

CAUTION: USE A TORQUE WRENCH TO TIGHTEN LUG NUTS. TIGHTENING BY HAND OR WITH AN IMPACT WRENCH IS NOT RECOMMENDED. TORQUE SPECIFICATIONS LISTED ARE FOR DRY THREADS WITHOUT LUBRICATION. UNDER CONDITIONS OF ABNORMAL CORROSION, A MODEST AMOUNT OF LUBRICANT ON THE FIRST THREE THREADS OF THE WHEEL STUDS SHOULD ALLEVIATE ANY DIFFICULTIES. DO NOT USE PENETRATING OIL. DO NOT APPLY LUBRICANT TO THE BALL SEATS OF THE WHEELS OR TO THE BALL FACES OF CAP NUTS.

SERIES	DESCRIPTION	TORQUE (FT. LBS.)
G20	1/2 In. Bolts (5)	75-100
G-30, P-20, 30 Single Wheels	9/16 In. Bolts (8)	90-120
G-, P-30 Dual Wheels	9/16 In. Bolts (8)	140
	Heavy Duty 5/8 In. Bolts (10)	180

Figure 3-18 — Wheel Nut Tightening Sequence and Torque Specifications

http://www.gmcmhphotos.com/photos/data/6203/bolt_torque_chart_P30.png

APPENDIX C

NUT AND BOLT IDENTIFICATION (Cont'd)

STANDARD CAPSCREW MARKINGS AND TORQUE				
Current Usage	Much Used	Much Used	Used at Times	Used at Times
Minimum Tensile Strength PSI	To 1/2-69,000 [476]	To 3/4-120,000 [827]	To 5/8-140,000 [965]	150,000 [1,034]
MPa	To 3/4-64,000 [421]	To 1-115,000 [793]	To 3/4-133,000 [917]	
Quality of Material	Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number	1 or 2	5	6 or 7	8
Capscrew Head Markings Manufacturer's marks may vary These are all SAE Grade 5 (3 lines) 	 (GM260)	 (GM280)	 6  7 (GM290)	 (GM300)
Capscrew Body Size (Inches) – (Thread)	Torque Ft.-Lb. [N·m]	Torque Ft.-Lb. [N·m]	Torque Ft.-Lb. [N·m]	Torque Ft.-Lb. [N·m]
1/4 — 20	5 [7]	8 [11]	10 [14]	12 [16]
— 28	6 [8]	10 [14]		14 [19]
5/16 — 18	11 [15]	17 [23]	19 [26]	24 [33]
— 24	13 [18]	19 [26]		27 [37]
3/8 — 16	18 [24]	31 [42]	34 [46]	44 [60]
— 24	20 [27]	35 [47]		49 [66]
7/16 — 14	28 [38]	49 [66]	55 [75]	70 [95]
— 20	30 [41]	55 [75]		78 [106]
1/2 — 13	39 [53]	75 [102]	85 [115]	105 [142]
— 20	41 [56]	85 [115]		120 [163]
9/16 — 12	51 [69]	110 [149]	120 [163]	155 [210]
— 18	55 [75]	120 [163]		170 [231]
5/8 — 11	83 [113]	150 [203]	167 [226]	210 [285]
— 18	95 [129]	170 [231]		240 [325]
3/4 — 10	105 [142]	270 [366]	280 [380]	375 [508]
— 16	115 [156]	295 [400]		420 [569]
7/8 — 9	160 [217]	395 [536]	440 [597]	605 [820]
— 14	175 [237]	435 [590]		675 [915]
1 — 8	235 [319]	590 [800]	660 [895]	910 [1234]
— 14	250 [339]	660 [895]		990 [1342]
1. Always use the torque values listed above when definite specifications are not available. Note: Do not use standard values in place of those specified for the above engine groups. Special attention should be observed in case of SAE Grade 6, 7 and 8 capscrews. Refer to applicable Shop Manual. 2. The above is based on use of clean and dry threads. 3. Reduce torque by 10% when engine oil is used as a lubricant. 4. Reduce torque to 20% if new plated capscrews are used. CAUTION: CAPSCREWS THREADED INTO ALUMINUM MAY REQUIRE REDUCTIONS IN TORQUE OF 30% OR MORE, UNLESS INSERTS ARE USED.				

Read the last line of the chart pictured above for the proper torque level for Aluminum rims

Two links for Thor motor coach links.

<https://www.yumpu.com/en/document/read/19356111/2013-freightliner-xcs-chassis-specs-palazzo-thor-motor-coach>

<https://www.yumpu.com/en/document/read/19356023/download-ford-class-c-motorhome-chassis-thor-motor-coach>

https://www.google.com/search?q=Freightliner+Custom+Chassis+22.5+wheel+lug+torque+specs&rlz=1C1VFKB_enUS711US716&sxsrf=ACYBGNSYj1JlwAwrUDRf1mkxp28y8nZLSA:1579768693643&tbm=isch&source=iu&ictx=1&fir=Y1FxHdw-WCiXWM%253A%252Cd5M1z-qkB0OuuM%252C_&vet=1&usg=AI4_kTWb6KTdPegkchCHyD4DH4DnAkZ2Q&sa=X&ved=2ahUKewjLiL_-qJnnAhWuiOAKHSRYDo8Q9QEwEnoECAgQCw#imgsrc=xFEVz3Z6RLHiVM:&vet=1

40–01 Wheel Nut Checking

Too little wheel nut torque can cause wheel shimmy, resulting in wheel damage, stud breakage, and extreme tire tread wear. Too much wheel nut torque can break studs, damage threads, and crack discs in the stud hole area. Tighten the wheel nuts. • On 6-stud, stud-pilot hubs, tighten the wheel nuts 450 to 500 lbf·ft (610 to 678 N·m). See Fig. 1 for the tightening sequence. • **On 8-stud or 10-stud, hub-pilot hubs with 20-mm studs, tighten the wheel nuts 280 to 310 lbf·ft (380 to 420 N·m).** See Fig. 2 or Fig. 3 for the tightening sequence. • **On 8-stud or 10-stud, hub-pilot hubs with 22-mm studs, tighten the wheel nuts 450 to 500 lbf·ft (610 to 678 N·m).** See Fig. 2 or Fig. 3 for the tightening sequence. **NOTE: Wheel nuts for 20-mm stud hubs require a 1- 3/16-inch (30-mm) socket. Wheel nuts for 22-mm stud hubs require a 1-5/16-inch (33-mm) socket.**

<https://www.fccrv.com/wp-content/uploads/2015/12/2015-Recreational-Vehicle-Chassi>

Page 72 lists the above information for the RV chassis lug nuts.

