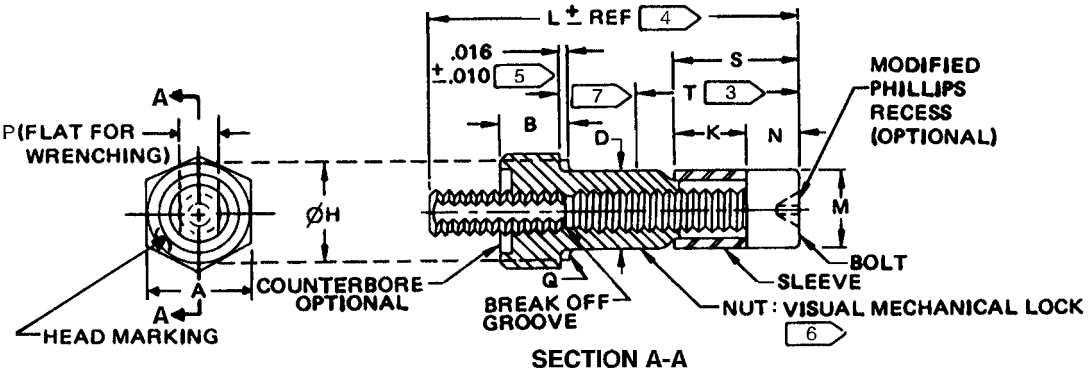
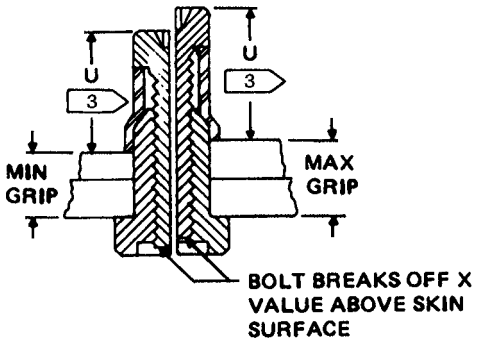


SECTION A-A



TYPICAL INSTALLATION

DIMENSIONING AND TOLERANCING PER ASME Y14.5M–1994.
DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.
DIMENSIONS APPLY AFTER FINISH UNLESS OTHERWISE SPECIFIED.

TECHNICAL CHANGES IDENTIFIED BY REVISION BAR.

TABLE I

BOEING STANDARD NUMBER BACB30CC 2 7	NOM SIZE	A	B	∅ D	∅ H MIN	P FLAT	Q ±.010 RAD	S REF	T REF 3	U MAX 3	X
5	.156	.252 .242	.099 .083	.1645 .1625	.220	.087 .080	.015	.250	.39	.246	.098 .000
6	.190	.312 .302	.116 .100	.1990 .1970	.280	.105 .098	.020	.303	.42	.281	.108 .000
8	.250	.377 .365	.138 .122	.2600 .2580	.335	.137 .129	.025	.354	.50	.325	.145 .037
10	.312	.439 .425	.162 .148	.3125 .3095	.398	.153 .146	.025	.420	.59	.390	.156 .033
12	.375	.500 .491	.192 .178	.3750 .3720	.460	.186 .179	.025	.510	.75	.470	.162 .039

TABLE I (CONTINUED)

BOEING STANDARD NUMBER BACB30CC 2 7	MECHANICAL PROPERTIES	
	DOUBLE SHEAR MIN LBS	TENSILE STRENGTH MIN LBS
5	3,760	970
6	5,240	1,100
8	9,300	2,040
10	14,600	3,250
12	21,000	5,650

NOTES

1. TAPERED END OF NUT SHALL NOT FALL WITHIN MAXIMUM GRIP.

2. SEE CODING UNDER USAGE AND APPLICATION FOR COMPLETE BOEING PART NUMBER.

3. "T" DIMENSION – MAXIMUM PROTRUSION ON BLIND SIDE BEFORE UPSET WITH MIN GRIP (.06 INCH LESS WITH MAX GRIP).

   "U" DIMENSION – MAXIMUM PROTRUSION ON BLIND SIDE AFTER UPSET WITH MIN OR MAX GRIP.

4. THE LENGTH TOLERANCE IS OPTIONAL FOR THE MANUFACTURER, PROVIDING THE PARTS ARE SUITABLE FOR INSTALLATION PER BAC5004.

5. WASHER FACE OPTIONAL.

6. LOCKING FEATURE CONSISTS OF (3) INDENTATIONS LOCATED 120 DEGREES APART ON THE PERIPHERY OF THE NUT COMPONENT. DISTORTION OF "D" IN LOCKING AREA IS PERMISSIBLE.

7. GRIP DASH NUMBER DESIGNATING NOMINAL GRIP IN .0625 INCREMENTS. SEE TABLE II FOR GRIP AND "L" DIMENSIONS.

TABLE II "L" DIMENSIONS

GRIP DASH NUMBER	NOM GRIP	GRIP RANGE		.156 NOMINAL	.190 NOMINAL	.250 NOMINAL	.312 NOMINAL	.375 NOMINAL
		MIN	MAX	L	L	L	L	L
1	.062	.032	.094	.733	.874	.944	– – –	– – –
2	.125	.095	.156	.795	.936	1.006	– – –	– – –
3	.188	.157	.219	.858	.999	1.069	1.221	1.304
4	.250	.220	.281	.920	1.061	1.131	1.283	1.367
5	.312	.282	.344	.983	1.124	1.194	1.346	1.429
6	.375	.345	.406	1.045	1.186	1.256	1.408	1.492
7	.438	.407	.469	1.108	1.249	1.319	1.471	1.554
8	.500	.470	.531	1.170	1.311	1.381	1.533	1.617
9	.562	.532	.594	1.233	1.374	1.444	1.596	1.679
10	.625	.595	.656	1.295	1.436	1.506	1.658	1.742
11	.688	.657	.719	1.358	1.499	1.569	1.721	1.804
12	.750	.720	.781	1.420	1.561	1.631	1.783	1.867
13	.812	.782	.844	1.483	1.624	1.694	1.846	1.929
14	.875	.845	.906	1.545	1.686	1.756	1.908	1.992
15	.938	.907	.969	1.608	1.749	1.819	1.971	2.054
16	1.000	.970	1.031	1.670	1.811	1.881	2.033	2.117
17	1.062	1.032	1.094	– – –	1.874	1.944	2.096	2.180
18	1.125	1.095	1.156	– – –	1.936	2.006	2.158	2.242
19	1.188	1.157	1.219	– – –	1.999	2.069	2.221	2.305
20	1.250	1.220	1.281	– – –	2.061	2.131	2.283	2.367
21	1.312	1.282	1.344	– – –	2.124	2.194	2.346	2.429
22	1.375	1.345	1.406	– – –	– – –	2.256	2.408	2.492
23	1.438	1.407	1.469	– – –	– – –	– – –	2.471	2.554
24	1.500	1.470	1.531	– – –	– – –	– – –	2.533	2.617
LONGER LENGTHS MAY BE PROCURED BY USE OF PROPER DASH NUMBER. CONSULT PROCURING AGENT FOR AVAILABILITY. DIMENSIONS FOR LONGER PARTS MAY BE CALCULATED FROM VALUES BELOW, WHERE G = NOMINAL GRIP = .0625 × GRIP DASH NUMBER (ROUNDED TO 3 DECIMALS).								
	G	G–.030	G+.031	G+.670	G+.811	G+.881	G+1.033	G+1.117

PROCUREMENT SPECIFICATION

NOT APPLICABLE TO THIS STANDARD.

INSPECTION REQUIREMENTS PER NAS498. MECHANICAL PROPERTIES SHALL BE PER TABLE I. SEE BACB30AY FOR TEST METHODS, SAMPLING PLAN, MAGNETIC INSPECTION, MICROHARDNESS AND LOT DEFINITION.

MATERIAL

BOLT AND NUT – ALLOY STEEL, 8740 PER MIL–S–6049 OR AMS 6322, 4130 PER MIL–S–6758 OR AMS–S–6758, 4340 PER MIL–S–5000, AMS–S–5000, AMS 6415 OR AMS 6484 OR 4330M PER AMS 6407.

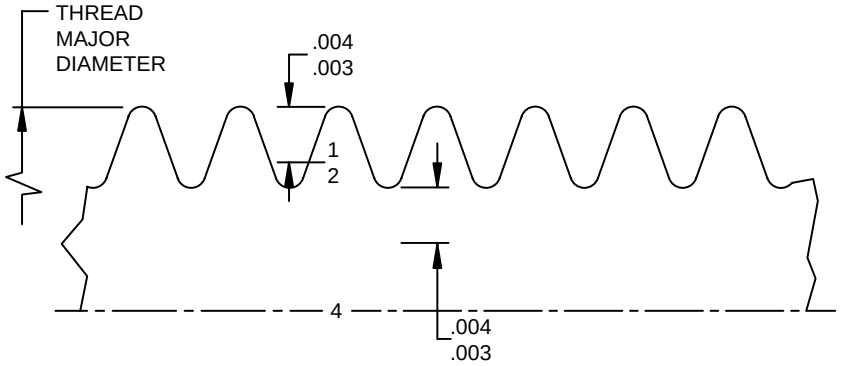
SLEEVE – CRES, 302 PER AMS 5636, 303 PER AMS 5641 OR 304 PER AMS 5639, ANNEALED – SHALL NOT CRACK DURING INSTALLATION.

HEAT TREATMENT

BOLT AND NUT – HEAT TREAT TO PRODUCE MICROHARDNESS OF VICKERS DPH 390 TO 465. THE HARDNESS LIMITS APPLY TO ALL PARTS TESTED IN ANY LOT. BASIC MATERIAL AND HEAT TREAT ATMOSPHERE SHALL BE CONTROLLED SO THAT CARBURIZATION OR DECARBURIZATION SHALL NOT RESULT IN HARDNESS RANGE IN ANY ONE PART WHICH EXCEEDS 50 DPH POINTS. FURTHER, THE AVERAGE OF THE DPH READING ON FIVE SPECIMENS SHALL BE DETERMINED FOR EACH OF THE FOUR LOCATIONS, SEE FIGURE 1 AND FIGURE 2, AND THE RANGE OF THESE AVERAGES SHALL NOT EXCEED 40 DPH POINTS.

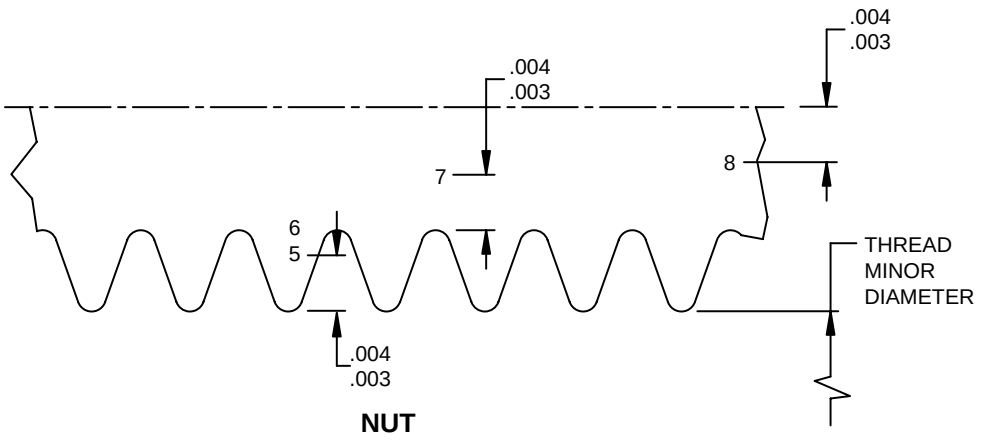
IF ANY ONE OF THE MICROHARDNESS READINGS IS OUTSIDE THE 390 – 465 LIMIT, A NEW VALUE MAY BE SUBSTITUTED IF IT CONFORMS TO THE FOLLOWING: THE NEW VALUE MUST BE THE AVERAGE OF FIVE READINGS TAKEN AT LOCATIONS SIMILAR TO THE REJECTED READING OF THE SAME PART. ALL FIVE ADDITIONAL READINGS SHALL BE WITHIN 390 – 465 LIMITS AND THE RANGE OF THESE READINGS SHALL NOT EXCEED 40 DPH POINTS.

VENDOR PROCESS CONTROL AND HARDNESS TESTS SHALL BE SUFFICIENT TO ENSURE THAT PARTS SHIPPED TO BOEING OR A SUBCONTRACTOR WILL HAVE AN ACCEPTABLE QUALITY CONFORMING TO .65 AQL OPERATING CHARACTERISTIC CURVE SHOWN IN ANSI/ASQC Z1.4. BOEING OR SUBCONTRACTOR RECEIVING INSPECTION SHALL CONDUCT SURVEILLANCE INSPECTION TO ENSURE MAINTENANCE OF REQUIRED QUALITY.



BOLT

FIGURE 1 BOLT



NUT

FIGURE 2 NUT

FINISH

BOLT AND NUT – CADMIUM PLATE PER AMS–QQ–P–416, TYPE II, CLASS 2. CADMIUM PLATE PER NAS672 IS PERMISSIBLE PROVIDED IT IS FOLLOWED BY A DICHROMATE POST TREATMENT PER AMS–QQ–P–416.

SLEEVE – PASSIVATE PER AMS–QQ–P–35. CADMIUM PLATE PER AMS–QQ–P–416, TYPE I, CLASS 3.

LUBRICATION

LUBRICANTS LISTED BELOW MAY BE USED ON ANY OR ALL COMPONENTS AS REQUIRED FOR PERFORMANCE. SOLID FILM LUBE, WAX AND/OR CETYL ALCOHOL.

MARKING

HEAD SHALL BE MARKED WITH MANUFACTURER'S SYMBOL PER MIL–HDBK–57 OR REGISTERED WITH THE U.S. PATENT AND TRADEMARK OFFICE (PTO) OF THE U.S. DEPARTMENT OF COMMERCE, AND MANUFACTURER'S BASE PART NUMBER AS FOLLOWS:

MONOGRAM – "N" AND "1001"

AFS – "VS" AND "1001"

HEAD MARKING SHALL BE RAISED OR DEPRESSED .010 MAXIMUM, ARRANGEMENT OPTIONAL.

CONCENTRICITY

"A" HEX HEAD TO "D" WITHIN .008 TIR AND "M" DIAMETER TO "D" DIAMETER WITHIN .008 TIR.

PROCUREMENT

ALCOA FASTENING SYSTEMS, VOI–SHAN PRODUCTS, 3000 W LOMITA BLVD, TORRANCE CA 90505–5103 (CAGE CODE 5M902)

MONOGRAM AEROSPACE FASTENERS, 3423 S GARFIELD AVE, LOS ANGELES CA 90022 (CAGE CODE 98524)

INSTALLATION TOOLS MAY BE PROCURED FROM MONOGRAM AEROSPACE FASTENERS OR LOK–FAST INC, 864 W 16TH ST, NEWPORT BEACH CA 92660 (CAGE CODE 01022)

THE MANUFACTURERS LISTED AND THEIR AUTHORIZED DISTRIBUTORS ARE THE ONLY APPROVED SOURCES FOR THE ABOVE PRODUCTS. NO CHANGES IN PRODUCT DESIGN, BASIC METHODS OF MANUFACTURE, PLANT SITE OR QUALITY LEVEL SHALL BE MADE WITHOUT PRIOR NOTIFICATION AND PRIOR APPROVAL IN WRITING FROM THE BOEING COMPANY. MANUFACTURERS OF COMPETITIVE PRODUCTS MAY APPLY TO A SUPPLIER MANAGEMENT AND PROCUREMENT DEPARTMENT OF THE BOEING COMPANY FOR APPROVAL.

USAGE AND APPLICATION INFORMATION

INSTALL PER BAC5004–3.

FOR DESIGN INFORMATION, SEE BDM–1461.

CODING

FIRST DASH NUMBER DESIGNATES NOMINAL DIAMETER.

LETTER “W” FOLLOWING FIRST DASH NUMBER DESIGNATES BOLTS HAVING MECHANICAL PROPERTIES PER TABLE I.

SECOND DASH NUMBER DESIGNATES NOMINAL GRIP IN SIXTEENTHS OF AN INCH PER TABLE II.

EXAMPLE OF PART NUMBER

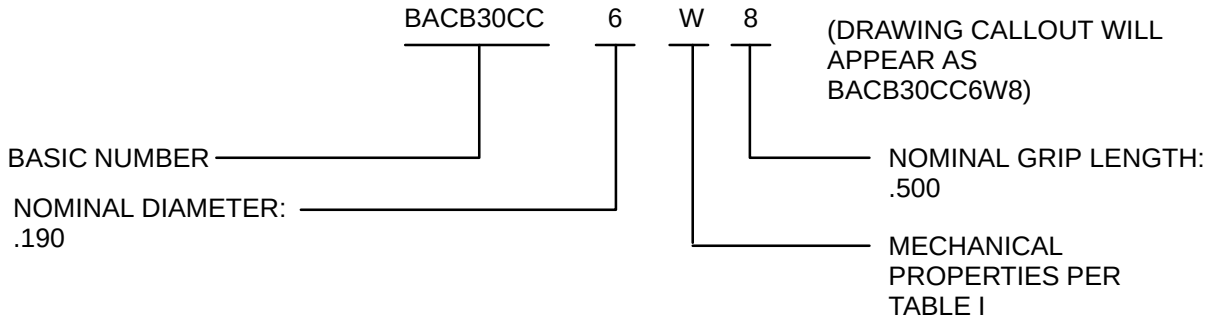


TABLE III BCA SUPERSESSION INFORMATION

OBSOLETE PART NUMBERS	SUPERSEDING PART NUMBERS	CLASS
BACB30CC5W( )	BACB30LB5–( )	II
BACB30CC6W1	NO SUPERSEDING PART	– – –
BACB30CC6W(2 AND LONGER)	BACB30LB6–(2 AND LONGER)	II
BACB30CC8W1	NO SUPERSEDING PART	– – –
BACB30CC8W(2 AND LONGER)	BACB30LB8–(2 AND LONGER)	II
BACB30CC10W( )	BACB30LB10–( )	II
BACB30CC12W( )	BACB30LB12–( )	II

SEE D–590–PREFACE (INDEX) FOR INACTIVATION DEFINITIONS. SEE D–590–SUPERSESSION–LIST FOR SUPERSESSION CLASS DEFINITIONS AND SUPERSESSION LIST. SEE D–590–BOEING–TO–VENDOR FOR VENDOR PART NUMBERS.

INACTIVATION APPLICABILITY

BCA, BH, IDS – BACB30CC(5, 6, 8, 10, 12)–( ) ARE INACTIVE FOR DESIGN AND PROCUREMENT.
BACB30CC(5, 6, 8, 10, 12)W( ) ARE CLASS II SUPERSESSIONS.
BACB30CC14W( ) IS INACTIVE FOR DESIGN AND PROCUREMENT. NO SUPERSEDING PART.

BCA – BACB30CC(5, 6, 8, 10, 12)W( ) ARE INACTIVE FOR DESIGN AND PROCUREMENT. SEE TABLE III FOR SUPERSESSION INFORMATION.

BH, IDS – BACB30CC(5, 6, 8, 10, 12)W( ) ARE INACTIVE FOR NEW DESIGN. SEE MS21141U( ).