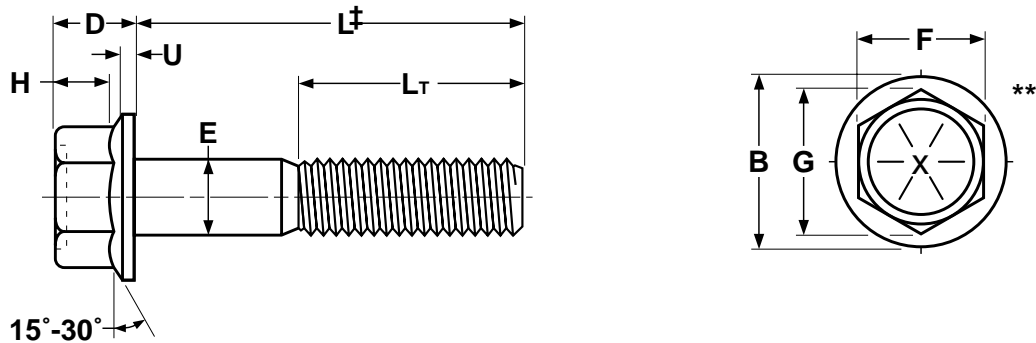


# Grade 8 Hex Washer Frame Bolts Bolts & Cap Screws



±Length of a frame bolt is measured from the underhead bearing surface to the extreme end of the screw.

FRAME BOLTS • GRADE 8 ALLOY													IFI 111 & SAE J429	
Nominal Size	E		F			G		B	U	D	H	L <sub>T</sub>	Tensile Strength, Lbs.	Proof Load, Lbs.
	Body Diameter		Width Across Flats			Width Across Corners		Flange Diam.	Flange Thickness	Head Height	Hex Height	Thread Length		
	Max	Min	Basic	Max	Min	Max	Min	Max	Min	Max	Min	Basic		
1/4	0.2500	0.2450	3/8	0.3750	0.367	0.433	0.409	0.56	0.04	0.28	0.17	0.750	4,750	3,800
5/16	0.3125	0.3065	1/2	0.5000	0.489	0.577	0.548	0.68	0.05	0.32	0.21	0.875	7,850	6,300
3/8	0.3750	0.3690	9/16	0.5625	0.551	0.650	0.618	0.81	0.06	0.425	0.25	1.000	11,600	9,300
7/16	0.4375	0.4305	5/8	0.6250	0.612	0.722	0.685	0.93	0.07	0.46	0.30	1.125	15,900	12,800
1/2	0.5000	0.4930	3/4	0.7500	0.736	0.866	0.825	1.07	0.08	0.555	0.34	1.250	21,300	17,000
5/8	0.6250	0.6170	15/16	0.9375	0.922	1.083	1.034	1.33	0.10	0.690	0.42	1.500	33,900	27,100
3/4	0.7500	0.7410	1-1/8	1.1250	1.100	1.299	1.234	1.59	0.11	0.825	0.51	1.750	50,100	40,100

Tolerance on Length	Nominal Bolt Size	Nominal Bolt Length		
		Up to 1 in., incl.	Over 1 in. to 2-1/2 in., incl.	Over 2-1/2 in. to 4 in., incl.
	1/4 to 3/8	-0.03	-0.04	-0.06
	7/16 and 1/2	-0.03	-0.06	-0.08
5/8 and 3/4	-0.03	-0.08	-0.10	

Description	A one-piece hex-washer head bolt with a flat bearing surface, made of high-alloy steel.
Applications/ Advantages	For use on truck frames. The flange eliminates washers and helps compensate for a misaligned hole. Used with a Grade-8 lock nut, the bolt system resists bolt slippage by distributing the clamp load over a wide area.
Material	AISI 4037 - 5135 or equivalent alloy steel
Heat Treatment	Grade-8 frame bolts shall be heat-treated, oil-quenched and tempered at a minimum temperature of 800°F.
Core Hardness	Rockwell C33 - C39
Surface Hardness	Rockwell 30N58.6 maximum
Proof Load	120,000 psi.
Yield Strength	130,000 psi. minimum
Tensile Strength	150,000 psi. minimum
Coating	See Appendix-A for information on the plating of frame bolts.

\*\*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.