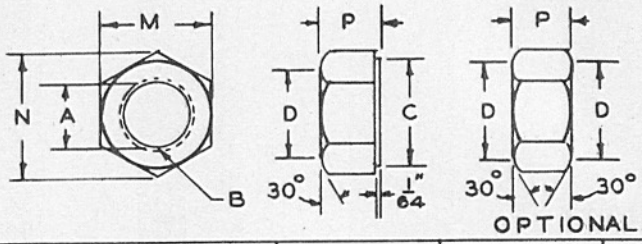
NUT, HEXAGON, NF-2
REGULAR, SEMI-FINISHED

BBBX1

ORDNANCE STANDARD (COMMERCIAL)

APPROVED HBH 7-10-31 DATE



A	Diameter, Nominal / Major Thd. Diameter Min.	1/4 .2500	5/16 .3125	3/8 .3750	7/16 .4375	1/2 .5000
B	Threads Per Inch	28	24	24	20	20
M	Width Across Flats Nom.	7/16	9/16	5/8	3/4	13/16
	Max.	.4375	.5625	.6250	.7500	.8125
	Min.	.425	.547	.606	.728	.788
N	Across Corners Min.	.485	.624	.691	.830	.898
P	Thickness Nom.	13/64	1/4	5/16	23/64	27/64
	Max.	.219	.267	.330	.378	.442
	Min.	.187	.233	.294	.340	.402
	MATERIAL AND FINISH	ORDNANCE PART NUMBER - STANDARD				
	Steel, Commercial Plain Finish Cadmium or Zinc Plated Seez Pruf Thd. Coated	218563 218584 503121	218564 221157 503122	218565 225831 503123	218570 218585 503124	218571 214267 503125
	Steel, Alloy Plain Finish	218579	218580	218581	218582	218583
	Brass, Commercial Plain Finish	218586	218588	218589	218593	218594
	MATERIAL AND FINISH	ORDNANCE PART NUMBER - LIMITED STANDARD				
	Steel, Commercial Tin Plated Black Oxide Coated			426098 503257		

Material:
Steel, Commercial, Min. Rockwell Hardness B-78.
Steel, Alloy in accordance with Drawing AEAX8.
Brass, Commercial.

Dimensions in inches

Note: Alloy Steel Nuts shall be stamped with the letter H on one side of the hexagon.

Example for Ordering: Nut, Hex, Steel, Semi-Finished, (Plain), 1/4"-28NF-2, Drg. BBBX1, Part No. 218563.

Reference: A.S.A. B18.2-1941.

Note: Diameter of washer face C = M Max. -5%. Diameter of top circle D = M Max. -15%.

SUPERSEDES OLD TRACING BBBX1 UNDER REVISION DATE OF 10-13-44

REVISION (7) 10-13-44

SUPERSEDES OLD TRACING BBWX1 UNDER REVISION DATE OF 12-16-44

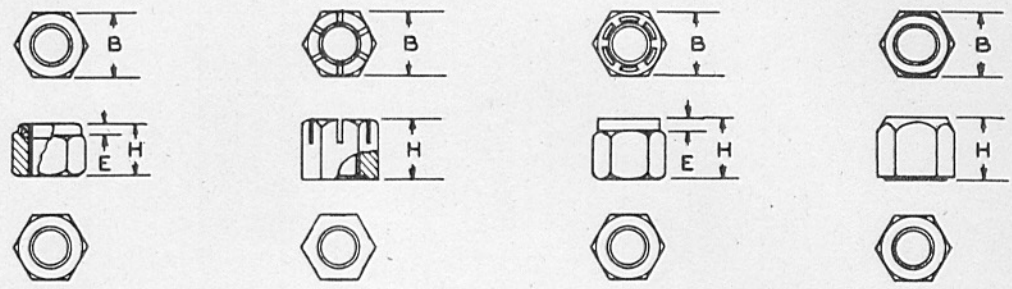
NUT, SAFETY, NF-3

BBWX1

ORDNANCE STANDARD (COMMERCIAL)

HSH APPROVED 11-26-41 DATE

TYPES SHOWN ARE FOR GENERAL USE. THEY SHALL NOT BE USED AS SUBSTITUTES FOR TYPES SHOWN ON DRAWING BBSX4 EITHER FOR INITIAL INSTALLATION OR FIELD REQUISITIONS.



BOOTS MARSDEN STANDCO STOVER

NOMINAL DIAMETER	1/4	5/16	3/8	7/16	1/2
THREADS PER INCH	28	24	24	20	20
B WIDTH ACROSS FLATS	7/16	1/2	9/16	5/8	3/4
H OVERALL HEIGHT	5/16	11/32	29/64	29/64	19/32
E COLLAR HEIGHT MAX.	9/64	5/32	11/64	3/16	7/32
MATERIAL AND FINISH	ORDNANCE PART NUMBER				
STEEL					
PLAIN FINISH	503376	503379	503382	503385	503388
CADMIUM OR ZINC PLATED	503377	503380	503383	503386	503389
PHOSPHATE COATED					
BRASS					
ALUMINUM ALLOY					

NOMINAL DIAMETER	9/16	5/8	3/4	7/8	1
THREADS PER INCH	18	18	16	14	14
B WIDTH ACROSS FLATS	7/8	15/16	1-1/16	1-1/4	1-7/16
H OVERALL HEIGHT	11/16	3/4	7/8	1	1-1/8
E COLLAR HEIGHT MAX.	1/4	9/32	5/16	11/32	13/32
MATERIAL AND FINISH	ORDNANCE PART NUMBER				
STEEL					
PLAIN FINISH	503391	503394	503397	503400	503403
CADMIUM OR ZINC PLATED	503392	503395	503398	503401	503404
PHOSPHATE COATED					
BRASS					
ALUMINUM ALLOY					

MATERIAL: DIMENSIONS IN INCHES.

STEEL - MINIMUM PHYSICAL REQUIREMENTS: TENSILE STRENGTH 103,000 P.S.I.; YIELD STRENGTH 85,000 P.S.I.; ELONGATION 16%; REDUCTION IN AREA 42%; BRINNELL HARDNESS 196 EXCEPT SIZES UP TO AND INCLUDING 7/16" NOMINAL DIAMETER MAY HAVE A MINIMUM YIELD STRENGTH OF 78,000 P.S.I.

EXAMPLE FOR ORDERING: NUT, SAFETY, (PLAIN), 3/8"-24NF-3, DRG. BBWX1, ORD. PART NO. 503382.

NOTE: FOR DESCRIPTION OF SAFETY NUTS SEE DRAWING BBUX1.

REVISION ⑦ 12-16-44

SCREW, MACHINE, BRASS
ROUND HEAD, NC-2

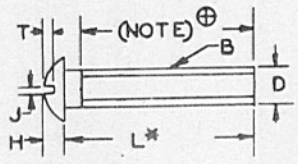
BCNX3

ORDNANCE STANDARD (COMMERCIAL)

APPROVED 7-27-31 DATE

*TOLERANCES ON LENGTH (L)= -3 PER CENT BUT NOT LESS THAN .025 INCH.

ROUND HEAD MACHINE SCREWS ARE SHOWN ON DRGS BCNX1, 1.1, 1.2, 1.3, 1.4, 1.5, 2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3, 4, 5, 6



THE UNTHREADED BODY DIAMETER SHALL HAVE THE SAME TOLERANCES AS THE PITCH DIAMETER OF THE THREADS SHOWN IN THE AMER. NAT. STD. FOR SCREW THREADS WHERE THE NUMBER OF THREADS PER INCH ARE THE SAME.

		#2	#3	#4	#5	#6	#8
D	DIAM. OF SCREW — NOM.						
	MAX.	.0860	.0990	.1120	.1250	.1380	.1640
	MIN.	.0820	.0946	.1072	.1202	.1326	.1586
B	THDS. PER INCH	56	48	40	40	32	32
A	HEAD DIAM. — MAX.	.162	.187	.211	.236	.260	.309
	MIN.	.146	.169	.193	.217	.240	.287
H	HEAD HEIGHT — MAX.	.070	.078	.086	.095	.103	.119
	MIN.	.059	.067	.075	.083	.091	.107
J	SLOT WIDTH — MAX.	.036	.038	.040	.043	.045	.050
	MIN.	.024	.026	.028	.031	.033	.037
T	SLOT DEPTH — MAX.	.048	.053	.058	.062	.067	.076
	MIN.	.036	.040	.043	.047	.050	.057

L LENGTH	ORDNANCE PART NUMBER, PLAIN FINISH					
1/8	421710	421720	133207	421730	133221	121747
3/16	421711	421721	133209	421731	120781	100957
1/4	421712	421722	114793	178407	100944	114741
5/16	421713	421723	117626	421732	115574	100958
3/8	421714	421724	117617	421733	100945	133237
7/16	421715	421725	133212	421734	133224	100959
1/2	421716	421726	117618	421735	100946	100960
5/8	421717	421727	117619	421736	100947	100961
3/4	421718	421728	117620	421737	100948	100962
7/8	421719	421729	117621	421738	100949	100963
1			117622	421739	100950	100964
1-1/8			117623	421740	100951	100965
1-1/4			117624	421741	100952	100967
1-1/2			117625	421742	100954	100968
1-3/4				421743	100955	100969
2				421744	100956	133243
2-1/4						133245
2-1/2						133247
2-3/4						133249
3						

L LENGTH	ORDNANCE PART NUMBER, TIN PLATED					
3/8					224198	
7/16					227212	
5/8					227399	

L LENGTH	ORDNANCE PART NUMBER, CADMIUM OR ZINC PLATED					
1-1/2						186803

MATERIAL: BRASS, COMMERCIAL

DIMENSIONS IN INCHES

EXAMPLE FOR ORDERING: SCREW, MACHINE, STEEL, ROUND HD., (PLAIN FINISH), #2(.086)-56NC-2x1/2", DRG. BCNX3, PART NUMBER 421710.

⊕ NOTE: ON MACHINE SCREWS 2" LONG OR SHORTER, THE COMPLETE THREADS SHALL EXTEND TO WITHIN TWO THREADS FROM THE BEARING SURFACE OF THE HEAD. LONGER LENGTHS SHALL HAVE A MINIMUM COMPLETE THREAD LENGTH OF 1-3/4".

SUPERSEDES OLD TRACING BCNX3 UNDER REVISION DATE OF 6-13-44

REVISION ③ 6-13-44

WASHER, LOCK, "TOOTH" TYPE
INTERNAL TOOTH

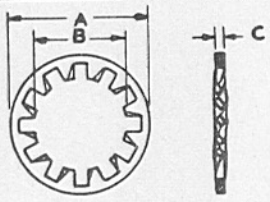
BEAXI

ORDNANCE STANDARD (COMMERCIAL)

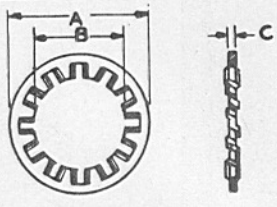
HBH APPROVED 5-11-33 DATE

SUPERSEDES OLD TRACING BEAXI UNDER REVISION DATE OF 5-6-44

NOTE: EITHER TYPE A OR TYPE B IS ACCEPTABLE.



TYPE A



TYPE B

SIZE, NOMINAL		#2	#3	#4	#5	#6	#8
A OUTSIDE DIAMETER	MAX.	.200	.232	.270	.280	.295	.340
	MIN.	.175	.215	.255	.245	.275	.325
B INSIDE DIAMETER	MAX.	.095	.109	.123	.136	.150	.176
	MIN.	.089	.102	.115	.120	.141	.168
C THICKNESS	MAX.	.015	.019	.019	.021	.021	.023
	MIN.	.010	.012	.015	.017	.017	.018
MATERIAL AND FINISH		ORDNANCE PART NUMBER					
STEEL PLAIN		190638	178835	116042	180156	115543	115544
STEEL CADMIUM OR ZINC PLATED		188131	179162	138522	147755	138526	138530
STEEL NICKEL PLATED		180088	180135	118937	180184	118924	118925
STEEL CHROMIUM PLATED		180049	180133	138523	180182	138527	138531
STEEL PHOSPHATE COATED		180090	180154	138524	180186	138528	138166
PHOSPHOR BRONZE PLAIN		221117	228809	228810	228821	190669	190670
PHOSPHOR BRONZE TINNED		424227	424219	424220	424221	219891	225843

SIZE, NOMINAL		#10	#12	#14 & 1/4	5/16	3/8	
A OUTSIDE DIAMETER	MAX.	.381	.410	.478	.610	.692	
	MIN.	.365	.394	.460	.594	.670	
B INSIDE DIAMETER	MAX.	.204	.231	.267	.332	.398	
	MIN.	.195	.221	.256	.320	.384	
C THICKNESS	MAX.	.025	.025	.028	.034	.040	
	MIN.	.020	.020	.023	.028	.032	
MATERIAL AND FINISH		ORDNANCE PART NUMBER					
STEEL PLAIN		115545	115546	115547	115548	115549	
STEEL CADMIUM OR ZINC PLATED		121801	125774	120423	138538	138542	
STEEL NICKEL PLATED		118926	118927	118928	118929	118930	
STEEL CHROMIUM PLATED		138533	125775	138536	138539	138543	
STEEL PHOSPHATE COATED		138534	138181	138167	138540	138544	
PHOSPHOR BRONZE PLAIN		190672	228832	228834	190676	228847	
PHOSPHOR BRONZE TINNED		424222	424223	424224	424225	424226	

DIMENSIONS IN INCHES

MATERIAL:
STEEL - SAE 1050 OR 1066 HEAT TREATED, ROCKWELL HARDNESS C40-C50 OR EQUIVALENT.
PHOSPHOR BRONZE - SPECIFICATION QQ-B-746.

NOTE: FOR SPECIFICATIONS SEE DRG. BEAX10.
EXAMPLE FOR ORDERING: WASHER, LOCK, TOOTH TYPE, STEEL, 3/8" (PLAIN), DRG. BEAX1, ORD. PART NO. 115549.

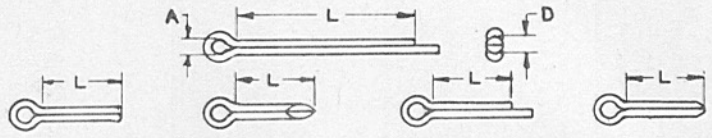
REVISION ⑤ 5-6-44 ⑥ 10-3-44

PIN, COTTER

BFAXI

ORDNANCE STANDARD (COMMERCIAL)

APPROVED HSH DATE 9-5-28



STANDARD MITRE END EXTENDED PRONG BEVEL POINT

OPTIONAL DESIGNS

COTTER D PIN DIAMETER	NOM.	1/16	3/32	7/64	1/8	5/32
	MAX.	.061	.090	.1064	.122	.150
	MIN.	.058	.086	.1024	.118	.146
A EYE DIAMETER		1/16	3/32	7/64	1/8	5/32

L LGTH	FINISH	ORDNANCE PART NUMBER				
5/16	PLAIN	137124				
	PLATED *	137127				
	PHOSPHATE	137128				
3/8	PLAIN	112526	112527		112528	112529
	PLATED*	119981				187609
	PHOSPHATE	189789				
7/16	PLAIN	137130				
	PLATED*	137133				
	PHOSPHATE	137134				
1/2	PLAIN	103361	103372		103383	103394
	PLATED*	112726	119117		137946	
	PHOSPHATE	137137	137155			
5/8	PLAIN	107761	107762		107763	107764
	PLATED*	137141	137159			
	PHOSPHATE	137142	137160			
3/4	PLAIN	103362	103373	141405	103384	103395
	PLATED*	121223	121222		177923	
	PHOSPHATE	137146	137164			
	STAINLESS STEEL		220257			
7/8	PLAIN	108628	108629		108630	108631
	PLATED*	137150	137168		137180	
	PHOSPHATE	137151	137169		137181	
1	PLAIN	103363	103374		103385	103396
	PLATED*	179252	121224		137185	120169
	PHOSPHATE	189799	137171		137186	138179
1-1/8	PLAIN	108634	108636		108635	108637
	PLATED*	187943	137175		137190	
	PHOSPHATE		137176		137191	
1-1/4	PLAIN	103364	103375		103386	103397
	PLATED*		119120		120123	137218
	PHOSPHATE	189797	189796		137195	137219
1-3/8	PLAIN	108640	108642		108641	108643
	PLATED*				137199	137223
	PHOSPHATE				137200	137224
1-1/2	PLAIN	103365	103376		103387	103398
	PLATED*				137204	137228
	PHOSPHATE				137205	137229

L LGTH	FINISH	ORDNANCE PART NUMBER				
1-5/8	PLAIN	119207	119208		119209	119210
	PLATED*				137209	137233
	PHOSPHATE				137210	137234
1-3/4	PLAIN	103366	103377		103388	103399
	PLATED*				137214	137238
	PHOSPHATE				120437	137239
1-7/8	PLAIN	119176	119177		119128	119178
	PLATED*					
	PHOSPHATE					
2	PLAIN	103367	103378		103389	103400
	PLATED*				125637	137243
	PHOSPHATE					137244
2-1/4	PLAIN	103368	103379		103390	103401
	PLATED*					137248
	PHOSPHATE					137249
2-1/2	PLAIN	103369	103380		103391	103402
	PLATED*					
	PHOSPHATE					
2-3/4	PLAIN	103370	103381		103392	103403
	PLATED*					
	PHOSPHATE					
3	PLAIN	103371	103382		103393	103404
	PLATED*					
	PHOSPHATE					
3-1/4	PLAIN				120466	
	PLATED*					
	PHOSPHATE					
3-1/2	PLAIN				121221	
	PLATED*					
	PHOSPHATE					
3-3/4	PLAIN					187319
	PLATED*					
	PHOSPHATE					
4	PLAIN					
	PLATED*					
	PHOSPHATE					

MATERIAL: STEEL, COMMERCIAL.

DIMENSIONS IN INCHES.

EXAMPLE FOR ORDERING: PIN, COTTER, 1/8" x 1", DRG. BFAX1, ORD. PART NO. 103385, (PLAIN).

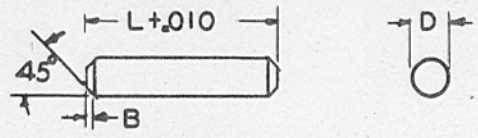
* PLATED COTTER PINS MAY BE EITHER CADMIUM, ZINC, OR NICKEL-BRIGHT.

SUPERSEDES OLD TRACING BFAXI UNDER REVISION DATE OF 4-22-44

REVISIONS (12) 4-22-44 (13) 6-29-44

PIN, STRAIGHT, STEEL — BFDXI

STANDARD



COMMERCIAL DRILL ROD

D	DIAM. OF PIN	NOM.	1/16	3/32	1/8	5/32	3/16	
		MAX.	.0630	.0942	.1255	.1567	.1880	
		MIN.	.0620	.0932	.1245	.1557	.1870	
B	CHAMFER		.010	.010	.010	1/64	1/64	

L	LENGTH	PIECEMARK					
	1/8	BFDXIAA					
	3/16	BFDXIAB					
	1/4	BFDXIAC	BFDXIBC				
	5/16	BFDXIAD	BFDXIBD				
	3/8	BFDXIAE	BFDXIBE	BFDXICE			
	7/16	BFDXIAF	BFDXIBF	BFDXICF			
	1/2	BFDXIAG	BFDXIBG	BFDXICG	BFDXIDG		
	9/16	BFDXIAH	BFDXIBH	BFDXICH	BFDXIDH		
	5/8	BFDXIAK	BFDXIBK	BFDXICK	BFDXIDK	BFDXIEK	
	11/16		BFDXIBL	BFDXICL	BFDXIDL	BFDXIEL	
	3/4		BFDXIBM	BFDXICM	BFDXIDM	BFDXIEM	
	13/16		BFDXIBN	BFDXICN	BFDXIDN	BFDXIEN	
	7/8		BFDXIBP	BFDXICP	BFDXIDP	BFDXIEP	
	15/16			BFDXICQ	BFDXIDQ	BFDXIEQ	
	1.			BFDXICR	BFDXIDR	BFDXIER	
	1-1/8			BFDXICS	BFDXIDS	BFDXIES	
	1-1/4				BFDXIDT	BFDXIET	
	1-3/8				BFDXIDU	BFDXIEU	
	1-1/2					BFDXIEW	
	1-5/8					BFDXIEX	
	1-3/4					BFDXIEZ	
	SIZE OF HOLE	DRILL 1/16 .0625	DRILL 3/32 .0937	REAMER .1240 +.0005	REAMER .1540 +.0005	REAMER .1870 +.0005	

MATERIAL FOR PIN: DRILL ROD, COMMERCIAL.

DIMENSIONS IN INCHES

NOTE: PINS SHALL BE SPEC. BY TYPE, NOM. DIAM, LENGTH & PC-MK.
EXAMPLE: PIN, STRAIGHT 3/16 X 1 - BFDXIER

NOTE: DRILLS PRESCRIBED MUST BE USED FOR SIZING HOLE AFTER DRILLING HOLE SEVERAL SIZES SMALLER. DIAMETER OF PINS AND DIAMETER OF DRILL OR REAMER TO BE USED MUST BE SELECTED TO OBTAIN .0005-.001" DRIVE FIT IN HOLE.

③ 10-31-42

ORDNANCE STANDARD (ORD. DESIGN) DATE APPROVED 1-31-34

STANDARD BOOK NO. 2

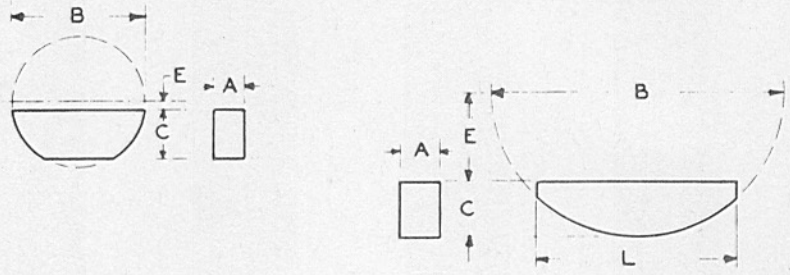
SUPERSEDES OLD TRACING BFDXI, UNDER REVISION DATE OF 10-31-42

KEY, WOODRUFF

BGAX3

ORDNANCE LIMITED STANDARD (COMMERCIAL)

APPROVED HOK DATE 9-20-34



MANUFACTURERS SYMBOL		201	207	61	26	14	20
NOMINAL SIZE A x B		1/16 x 1/4	3/32 x 5/16	3/16 x 5/8	3/16x2-1/8	7/32 x 1	7/32x1-1/4
A THICKNESS	MAX.	.0635	.0947	.1885	.1885	.2197	.2197
	MIN.	.0625	.0937	.1875	.1875	.2187	.2187
B DIAMETER		.250	.313	.625	2.125	1.000	1.250
C HEIGHT	MAX.	.117	.140	.240	.521	.487	.537
	MIN.	.112	.135	.234	.515	.481	.531
L LENGTH	MAX.						
	MIN.						
E DISTANCE BELOW CENTER		.003	1/64	1/16	17/32	1/16	5/64
MATERIAL		ORDNANCE PART NUMBER					
CARBON STEEL ALLOY STEEL		187441	218218	218217	103463	103908	117981

MANUFACTURERS SYMBOL		91	127	28	29	TX	V
NOMINAL SIZE A x B		1/4 x 3/4	1/4 x 2-1/8	5/16 x 2-1/8	3/8 x 2-1/8	3/8 x 2-3/4	1/2 x 2-3/4
A THICKNESS	MAX.	.251	.251	.3135	.376	.376	.501
	MIN.	.250	.250	.3125	.375	.375	.500
B DIAMETER		.750	2.125	2.125	2.125	2.750	2.750
C HEIGHT	MAX.	.302	.396	.521	.521	.584	.740
	MIN.	.296	.390	.515	.515	.578	.734
L LENGTH	MAX.		1.380	1.723	1.723	2.005	2.317
	MIN.		1.370	1.713	1.713	1.995	2.307
E DISTANCE BELOW CENTER		1/16	21/32	17/32	17/32	.786	.5/8
MATERIAL		ORDNANCE PART NUMBER					
CARBON STEEL ALLOY STEEL		127559 218211	117987 118000	117988 118001	112654 118002	187362	218215 218216

MATERIAL: COMMERCIAL (AS ORDERED) DIMENSIONS IN INCHES
CARBON STEEL - S.A.E. 1035
ALLOY STEEL - S.A.E. 2330 OR EQUAL (MIN. ROCKWELL HARDNESS 40 C SCALE)
ALLOY STEEL KEYS ARE IDENTIFIED BY DEPRESSIONS ON THE SIDES.

EXAMPLE FOR ORDERING: KEY, WOODRUFF, 1/4 x 3/4 (No. 91) CARBON STEEL, DRG. BGAX3, PART No. 127559.

SUPERSEDES OLD TRACING BGAX3 UNDER REVISION DATE OF 5-26-44

REVISION ③ 5-26-44

BALL, STEEL

CCAXI

ORDNANCE STANDARD (COMMERCIAL)

HBH APPROVED 4-3-28 DATE

A NOMINAL DIAMETER WEIGHT (LB. PER 1000) NUMBER OF BALLS PER LB.	1/16 .06 27904	3/32 .121 8264	1/8 .288 3400	5/32 .562 1770	3/16 .972 1030	7/32 1.543 640	1/4 2.300 434	9/32 3.280 300	5/16 4.500 223	11/32 5.990 165	3/8 7.770 128	13/32 9.88 101
	ORDNANCE PART NUMBER											
GRADE NUMBER 1 (MICRO CHROME)	189773	145624	145625	145626	145627	145628	145629	145630	145631	145632	145633	145644
GRADE NUMBER 2 (STANDARD)		114072	115529	115527	104916	104917	104918	114861	104919	119282	104920	145602
GRADE NUMBER 3 (A-GRADE)	214434	145634	145635	145636	145637	145638	145639	145640	145641	145642	145643	145654
COMMERCIAL (GRADE A)		147480	147481	147482	147483	147484	147485	147486	147487	147488	147500	147490
COMMERCIAL (GRADE B)		169063	169064	169065	169066	169067	169108	169109	169110	169111	147489	169112

A NOMINAL DIAMETER WEIGHT (LB. PER 1000) NUMBER OF BALLS PER LB.	7/16 12.34 80	15/32 15.18 66	1/2 18.43 54	9/16 26.20 36	5/8 36.00 28	21/32 41.70 24	11/16 47.90 21	3/4 62.20 16	7/8 98.70 10	1 147.00 6.78	1-3/16 247.00 4.05	
	ORDNANCE PART NUMBER											
GRADE NUMBER 1 (MICRO CHROME)	145645	145646	145647	145648	145649	217961	145650	145651	145652	145653	217962	
GRADE NUMBER 2 (STANDARD)	104921	112712	104922	104923	104924		104925	104926	104927	120949		
GRADE NUMBER 3 (A-GRADE)	145655	145656	145657	145658	145659		145660	145661	145662	145663		
COMMERCIAL (GRADE A)	147491	147492	147493	147494	147495		147496	147497	147498	147499		
COMMERCIAL (GRADE B)	169113	169135	169158	169159	169162		169163	169164	169167	169172		

TABLE 1 REQUIRED ACCURACY

GRADE	SPHERICAL WITHIN	MAX. VARIATION IN A CARTON (PLUS OR MINUS)	MAX. VARIATION IN A SHIPMENT (PLUS OR MINUS)
GRADE NUMBER 1 (MICRO CHROME)	..000025"	.000025"	.0001"
GRADE NUMBER 2 (STANDARD)	.00005"	.00005"	.0002"
GRADE NUMBER 3 (A-GRADE)	.0002"	.0002"	.0005"
COMMERCIAL (GRADE A)	.0002"	.0005"	.0005"
COMMERCIAL (GRADE B)	.001"	.001"	.001"

TABLE 2 DEPTH OF CASE

BALL DIAMETER	CASE DEPTH	BALL DIAMETER	CASE DEPTH	BALL DIAMETER	CASE DEPTH
1/16		9/32	.045	1/2	.070
3/32	.020	5/16	.045	9/16	.075
1/8	.025	11/32	.045	5/8	.075
5/32	.025	3/8	.055	11/16	.075
3/16	.030	13/32	.055	3/4	.080
7/32	.035	7/16	.065	7/8	.080
1/4	.045	15/32	.065	1	.080

DIMENSIONS IN INCHES.

STEEL BALLS - GRADES NO. 1, 2, & 3.
MATERIAL - ALLOY STEEL, COMMERCIAL.
HARDNESS - BRINELL 625-700 HARDENED THROUGHOUT.
ACCURACY - AS SPECIFIED IN TABLE 1.
CRUSHING STRENGTH - (STANDARD 3 BALL TEST METHOD) 1000 A^2 MIN. WHERE A IS THE DIAMETER OF THE BALL IN EIGHTHS OF AN INCH.

STEEL BALLS - COMMERCIAL GRADES A & B.
MATERIAL - CARBURIZING STEEL, COMMERCIAL.
HARDNESS - FILE HARD - CARBURIZED TO DEPTH OF CASE SPECIFIED IN TABLE 2, ROCKWELL C60 MIN. FOR SIZES 3/16" AND LARGER.
ACCURACY - AS SPECIFIED IN TABLE 1.
CRUSHING STRENGTH - (STANDARD 3 BALL TEST METHOD) 1200 $A^{1.5}$ MIN. WHERE A IS THE DIAMETER OF THE BALL IN EIGHTHS OF AN INCH.

EXAMPLE FOR ORDERING - BALL, STEEL 1/4", GRADE A, DRG. CCAX1, PART NO. 147485.

ENGINEERING ADMINISTRATIVE BRANCH - SPOIP

SUPERSEDES OLD TRACING CCAXI UNDER REVISION DATE OF 12-14-44

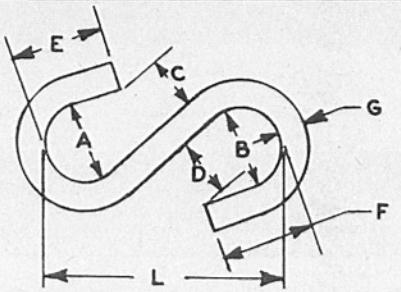
REVISION ③ 12-14-44

SUPERSEDES OLD TRACING SCAXI UNDER REVISION DATE OF 7-13-43

STANDARD BOOK NO. 40 & 70

HOOK, "S"

SCAXI



G-Wire Gage	Diameter Decimal	Reach -L-	-A-	-B-	-C-	-D-	-E-	-F-	Piece Mark Steel	Piece Mark Brass
10	.134	1-1/16	11/32	13/32	3/16	1/4	17/32	1/2	SCAX1A	
11	.120	1-7/16	9/32	11/16	9/32	13/32	9/16	13/16	SCAX1B	
12	.105	1-3/32	25/64	13/32	3/32	1/8	1/2	15/32	SCAX1C	
12	.105	15/16	9/32	5/16	11/64	3/16	15/32	13/32	SCAX1D	SCAX1E
14	.080	27/32	9/32	5/16	1/8	3/16	13/32	3/8	SCAX1G	SCAX1F
8	.162	1-1/16	3/8	3/8	1/4	9/32	9/16	9/16	SCAX1H	
11	.120	1-7/16	13/32	11/16	5/16	9/16	5/8	7/8	SCAX1K	

Material:
Steel, Commercial (.10-.15 carbon or better)
Brass, Commercial.

Dimensions in inches.

Finish

* Plain

Cadmium SCAX1G-1 Zinc SCAX1G-2 Nickel SCAX1G-3 Chromium SCAX1G-4 Phosphate SCAX1G-5

Example for Ordering
Hook, "S"., .080 x 27/32 Reach, SCAX1G

* Note: - "S" Hooks are furnished commercially with a bright finish.
Note: - Slight variations in dimensions to conform to variations of manufacturers patterns are permissible.

ORDNANCE STANDARD (COMMERCIAL)

DATE APPROVED. 1-11-32 ② 7-13-43