

American Standard (UNC/UNF) Thread Geometry													
Size # or in.	Threads per in.	Pitch in./rot.	Major Diameter in.	Minor Diam. in.	Nut ID in.	Str. Area in. ²	Typ. Thread Lgth SHCS	Tap Drill (75%) in.	Minor Diam. in.	Nut ID in.	Str. Area in. ²	Typ. Thread Lgth SHCS	
#0	80	.0125	.0600	1.52	1/16	3/64	.0469	.0447	1.14	.0465	.0018	.500	
64	.0156	.0730	1.85	49	53	.0595	.0538	1.37	.0561	.0026			
#1	72	.0139			53	.0595	.0560	1.42	.0580	.0028		.625	
56	.0179				50	.0700	.0641	1.63	.0667	.0037			
#2	64	.0156	.0860	2.18	44	50	.0700	.0668	1.70	.0691	.0039	.625	
48	.0208				47	.0785	.0734	1.86	.0764	.0049			
#3	56	.0179	.0990	2.51	39	45	.0820	.0771	1.96	.0797	.0052	.625	
40	.0250				43	.0890	.0813	2.07	.0849	.0060			
#4	48	.0208	.1120	2.84	33	42	.0935	.0864	2.19	.0894	.0066	.750	
40	.0250				38	.1015	.0943	2.40	.0979	.0080			
#5	44	.0227	.1250	3.18	1/8	37	.1040	.0971	2.47	.1004	.0083	.750	
32	.0313				36	.1065	.0997	2.53	.1040	.0091			
#6	40	.0250	.1380	3.51	28	33	.1130	.1073	2.73	.1110	.0102	.750	
32	.0313				29	.1360	.1257	3.19	.1300	.0140			
#8	36	.0278	.1640	4.17	19	29	.1360	.1299	3.30	.1340	.0147	.875	
24	.0417				25	.1495	.1389	3.53	.1450	.0175			
#10	32	.0313	.1900	4.83	11	21	.1590	.1517	3.85	.1560	.0200	.875	
24	.0417				16	.1770	.1649	4.19	.1710	.0242			
#12	28	.0357	.2160	5.49	7/32	14	.1820	.1722	4.37	.1770	.0258	.682	
20	.0500				7	.2010	.1887	4.79	.1960	.0318			
1/4	28	.0357	.2500	6.35	1/4	3	.2130	.2062	5.24	.2110	.0364	.750 1.000	
18	.0556				F	.2570	.2443	6.21	.2520	.0524			
5/16	24	.0417	.3125	7.94	5/16	I	.2720	.2614	6.64	.2670	.0580	.875 1.125	
16	.0625				5/16	L	.3125	.2983	7.58	.3070	.0775		
3/8	24	.0417	.3750	9.53	3/8	Q	.3320	.3239	8.23	.3300	.0878	1.000 1.250	
14	.0714				U	.3680	.3499	8.89	.3600	.1063			
7/16	20	.0500	.4375	11.11	7/16	25/64	.3906	.3762	9.56	.3830	.1187	1.125 1.375	
13	.0769				27/64	.4219	.4056	10.30	.4170	.1419			
1/2	20	.0500	.5000	12.70	1/2	29/64	.4531	.4387	11.14	.4460	.1599	1.250 1.500	
12	.0833				31/64	.4844	.4603	11.69	.4720	.1820			
9/16	18	.0556	.5625	14.29	9/16	33/64	.5156	.4943	12.56	.5020	.2030	1.375 1.625	
11	.0909				17/32	.5312	.5135	13.04	.5270	.2260			
5/8	18	.0556	.6250	15.88	5/8	37/64	.5781	.5568	14.14	.5650	.2560	1.500 1.750	

§ Body drill size above equals major diameter. Increase drill size by 10% (close fit) to 20% (normal fit) using a mill.
Inches times 25.36 gives mm (1 in = 25.36 mm), mm times 0.03943 gives in (1 mm = 0.03943 in), ex: 5/16" = 7.925 mm

American Standard (UNC/UNF) Bolt Geometry												
Size	Hex Head Wrench	Hex Head Hd Ht	Key Size	Socket Head Hd Dia	Hd Hght	Button Hd Key Size	Flat Hd (82 deg)	Set Screw Key Size	Shoulder Screw Key Size	SH Torx Key Size	SH Torx Key Size	
#0-80	5/32		0.050	.096	.060	0.035	0.035	0.028				
#1-64	5/32		1/16	.118	.073	0.050	0.050	0.035				
#1-72	5/32		1/16	.118	.073	0.050	0.050	0.035				
#2-56	3/16		5/64	.140	.086	0.050	0.050	0.035				
#2-64	3/16		5/64	.140	.086	0.050	0.050	0.035				
#3-48	3/16		5/64	.161	.099	1/16	1/16	0.050				
#3-56	3/16		5/64	.161	.099	1/16	1/16	0.050			T10	
#4-40	1/4		3/32	.183	.112	1/16	1/16	0.050			T10	
#4-48	1/4		3/32	.183	.112	1/16	1/16	0.050			T10	
#5-40	5/16		3/32	.205	.125	5/64	5/64	1/16			T15	
#5-44	5/16		3/32	.205	.125	5/64	5/64	1/16			T15	
#6-32	5/16		7/64	.226	.138	5/64	5/64	1/16			T25	
#6-40	5/16		7/64	.226	.138	5/64	5/64	1/16			T25	
#8-32	11/32		9/64	.270	.164	3/32	3/32	5/64			T25	
#8-36	11/32		9/64	.270	.164	3/32	3/32	5/64			T25	
#10-24	3/8		5/32	.312	.190	1/8	1/8	3/32			T27	
#10-32	3/8		5/32	.312	.190	1/8	1/8	3/32			T27	
#12-24	7/16											
#12-28	7/16											
1/4 - 20	7/16	5/32	3/16	.375	.250	5/32	5/32	1/8	5/32	5/16	T30	
1/4 - 28	7/16	5/32	3/16	.375	.250	5/32	5/32	1/8	5/32	5/16	T30	
5/16-18	1/2	13/64	1/4	.469	.313	3/16	3/16	5/32	3/16	3/8	T45	
5/16-24	1/2	13/64	1/4	.469	.313	3/16	3/16	5/32	3/16	3/8	T45	
3/8 - 16	9/16	15/64	5/16	.562	.375	7/32	7/32	3/16	1/4	1/2	T50	
3/8 - 24	9/16	15/64	5/16	.562	.375	7/32	7/32	3/16	1/4	1/2	T50	
7/16-14	5/8 & 11/3	9/32	3/8	.656	.438		1/4	7/32			T55	
7/16-20	5/8 & 11/3	9/32	3/8	.656	.438		1/4	7/32			T55	
1/2 - 13	3/4	5/16	3/8	.750	.500		5/16	1/4	5/16	5/8	T55	
1/2 - 20	3/4	5/16	3/8	.750	.500		5/16	1/4	5/16	5/8	T55	
9/16-12	13/16	23/64	7/16								T60	
9/16-18	13/16	23/64	7/16								T60	
5/8 - 11	15/16	25/64	1/2	.938	.625		3/8	5/16	3/8	3/4	T70	
5/8 - 18	15/16	25/64	1/2	.938	.625		3/8	5/16	3/8	3/4	T70	

Ft-lbs times 1.356 gives Nm (1 ft-lb= 12 in-lb= 1.356 Nm). Nm times 0.7375 gives ft-lbs (1 Nm= 0.7375 ft-lb= 8.851 in-lb)
Ex: 60 ft-lb. = 720 in-lb. = 60 * 1.356 = 81.36 Nm. Ex: 34 Nm = 34 * 0.7375 = 25.08 ft-lb. = 300.1 in-lb.

American (UNC/UNF) Generic Torque Settings (ft-lb)												
Size	Aircraft Dry, Cad	SHCS Dry	Gr. 8 Dry	Gr. 5 Dry	Gr. 2 Dry	Set Sc						
#0-80												
#1-64												
#1-72												
#2-56												
#2-64												
#3-48												
#3-56												
#4-40												
#4-48												
#5-40												
#5-44												
#6-32		2			10 in#	10 in#						
#6-40												
#8-32		4			24 in#	24 in#						
#8-36												
#10-24	20-25 in#	5			36 in#	36 in#						
#10-32	12-15 in#											
#12-24												
#12-28												
1/4 - 20	3 - 4	14	11	12	9	8	6	4	3	7		
1/4 - 28	4 - 6	16	13	14	10	10	7	6	4			
5/16-18	8 - 12	29	23	25	18	17	13	9	7	14		
5/16-24	7 - 8	33	26	29	20	19	14	12	9			
3/8 - 16	13 - 16	49	39	45	35	30	23	16	12	24		
3/8 - 24	13 - 15	54	44	50	40	35	25	22	16			
7/16-14	20 - 21	76	61	70	55	50	35	24	17	35		
7/16-20	38 - 42	85	68	80	60	55	40	34	26			
1/2 - 13	33 - 40	113	90	110	80	75	55	38	31	51		
1/2 - 20	40 - 58	126	100	120	90	90	65	52	42			
9/16-12	42 - 58	163	130	150	110	110	80	52	42			
9/16-18	67 - 83	181	144	170	130	120	90	71	57			
5/8 - 11	58 - 75	203	184	220	170	150	110	98	78			
5/8 - 18	92-108	255	204	240	180	180	130	115	93			

SAE Torques are in ft-lbs or in-lbs; Metric torques are in Nm!
For clean, rolled threads; turning (not static) friction; rigid steel parts and steel nuts

Metric Thread Geometry													
Size	Pitch mm/rot	Major Diameter in.	Metric	Tap Drill (81.5%) Eq. (in.)	Eq. (mm)	Minor Diam in.	Nut ID mm	Str. Area mm ²	Typ. Thread Lgth SHCS				
M3	0.50*	3.0	.1181	2.5	#39	.100	2.5	2.39	.094	2.46	5.0	12	18
M4	0.70*	4.0	.1575	3.3	#30	.129	3.3	3.14	.124	3.24	8.8	14	20
M5	0.80*	5.0	.1969	4.2	#19	.166	4.2	4.02	.158	4.13	14.2	16	22
M6	1.00*	6.0	.2362	5.0	#9	.196	5.0	4.77	.188	4.92	20.1	18	24
M8	1.25*	8.0	.3150	6.8	17/64	.266	6.7	6.47	.255	6.65	37	22	28
1.00				7.0	J	.277	7.0	6.77	.267	6.92	39		
1.5*				8.5	R	.339	8.6	8.16	.321	8.38	58		
M10	1.25	10.0	.3937	8.8	11/32	.344	8.7	8.47	.333	8.65	61	26	32
1.00				9.0	T	.354	9.0	8.77	.345	8.92	65		
1.75*				10.2	13/32	.406	10.3	9.85	.388	10.11	84		
M12	1.50	12.0	.4724	10.5	13/32	.406	10.3	10.16	.400	10.38	88	30	36
1.25				11.0	7/16	.438	11.1	10.47	.412	10.65	92		
M14	2.00*	14.0	.5512	12.0	15/32	.469	11.9				115	34	40
1.25				12.8	1/2	.500	12.7						
M16	2*	16.0	.6299	14.0	35/64	.547	13.9	13.55	.533	13.84	157	38	44
1.5				14.5	37/64	.578	14.7	14.16	.557	14.38	167		

An asterisk () indicates Metric Coarse (DIN standard) threads -- the ones you usually meet.

Metric Bolt Geometry												
Size	Hex Head Wrench	Hex Head Hd Ht	Key Size	Socket Head Hd Dia	Hd Hght	Button Hd Key Size	Flat Hd (90 deg)	Set Screw Key Size	Shoulder Screw Key Size	SH Torx Key Size		
M3	5.5	2	2.5	5.5	3.0	2	2	1.5			T10	
M4	7	2.8	3	7.0	4.0	2.5	2.5	2			T25	
M5	8	3.5	4	8.5	5.0	3	3	2.5	3	6	T27	
M6	10	4	5	10.0	6.0	4	4	3	4	8	T30	
M8	13	5.3	6	13.0	8.0	5	5	4	5	10	T45	
M10	17	6.4	8	16.0	10.0	6	6	5				