

Product Brochure For L341

Fitting and Machining Technical Book

640 Pages

The Definitive "Book of The Trade" for Trainees In Fitting & Machining, Related Area, Qualified Tradespeople & for The Keen Home Hobbyist

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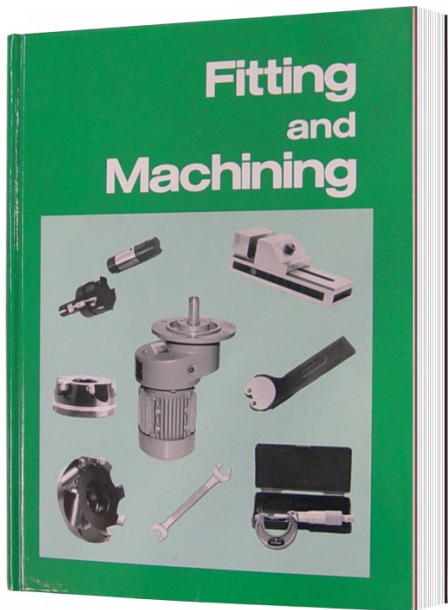
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Description

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; Assembly Drawings; Detail Drawings; Drawing Re-issues
 - * Types of Line-Their Application and meaning
 - * Projection; Orthographic; Isometric
 - * Sections
 - * Scales
 - * Conventional representations, symbols and abbreviations; Representations; Symbols and Abbreviations
 - * Dimensions; Units used and Placement for Dimensions; Dimensions for Screw Threads; Auxiliary Dimensions; Chamfers; 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
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- * Synthetic rubbers
 - * Applications of some common plastics
 - * 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
 - * Useful books for reference
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 - * Types; Alkaline Solutions; 'Soluble' Mineral Cutting Oils; Oilless Cutting Fluids; 'Straight' Cutting Oils
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 - * Feed rate; Factors Affecting Feed Rate; Feed Rate Recommendations
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 - * Cutting tool angles; Normal rake; Inclination; Direction of Cutting; Approach Angle and Side Cutting-edge Angle; End Relief Angle; Nose Radius; Clearance Angles
 - * Guide to the selection of lathe tools
 - * Cemented carbide tools; manufacture; Classification; Selection of Insert; Tool Design and Type of Clamping; Operating Conditions and Tool Life; Tool Failures and Remedies
 - * Tools made from other materials; Cemented Oxide Tools; Diamond Tools; Comparing Tool Materials
12. Benches and bench vices
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- * Common V-thread forms; ISO metric; Whitworth; British Association; Unified; V-thread calculations; Screw Thread Table
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- 16. Drills and reamers
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 - * Types of clamps and accessories; Clamps for Machining; Machine Vices; General Purpose Clamps

- 19. Marking and measuring tools
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 - * Micrometers; Outside Micrometer Calipers; Inside Micrometer Calipers; Micrometer Depth Gauge; Screwthread Micrometers; Care of a Micrometer
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 - * Use of balls, rollers and discs in precision measurement; Checking External Tapers; Checking Internal Tapers; Checking Small Internal Tapers; Checking Dovetail Slides; Checking Taper Angles
 - * Use of sine bars in precision movement; Construction; Principle and Application; Accuracy of Sine Bars; Sine Centres
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 - * Permanent establishment of lines

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 - * The cold circular saw; The Blade

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- * Grinding angular surfaces on cutting tools and gauges; Grinding Angular Surfaces; Compound Angles
 - * General information about grinding milled tooth cutters; Grinding Wheel Shapes; Milled Tooth Cutters; Form-relieved Cutters; Need for Sharp Cutters; Clearance Angles for Milled Cutters; Holding the Cutter; Methods of Grinding Clearance Angles
 - * Grinding straight-tooth milling cutters; Requirements; Holding the Cutter; Preparing the Grinding Wheel; Locating the Tooth Rest; Grinding the Teeth
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 - * Bearings; Bearing Loading; Types of Plain Bearing
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 - * Mounting and dismounting tools; Hydraulic Tools; Mechanical Tools
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* Australian standards

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- * Profile cutting of steel; Equipment; Procedure; Defects; Methods
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- * Power sources; Mains Supply; High-frequency Electricity Supply; Compressed Air
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- * Preventive machine maintenance; Maintenance Roster and Chart; Preventing Damage
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- * Machine care and usage; Checking Machines; Checking Tools

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- * Span measurement; Advantages of Span Measurement; Calculating Span Measurements; Backlash

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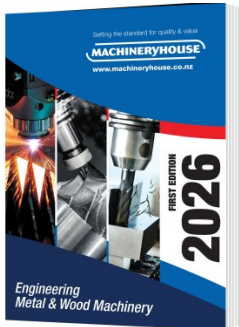
- * Generating processes; The Rack Cutter Process; Pinion Cutter Process; The Hobbing Process
- * Types of hobbing machines; The Vertical-type Hobbing Machine; The Horizontal-type Hobbing Machine
- * Hobbing a spur gear; Selecting, Mounting, and Setting the Hob; Preparing and Mounting the Blank; Index Change Gears; Cutting the Teeth
- * Hobbing a worm wheel by in-feed method; Types of Worm Wheel; Preparation of Worm Wheel Blanks; Selection of the Hob; Hobbing the Worm Wheel; Laminations of the In-feed Method
- * Ready-find Index

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Recommended Accessories

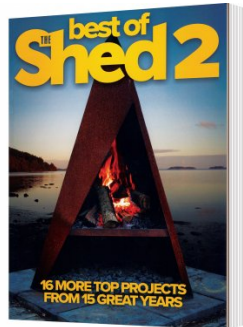
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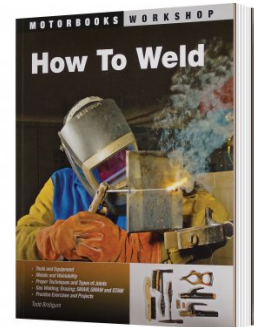
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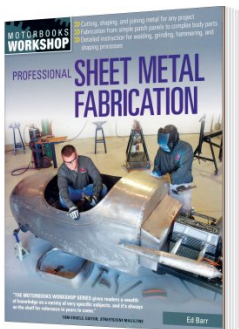
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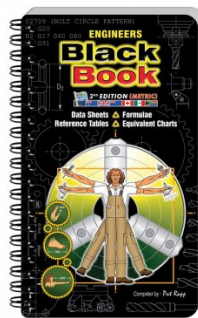
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L343

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L344

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