

TORQUE

SUGGESTED ASSEMBLY TORQUE VALUES							WORKING TORQUE			
	SAE GRADE 2 -6"		SAE GRADE 5		SAE GRADE 8		18-8 SS	316 SS	BRASS	SILICON BRONZE
Diam & Thrds Per Inch	Dry FT. LB.	LUB FT. LB.	Dry FT. LB.	LUB FT. LB.	Dry FT.LB.	LUB FT. LB.	IN LBS	IN LBS	IN LBS	IN LBS
1/4-20	5.5	4.2	8	6.3	12	9	75.2	78.8	61.5	68.6
1/4-28	6.3	4.7	10	7.2	14	10	94.0	99.0	77.0	87.0
5/16-18	11	8	17	13	24	18	132	138	107	123
5/16-24	12	9	19	14	27	20	142	147	116	131
3/8-16	20	15	30	23	45	35	236	247	192	219
3/8-24	23	17	35	25	50	35	259	271	212	240
7/16-14	32	24	50	35	70	50	376	393	317	349
7/16-20	36	27	55	40	80	60	400	418	327	371
1/2-13	50	35	75	55	110	80	517	542	422	480
1/2-20	55	40	85	65	120	90	541	565	443	502
9/16-12	70	55	110	80	150	110	682	713	558	632
9/16-18	80	60	120	90	170	130	752	787	615	697
5/8-11	100	75	150	110	210	160	1110	1160	907	1030
5/8-18	110	85	170	130	240	180	1244	1301	1016	1154
3/4-10	175	130	260	200	380	280	1530	1582	1249	1416
3/4-16	200	140	300	220	420	310	1490	1558	1220	1382
7/8-9	170	125	430	320	600	450	2328	2430	1905	2140
7/8-14	180	140	470	350	670	500	2318	2420	1895	2130
1-8	250	190	640	480	910	680	3440	3595	2815	3185
1-14	280	210	720	540	1020	760	3110	3250	2545	2885

Torque is a twisting force. Torque is applied to your watch stem when you wind your watch. Torque causes rotation of a shaft, or it will set up a twist in a stationary shaft. It is generally expressed in foot pounds or in inch pounds.

A wrench on a shaft - or a string wrapped around a wheel or pulley - will give an accurate torque reading. Use a scale to determine the pounds of pull and a rule to measure the radius. Compute the inch or foot pounds or force by using the formula.

The formula for torque is $T = R \times S$ where R=Radius of Length of Lever S=Pounds of Pull on Scale

Properly fastened threaded products achieve their holding power from the tension (or torque) that is derived from the mating of the external and internal threads subject to the elastic limit of the material.

What torque to apply is a generally asked question, but the answer depends on the variables of material, threads, class of fit, method of thread manufacture, and thread lubrication - in any. These values in the chart are offered only as a guide.

TORQUE

Suggested Tightening Torques for ALLOY 1960 Inch Series Socket Head Cap Screws

Nominal Size	Tightening Torque (in FT-LB)	
	UNRC	UNRF
1/4	17	19
5/16	35	38
3/8	62	70
7/16	100	109
1/2	150	172
5/8	283	317
3/4	500	562
7/8	688	767
1	1040	1080

Listed tightening torques are 75 percent of the torque to yield based on ASTM 574. Tightening torques are only recommended for proper applications.

Suggested Tightening Torques for other ALLOY Socket Screw Products (INCH-POUND)

Nom Size	Basic Screw Diameter	Flat Head		Button Head		Shoulder Scs	Low Head
		Tightening Torque		Tightening Torque		Tightening Torque	Tightening Torque
1/4	.250	100	110	100	110	50	77.9
5/16	.312	200	220	200	220	125	156.0
3/8	.375	350	400	350	400	265	273.0
7/16	.437	560	625				428.0
1/2	.500	850	1000	850	1000	470	615.0
5/8	.625	1700	1900	1700	1800	1150	1315.0
3/4	.750	3000	3200			2000	
7/8	.875	5000	5400				
1	1.000	8000	7600			4000	