

SCHOOL-SCOUT.DE

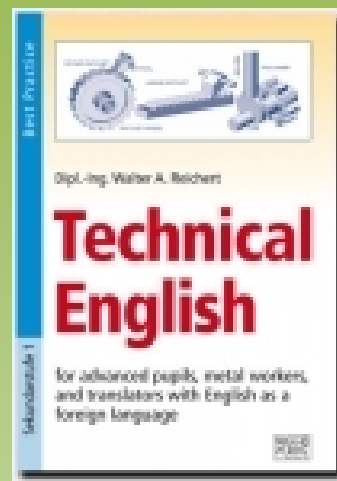
Unterrichtsmaterialien in digitaler und in gedruckter Form

Auszug aus:

Technical English for advanced pupils, metal workers, and translators with English as a foreign language

Das komplette Material finden Sie hier:

School-Scout.de



Die praxisnahe Einführung in den englischen Fachwortschatz der metallverarbeitenden Industrie!

Dieses neue Fachbuch führt Schüler praxisnah in die Welt der Metallverarbeitung ein. Das Buch ist komplett englischsprachig gehalten, Grundkenntnisse der englischen Sprache sind deshalb Voraussetzung.

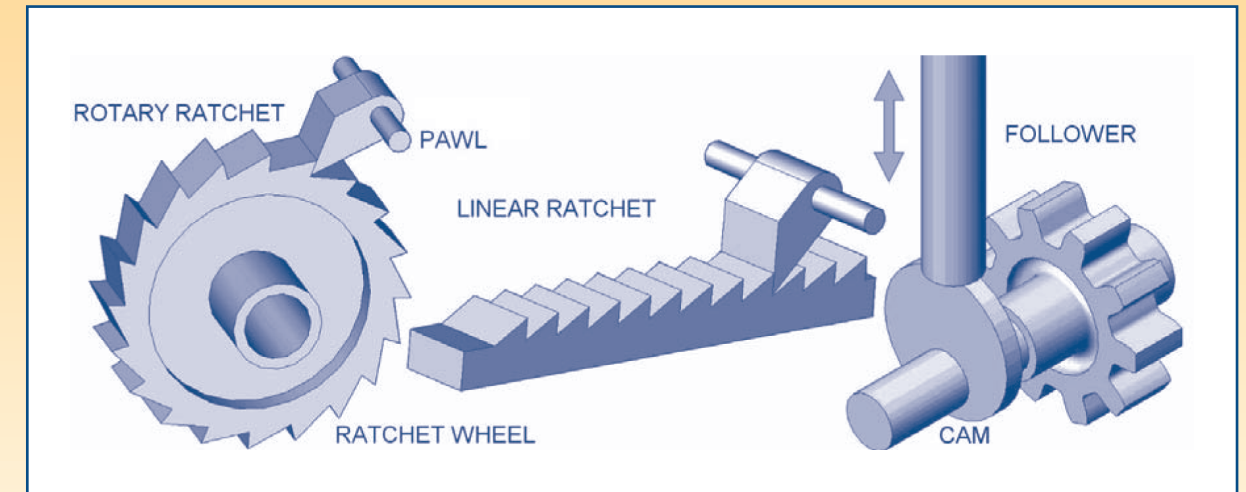
Es behandelt Maschinenelemente, Metallgewinnung und -verarbeitung mit allen Randgebieten, beschreibt Werkzeuge und Maschinen und erläutert Brandentstehung und Löschtechniken in Fabriken. Der Autor zeigt ausführlich, wie man Montageanweisungen schreibt bis hin zur Erstellung von technischen Handbüchern.

Auftauchende technische Begriffe werden mit ca. 600 Abbildungen und ca. 240 Erläuterungsabschnitten („Notes“) ausführlich erklärt. Ein Stichwortverzeichnis mit ca. 2.700 Stichwörtern erleichtert zusätzlich den raschen Zugriff.

Bestens geeignet für Berufsschüler oder auch technische Fachkräfte in der Metallindustrie.

Der Autor:

Walter A. Reichert ist Diplom-Ingenieur für Elektrotechnik und Maschinenbau und hat langjährige Erfahrung in der Erstellung technischer Handbücher in englischer Sprache.



Dipl.-Ing. Walter A. Reichert

Technical English

for advanced pupils, metal workers,
and translators with English as a
foreign language

Dipl. Ing. Walter A. Reichert

Technical English

for

advanced pupils,
engineering students,
metal workers,
and translators

with English as a foreign language



Gedruckt auf umweltbewusst gefertigtem, chlorfrei gebleichtem
und alterungsbeständigem Papier.

1. Auflage 2013

Nach den seit 2006 amtlich gültigen Regelungen der Rechtschreibung

© by Brigg Verlag F.-J. Böhler KG, Augsburg

Alle Rechte vorbehalten.

Das Werk und seine Teile sind urheberrechtlich geschützt. Jede Nutzung in anderen als den
gesetzlich zugelassenen Fällen bedarf der vorherigen schriftlichen Einwilligung des Verlages.
Hinweis zu § 52 a UrhG: Weder das Werk noch seine Teile dürfen ohne eine solche Einwilligung
eingescannt und in ein Netzwerk eingestellt werden. Dies gilt auch für Intranets von Schulen
und sonstigen Bildungseinrichtungen.

ISBN 978-3-95660-001-2

www.brigg-verlag.de

Foreword



There are many books teaching Basic English or Business English. But technicians and translators need books particularly dealing with Technical English. Such books are rare.

This book wants to help you to get familiar with the metal worker branch as well as to use Technical English as needed in this branch.

It is completely held in English (AE). That's why to work with this book some Basic English is necessary,

British English (BE) or **North-American English** (AE) that is the question! British English could be more relevant for the European Market. But today the US-economy and therefore the US-English is much more relevant especially for international affairs. Ask therefore your customer!

People with English mother tongue do not care much about either BE or AE. And indeed, there isn't much difference. But if you have made up your decision don't change between BE and AE.

In the case you have to talk or to write in English, don't panic. Just bring over the information as simple as possible. We are technicians and no belletrists.

Keep in mind "nobody is perfect" and "only people who do not work do not make errors"!

W. A. Reichert

Content

Machine Components	9	Actuators	44
Pins	9	Valves	48
Bolts, Screws, Nuts, and Washers	9	Ores	49
Other Types of Bolts and Screws	11	Fuel	49
Screws	12	Gas and Gasoline Manufacture	52
Screw Drives	13	Gas	52
Nuts and Washers	14	Gasoline	53
Rivets	15	Drilling Rig	54
Drill & Fit Workshop	15	Coke	55
Threads	16	Furnaces and Steel	56
Thread Standards	16	Furnaces	56
Thread Angle	17	Bloomery	57
Power Screws or		Blast Furnace	57
Trapezoidal Threads	18	Double Bell System	59
Pipe Thread	20	Bell-less System	59
Buttress Thread	20	Ingots and Slaps	61
Guide-ways	21	Continuous-Casting Processes	61
Gears	24	Bessemer Process	64
Geometry and Nomenclature	24	Electric Furnaces	65
Special Gears	26	Electric Arc Furnace	65
Ordinary Gear Trains	26	Bar Stock	65
Compound Gear Train	26	Heat Treatment	66
Epicyclical Gear Trains	26	Iron and Steel	67
Gear Box	27	Carbon Steel	67
Special Mechanisms	27	Low Carbon Steel	68
Springs	29	Higher Carbon Steel	68
Spring Materials	29	Medium Carbon Steel	68
Helical Extension and		High Carbon Steel	68
Compression Springs	29	Eutectic System	70
Shear Stress	30	Iron-carbon phase diagram	70
Curvature Effect	30	Alloy Steel	72
Torsion Springs	30	Tool Steel	73
Torsion Bar Springs	31	Water-hardening grades	73
Flat or Leaf Springs	31	Air-hardening grades	73
Multileaf Springs	31	Cold-working grades	73
Bellville Springs	32	Steel Shapes	74
Load-Deflection Diagram	32	Cast Iron	75
Bearings	34	Production	75
Plain Bearings or Journal Bearings	34	Varieties of cast iron	75
Rolling Bearings	34	Malleable Iron	76
Rolling Elements	35	Other Ferrous Materials	76
Directions of Principal Forces	35	Nonferrous Metals and Alloys	77
Number of Rolling Bearing Rows	37	Nonferrous Metals	77
Reliability Requirement	38	Nonferrous Alloys	78
Shock Force	38	Galvanic Action	79
Pillow Block Bearing	38	Galvanic Series	79
Feather Key Joints	40	Casting	80
Splined Shafts and Fittings	41	Expendable mold casting	80
Detachable Unions	41	Sand Casting	80
Seals, Gaskets, Glands,		Plaster casting	80
and Bellows	42	Shell molding	81
Belts and Chains	43	Investment Casting	81

Permanent casting	81	and Nugget	100
Die Casting	81	Electrode Hold Time	101
Centrifugal casting	81	Welding with 3 -Phase AC	101
Continuous Casting	82	Welding with Media	
A Foundry Facility for		Frequency Inverters	102
Your Small Workshop	83	Soldering and Brazing	103
Safety First	83	General	103
All the Bits and Pieces	83	Filler Metals	103
Cubicle	83	Flux104	
Melting Bronze or Cast Iron	84	Silver Soldering	104
Cover	85	Pipe Soldering/Brazing	105
Fuel	85	Tools	105
Firing the Lining	86	Soldering Iron	106
Contraction on cooling	86	Tools	107
Foundry Sand	86	Vise (AE), Vice (BE)	107
Blower	86	Anvil and Hammer	107
Forging	87	Pliers, Nippers, Cutters, Strippers	107
Advantages	87	Screwdrivers	108
A Forge	87	Wrenches (AE), Spanners (BE)	110
Open-Die Forging	87	Hand Files	113
Press Forging,		Classification	113
Drop Hammer Forging	87	Taps and Dies	114
Upset Forging	88	Taps	114
Automatic Hot Forging	88	Screwing Dies	115
Roll Forging	88	Lubrication of Taps and Dies	116
Net-Shape Forging	88	Tap and Die-Sharpening	116
Welding	89	Saws	117
Welding by the		Hacksaw	118
Oxy-Acetylene Process	89	Power Hacksaw	119
Fuel Gas	89	Grinders	120
Notes of Safety	90	Breaking Up a Grinding Wheel	120
Blowpipe or Torch	91	Dressing a Grinding Wheel	120
Regulators	91	Abrasion	121
Canvas-Rubber Hose	91	Grinding Wheels	121
Filler Wire	92	Vitrified bond	121
Fusion Welding	92	Drilling Machines	122
Butt Weld	92	Drills	125
Arc Welding	93	Terms used to describe a drill	125
General	93	Choice of Angles	126
Notes of Safety	93	Helix Angle	127
Electrodes	94	Combination Center Drill	128
Screens	94	Spade-Bit Drill	128
Practice Welding Beads	94	Core Drill	129
T.I.G and M.I.G Welding	95	Cone-Cut Drill	129
Function	95	Countersink	129
Engineering Weld Symbols	96	Reamers	129
Weld Symbols for Types of Joints	96	Drill Sharpening	130
Resistance Welding	98	Drill Grinding Jig	130
Fundamentals	98	Sheet Cutting and Sheet Bending	131
Projection, Seam, and Butt Welding	98	Sheet Cutting	131
Resistance Spot Welding	99	Press Brakes	132
Stationary Resistance		Shapers	133
Spot Welding Machine	99	Types	133
Welding Lines	100	Operation	133
Welding Current, Welding Time		Applications	133

Broching	134	Clamping Workpieces to the Table	158
Lathes	135	Clamping a Workpiece	
Construction	135	to an Angle Plate	159
Headstock	135	Clamping Workpieces in Fixtures	159
Bed	136	Holding Workpieces	
Feedscrew	136	between Centers	159
Metric and Imperial Threads	136	Holding Workpieces in the Vise	160
Carriage	137	Placing Workpieces in the Vise	160
Turning, Facing, and Boring	137	Indexing	161
Cross-Slide	138	Edge Finder	161
Compound Rest	138	Cutting Oils	161
Toolpost	138	Method of Use	161
Tailstock	138	Plain Milling	162
Types of Metal Lathes	139	Mounting the Workpiece	162
NC Lathe, CNC Turning Center	141	Selecting the Cutter	162
Cutting Tools	142	Setup	162
Lathe Dog	143	Gang Milling	163
Positions	143	Milling the Keyway of	
Milling Machines	144	a Woodruff Key	163
General	144	Milling Keyway for	
Basic Function	144	Round-End Machine Key	163
Basic Construction	144	Sawing and Parting	163
Types of Milling Machines	145	Splined Shafts and Fittings	163
Construction of Conventional		Honing and Lapping	164
Milling Machines	145	Dust, Dust Fires,	
CNC – Milling Machines	146	and Dust Explosions	165
Safety Rules	148	Hazards due to Combustible Dusts	165
Tools and Equipment	149	Causes of Dust Fire	
Cutters	149	and Dust Explosions	166
Milling Cutter Nomenclature	149	Hood Types	167
Types of Cutters	150	Hood Design Factors	167
Plain or Helical Cutters	150	Hood Nomenclature	168
Rotation	150	Direction of Air Flow	170
Helical Milling Cutters	150	Air Cleaning Devices	
Metal Slitting Saw Milling Cutters	150	and Dust Collectors	170
Side Milling Cutters	150	Fabric Collectors	172
End Milling Cutters	151	Electrostatic Precipitator	173
T-Slot Milling Cutters	151	Fans	175
Key Slot Milling Cutters	152	Ejector Fans	175
Form Milling Cutters	152	Axial Fans	175
Fly Cutters	152	Propeller Fans	175
Gear Hobs	153	Tube-Axial Fans	176
Interchangeable Carbide Tips	154	Vane-Axial Fans	176
Arbors	154	Centrifugal Fans	177
Standard Milling Machine Arbor	155	Centrifugal Fan Components	177
Up Cut Milling/Down Cut Milling	155	Noise	177
Collets, Spindle Adapters,		Safety and Accessories	178
and Quick-Change Tooling	155	Fire Extinguishing Systems	
Collets	156	and Measures	179
Spindle Adapters	156	Plant Fire Protection	180
Quick-Change Tooling	156	Fire Fighting Measures	181
Milling Vises	156	Fire Extinguishing Agents	181
Offset Boring Head	157	Explosion Prevention	181
T-Slots	157	Welding and Cutting	182
Methods of Mounting Workpieces	158	Ignition Process	182

Protective Measures	182	Scope	221
Auto Ignition	182	General	221
Protective Measurements	183	Minimising risks	221
Designed Explosion Protection	184	Special target groups	221
Explosion Pressure Resistant		Relation between	
Design for the		Instruction and Product	222
Maximum Explosion Pressure	184	Different Models of a Product	222
Explosion Disengagement,		Units of Measurement	222
Explosion Interruption	184	Understandable text	222
Air lock	184	Contents of a Manual	223
Rapid Action Valve	185	Chapter 1, Identification	224
Suppression Barrier	186	Chapter 2, Specification	
Diverter	186	of the product	225
Workshop Drawing	190	Identification of the Manual	226
Engineering Tolerance	193	Modifications of the Product	226
General	193	Safety notes, General warnings	226
Limit Deviations for		Environmental notes	227
Linear Dimensions	194	Technical Data	228
ISO Standards for	195	Conformity declaration	229
Limits and Fits	195	Chapter 3, Preparing the	
Geometrical Dimensioning		Product for Use	230
and Tolerancing (GD&T)	198	Assembly and	
Surface Texture and Scraping	199	Mounting Procedures	231
Behavior of Material under Load	200	Chapter 4, Operating Instructions	232
Stress and Strain	200	Safe operating and function	232
Strain-Stress Behaviour	201	Signals to be observed	232
Bending, Buckling, and Torsion		Personal protection	232
of Beams and Shafts	204	Chapter 5, Maintenance	233
Electrical Installations	206	Maintenance	233
General	206	Instructions for repair	
Electrical Distribution	206	and replacement parts	233
Circuit Breaker	207	Instruction for fault-finding	234
Ground Fault Interrupter	207	Failure, Repair,	
Branch Circuits	208	and Troubleshooting	234
Appliance, and Individual Circuits	208	Chapter 6, Optional Modules	
Summary	209	and Special Tools	235
Load Requirements	209	Special Tools and Equipment	235
Low-Voltage Circuits	209	Chapter 7, Maintenance Instructions	
Separate Wiring Circuits	210	for Unskilled Persons	236
A Mounting Instruction	211	Chapter 8, List of Spare Parts	239
Bicycle Carrier	211	Chapter 9, Taking the Product	
General	211	out of Operation	241
Instructions for Assembling		General	241
the Bicycle Carrier	212	Storage	241
Instructions	213	Recycling	241
Before mounting the bicycle		Disposal	241
carrier onto your vehicle	214	Table of contents	241
Sequence markers	214	Script Writing	242
Active Sentences	214	Standard Communication Principles	242
How to fasten the bicycles on			
the mounted bicycle carrier	217		
Specifications	219		
How to make a Manual	220		
Introduction	220		
Preparation to make a Manual	221		

SCHOOL-SCOUT.DE

Unterrichtsmaterialien in digitaler und in gedruckter Form

Auszug aus:

Technical English for advanced pupils, metal workers, and translators with English as a foreign language

Das komplette Material finden Sie hier:

School-Scout.de

