

00 00 Extract from BMW Group Standard GS 90003-2

Tightening Torques

	Type	Thread	Tightening specifications	Torque
If there are no cross-references to tightening torques in the repair instructions, the extracts based on BMW Group Standard GS 90003-2 must be observed.				
A distinction is made between screws / bolts / nuts with surface colour / (surface coating) yellow (ZN) and silver (ZNS) The maximum tightening torques are: Surface colour yellow (ZN): Applicable only to set screws with metric coarse and fine threads to DIN 13-28 and nuts with nut height of 0.8 x d to DIN 934 and exclusively for a total $\mu = 0.125$ (screws/bolts phosphatised, nuts untreated or galvanized. Lubricated condition: both unlubricated and oiled).				
Surface colour silver (ZNS): Applicable only to set screws with metric coarse and fine threads to DIN 13-28 and nuts with nut height of 0.8 x d to DIN 934 and exclusively for a μ range = 0.09 0.15 (screws/bolts cadmium-plated, nuts untreated or galvanized. Lubricated condition: both unlubricated and oiled). The values specified in the table apply to a screw/screw connection in accordance with the above-mentioned conditions. Not applicable when a different thread surface or lubrication status is used or in the case of deviating nut height.				



Also not applicable to screws/bolts reduced shafts, to self-locking screw/bolt connections and to screwing/bolting parts made of different materials. Caution! It is essential to adhere to the prescribed tightening torques in order to carry out a correct and proper repair. This presupposes that the torque wrenches required for this purpose are subject to regular testing. Permitted tolerance of calibrated torque wrenches is $\pm 4\%$ from the scale value. Approved torque wrenches and torque testers are featured in the Workshop Equipment Planning Catalogue.				
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00 00 M10 and M10 x 1 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M10 thread	yellow (ZN)	M10 8.8		47 Nm
	silver (ZNS)	M10 8.8		38 Nm
	yellow (ZN)	M10 10.9		66 Nm
	silver (ZNS)	M10 10.9		56 Nm
	yellow (ZN)	M10 12.9		79 Nm
	silver (ZNS)	M10 12.9		62 Nm
M10x1 thread	yellow (ZN)	M10 x 1 8.8		54 Nm
	silver (ZNS)	M10 x 1 8.8		41 Nm
	yellow (ZN)	M10 x 1 10.9		75 Nm
	silver (ZNS)	M10 x 1 10.9		60 Nm
	yellow (ZN)	M10 x 1 12.9		91 Nm
	silver (ZNS)	M10 x 1 12.9		67 Nm



00 00 M12 and M12x1.5 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M12 thread	yellow (ZN)	M12 8.8		82 Nm
	silver (ZNS)	M12 8.8		66 Nm
	yellow (ZN)	M12 10.9		115 Nm
	silver (ZNS)	M12 10.9		98 Nm
	yellow (ZN)	M12 12.9		140 Nm
	silver (ZNS)	M12 12.9		108 Nm
M12x1.5 thread	yellow (ZN)	M12 x 1.5 8.8		87 Nm
	silver (ZNS)	M12 x 1.5 8.8		68 Nm
	yellow (ZN)	M12 x 1.5 10.9		123 Nm
	silver (ZNS)	M12 x 1.5 10.9		100 Nm
	yellow (ZN)	M12 x 1.5 12.9		147 Nm
	silver (ZNS)	M12 x 1.5 12.9		110 Nm



00 00 M14 and M14x1.5 - maximum tightening torques acc. to BMW GS 90003-2**Tightening Torques**

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M14 thread	yellow (ZN)	M14 8.8		130 Nm
	silver (ZNS)	M14 8.8		104 Nm
	yellow (ZN)	M14 10.9		180 Nm
	silver (ZNS)	M14 10.9		155 Nm
	yellow (ZN)	M14 12.9		220 Nm
	silver (ZNS)	M14 12.9		170 Nm
M14x1.5 thread	yellow (ZN)	M14 x 1.5 8.8		143 Nm
	silver (ZNS)	M14 x 1.5 8.8		110 Nm
	yellow (ZN)	M14 x 1.5 10.9		200 Nm
	silver (ZNS)	M14 x 1.5 10.9		165 Nm
	yellow (ZN)	M14 x 1.5 12.9		240 Nm
	silver (ZNS)	M14 x 1.5 12.9		180 Nm



00 00 M16 and M16x1.5 - maximum tightening torques acc. to BMW GS 90003-2**Tightening Torques**

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M16 thread	yellow (ZN)	M16 8.8		200 Nm
	silver (ZNS)	M16 8.8		160 Nm
	yellow (ZN)	M16 10.9		280 Nm
	silver (ZNS)	M16 10.9		235 Nm
	yellow (ZN)	M16 12.9		340 Nm
	silver (ZNS)	M16 12.9		260 Nm
M16x1.5 thread	yellow (ZN)	M16 x 1.5 8.8		216 Nm
	silver (ZNS)	M16 x 1.5 8.8		170 Nm
	yellow (ZN)	M16 x 1.5 10.9		303 Nm
	silver (ZNS)	M16 x 1.5 10.9		250 Nm
	yellow (ZN)	M16 x 1.5 12.9		364 Nm
	silver (ZNS)	M16 x 1.5 12.9		275 Nm



00 00 M18 and M18x1.5 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M18 thread	yellow (ZN)	M18 8.8		280 Nm
	silver (ZNS)	M18 8.8		225 Nm
	yellow (ZN)	M18 10.9		390 Nm
	silver (ZNS)	M18 10.9		330 Nm
	yellow (ZN)	M18 12.9		470 Nm
	silver (ZNS)	M18 12.9		365 Nm
M18x1.5 thread	yellow (ZN)	M18 x 1.5 8.8		313 Nm
	silver (ZNS)	M18 x 1.5 8.8		245 Nm
	yellow (ZN)	M18 x 1.5 10.9		440 Nm
	silver (ZNS)	M18 x 1.5 10.9		360 Nm
	yellow (ZN)	M18 x 1.5 12.9		527 Nm
	silver (ZNS)	M18 x 1.5 12.9		400 Nm



00 00 M4 and M5 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M4 thread	yellow (ZN)	M4 8.8		3 Nm
	silver (ZNS)	M4 8.8		2 Nm
	yellow (ZN)	M4 10.9		4 Nm
	silver (ZNS)	M4 10.9		3 Nm
	yellow (ZN)	M4 12.9		5 Nm
M5 thread	yellow (ZN)	M5 8.8		6 Nm
	silver (ZNS)	M5 8.8		5 Nm
	yellow (ZN)	M5 10.9		8 Nm
	silver (ZNS)	M5 10.9		7 Nm
	yellow (ZN)	M5 12.9		10 Nm
	silver (ZNS)	M5 12.9		8 Nm



00 00 M6 and M7 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M6 thread	yellow (ZN)	M6 8.8		10 Nm
	silver (ZNS)	M6 8.8		8 Nm
	yellow (ZN)	M6 10.9		14 Nm
	silver (ZNS)	M6 10.9		12 Nm
	yellow (ZN)	M6 12.9		17 Nm
	silver (ZNS)	M6 12.9		13 Nm
M7 thread	yellow (ZN)	M7 8.8		15 Nm
	silver (ZNS)	M7 8.8		13 Nm
	yellow (ZN)	M7 10.9		21 Nm
	silver (ZNS)	M7 10.9		19 Nm
	yellow (ZN)	M7 12.9		26 Nm
	silver (ZNS)	M7 12.9		21 Nm



00 00 M8 and M8 x 1 - maximum tightening torques acc. to BMW GS 90003-2

Tightening Torques

	Type	Thread	Tightening specification	Torque
Scope of applicability of tightening torques, refer to excerpt from company standard BMW GS 90003-2	Surface colour / (surface coating)			
M8 thread	yellow (ZN)	M8 8.8		24 Nm
	silver (ZNS)	M8 8.8		19 Nm
	yellow (ZN)	M8 10.9		34 Nm
	silver (ZNS)	M8 10.9		28 Nm
	yellow (ZN)	M8 12.9		40 Nm
	silver (ZNS)	M8 12.9		32 Nm
M8x1 thread	yellow (ZN)	M8 x 1 8.8		26 Nm
	silver (ZNS)	M8 x 1 8.8		21 Nm
	yellow (ZN)	M8 x 1 10.9		36 Nm
	silver (ZNS)	M8 x 1 10.9		30 Nm
	yellow (ZN)	M8 x 1 12.9		44 Nm
	silver (ZNS)	M8 x 1 12.9		33 Nm



0 operating fluid overview

Expendable materials

Fitting aid (Circo Light; lubricant)	250 ml, Bottle	83192405829
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Expendable materials

Lubricating grease Renolit CX-SP 1	100 g, Tube	83192183737
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Expendable materials

Lubricating grease Klübersynth LF 44-22	45 g, Tube	83230396713
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Expendable materials

Ball bearing grease	100 g, Tube	81229407174
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Expendable materials

Lubricating oil 4 UH 1 - 460 N	100 ml, Bottle	83230306232
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Expendable materials

Wheel bearing grease UNIREX N3	400 ml, Cartridge	83192160349
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Expendable materials

Lubricating grease MI-Setral-43 N	50 g, Tube	83232152082
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Expendable materials

Lubricating grease GKY H-15	100 g, Bag	83232179705
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Expendable materials

Lubricating grease One Lube Improved	110 g, Bag	83232179708
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Expendable materials

Silicone spray	400 ml, Spray can	83192208609
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Expendable materials

Universal lubricant spray	250 ml, Spray can	81229407711
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Expendable materials



Adhesive lubricant	250 ml, Spray can	81229407629
Expendable materials		
Door brake lubricating grease	400 ml, Spray can	83230301796
Expendable materials		
Lubricating material Optimoly Paste TA	400 ml, Spray can	83239407817
Expendable materials		
Quietsch-Ex	250 ml, Spray can	83230420633
Expendable materials		
Lubricating grease Klüberplex BE 11-462	400 ml, Spray can	83220397761
Expendable materials		
Fluoropan T20 spray with PTFE	400 ml, Spray can	83230154884
Expendable materials		
Lubricating grease Renolit CX-CVM 1	100 g, Bag	83192286016
Expendable materials		
Lubricating grease Renolit CX-CVL 1	100 g, Bag	83192286017
Expendable materials		
Lubricating grease Renolit CX-TP 1	100 g, Bag	83192286018
Expendable materials		
Paste MP 3	100 g, Tube	07559062476
Expendable materials		
Active rust film remover	500 ml, Spray can	83192211267
Expendable materials		
Contact-protection greaseKF1	50 g, Tube	83192295229
Expendable materials		



Special lubricant KRYTOX	30 ml, Bottle	83199408523
Paints and colours		
BMW sound insulating paint 1	50 g, Spray	83192414997
Paints and colours		
Sound insulating paint Berucoat AK 978	100 ml, Spray can	83192358109
Sealing compound		
Silicone sealant Drei Bond 1207	310 ml, Cartridge	81229407439
Sealing compound		
Surface sealant Loctite 574	50 ml, Bottle	81229407301
Sealing compound		
Surface sealant Loctite 5203	50 ml, Cartridge	83190422969
Sealing compound		
Surface sealant 2054/2	12 g, Cartridge	83190412375
Sealing compound		
Special activator type 5900	10 ml, Bottle	83190412376
Adhesive		
Adhesive anaerobic Drei Bond 1385	50 g, Bottle	83190417376
Adhesive		
Adhesive Loctite 577	50 ml, Bottle	33112328736
Sealing compound		
Surface sealant Loctite 518	50 ml, Cartridge	83190395783
Sealing compound		
Loctite 5460 liquid sealing compound	50 ml, Cartridge	83192420102



Adhesive

Screw lock Loctite Stick 268, high strength	19 g, Pin	83190441108
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Adhesive

Screw lock Loctite 270, high strength	10 ml, Bottle	83192210337
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Adhesive

Screw lock Loctite 243, medium strength	10 ml, Bottle	83192210339
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Adhesive

Screw lock Loctite 277, high strength	250 ml, Bottle	83190142917
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Adhesive

Screw lock Loctite 273, high strength	50 ml, Bottle	83190443083
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Adhesive

Profile rubber adhesive No longer available from BMW.		
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Adhesive

Adhesive Loctite 638	50 ml, Bottle	81229407420
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Adhesive

Adhesive Loctite 2701	10 ml, Bottle	33172331095
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Adhesive

Adhesive 2K Loctite 3450	25 ml, Bottle	51252313730
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Adhesive

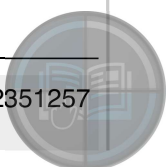
BMW Glue Pen	10 g, Pin	81222358167
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Adhesive

SuperglueS1	20 g, Bottle	81222351255
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Adhesive

SuperglueS2	20 g, Bottle	81222351257
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Adhesive

Superglue S3	3 g, Bottle	81222351258
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Expendable materials

Cooling spray	400 ml, Spray can	83199407762
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Expendable materials

Odour remover	100 ml, Spray can	83192233353
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Expendable materials

Rust film remover Professional	5 l, Canister	83192166998
	200 l, Barrel	83120396936
	1000 l, Barrel	83120396937

Expendable materials

Rust film remover Rv26H	500 ml, Spray bottle	83120414441
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Expendable materials

Preservative remover	60 l, Canister	83190422208
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Expendable materials

Universal cleaner exterior	10 l, Canister	83192153221
	25 l, Canister	83192154648

Expendable materials

Stain remover	1 l, Can	83119407816
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Expendable materials

Adhesive remover	1 l, Can	83110009712
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Expendable materials

Universal cleaner interior	20 l, Canister	83192154638
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Care product

Wheel rim brushes	1x , Set	83192298237
Sealing compound		
Loctite 171000 primer	4 ml, Bottle	83197515683
Overview of consumables (Electronic Parts Catalogue)		
Sealing compound		
Loctite 193140 liquid sealing compound	6 ml, Cartridge	83190439030
Overview of consumables (Electronic Parts Catalogue)		
Sealing compound		
Sealant Dow Corning	35 ml, Tube	07580397777
Overview of consumables (Electronic Parts Catalogue)		
Adhesive		
Adhesive Loctite 648	50 ml, Bottle	07589067732
Overview of consumables (Electronic Parts Catalogue)		
Expendable materials		
Engine and cold cleaner	1 l, Spray bottle	83192360950
	10 l, Canister	83192361705
Overview of consumables (Electronic Parts Catalogue)		
Expendable materials		
Leak detection spray	400 ml, Spray can	83199407861
Overview of consumables (Electronic Parts Catalogue)		
Expendable materials		
Contact spray	250 ml, Spray can	83222405599
Overview of consumables (Electronic Parts Catalogue)		
Expendable materials		
Powder spray	300 ml, Spray can	83192358648
Expendable materials		
Vacuum pump oil	1 l, Bottle	83192232502
Expendable materials		



Lubricants PF1	50 g, Pin	83230309627
Expendable materials		
Injector lubricating grease	50 g, Can	83230441070
Adhesive		
Screw lock Loctite Stick 248, medium strength	19 g, Pin	83192359746
Expendable materials		
Universal cleaner	20 l, Canister	83192360981

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