



Hex Cap Screw & Finished Bolt

DESCRIPTION: (C1C5B1)

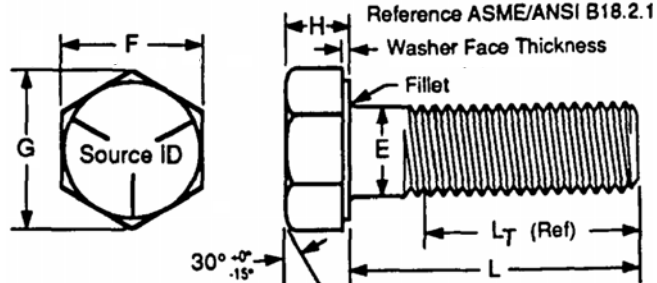
American National Standard hex head cap screw & finished bolt.

MATERIAL: Medium-carbon steel quenched and tempered conforming to ASTM A449 Type 1. 120 ksi tensile strength for sizes 1/4 to 1 inch, inclusive.

SCREW THREADS: Rolled threads shall be Class 2A UNC, UNF, or 8 UN series. Threads must meet System 21, ASME/ANSI B1.3 acceptability in final form.

HARDNESS: Rockwell C25 to C34 for sizes 1/4 to 1 inch, inclusive.

HEAD MARKING: Three radial lines as indicated and registered source ID (same as SAE J429 Grade 5).



THREAD SIZE			1/4 ♦ (.250)		5/16 ♦ (.312)		3/8 ♦ (.375)			7/16 (.438)		1/2 ♦ (.500)			
F	Width across flats	max min	.438 .428		.500 .489		.562 .551			.625 .612		.750 .736			
G	Width across corners	max min	.505 .488		.577 .557		.650 .628			.722 .698		.866 .840			
H	Height	max min	.163 .150		.211 .195		.243 .226			.291 .272		.323 .302			
E	Body diameter	max min	.2500 .2450		.3125 .3065		.3750 .3690			.4375 .4305		.5000 .4930			
L _T	Thread length between solid line and L equal to 6.000		For lengths (L) above solid line, screws will be threaded full length.												
			.750		.875		1.000			1.125		1.250			
	L greater than 6.000		1.000		1.125		1.250			1.375		1.500			
	Fillet, style 1		max .025						min .015						
	Washer face		max .025						min .015						
THREAD / INCH			20 ♦ UNC		28 UNF	18 ♦ UNC	24 UNF	16 ♦ UNC	24 UNF		14 UNC	20 UNF	13 ♦ UNC	20 UNF	
L	Length		Tol		PART NO. (For other lengths, last three digits are lengths in 16ths.) ♣										
Preferred Lengths			Tol												
	3/8 (.755)	-.03	21006	20006	23006	22006	25006	24006	-.03						
	1/2 (.500)		21008	20008	23008	22008	25008	24008		27008	26008	29008	28008		
	5/8 (.625)		21010	20010	23010	22010	25010	24010		27010	26010	29010	28010		
	3/4 (.750)		21012	20012	23012	22012	25012	24012		27012	26012	29012	28012		
	7/8 (.875)		21014	20014	23014	22014	25014	24014		27014	26014	29014	28014		
	1 (1.000)	-.04	21016	20016	23016	22016	25016	24016	-.06	27016	26016	29016	28016		
	1 1/8 (1.125)		21018	20018	23018	22018	25018	24018		27018	26018	29018	28018		
	1 1/4 (1.250)		21020	20020	23020	22020	25020	24020		27020	26020	29020	28020		
	1 3/8 (1.375)		21022	20022	23022	22022	25022	24022		27022	26022	29022	28022		
	1 1/2 (1.500)		21024	20024	23024	22024	25024	24024		27024	26024	29024	28024		
	1 3/4 (1.750)	-.06	21028	20028	23028	22028	25028	24028	-.08	27028	26028	29028	28028		
	2 (2.000)		21032	20032	23032	22032	25032	24032		27032	26032	29032	28032		
	2 1/4 (2.250)		21036	20036	23036	22036	25036	24036		27036	26036	29036	28036		
	2 1/2 (2.500)		21040	20040	23040	22040	25040	24040		27040	26040	29040	28040		
	2 3/4 (2.750)		21044	20044	23044	22044	25044	24044		27044	26044	29044	28044		
	3 (3.000)	-.10	21048	20048	23048	22048	25048	24048	-.10	27048	26048	29048	28048		
	3 1/4 (3.250)		21052	20052	23052	22052	25052	24052		27052	26052	29052	28052		
	3 1/2 (3.500)		21056	20056	23056	22056	25056	24056		27056	26056	29056	28056		
	3 3/4 (3.750)		21060	20060	23060	22060	25060	24060		27060	26060	29060	28060		
	4 (4.000)		21064	20064	23064	22064	25064	24064		27064	26064	29064	28064		
	4 1/2 (4.500)	-.18			23072	22072	25072	24072	-.18	27072	26072	29072	28072		
	5 (5.000)				23080	22080	25080	24080		27080	26080	29080	28080		
	5 1/2 (5.500)											29088	28088		
	6 (6.000)											29096	28096		
Greater than (6.000)		-18							-18						

FINISH: See page 4

NOTES: See page 4

PART NUMBER EXAMPLE: See page 4

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

This drawing and latest issue of the specification completely define the part.

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
C1C5	Hex Cap Screw & Finished Bolt	N22-S3
		Page 1 of 4

Hex Cap Screw & Finished Bolt

DESCRIPTION: (C1C5B1)

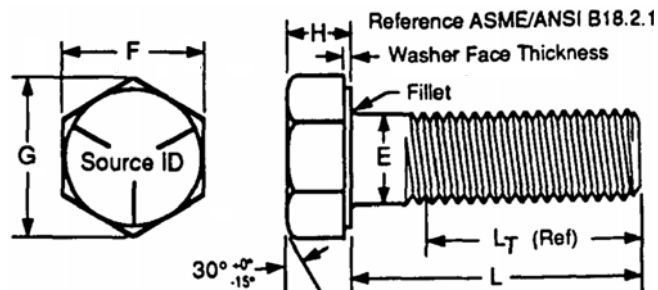
American National Standard hex head cap screw & finished bolt.

MATERIAL: Medium-carbon steel quenched and tempered conforming to ASTM A449 Type 1. 120 ksi tensile strength for sizes 1/4 to 1 inch, inclusive.

SCREW THREADS: Rolled threads shall be Class 2A UNC, UNF, or 8 UN series. Threads must meet System 21, ASME/ANSI B1.3 acceptability in final form.

HARDNESS: Rockwell C25 to C34 for sizes 1/4 to 1 inch, inclusive.

HEAD MARKING: Three radial lines as indicated and registered source ID (same as SAE J429 Grade 5).



THREAD SIZE			5/8 ♦ (.625)		3/4 ♦ (.750)			7/8 ♦ (.875)		1 ♦ (1.000)	
F	Width across flats	max	.938		1.125			1.312		1.500	
		min	.922		1.100			1.285		1.469	
G	Width across corners	max	1.083		1.299			1.516		1.732	
		min	1.051		1.254			1.465		1.675	
H	Height	max	.403		.483		.563		.627		
		min	.378		.455		.531		.591		
E	Body diameter	max	.6250		.7500		.8750		1.0000		
		min	.6170		.7410		.8660		.9900		
L _T	Thread length between solid line and L equal to 6.000		For lengths (L) above solid line, screws will be threaded full length.								
			1.500		1.750		2.000		2.250		
	L greater than 6.000		1.750		2.000		2.250		2.500		
	Fillet, style 1		max .045		min .020		max .065 min .040		max .090 min .060		
	Washer face		max .025		min .015		max .035		min .015		
THREAD / INCH			11 ♦ UNC	18 UNF	10 ♦ UNC	16 UNF	9 UNC		14 UNF	8 ♦ UNC	12 UNF
L	Length	Tol	PART NO. (For other lengths, last three digits are lengths in 16ths.) ♣								
							Tol				
Preferred Lengths	5/8 (.625)	-.03	33010	32010			-.10				
	3/4 (.750)		33012	32012	35012	34012					
	7/8 (.875)		33014	32014	35014	34014		37014	36014		
	1 (1.000)		33016	32016	35016	34016		37016	36016	39016	82016
	1 1/8 (1.125)	-.08	33018	32018	35018	34018		37018	36018	39018	82018
	1 1/4 (1.250)		33020	32020	35020	34020		37020	36020	39020	82020
	1 3/8 (1.375)		33022	32022	35022	34022		37022	36022	39022	82022
	1 1/2 (1.500)		33024	32024	35024	34024		37024	36024	39024	82024
	1 3/4 (1.750)		33028	32028	35028	34028		37028	36028	39028	82028
	2 (2.000)		33032	32032	35032	34032		37032	36032	39032	82032
	2 1/4 (2.250)		33036	32036	35036	34036		37036	36036	39036	82036
	2 1/2 (2.500)		33040	32040	35040	34040		37040	36040	39040	82040
	2 3/4 (2.750)	-.10	33044	32044	35044	34044	37044	36044	39044	82044	
	3 (3.000)		33048	32048	35048	34048	37048	36048	39048	82048	
	3 1/4 (3.250)		33052	32052	35052	34052	37052	36052	39052	82052	
	3 1/2 (3.500)		33056	32056	35056	34056	37056	36056	39056	82056	
	3 3/4 (3.750)		33060	32060	35060	34060	37060	36060	39060	82060	
	4 (4.000)		33064	32064	35064	34064	37064	36064	39064	82064	
	4 1/2 (4.500)		33072	32072	35072	34072	37072	36072	39072	82072	
	5 (5.000)		33080	32080	35080	34080	37080	36080	39080	82080	
	5 1/2 (5.500)	-.10	33088	32088	35088	34088	37088	36088	39088	82088	
	6 (6.000)		33096	32096	35096	34096	37096	36096	39096	82096	
	Greater than (6.000)	-.18					-20				

FINISH: See page 4

NOTES: See page 4

PART NUMBER EXAMPLE: See page 4

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

This drawing and latest issue of the specification completely define the part.

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
C1C5	Hex Cap Screw & Finished Bolt	N22-S3
		Page 2 of 4



Hex Cap Screw & Finished Bolt

DESCRIPTION: (C1C5B1)

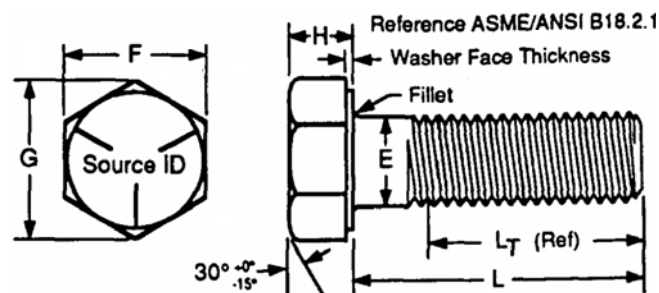
American National Standard hex head cap screw & finished bolt.

MATERIAL: Medium-carbon steel quenched and tempered conforming to ASTM A449 Type 1. 120 ksi tensile strength for sizes 1/4 to 1 inch, inclusive.

SCREW THREADS: Rolled threads shall be Class 2A UNC, UNF, or 8 UN series. Threads must meet System 21, ASME/ANSI B1.3 acceptability in final form.

HARDNESS: Rockwell C25 to C34 for sizes 1/4 to 1 inch, inclusive.

HEAD MARKING: Three radial lines as indicated and registered source ID (same as SAE J429 Grade 5).



THREAD SIZE			1 1/8 (1.125)			1 1/4 ♦ (1.250)			1 3/8 (1.375)			1 1/2 ♦ (1.500)		
F	Width across flats	max	1.688			1.875			2.062			2.250		
		min	1.631			1.812			1.994			2.175		
G	Width across corners	max	1.949			2.165			2.382			2.598		
		min	1.859			2.066			2.273			2.480		
H	Height	max	.718			.813			.878			.974		
		min	.658			.749			.810			.902		
E	Body diameter	max	1.1250			1.2500			1.3750			1.5000		
		min	1.1140			1.2390			1.3630			1.4880		
L _T	Thread length between solid line and L equal to 6.000		For lengths (L) above solid line, screws will be threaded full length.											
			2.500			2.750			3.000			3.250		
	L greater than 6.000		2.750			3.000			3.250			3.500		
	Fillet, style 1		max .095						min .060					
	Washer face		max .035						min .015					
THREAD / INCH			7 UNC	8 UN	12 UNF	7 UNC	8 ♦ UN	12 UNF	6 UNC	8 UN	12 UNF	6 UNC	8 ♦ UN	12 UNF
L	Length	Tol	PART NO. (For other lengths, last three digits are lengths in 16ths.) ♦											
Preferred Lengths	1 1/8 (1.125)	-.12	42018	41018	40018									
	1 1/4 (1.250)		42020	41020	40020	45020	44020	43020						
	1 3/8 (1.375)		42022	41022	40022	45022	44022	43022	48022	47022	46022			
	1 1/2 (1.500)		42024	41024	40024	45024	44024	43024	48024	47024	46024	51024	50024	49024
	1 3/4 (1.750)		42028	41028	40028	45028	44028	43028	48028	47028	46028	51028	50028	49028
	2 (2.000)		42032	41032	40032	45032	44032	43032	48032	47032	46032	51032	50032	49032
	2 1/4 (2.250)	-.16	42036	41036	40036	45036	44036	43036	48036	47036	46036	51036	50036	49036
	2 1/2 (2.500)		42040	41040	40040	45040	44040	43040	48040	47040	46040	51040	50040	49040
	2 3/4 (2.750)		42044	41044	40044	45044	44044	43044	48044	47044	46044	51044	50044	49044
	3 (3.000)		42048	41048	40048	45048	44048	43048	48048	47048	46048	51048	50048	49048
	3 1/4 (3.250)		42052	41052	40052	45052	44052	43052	48052	47052	46052	51052	50052	49052
	3 1/2 (3.500)		42056	41056	40056	45056	44056	43056	48056	47056	46056	51056	50056	49056
	3 3/4 (3.750)	-.18	42060	41060	40060	45060	44060	43060	48060	47060	46060	51060	50060	49060
	4 (4.000)		42064	41064	40064	45064	44064	43064	48064	47064	46064	51064	50064	49064
	4 1/2 (4.500)		42072	41072	40072	45072	44072	43072	48072	47072	46072	51072	50072	49072
	5 (5.000)		42080	41080	40080	45080	44080	43080	48080	47080	46080	51080	50080	49080
	5 1/2 (5.500)		42088	41088	40088	45088	44088	43088	48088	47088	46088	51088	50088	49088
	6 (6.000)		42096	41096	40096	45096	44096	43096	48096	47096	46096	51096	50096	49096
	Greater than (6.000)		- .22											

FINISH: See page 4

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

NOTES: See page 4

PART NUMBER EXAMPLE: See page 4

This drawing and latest issue of the specification completely define the part.

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
	Hex Cap Screw & Finished Bolt	N22-S3
C1C5		Page 3 of 4



Hex Cap Screw & Finished Bolt

DESCRIPTION: (C1C5B1)

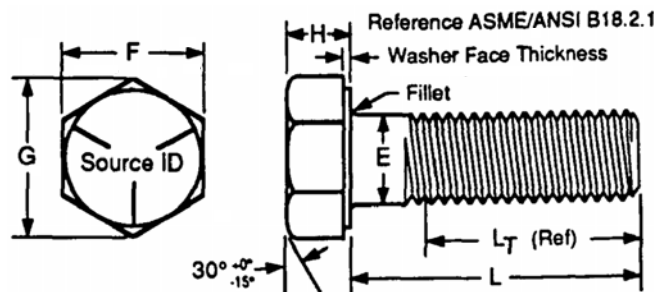
American National Standard hex head cap screw & finished bolt.

MATERIAL: Medium-carbon steel quenched and tempered conforming to ASTM A449 Type 1. 120 ksi tensile strength for sizes 1/4 to 1 inch, inclusive.

SCREW THREADS: Rolled threads shall be Class 2A UNC, UNF, or 8 UN series. Threads must meet System 21, ASME/ANSI B1.3 acceptability in final form.

HARDNESS: Rockwell C25 to C34 for sizes 1/4 to 1 inch, inclusive.

HEAD MARKING: Three radial lines as indicated and registered source ID (same as SAE J429 Grade 5).



THREAD SIZE			1 3/4 (1.750)		2 ♦ (2.000)		2 1/4 (2.250)		2 1/2 ♦ (2.500)		2 3/4 (2.750)		3 ♦ (3.000)					
F	Width across flats	max	2.625		3.000		3.375		3.750		4.125		4.500					
		min	2.538		2.900		3.262		3.625		3.988		4.350					
G	Width across corners	max	3.031		3.464		3.897		4.330		4.763		5.196					
		min	2.893		3.306		3.719		4.133		4.546		4.959					
H	Height	max	1.134		1.263		1.423		1.583		1.744		1.935					
		min	1.054		1.175		1.327		1.479		1.632		1.815					
E	Body diameter	max	1.7500		2.0000		2.2500		2.5000		2.7500		3.0000					
		min	1.7380		1.9880		2.2380		2.4880		2.7380		2.9880					
L _T	Thread length between solid line and L equal to 6.000		For lengths (L) above solid line, screws will be threaded full length.															
			3.750		4.250		4.750		5.250		5.750							
	L greater than 6.000		4.000		4.500		5.000		5.500		6.000		6.500					
	Fillet, style 1		max .095						min .060									
	Washer face		max .035						min .015									
THREAD / INCH			5 UNC		8 UN		4 1/2 UNC		8 ♦ UN		4 1/2 UNC		8 UN		4 UNC		8 ♦ UN	
L	Length	Tol	PART NO. (For other lengths, last three digits are lengths in 16ths.) ♣															
Preferred Lengths	1 3/4 (1.750)	-.18	53028	52028														
	2 (2.000)		53032	52032	55032	54032												
	2 1/4 (2.250)		53036	52036	55036	54036	57036	56036										
	2 1/2 (2.500)		53040	52040	55040	54040	57040	56040	59040	58040								
	2 3/4 (2.750)	-.20	53044	52044	55044	54044	57044	56044	59044	58044	61044	60044						
	3 (3.000)		53048	52048	55048	54048	57048	56048	59048	58048	61048	60048	63048	62048				
	3 1/4 (3.250)		53052	52052	55052	54052	57052	56052	59052	58052	61052	60052	63052	62052				
	3 1/2 (3.500)		53056	52056	55056	54056	57056	56056	59056	58056	61056	60056	63056	62056				
	3 3/4 (3.750)	-.22	53060	52060	55060	54060	57060	56060	59060	58060	61060	60060	63060	62060				
	4 (4.000)		53064	52064	55064	54064	57064	56064	59064	58064	61064	60064	63064	62064				
	4 1/2 (4.500)		53072	52072	55072	54072	57072	56072	59072	58072	61072	60072	63072	62072				
	5 (5.000)		53080	52080	55080	54080	57080	56080	59080	58080	61080	60080	63080	62080				
	5 1/2 (5.500)	-.24	35088	52088	55088	54088	57088	56088	59088	58088	61088	60088	63088	62088				
	6 (6.000)		53096	52096	55096	54096	57096	56096	59096	58096	61096	60096	63096	62096				
		Greater than (6.000)																

FINISH: Other finishes available, tabulated on K4015014 – Finish suffix chart.

If screws are to be electroplated, they must be PORCESSED TO MINIMIZE DANGER FROM HYDROGEN EMBRITTLEMENT per GE Finish specification.

♦ PREFERRED SIZE

♣ Other lengths tabulated on K4015011

NOTES: Thermal treatments for hydrogen embrittlement of plated Grade 5 hardware is not required for GE Transportation.

PT NO.
SUFFIX

None
B
B6

FINISH
DESCRIPTION

Unplated
0.0002 zinc
0.0002 zinc with
chromate coating

GE FINISH
REFERENCE

–
F70B1A2
F70B4A2

PART NUMBER EXAMPLE: N22P54080B identifies a 2-8 x 5 inch hex head Grade 5 cap screw & finish bolt, zinc plated.

This drawing and latest issue of the specification completely define the part.

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
	Hex Cap Screw & Finished Bolt	N22-S3
C1C5		Page 4 of 4