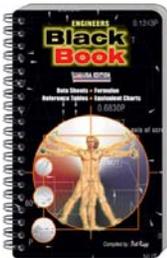


Productive Workplace Engineers & Fastener Black Books

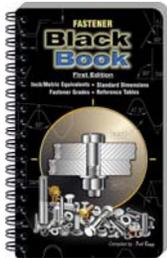
Issue: Where to find useful, comprehensive and applicable information to answer engineering and fastener specific questions.

Application: Tradesmen and professionals in machining, engineering, and design positions regularly require reference materials to answer questions and solve problems. Technical college students, trainees and apprentices also need training and reference materials to assist in their studies.

Recommendation: Grainger offers **The Engineers Black Book®** and **The Fastener Black Book®** as comprehensive reference tools for a broad spectrum of industry, professionals and tradesmen.



For more information about the **Engineers & Fastener Black Books**, contact your Grainger Representative, local branch, or go online to grainger.com to place your order for these excellent reference materials.



PRODUCT FEATURES & BENEFITS:

Engineers Black Book (Grainger #4KYX9)

An Engineering handbook that contains a wealth of up to date, useful, practical and hard to find information. 160 pages

- Matt-laminated and greaseproof pages ensure glare-free reading and long life
- Wire-bound so book lies flat
- *Drill point sharpening guide included with each book*
- Color coded for easy reading and reference
- Engineering drawing standards, formulae, spur gear calculations, equivalent charts
- Tapping drill sizes, sheet metal and wire gages, keys and keyways
- Weights of materials, lubricants-coolants, hardening and tempering surface coatings
- Speeds and feeds, keys and keyways and much more...

Fastener Black Book (Grainger #4KYX8)

The Fastener Black Book has been compiled as a means of consolidating the abundance of information on standard fasteners available today and presents it in a very convenient and user-friendly format. 245 pages

- Same user-friendly features as the Engineers Black Book – wire-bound, matt laminated and greaseproof pages
- *Thread Pitch Identification Gage included with each book*
- Inch / Metric fasteners with ANS, ISO & DIN metric standards
- Fastener platings and finishes
- Pre-loads and tightening torques
- Thread terminology & classifications
- Standard grades, tolerances and markings
- Thread forms, heads, points, materials, coatings and much more...

Productive Workplace Engineers & Fastener Black Books

PRODUCT FEATURES



Engineers Black Book - USA Edition

38] DIMENSIONS OF COUNTERBORING / COUNTERSINKING FOR SOCKET HEAD CAP SCREWS

Counter Bore

Counter Sink

NOTE: INCH α = 90° METRIC α = 90°

Nominal Thread Size	Clearance For Thread "C"	Clearance For Head "H"	Depth "D"	Dimensions in inches	
				INCH	METRIC
No. 4	# 29	7/32"	0.125"	# 29	0.255"
No. 5	# 23	1/4"	0.140"	# 23	0.281"
No. 6	# 18	9/32"	0.160"	# 18	0.307"
No. 8	# 10	5/16"	0.185"	# 10	0.359"
No. 10	# 2	3/8"	0.215"	# 2	0.411"
1/4"	9/32"	7/16"	0.280"	9/32"	0.531"
5/16"	11/32"	17/32"	0.350"	11/32"	0.656"
3/8"	13/32"	5/8"	0.415"	13/32"	0.781"
7/16"	15/32"	23/32"	0.475"	15/32"	0.844"
1/2"	17/32"	13/16"	0.540"	17/32"	0.938"
5/8"	21/32"	1"	0.675"	21/32"	1.188"
3/4"	25/32"	1 3/16"	0.810"	25/32"	1.438"
7/8"	29/32"	1 3/8"	0.930"		
1"	1 1/32"	1 5/8"	1.050"		
1 1/4"	1 5/16"	2"	1.310"		
				METRIC	
				Dimensions in mm	
M3	3.4	6.0	3.4	3.4	6.7
M4	4.5	8.0	4.6	4.5	9.0
M5	5.5	10.0	5.7	5.5	11.2
M6	6.6	11.0	6.8	6.6	13.4
M8	9.0	15.0	9.0	9.0	17.9
M10	11.0	18.0	11.0	11.0	22.4
M12	14.0	20.0	13.0	14.0	26.9
M14	16.0	23.0	15.2	16.0	30.3
M16	18.0	26.0	17.5	18.0	33.6
M18	20.0	29.0	19.5	20.0	37.0
M20	22.0	32.0	21.5	22.0	40.3
M22	24.0	35.0	23.5		
M24	26.0	40.0	25.5		
M27	30.0	43.0	29.0		
M30	33.0	48.0	32.0		

www.sbb-usa.com

Key product features, including the complimentary drill sharpening guide included with the **Engineers Black Book**

Details of the Thread Pitch Identification Gage included with the **Fastener Black Book**

Sample page illustrating color-coding and sample content

For more information contact your Grainger Representative.