



Alloy Steel Twelve-Point Screw

DESCRIPTION: (C1A3A)

Flanged twelve-point, external wrenching screw.

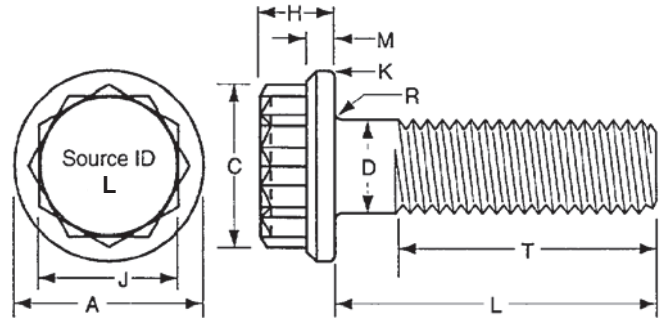
MATERIAL: Alloy steel, 170 ksi tensile strength.

SCREW THREADS: As listed in table below – unplated.

CAUTION: See notes below regarding plating of Class 3 threads.

HEAD MARKING: Registered source ID.

FOR USE IN TEMPERATURE UP TO 500 °F.



NOTE: For GE Transportation only – Head dimensions supplied per IFI-115 are acceptable with approval of purchaser.
All dimensions are in inches unless otherwise indicated.

THREAD SIZE			1/4 ♦ (0.250)		5/16 ♦ (0.312)		3/8 ♦ (0.375)	
A	Flange diameter	max	0.375		0.469		0.562	
		min	0.365		0.457		0.550	
H	Head height	max	0.250		0.312		0.375	
		min	0.244		0.306		0.368	
J	Width across flats	max	0.253		0.3155		0.378	
		min	0.249		0.3115		0.370	
C	Width across corners	min	0.284		0.356		0.422	
K	Chamfer	max	0.008		0.008		0.008	
M	Flange thickness	max	0.088		0.119		0.166	
		min	0.068		0.099		0.146	
R	Fillet	max	0.015		0.015		0.020	
		min	0.010		0.010		0.015	
D	Body diameter	max	0.2500		0.3120		0.3750	
		min	0.2435		0.3053		0.3678	
Thread class			Threads shall be Class 2A or 3A whether unplated or plated in final form. NOTE: If Class 3A threads are plated, supplier must undercut pitch diameter to compensate for plating thickness to achieve 3A thread class acceptability.					
THREAD/INCH			20 ♦ UNC	28 UNF	18 ♦ UNC	24 UNF	16 ♦ UNC	24 UNF
T (1) Thread length		min	1.00		1.12		1.25	
L Length		Tol	PART NO. (For other lengths, last two or three digits are lengths in 16ths.) ♣					
Preferred Lengths	3/8 (0.375)	-0.03	21006	20006	23006			
	1/2 (0.500)		21008	20008	23008	22008	25008	24008
	5/8 (0.625)		21010	20010	23010	22010	25010	24010
	3/4 (0.750)	-0.04	21012	20012	23012	22012	25012	24012
	7/8 (0.875)		21014	20014	23014	22014	25014	24014
	1 (1.000)		21016	20016	23016	22016	25016	24016
	1 1/4 (1.250)	-0.04	21020	20020	23020	22020	25020	24020
	1 1/2 (1.500)		21024	20024	23024	22024	25024	24024
	1 3/4 (1.750)		21028	20028	23028	22028	25028	24028
	2 (2.000)	-0.06	21032	20032	23032	22032	25032	24032
	2 1/4 (2.250)		21036	20036	23036	22036	25036	24036
	2 1/2 (2.500)		21040		23040	22040	25040	24040
	2 3/4 (2.750)	-0.06	21044		23044		25044	
	3 (3.000)		21048		23048		25048	24048
	3 1/4 (3.250)				23052		25052	
3 1/2 (3.500)	-0.06			23056		25056		
4 (4.000)						25064		
4 1/2 (4.500)						25072		
5 (5.000)						25080		

FINISH: See page 4.

PT NO. SUFFIX: See page 4.

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

- (1) Lengths above heavy line shall have a maximum of 2 imperfect threads under the head.
Lengths below heavy line shall have minimum thread length as tabulated above.

PART NUMBER EXAMPLE: See page 4

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

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
	Screw Twelve-Point	N733
C1A3		Page 1 of 4



Alloy Steel Twelve-Point Screw

DESCRIPTION: (C1A3A)

Flanged twelve-point, external wrenching screw.

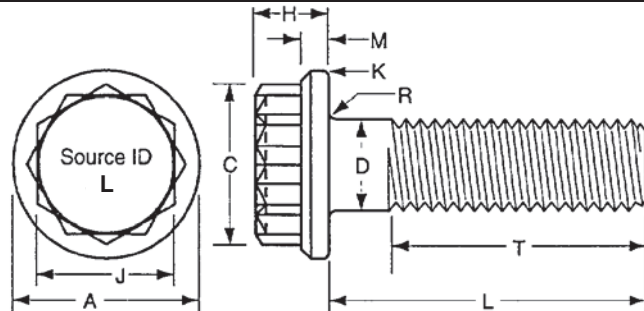
MATERIAL: Alloy steel, 170 ksi tensile strength.

SCREW THREADS: As listed in table below – unplated.

CAUTION: See notes below regarding plating of Class 3 threads.

HEAD MARKING: Registered source ID.

FOR USE IN TEMPERATURE UP TO 500 °F.



NOTE: For GE Transportation only – Head dimensions supplied per IFI-115 are acceptable with approval of purchaser.

All dimensions are in inches unless otherwise indicated.

THREAD SIZE			7/16 ♦ (0.438)		1/2 ♦ (0.500)		5/8 ♦ (0.625)		3/4 ♦ (0.750)		
A	Flange diameter	max	0.656		0.750		0.938		1.125		
		min	0.642		0.735		0.921		1.107		
H	Head height	max	0.438		0.500		0.625		0.750		
		min	0.430		0.492		0.616		0.740		
J	Width across flats	max	0.440		0.503		0.628		0.753		
		min	0.432		0.495		0.620		0.745		
C	Width across corners	min	0.493		0.565		0.707		0.850		
K	Chamfer	max	0.010		0.010		0.010		0.010		
M	Flange thickness	max	0.197		0.228		0.275		0.338		
		min	0.177		0.208		0.255		0.318		
R	Fillet	max	0.030		0.030		0.030		0.040		
		min	0.020		0.020		0.020		0.030		
D	Body diameter	max	0.4380		0.5000		0.6250		0.7500		
		min	0.4294		0.4919		0.6163		0.7406		
Thread class			Threads shall be Class 2A or 3A whether unplated or plated in final form. NOTE: If Class 3A threads are plated, supplier must undercut pitch diameter to compensate for plating thickness to achieve 3A thread class acceptability.								
THREAD/INCH			14 UNC	20 UNF	13 ♦ UNC	20 UNF	11 ♦ UNC	18 UNF	10 ♦ UNC	16 UNF	
T (1) Thread length		min	1.38		1.50		1.75		2.00		
L Lengths		Tol	PART NO. (For other lengths, last two or three digits are lengths in 16ths.) ♦								
Preferred Lengths	1/2 (0.500)	-0.03	27008		29008						
	5/8 (0.625)		27010		29010						
	3/4 (0.750)		27012		29012						
	7/8 (0.875)		27014		29014						
	1 (1.000)	-0.06	27016	26016	29016	28016	33016	23016			
	1 1/4 (1.250)		27020	26020	29020	28020	33020	32020	35020	34020	
	1 1/2 (1.500)		27024	26024	29024	28024	33024	32024	35024	34024	
	1 3/4 (1.750)		27028		29028	28028	33028	32028	35028	34028	
	2 (2.000)	-0.08	27032	26032	29032	28032	33032	32032	35032	34032	
	2 1/4 (2.250)		27036		29036	28036	33036		35036		
	2 1/2 (2.500)		27040		29040	28040	33040	32040	35040	34040	
	2 3/4 (2.750)		27044		29044	28048	33044		35044		
	3 (3.000)	27048		29048	33048			35048			
	3 1/4 (3.250)	27052		29052	33052			35052			
	3 1/2 (3.500)	27056		29056	33056			35056			
	4 (4.000)	-0.12	27064		29064		33064		35064		
	4 1/2 (4.500)				29072		33072		35072		
	5 (5.000)				29080		33080		35080		
	5 1/2 (5.500)				29088		33088		35088		
	6 and greater				29096				35096		

FINISH: See Page 4.

PT NO. SUFFIX: See page 4.

♦ PREFERRED SIZE

♣ Other lengths tabulated on K4015011

(1) Sizes: Up to 5/8 (0.625) inch incl – Lengths above heavy line shall have a maximum of 2 imperfect threads under the head.
Over 5/8 (0.625) inch – Lengths above heavy line shall be threaded as close to the head as practical.
All sizes – Lengths below heavy line shall have a minimum thread length tabulated above.

PART NUMBER EXAMPLE: See page 4.

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

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
C1A3	Screw Twelve-Point	N733
		Page 2 of 4



Alloy Steel Twelve-Point Screw

DESCRIPTION: (C1A3A)

Flanged twelve-point, external wrenching screw.

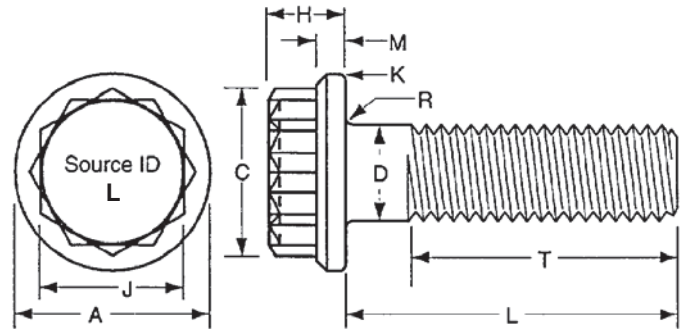
MATERIAL: Alloy steel, 170 ksi tensile strength.

SCREW THREADS: As listed in table below – unplated.

CAUTION: See notes below regarding plating of Class 3 threads.

HEAD MARKING: Registered source ID.

FOR USE IN TEMPERATURE UP TO 500 °F.



NOTE: For GE Transportation only – Head dimensions supplied per IFI-115 are acceptable with approval of purchaser.

All dimensions are in inches unless otherwise indicated.

THREAD SIZE			7/8 (0.875)		1 ♦ (1.000)		1 1/8 (1.125)		1 1/4 (1.250)		1 3/8 (1.375)		1 1/2 (1.500)			
A	Flange diameter	max	1.312		1.500		1.684		1.871		2.058		2.245			
		min	1.293		1.479		1.665		1.852		2.038		2.224			
H	Head height	max	0.875		1.000		1.125		1.250		1.375		1.500			
		min	0.864		0.988		1.111		1.236		1.360		1.485			
J	Width across flats	max	0.879		1.004		1.129		1.254		1.379		1.505			
		min	0.868		0.993		1.117		1.241		1.366		1.491			
C	Width across corners	min	0.990		1.134		1.276		1.418		1.561		1.705			
K	Chamfer	max	0.015		0.015		0.015		0.015		0.015		0.015			
M	Flange thickness	max	0.353		0.416		0.448		0.494		0.541		0.604			
		min	0.333		0.396		0.428		0.474		0.521		0.584			
R	Fillet	max	0.045		0.050		0.055		0.060		0.065		0.070			
		min	0.035		0.040		0.045		0.050		0.055		0.060			
D	Body diameter	max	0.8750		1.0000		1.125		1.250		1.375		1.500			
		min	0.8647		0.9886		1.109		1.234		1.357		1.482			
Thread class			Threads shall be Class 2A or 3A whether unplated or plated in final form. NOTE: If Class 3A threads are plated, supplier must undercut pitch diameter to compensate for plating thickness to achieve 3A thread class acceptability.													
THREAD/INCH			9 UNC	14 UNF	8 ♦ UNC	14 UNF	7 UNC	8 UN	12 UNF	7 UNC	8 UN	12 UNF	6 UNC	8 UN	6 UNC	8 UN
T (1)	Thread length	min	2.25		2.50		2.82		3.12		3.44		3.75			
L	Lengths	Tol	PART NO. (For other lengths, last two or three digits are lengths in 16ths.) ♣													
	2 (2.000)	-0.10	37032	36032	39032	38032	42032	41032	40032	45032	44032	43032	48032	47032	51032	50032
	2 1/4 (2.250)		37076		39036		42036	41036		45036	44036		48036	47036	51036	50036
	2 1/2 (2.500)		37040	36040	39040	38040	42040	41040	40040	45040	44040	43040	48040	47040	51040	50040
	2 3/4 (2.750)	-0.14	37044		39044		42044	41044		45044	44044		48044	47044	51044	50044
	3 (3.000)		37048	36048	39048	38048	42048	41048	40048	45048	44048	43048	48048	47048	51048	50048
	3 1/4 (3.250)		37052		39052		42052	41052		45052	44052		48052	47052	51052	50052
	3 1/2 (3.500)		37056		39056	38056	42056	41056	40056	45056	44056	43056	48056	47056	51056	50056
	4 (4.000)		37064		39064		42064	41064		45064	44064	43064	48064	47064	51064	50064
	4 1/2 (4.500)	37072		39072		42072	41072		45072	44072		48072	47072	51072	50072	
	5 (5.000)	-0.20	37080		39080		42080	41080		45080	44080		48080	47080	51080	50080
	5 1/2 (5.500)		37088		39088		42088	41088		45088	44088		48088	47088	51088	50088
	6 (6.000)		37096		39096		42096	41096		45096	44096		48096	47096	51096	50096
	Greater than 6.000		-0.20													

FINISH: See Page 4.

PT NO. SUFFIX: See page 4

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

(1) Lengths above heavy line shall threaded as close to head as practical.

Lengths below heavy line shall have minimum thread length as tabulated above.

PART NUMBER EXAMPLE: See page 4

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

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
	Screw Twelve-Point	N733
C1A3		Page 3 of 4

**N-Drawing**

General Electric Company

N733Issue No: S3
November 30, 2011**Alloy Steel Twelve-Point Screw**

DESCRIPTION: (C1A3A)

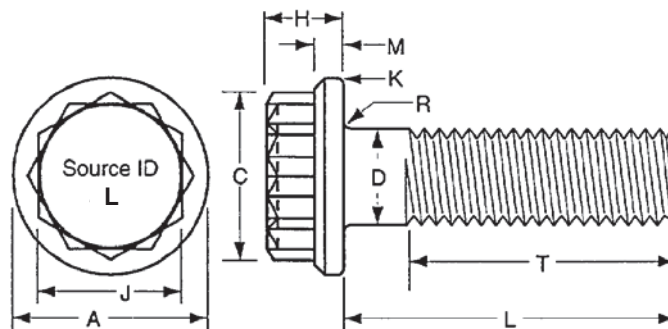
Flanged twelve-point, external wrenching screw.

MATERIAL: Alloy steel, 170 ksi tensile strength.

SCREW THREADS: As listed in table below – unplated.

CAUTION: See notes below regarding plating of Class 3 threads.

HEAD MARKING: Registered source ID.

FOR USE IN TEMPERATURE UP TO 500 °F.**NOTE:** For GE Transportation only – Head dimensions supplied per IFI-115 are acceptable with approval of purchaser.

All dimensions are in inches unless otherwise indicated.

THREAD SIZE			1 5/8 (1.625)	1 3/4 (1.750)	2 (2.000)	2 1/4 (2.250)	2 1/2 (2.500)
A Flange diameter	max		2.430	2.620	2.995	3.375	3.750
	min		2.408	2.597	2.970	3.344	3.717
H Head height	max		1.625	1.750	2.000	2.250	2.500
	min		1.611	1.734	1.983	2.232	2.481
J Width across flats	max		1.630	1.755	2.005	2.255	2.505
	min		1.615	1.740	1.990	2.200	2.455
C Width across corners	min		1.848	2.009	2.268	2.480	2.760
K Chamfer	max		0.015	0.015	0.015	0.030	0.030
M Flange thickness	max		0.651	0.760	0.885	1.010	1.119
	min		0.631	0.740	0.865	0.990	1.099
R Fillet	max		0.070	0.080	0.090	0.125	0.150
	min		0.060	0.070	0.075	0.100	0.110
D Body diameter	max		1.625	1.750	2.000	2.250	2.500
	min		1.605	1.730	1.980	2.227	2.477
Thread class			Threads shall be Class 2A or 3A whether unplated or plated in final form. NOTE: If Class 3A threads are plated, supplier must undercut pitch diameter to compensate for plating thickness to achieve 3A thread class acceptability.				
THREAD/INCH			8 UN	8 UN	8 UN	8 UN	8 UN
T (1) Thread length	min		4.07	4.38	5.00	5.62	6.25
L Lengths	Tol		PART NO. (For other lengths, last two or three digits are lengths in 16ths.) *				
Preferred Lengths	2 (2.000)	-0.18	98032	52032	54032	56032	58032
	2 1/4 (2.250)		98036	52036	54036	56036	58036
	2 1/2 (2.500)		98040	52040	54040	56040	58040
	2 3/4 (2.750)	-0.20	98044	52044	54044	56044	58044
	3 (3.000)		98048	52048	54048	56048	58048
	3 1/4 (3.250)		98052	52052	54052	56052	58052
	3 1/2 (3.500)		98056	52056	54056	56056	58056
	4 (4.000)		98064	52064	54064	56064	58064
	4 1/2 (4.500)		98072	52072	54072	56072	58072
	5 (5.000)	-0.24	98080	52080	54080	56080	58080
	5 1/2 (5.500)		98088	52088	54088	56088	58088
	6 (6.000)		98096	52096	54096	56096	58096
	Greater than 6.000	-0.24					

FINISH: Other finishes available, tabulated on K4015014 – Finish Suffix Chart. CAUTION: These are high strength screws. If electroplated, screws must be PROCESSED TO MINIMIZE DANGER FROM HYDROGEN EMBRITTLEMENT per applicable EMPIS Finish specification.

♦ **PREFERRED SIZE**

♣ Other lengths tabulated on K4015011

**PT NO
SUFFIX**None
B
B6**FINISH
DESCRIPTION**Unplated
0.0002 zinc
0.0002 zinc with chromate coating**EMPIS FINISH
REFERENCE**–
F70B1A2
F70B5A2

(1) Lengths above heavy line shall threaded as close to head as practical.
Lengths below heavy line shall have minimum thread length as tabulated above.

PART NUMBER EXAMPLE: N733P52040B identifies a 1 3/4-8 x 2 1/2 inch flanged twelve-point alloy steel external wrenching screw, zinc plated.

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

SPECIFICATION	GENERAL ELECTRIC STANDARD	Drawing No.
	Screw Twelve-Point	N733
C1A3		Page 4 of 4

★Supersedes Issue of: July 31, 2000

CAGE IDENT NO. 4B138