



Standard Part

Hex Head Bolts – Inch Coarse Full Thread – Non-Preferred

STPB140

87366876

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1. GENERAL

Thread to head bolts in this standard are fully threaded regardless of length. All dimensions in this standard are in inches. For dimensions not shown in this specification, refer to ANSI B18.2.1.

2. RELATED DOCUMENTS

2.1 REFERENCE STANDARDS

- ANSI B18.2.1—Square and Hex Bolts and Screws Inch Series
- MAT0310—Zinc Plating
- STPA020—Fastener Finishes and Material Specifications
- SAE J429—Mechanical and Material Requirements for Externally Threaded Fasteners
- SAE J123—Surface Discontinuities on Bolts, Screws and Studs in Fatigue Applications

2.2 REPLACED STANDARDS

- Case B-001—Hex Head Bolts (General Specifications)
- Case B-008—Hex Head Bolts UNC - Thread to Head – Non-Preferred

3. PREFERRED PARTS POLICY

All standard parts measured in inches are considered non-preferred. See STPB670 or STPB680 for preferred parts (metric).

4. CROSS REFERENCE

For cross reference listing of company part numbers, go to [CNH Catalogue](#).

5. MATERIAL

Bolts shall conform to the chemical composition, mechanical properties, and heat treatment requirements for steel per SAE J429.

6. FINISH

Bolts shall be furnished plain (PLN), plated, or coated as designated by part number in accordance with CNH or Case Material Specifications.

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7. HEAD MARKING

7.1 Bolts shall have legible, raised radial head markings to indicate bolt grade and a manufacturer's identification symbol recognizable in the trade to indicate source. Figure 1 illustrates the standard grade marking symbols for steel bolts and screws.

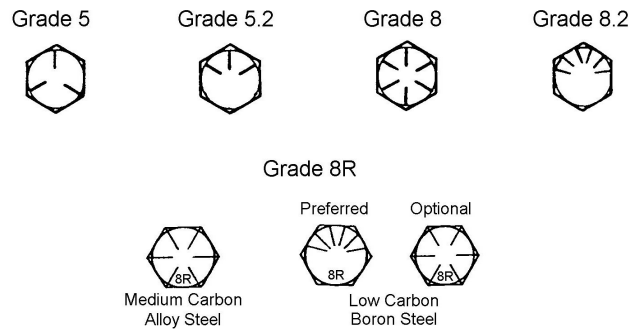


FIGURE 1: Standard Grade Markings

7.2 Marking symbols on the heads for bolt sizes 5/8 inch and smaller shall project not less than .005 inch above surface nor more than .015 inch over the specified maximum head height.

7.3 Markings for bolt sizes larger than 5/8 inch shall project not less than the equivalent in inches of .0075 times the basic bolt diameter above the surface or more than .030 inch over the specified maximum head height.

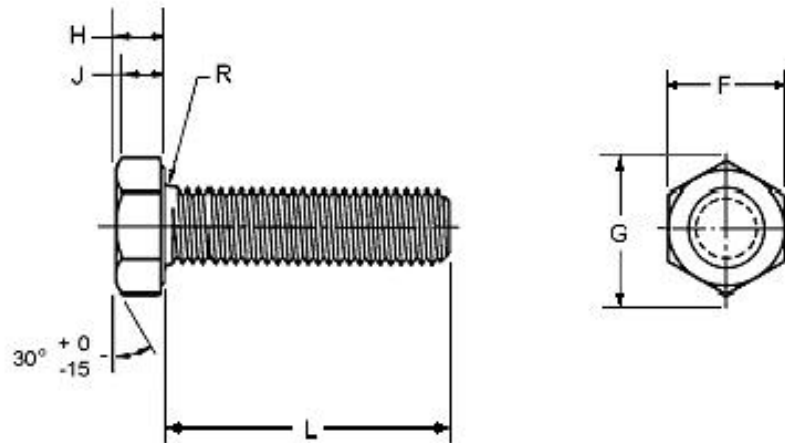


FIGURE 2: Hex Head Bolt

TABLE 1: Basic Dimensions in Inches

E			H			Y*
Bolt Diameter			Head Height			Transition Thread Length
Nominal	Maximum	Minimum	Max	Basic	Min	Maximum
1/4	.25	.245	.163	.156	.15	.25
5/16	.312	.307	.211	.203	.195	.278
3/8	.375	.369	.243	.234	.226	.312
7/16	.438	.43	.291	.281	.272	.357
1/2	.5	.493	.323	.313	.302	.385
9/16	.562	.554	.371	.359	.348	.417
5/8	.625	.617	.403	.391	.378	.455
3/4	.75	.741	.483	.469	.455	.5
7/8	.875	.866	.563	.547	.531	.556
1	1	.99	.627	.609	.591	.625
1-1/8	1.125	1.114	.718	.688	.658	.714
1-1/4	1.25	1.239	.813	.781	.749	.714
1-3/8	1.375	1.363	.878	.844	.81	.833
1-1/2	1.5	1.488	.974	.938	.902	.833

* Y is a reference dimension equal to five coarse (UNC) pitches. It includes the length of incomplete threads, the extrusion angle on rolled threads, and tolerance on grip length.

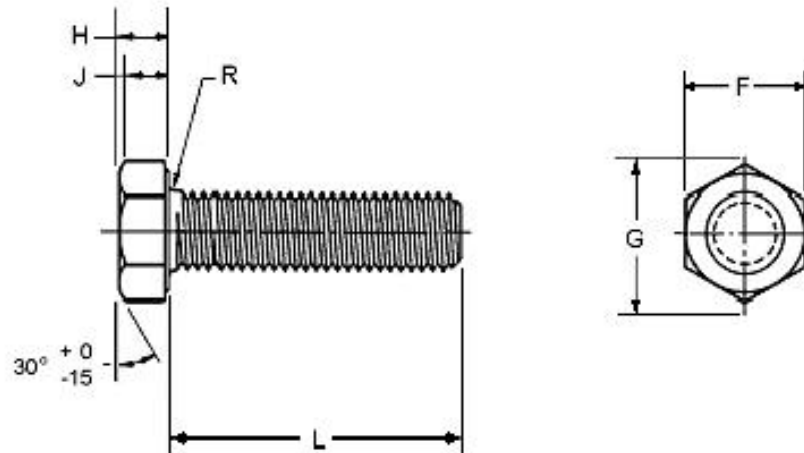


FIGURE 3: Hex Head Bolt

TABLE 2: Additional Dimensions in Inches

E Nominal Diameter	F		G		J	R	
	Width Across Flats		Width Across Corners		Wrenching Height	Radius	
	Basic	Min	Max	Min	Min	Max	Min
1/4	.438	.428	.505	.488	.106	.025	.015
5/16	.5	.489	.577	.557	.14	.025	.015
3/8	.563	.551	.65	.628	.16	.025	.015
7/16	.625	.612	.722	.698	.195	.025	.015
1/2	.75	.736	.866	.84	.215	.025	.015
9/16	.813	.798	.938	.91	.25	.045	.02
5/8	.938	.922	1.083	1.051	.269	.045	.02
3/4	1.125	1.1	1.299	1.254	.324	.045	.02
7/8	1.313	1.285	1.516	1.465	.378	.065	.04
1	1.5	1.469	1.732	1.675	.416	.095	.06
1-1/8	1.688	1.631	1.949	1.859	.461	.095	.06
1-1/4	1.875	1.812	2.165	2.066	.53	.095	.06
1-3/8	2.062	1.994	2.382	2.273	.569	.095	.06
1-1/2	2.25	2.175	2.598	2.48	.64	.095	.06



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TABLE 4: Full Thread Inch Hex Head Bolts, ZND

Nominal Diameter	Thread Pitch	Length	Grade	Part Number
1/4	20	2.5	5	87535228
5/16	18	3	5	86622979
5/16	18	3.5	5	87629048
3/8	16	1.375	5	47697469
3/8	16	1.5	2	87323384
3/8	16	1.75	5	84193280
3/8	16	2	5	80280644
3/8	16	2.5	5	9721
3/8	16	2.75	5	84134675
3/8	16	3	5	280626
3/8	16	3.25	5	9850
3/8	16	5	5	87657981
1/2	13	2	5	47600668
1/2	13	2.25	5	47682612
1/2	13	2.5	5	280615
1/2	13	3	5	280234
1/2	13	3.25	5	280324
1/2	13	3.5	5	87012029
1/2	13	4	5	87012913
1/2	13	5	5	280135
1/2	13	5.5	5	86624004
1/2	13	6	5	873513
5/8	11	2	2	87327959
5/8	11	2.5	5	87493296
5/8	11	2.5	8	80088478
5/8	11	4.5	5	47375981
5/8	11	8.43	5	710660
5/8	11	11	5	49843
5/8	11	30.1	5	80710748
5/8	11	3	5	1759
5/8	11	3.5	5	7224
5/8	11	5	5	22305
5/8	11	5.5	5	7600373133
5/8	11	5.5	8	91877553
5/8	11	6	5	7061
5/8	11	7	5	9642
3/4	10	6	5	21478
3/4	10	9	5	87310714
3/4	10	2.5	8	84333572
3/4	10	2.75	5	6452
3/4	10	4	5	87675523
3/4	10	4.5	5	87593246
3/4	10	5	5	6717
3/4	10	5.5	5	6394



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TABLE 4: Full Thread Inch Hex Head Bolts, ZND (Continued)

1	8	4	8	87036647
1	8	4.5	5	8588
1	8	3	5	1033038
1	8	5	5	87021836
1	8	7	8	84158487
1	8	9	8	84224911
1-1/4	7	2	8	87023127
1-1/4	7	5.75	5	87698762
1-1/2	6	5	5	87698775
1-1/2	6	5	8	92039147



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TABLE 5: Full Thread Inch Hex Head Bolts, Miscellaneous

Nominal Diameter	Coarse Thread Pitch	Length	Grade	Finish	Part Number
1/4	20	1	5	BZN	84214046
5/16	18	3	5	DOR	87342943
5/16	18	4	2	DOR	87342946
3/8	16	2	5	PLN	9849636
3/8	16	8	2	PLN	80059961
3/8	16	1.25	8	DOR	87635863
1/2	13	2.5	2	PLN	607255
5/8	11	1.312	5	PLN	80139736
5/8	11	3	8	DOR	87310611
3/4	10	2.5	8	DOR	92067854
7/8	9	2	5	PHC	81823940
1	8	4	8	DOR	87342947
1	8	6	8	PLN	70929032
1	8	7	8	DAC	84227694