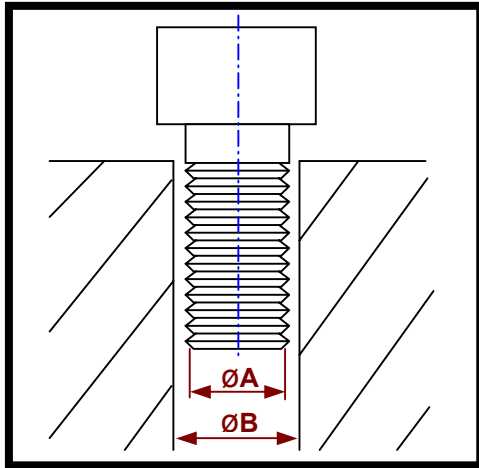


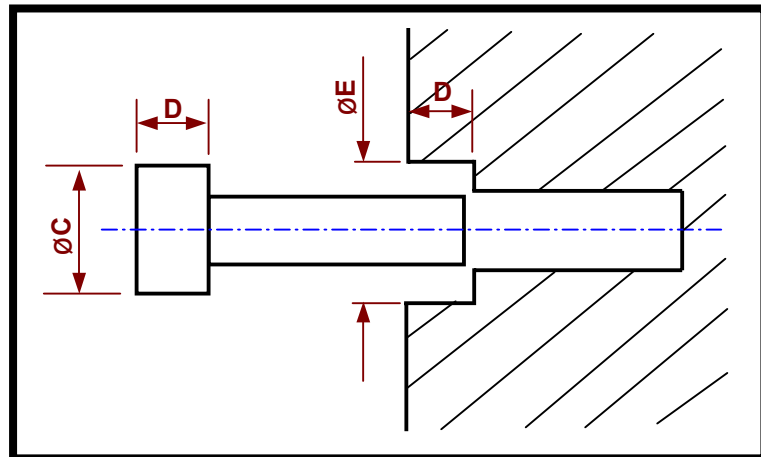
Guide for Specification of Imperial Socket Head Cap Bolts in Solidworks Parts

Metric Equivalents to Imperial Bolts and Through Hole Specification



Imperial Size	Approx. Metric Equivalent	Actual Diameter (inches)	Actual Diameter (mm)	Close fit hole spec. (in.)	Alternative Hole Specification (i.e. available Drill sizes) between Close and Normal Fit (inches)					Normal fit hole spec. (in.)	
		$\varnothing A$		$\varnothing B$ →							
#2-56	M2	0.086	2.1844	0.0938	0.0960	0.0980	0.0995	0.1015	0.1040	0.1065	
#4-40	M3	0.112	2.8448	0.1250	0.1285	-	-	-	-	0.136	
#6-32	M3.5	0.125	3.175	0.1540	0.1562	0.1570	0.1590	0.1610	0.1660	0.1695	
#8-32	M4	0.164	4.1656	0.1800	0.1820	0.1850	0.1875	0.1890	0.1910	0.1935	
#10-24	M5	0.19	4.826	0.2055	0.2090	0.2130	0.2188	-	-	0.221	
#1/4-20	M6	0.25	6.35	0.2656	0.2660	0.2720	0.2770	0.2810	-	0.2812	
#5/16-18	M8	0.3125	7.9375	0.3281	0.3320	0.3390	-	-	-	0.3438	
#3/8-16	M10	0.375	9.525	0.3906	0.3970	0.4040	-	-	-	0.4062	
#1/2-13	M12	0.5	12.7	0.5156	-	-	-	-	-	0.5312	

Additional Bolt Information for Countersink Holes, etc.



Imperial Size	Maximum Bolt Head Diameter (in.)	Maximum Bolt Head Diameter (mm)	Maximum Bolt Head Height (in.)	Maximum Bolt Head Height (mm)	Typical C'Bore Diameter (in.)	Typical C'Bore Diameter (mm)
	$\varnothing C$		D		$\varnothing E$	
#2-56	0.140	3.556	0.086	2.1844	0.188	4.7625
#4-40	0.183	4.6482	0.112	2.8448	0.219	5.5563
#6-32	0.226	5.7404	0.138	3.5052	0.281	7.1438
#8-32	0.270	6.858	0.164	4.1656	0.313	7.9375
#10-24	0.313	7.9502	0.190	4.826	0.375	9.525
#1/4-20	0.375	9.525	0.250	6.35	0.438	11.1125
#5/16-18	0.409	10.3886	0.313	7.9502	0.531	13.4938
#3/8-16	0.562	14.2748	0.375	9.525	0.625	15.875
#1/2-13	0.750	19.05	0.500	12.7	0.813	20.6375

NOTE: In SolidWorks, typing 'in.' after a dimension whilst working in metric will automatically calculate the metric equivalent dimension.
 e.g. for a close fit hole specification for a #4-40 bolt, typing '0.125in' will give you a metric dimension of '3.175mm'