagrams and photographs make Fitting and Machining the most widely accepted text in this area. A comprehensive index ensures the book is easy to use.

This book was first printed in 1957, and has been reprinted with corrections and additions some 13 times since then, the last printing being in 2008.

The contents include the following:
* Useful facts and figures:
  o Mathematical signs and common abbreviations
  o Conversion factors for common English units
  o Conversion table, mm-inch
  o Areas and related formulae of plane figures
  o Volumes
  o Geometrical propositions
  o Right-angled triangles
  o Trigonometry tables
  o Useful tapers and angles
  o Machine tapers
  o Mechanics - The Principle of Work; Levers; Pulleys and Wheels; Screws; Wedges; Pascal's Law

1. Workshop hints
   * General hints
   * Metal fret
   * Hardening and tempering a small object
   * Press fit assembly
   * Turning a sleeve bearing
   * Chatter
   * Setting to marked centre in the lathe

2. Safety in the workplace
   * Accidents; Causes; Prevention
   * Personal safety; Eyes; Ears; Manual Lifting
   * First aid

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* Orderly workshop habits; Personal Cleanliness; Horseplay; Industrial Housekeeping
* Workshop safety
* Equipment safety; Hand Tools; Machinery; Electrical Equipment; Ladders; Compressed Air; Cranes
  * Fire-fighting; Types of fire

3. Engineering drawing-How to read and use
* Types of drawing; General Arrangement Drawings; Detail Drawings; Drawing Re-issues
* Types of Line-Their Application and meaning
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* Sections
* Scales
* Conventional representations, symbols and abbreviations; Representations; Symbols and Abbreviations
* Dimensions; Units used and Placement for Dimensions; Dimensions for Screw Threads; Auxiliary Dimensions;
  Chambers; Dimensions Not to Scale and Breaklines; Tabular Dimensions; Use of Other Markings
* Tolerances; General Dimensions; Screw Threads; Geometric Tolerance Symbols

4. Limits-Fits and tolerances
* Types of fit; Clearance Fits; Interference Fits; Transition Fits; Summary
* Basis for Fits; Individual Measuring; When the Hole is Produced by a Fixed Tool; When Standard Sized Shafting is Used; Summary
* Tolerances; Variations in Size; Inter-changeability of Parts
* Definitions; Standard System of Limits and Fits; Tolerances; Designations of Holes, Shafts and Fits
* Selective Assembly
* Machining Tolerances; Working to Drawings; Working from Tables; Working to Tolerances
* Accuracy of Process; Surface Finish and Tolerance; Surface Finish; Relationship between Surface Finish and Tolerance; Surface Finish, Tolerance and the Machine Process; Special Cases Needing Very Good Surface Finish
* Standards of linear measurement; Direct Standards; Derived Standards
* Geometric tolerances; Selected Use; Specifications on Drawings; Applications of Geometric Tolerances

5. Materials-Metals
* Uses of common metals; Iron; Copper; Lead; Zinc; Aluminium; Nickel and Chromium; Tin
* Ferrous metals; Cast iron; Steel; Alloy steels
* Non-ferrous metals; Copper and Copper Alloys; Nickel and Chromium Alloys; Nickel-chromium Alloys;
  Aluminium and Aluminium Alloys; Magnesium and Magnesium Alloys; Titanium and Titanium Alloys; Zinc and Zinc Alloys
* Bearing materials; Friction and Wear; Properties of Bearing Materials; Selection of Bearing Material; Some Fitting and Machining Book By Ron Culley (L341) Common Bearing Materials

* Synthetic rubbers
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* Properties and uses of thermoplastics
* Properties and uses of thermosetting materials

7. Heat treatment
* Metals; Structural Changes in Iron on Heating and Cooling; Ferrous Metals in use today
* Tool steels; Schedule of Tool Steel Composition
* Heat treatment of steels; Features Determining Successful Heat Treatment
* Heat treatment of tool steels; Heating of Austenitize; Quenching, to Harden; Tempering
* Constructional steels; Group 1 steels; Group 2 Steels
* The Heat treatment of Non-ferrous metals; The Hardening of Non-ferrous Alloys by Heat Treatment
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* Glossary of terms

8. Cutting fluids
* Functions; Cooling; Lubricating; Chip Removing; Preventing Corrosion; Additional Properties.
* Types: Alkaline Solutions; ‘Soluble’ Mineral Cutting Oils; Oilless Cutting Fluids; ‘Straight’ Cutting Oils
* Using cutting fluids; Flow and Temperature; Choosing a Cutting Fluid; Method of Supply; Application; Filtering, Sterilising and Reclaiming;
  Care of Electrical Equipment

9. Lubricants
* Types; Lubricating Oils; Greases
* Applying lubricants; Methods; Frequency of Application

10. Cutting speed and feed rate
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* Cutting tool angles; Normal rake; Inclination; Direction of Cutting; Approach Angle and Side Cutting-edge Angle; End Relief Angle; Nose
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Product Brochure For L341

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