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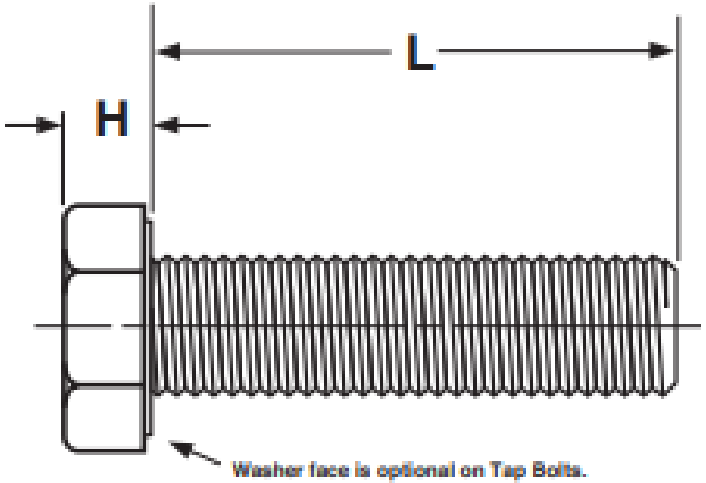
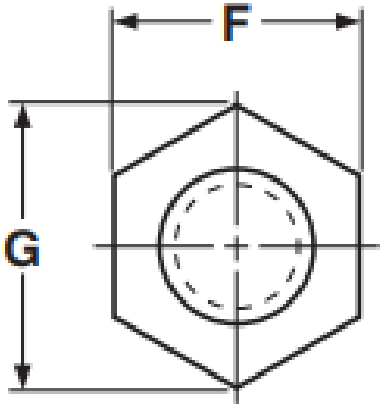
TAP BOLTS
GRADES 2 (A307), 5 & 8, STAINLESS STEEL (18-8 & 316)
FULLY THREADED





UNDERSIDE OF HEAD

‡Length of a tap bolt is measured from the underhead bearing surface to the extreme end of the bolt.

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FULLY THREADED HEX TAP BOLTS								
Nominal or Basic Product Diameter	F Width Across Flats			G Width Across Corners		H Head Height		
	Basic	Max.	Min.	Max.	Min.	Basic	Max.	Min.
1/4	7/16	0.438	0.425	0.505	0.484	11/64	0.188	0.150
5/16	1/2	0.500	0.484	0.577	0.552	7/32	0.235	0.195
3/8	9/16	0.562	0.544	0.650	0.620	1/4	0.268	0.226
7/16	5/8	0.625	0.603	0.722	0.687	19/64	0.316	0.272
1/2	3/4	0.750	0.725	0.866	0.826	11/32	0.364	0.302
* 9/16	13/16	0.812	0.798	0.938	0.910	23/64	0.371	0.348
5/8	15/16	0.938	0.906	1.083	1.033	27/64	0.444	0.378
3/4	1-1/8	1.125	1.088	1.299	1.240	1/2	0.524	0.455
7/8	1-5/16	1.312	1.269	1.516	1.447	37/64	0.604	0.531
1	1-1/2	1.500	1.450	1.732	1.653	43/64	0.700	0.591
1-1/4	1-7/8	1.875	1.812	2.165	2.066	27/32	0.876	0.749

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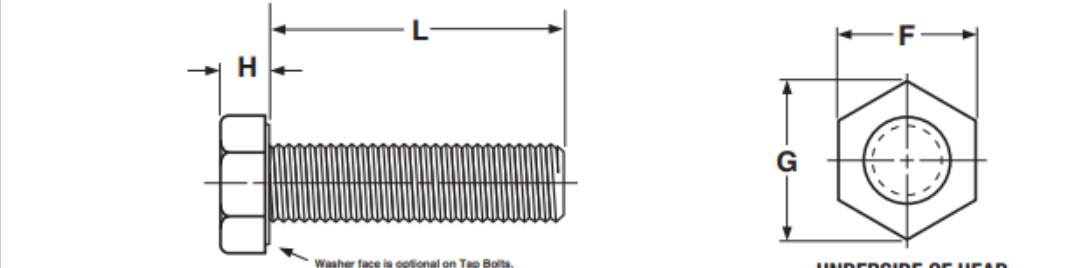

‡Length of a tap bolt is measured from the underhead bearing surface to the extreme end of the bolt.

	Nominal Screw Size	Nominal Size				
Tolerance on Length	*1/4 to 3/8*	+0.02 -0.03	+0.02 -0.04	+0.04 -0.06	+0.06 -0.10	+0.10 -0.18
	7/16 and 1/2	+0.02 -0.03	+0.04 -0.06	+0.06 -0.08	+0.08 -0.10	+0.12 -0.18
	9/16 to 3/4	+0.02 -0.03	+0.06 -0.08	+0.08 -0.10	+0.10 -0.10	+0.14 -0.18
	7/8 and 1	...	+0.08 -0.10	+0.10 -0.14	+0.12 -0.16	+0.16 -0.20
	1-1/4	...	+0.12 -0.12	+0.16 -0.16	+0.18 -0.18	+0.22 -0.22

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A307 Headmark

Grade-5 Headmark

Grade-8 Headmark

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Description	***ASTM 307 Tap Bolt:*** A low carbon, hex head bolt with a machine point which is threaded to the head. ***Grade 5 Tap Bolt:*** A tap bolt made from medium carbon steel. ***Grade 8 Tap Bolt:*** A tap bolt made from medium carbon alloy steel and heat-treated. ***Stainless Tap Bolt:*** A tap bolt made from 18-8 stainless steel.
Applications/ Advantages	***ASTM 307 Tap Bolt:*** To be used in drilled and tapped holes which are threaded full length. Used instead of a stud and a nut. ***Grade 5 Tap Bolt:*** Used to mount motors to machinery; also popular in automotive and truck repair. ***Grade 8 Tap Bolt:*** Used in automotive and fleet industries where greater tensile strength is required than can be met by a grade 5. ***Stainless Tap Bolt:*** Used in environments corrosive to carbon steel, in tapped holes that are threaded full length.
Material	***ASTM 307 Tap Bolt:*** Bolts shall be made from a carbon steel which conforms to the following chemical composition requirements - *Carbon*: 0.33 maximum; *Manganese*: 0.93; *Phosphorus*: 0.041 ***Grade 5 Tap Bolt:*** AISI 1030-1541 or equivalent medium carbon steel. Use of an alloy such as 4037 modified steel is also acceptable. ***Grade 8 Tap Bolt:*** Medium carbon allo steel. NOTE: for diameter4s 1/4 thru 7/16 in., it is permissible to use AISI 1541 steel. ***Stainless Tap Bolt:*** 18-8 Stainless Steel
Heat Treatment	***Grade 5 Tap Bolt:*** Bolts shall be heat treated, oil or water quenched, at the option of the manufacturer, and tempered at a minimum tempering temperature of 800* F. ***Grade 8 Tap Bolt:*** Bolts shall be heat treated, oil quenched and tempered at a minimum tempering temperature of 800*F.
Core Hardness	***ASTM 307 Tap Bolt:*** Rockwell B69-B100 ***Grade 5 Tap Bolt:*** Rockwell C25-C34 ***Grade 8 Tap Bolt:*** Rockwell C33-C39 ***Stainless Tap Bolt:*** 1/4 thru 5/8” diameter: Rockwell B95-C32
Surface Hardness	***Grade 5 Tap Bolt:*** Rockwell 30N54 maximum ***Grade 8 Tap Bolt:*** Rockwell 30N58.6 maximum
Proof Load	***Grade 5 Tap Bolt:*** 85,000 psi ***Grade 8 Tap Bolt:*** 120,000 psi

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Yield Strength*	***Grade 5 Tap Bolt:*** 92,000 psi minimum ***Grade 8 Tap Bolt:*** 130,000 psi minimum ***Stainless Tap Bolt:*** 1/4 thru 5/8'' diameter: 60,000 psi minimum
Tensile Strength	***ASTM A307 Tap Bolt:*** 60,000 psi minimum ***Grade 5 Tap Bolt:*** 120,000 psi minimum ***Grade 8 Tap Bolt:*** 150,000 psi minimum ***Stainless Tap Bolt:*** 1/4 thru 5/8'' diameter: 95,000 psi minimum
Elongation*	***ASTM A307 Tap Bolt:*** 18% minimum ***Grade 5 Tap Bolt:*** 14% minimum ***Grade 8 Tap Bolt:*** 12% minimum
Reduction of Area*	***Grade 5 & Grade 8 Tap Bolt:*** 35% minimum (all sizes)

** These properties are tested only on machined specimens when the testing machine cannot provide for full testing of the parts.*
*** Product standards require the manufacturer's head marking to appear on the top of all bolts 1/4" diameter and larger. "X" represents one location such a marking may appear.*