Set Screw Size and Torque Chart

Tip: Set your PDF viewer to "Actual size" before printing to maintain scale.

Inch Sizes - Socket Head Set Screws

Thread Size	TPI	Hex Socket Size	Cup Point Torque (in-lbs)	Cone Point Torque (in-lbs)	Flat Point Torque (in-lbs)	Common Lengths
#2-56	56	0.028"	1.5-2	1-1.5	1.5-2	1/16"-3/8"
#4-40	40	1/20"	3-4	2-3	3-4	1/8"-1/2"
#6-32	32	1/16"	7-9	5-7	7-9	1/8"-5/8"
#8-32	32	5/64"	13-17	10-13	13-17	1/8"-3/4"
#10-24	24	3/32"	22-27	17-22	22-27	1/8"-1"
1/4"-20	20	1/8"	65-85	50-65	65-85	1/4"-2"
5/16"-18	18	5/32"	130-165	100-130	130-165	1/4"-2"
3/8"-16	16	3/16"	230-290	175-230	230-290	3/8"-3"
1/2"-13	13	1/4"	515-650	390-515	515-650	1/2"-4"
5/8"-11	11	5/16"	1020-1280	770-1020	1020-1280	5/8"-4"
3/4"-10	10	3/8"	1760-2200	1330-1760	1760-2200	3/4"-6"

Note: Torque values for alloy steel set screws (45H hardness) in steel tapped holes, dry threads.

Metric Sizes - Socket Head Set Screws

Thread Size	Pitch (mm)	Hex Socket Size (mm)	Cup Point Torque (Nm)	Cone Point Torque (Nm)	Common Lengths (mm)
M2	0.4	0.9	0.15-0.2	0.11-0.15	2-10
M2.5	0.45	1.3	0.25-0.35	0.19-0.26	3-12
M3	0.5	1.5	0.4-0.6	0.3-0.45	3-16
M4	0.7	2	1.0-1.4	0.75-1.05	4-20
M5	0.8	2.5	2.0-2.7	1.5-2.0	5-25
M6	1.0	3	3.5-4.7	2.6-3.5	6-30
M8	1.25	4	8.5-11.5	6.4-8.6	8-40
M10	1.5	5	17-22	12.8-16.5	10-50
M12	1.75	6	29-39	21.8-29.3	12-60
M16	2.0	8	70-95	52.5-71.3	16-80
M20	2.5	10	140-185	105-139	20-100

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Torque Adjustment Factors

Condition	Adjustment Factor	Example
Lubricated threads	Reduce by 25-30%	100 in-lbs dry → 70-75 in-lbs lubricated
Stainless steel set screws	Reduce by 20%	100 in-lbs steel → 80 in-lbs stainless
Aluminum or brass tapped hole	Reduce by 30-40%	100 in-lbs steel → 60-70 in-lbs aluminum
Nylon pellet point	Reduce by 50%	100 in-lbs steel point → 50 in-lbs nylon
Multiple set screws	Use specified torque on each	All screws to same torque value

■■ CRITICAL TORQUE WARNINGS

DO NOT over-torque: Excessive torque strips threads in collar/hub or shears the set screw point.

Use correct size hex key: Worn or wrong-size keys round out socket and prevent proper tightening.

Threadlocker is essential: For vibration-prone applications, ALWAYS use medium-strength threadlocker (Loctite 243).

Multiple screws: When using 2+ set screws, tighten in star/cross pattern to distribute load evenly.

Torque wrench recommended: For critical applications, use calibrated torque wrench or hex key torque adapter.

Check after run-in: Re-check torque after initial operation period - screws may seat and need slight retightening.