FED. SUPPLY CLASS

5306

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209

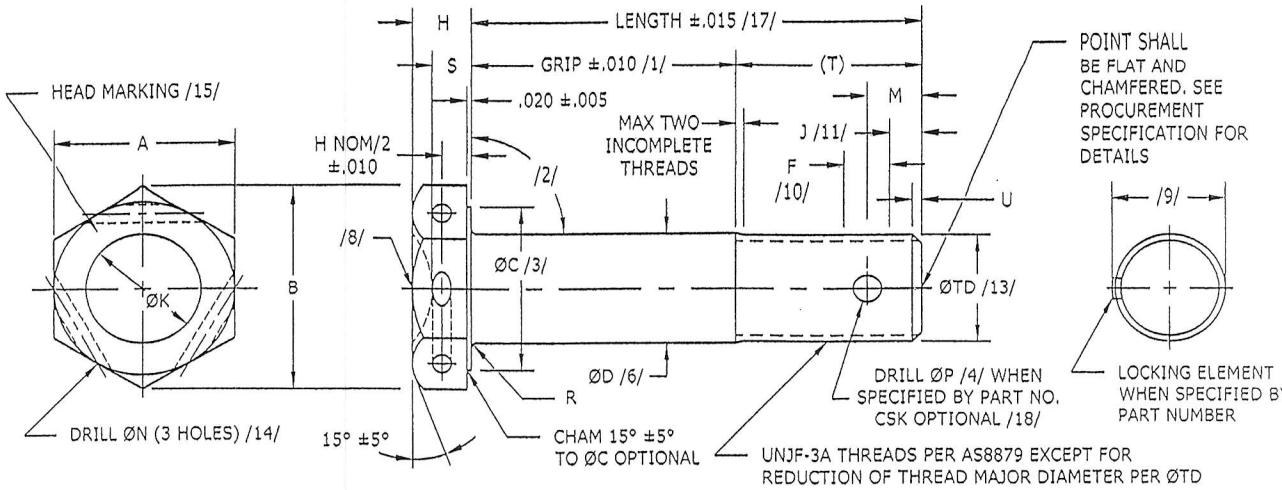

FIGURE 1 – BOLT CONFIGURATION

TABLE I – DIMENSIONS (CONTINUED ON SHEET 2)

BASIC NUMBER	THREAD UNJF-3A	A		B MIN	ØC MIN /3/	ØD				F /10/	H +.015 -.000	J /11/	ØK ±.01
						UNPLATED		PLATED OR COATED					
		MAX	MIN			MAX	MIN	MAX	MIN				
NAS6703	.1900-32	.376	.367	.410	.335	.1895	.1890	.1895	.1885	.156	.110	.094	.19
NAS6704	.2500-28	.439	.429	.480	.398	.2495	.2490	.2495	.2485	.178	.125	.107	.25
NAS6705	.3125-24	.502	.492	.552	.460	.3120	.3115	.3120	.3110	.208	.156	.125	.31
NAS6706	.3750-24	.564	.554	.623	.523	.3745	.3740	.3745	.3735	.208	.188	.125	.38
NAS6707	.4375-20	.690	.678	.764	.648	.4370	.4365	.4370	.4360	.250	.219	.150	.44
NAS6708	.5000-20	.752	.741	.836	.710	.4995	.4990	.4995	.4985	.250	.250	.150	.50
NAS6709	.5625-18	.877	.865	.978	.835	.5615	.5610	.5615	.5605	.278	.281	.167	.56
NAS6710	.6250-18	.940	.928	1.050	.898	.6240	.6235	.6240	.6230	.278	.312	.167	.62
NAS6712	.7500-16	1.065	1.052	1.191	1.023	.7490	.7485	.7490	.7480	.312	.375	.188	.75
NAS6714	.8750-14	1.252	1.239	1.405	1.210	.8740	.8735	.8740	.8730	.357	.438	.214	.88
NAS6716	1.0000-12	1.440	1.427	1.619	1.398	.9990	.9985	.9990	.9980	.416	.500	.250	1.00
NAS6718	1.1250-12	1.627	1.614	1.832	1.585	1.1240	1.1230	1.1240	1.1225	.416	.562	.250	/8/
NAS6720	1.2500-12	1.814	1.801	2.046	1.772	1.2490	1.2480	1.2490	1.2475	.416	.625	.250	/8/

ISSUE DATE: FEBRUARY 1969 REVISION DATE: SEPTEMBER 30, 2013

THIRD ANGLE PROJECTION	CUSTODIAN	REVISION
	NATIONAL AEROSPACE STANDARDS COMMITTEE	10
PROCUREMENT SPECIFICATION: NOTED	TITLE: BOLT, TENSION, HEX HEAD, CLOSE TOLERANCE, A286 CRES, LONG THREAD, REDUCED MAJOR THREAD DIA., SELF-LOCKING AND NONLOCKING, 160 KSI Ftu	CLASSIFICATION PART STANDARD: NAS6703 THRU NAS6720
		SHEET 1 OF 8

FORM 0.

TABLE I – DIMENSIONS (CONTINUED)

BASIC NUMBER	M ±.010	ØN +.010 -.000	ØP +.010 -.000 /4/	R RAD MAX	R RAD MIN	S +.015 -.000	(T) /5/	U MAX	ØTD MAX	ØTD MIN	INSPECTION DATA X /6/	INSPECTION DATA Y /6/	INSPECTION DATA Z /7/
NAS6703	.164	.046	.070	.020	.010	.073	.345	.039	.184	.181	.005	.0045	.0040
NAS6704	.178	.046	.076	.020	.010	.083	.425	.045	.244	.241	.006	.0045	.0030
NAS6705	.181	.070	.076	.020	.010	.104	.469	.052	.306	.302	.008	.0045	.0030
NAS6706	.197	.070	.106	.025	.015	.125	.578	.052	.368	.364	.009	.0045	.0025
NAS6707	.201	.070	.106	.025	.015	.146	.694	.062	.431	.426	.010	.006	.0025
NAS6708	.216	.070	.106	.030	.020	.167	.735	.062	.493	.488	.011	.006	.0020
NAS6709	.218	.070	.141	.035	.020	.188	.840	.068	.555	.550	.012	.006	.0020
NAS6710	.249	.070	.141	.040	.025	.208	.902	.068	.618	.612	.015	.006	.0020
NAS6712	.252	.070	.141	.045	.030	.250	1.041	.078	.743	.737	.018	.009	.0020
NAS6714	.257	.070	.141	.050	.035	.292	1.184	.089	.868	.861	.020	.009	.0020
NAS6716	.264	.070	.141	.060	.045	.333	1.309	.104	.993	.986	.022	.009	.0020
NAS6718	.357	.070	.141	.070	.055	/8/	1.458	.104	1.118	1.111	.025	.009	.0020
NAS6720	.389	.070	.141	.075	.060	/8/	1.646	.104	1.243	1.236	.028	.009	.0020

MATERIAL: CRES - A286 (UNS S66286) CONFORMING TO THE CHEMISTRY OF AMS5731, AMS5732, AMS5737 OR AMS5853.
LOCKING ELEMENT – NYLON OR EQUIVALENT PER MIL-DTL-18240 AND QPL-18240.

HEAT TREAT: (10) DEVELOP BASIC MATERIAL PROPERTIES AS FOLLOWS, WITH CONTROLS PER ~~AMS-H-6875 OR~~ AMS2759: 160 – 190 KSI Ftu /19/

FINISH: (10) UNPLATED BOLTS – PASSIVATED PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4, PASSIVATED PER AMS2700 METHOD 1, TYPE 8, CLASS 4 - WITHOUT POST TREATMENT OR PASSIVATED PER AMS2700 METHOD 2- WITHOUT POST TREATMENT.

CADMIUM PLATED BOLTS – CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2. IDENTIFY WITH GREEN DYE OR PAINT ON THE THREAD END. MAXIMUM COVERAGE MAY INCLUDE THE CHAMFER PLUS ONE INCOMPLETE THREAD.

CHROMIUM PLATED –

CODE C - CHROMIUM PLATE PER AMS-QQ-C-320, CLASS 2 ON SHANK ONLY. ALL OTHER SURFACES CADMIUM PLATED. NO CHROMIUM WITHIN .020 OF LINE OF TANGENCY OF HEAD-TO-SHANK FILLET. CHROMIUM IN THREAD RUNOUT PERMITTED. CHROMIUM PLATED BOLTS NOT AVAILABLE WITH GRIP DASH NUMBERS 1 OR 2.

CODE E - CHROMIUM PLATE PER AMS-QQ-C-320, CLASS 2A. PLATING ON SHANK ONLY. NO PLATING ON: TOP OR SIDES OF HEAD, BEARING SURFACE OF HEAD, HEAD-TO-SHANK FILLET, ADJACENT TO FILLET (WITHIN .020 MINIMUM TO .080 MAXIMUM OF LINE OF TANGENCY BETWEEN SHANK AND RADIUS R), AND THREADS EXCEPT RUNOUT MAY BE PLATED. ALL SURFACES NOT CHROMIUM PLATED SHALL BE CADMIUM PLATED PER AMS-QQ-P-416, TYPE II, CLASS 2. BOLTS SHALL BE SHOT PEENED PER AMS2430 AND THE FOLLOWING REQUIREMENTS: CAST STEEL SHOT OF SIZE 170 TO 390, INTENSITY .014A TO .018A, SHOT PEEN PRIOR TO CHROMIUM PLATING, THREAD ROLLING AND COLD WORKING "R" RADIUS, BUT AFTER HEAT TREATING AND GRINDING. MINIMUM AREAS TO BE SHOT PEENED: BEARING SURFACE OF HEAD, HEAD-TO-SHANK FILLET, SHANK, AND THREAD RUNOUT. CHROMIUM PLATED BOLTS NOT AVAILABLE WITH GRIP DASH NUMBERS 1 OR 2.

(10) CODE G - ALL REQUIREMENTS IDENTICAL TO CODE E EXCEPT DELETE REQUIREMENT FOR CADMIUM PLATING OF NON-CHROME PLATED SURFACES AND ADD THE FOLLOWING REQUIREMENT: PASSIVATE ENTIRE BOLT PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4 AFTER CHROMIUM PLATING.

ALUMINUM COATED – ALUMINUM COAT PER NAS4006.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209

CODE:

NO FINISH CODE AFTER BASIC NUMBER FOR CADMIUM PLATED BOLTS.

ADD "A" AFTER BASIC NUMBER FOR ALUMINUM COATED BOLT. MAY BE USED WITH "D", "H", "L", OR "P" CODE.

(10) ADD "B" AFTER BASIC NUMBER FOR BOLTS, PASSIVATED IN ACCORDANCE WITH AMS2700 METHOD 2 - WITHOUT POST TREATMENT. MAY BE USED WITH "D", "H", "L", OR "P" CODE.

ADD "C" AFTER BASIC NUMBER FOR CHROMIUM PLATED BOLTS NOT REQUIRING SHOT PEENING. SURFACES NOT CHROME PLATED ARE CADMIUM PLATED. DO NOT USE WITH "A, "E", "U", OR "G" CODES.

ADD "D" AFTER BASIC NUMBER FOR DRILLED SHANK BOLTS. DO NOT USE WITH "L" OR "P" CODE. /18/

ADD "E" AFTER BASIC NUMBER FOR CHROMIUM PLATED BOLTS WITH MANDATORY SHOT PEENING. SURFACES NOT CHROMIUM PLATED ARE CADMIUM PLATED. DO NOT USE WITH "A", "C", "U", OR "G" CODES.

(10) ADD "G" AFTER BASIC NUMBER FOR CHROMIUM PLATED BOLTS WITH MANDATORY SHOT PEENING. SURFACES NOT CHROMIUM PLATED ARE PASSIVATED PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4 ONLY. DO NOT USE WITH "A", "C", "U", OR "E" CODES.

ADD "H" AFTER BASIC NUMBER FOR BOLT WITH DRILLED HEAD.

ADD "L" AFTER BASIC NUMBER FOR SELF-LOCKING BOLT WITH LOCKING ELEMENT TYPE OPTIONAL; SEE PROCUREMENT SPEC BELOW. DO NOT USE "L" WITH "D" OR "P" CODE.

(10) ADD "M" AFTER BASIC NUMBER FOR BOLTS, PASSIVATED IN ACCORDANCE WITH AMS2700 METHOD 1, TYPE 8, CLASS 4 - WITHOUT POST TREATMENT. MAY BE USED WITH "D", "H", "L", OR "P" CODE.

ADD "P" AFTER BASIC NUMBER FOR SELF-LOCKING BOLT WITH PATCH TYPE LOCKING ELEMENT ONLY; SEE PROCUREMENT SPEC BELOW. DO NOT USE "P" WITH "D" OR "L" CODE.

(10) ADD "U" AFTER BASIC NUMBER FOR BOLTS, PASSIVATED PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4. MAY BE USED WITH "D", "H", "L", OR "P" CODE.

GRIP DASH NUMBER INDICATES GRIP IN .0625 INCREMENTS (CONVERTED TO THREE DECIMAL PLACES PER ANSI Y14.5-1982). SEE TABLE II FOR TABULATIONS OF GRIP AND LENGTH DIMENSIONS. /17/

CODE LETTER "X" AND "Y" FOLLOWING THE GRIP DASH NUMBER INDICATES REPLACEMENT OVERSIZE REPAIR BOLT. (SEE LAST SHEET)

IF MORE THAN ONE CODE LETTER IS USED IN SEQUENCE, ARRANGE THE LETTERS ALPHABETICALLY.

EXAMPLE OF PART NUMBER: (SEE LAST SHEET FOR OVERSIZE BOLTS.)

NAS6704-10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, NONLOCKING, CADMIUM PLATED.
NAS6704A10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, NONLOCKING, ALUMINUM COATED.
(10) NAS6704B10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, NONLOCKING, PASSIVATED PER AMS2700, METHOD 2 - WITHOUT POST TREATMENT.
NAS6704D10	=	BOLT, .2500-28 THREAD, .625 GRIP, DRILLED SHANK, UNDRILLED HEAD, NONLOCKING, CADMIUM PLATED.
NAS6704H10	=	BOLT, .2500-28 THREAD, .625 GRIP, DRILLED HEAD, UNDRILLED SHANK, NONLOCKING, CADMIUM PLATED.
NAS6704DH10	=	BOLT, .2500-28 THREAD, .625 GRIP, DRILLED SHANK, DRILLED HEAD, NONLOCKING, CADMIUM PLATED.
NAS6704L10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, SELF-LOCKING (LOCKING TYPE OPTIONAL; SEE PROCUREMENT SPEC BELOW), CADMIUM PLATED.
NAS6704P10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, SELF-LOCKING (PATCH TYPE; SEE PROCUREMENT SPEC BELOW), CADMIUM PLATED.
NAS6704PU10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, SELF-LOCKING (PATCH TYPE; SEE PROCUREMENT SPEC BELOW), PASSIVATED PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4.
(10) NAS6704C10	=	BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, CHROMIUM PLATED WITHOUT MANDATORY SHOT PEENING. SURFACES NOT CHROMIUM PLATED ARE CADMIUM PLATED.

NAS6704E10 = BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, CHROMIUM PLATED, WITH MANDATORY SHOT PEENING, SURFACES NOT CHROMIUM PLATED ARE CADMIUM PLATED.

NAS6704G10 = BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, CHROMIUM PLATED, WITH MANDATORY SHOT PEENING, SURFACES NOT CHROMIUM PLATED ARE PASSIVATED PER AMS2700, METHOD 1, TYPE 2 OR TYPE 8, CLASS 4. (10)

NAS6704MP10 = BOLT, .2500-28 THREAD, .625 GRIP, UNDRILLED, SELF-LOCKING (PATCH TYPE), PASSIVATED PER AMS2700, METHOD 1, TYPE 8, CLASS 4 - WITHOUT POST TREATMENT. (10)

NOTES:

/1/ GRIP LENGTH: FROM UNDER SIDE OF HEAD TO END OF FULL CYLINDRICAL PORTION OF SHANK.

/2/ BEARING SURFACE SQUARENESS: WITHIN .003 FIM OF "ØD".

/3/ "ØC" MAX NOT TO EXCEED ACTUAL WIDTH ACROSS FLATS; MIN AS TABULATED IN TABLE I.

/4/ "ØP" HOLE CENTERLINE WITHIN .010 AND NORMAL WITHIN 2° OF BOLT CENTERLINE.

/5/ REFERENCE DIMENSIONS ARE FOR DESIGN PURPOSES ONLY AND ARE NOT AN INSPECTION REQUIREMENT.

/6/ CONCENTRICITY: "ØC" AND "ØD" WITHIN "X" VALUES FIM. "ØD" AND MAJOR THREAD DIA WITHIN Y VALUES FIM.

/7/ SHANK STRAIGHTNESS: WITHIN "Z" VALUES FIM PER INCH OF LENGTH.

/8/ TOP OF HEAD SHALL BE FLAT ON THE 1.1250-12 AND 1.2500-12 SIZE BOLTS.

/9/ PROTRUSION OF LOCKING ELEMENT SHALL BE CONTROLLED SO THAT IT WILL PASS FREELY, OR WITH FINGER PRESSURE, THROUGH A RING GAGE WITH DIAMETER OF .010 (+.001, -.000) GREATER THAN MAXIMUM MAJOR DIAMETER OF BOLT THREAD.

/10/ "F" MIN (5 THREAD PITCHES) = REGION OF MINIMUM ENGAGEMENT WITH FEMALE THREAD REQUIRED TO MEET MIL-DTL-18240 REQUIREMENTS. LOCKING ELEMENT WITHIN "F" REGION MUST DEVELOP REQUIRED TORQUE WHEN TESTED PER MIL-DTL-18240.

/11/ FOR EASE IN STARTING, LOCKING ELEMENT SHALL NOT BE EFFECTIVE IN "J" AREA (3 THREAD PITCHES).

(12) MAGNETIC PERMEABILITY SHALL BE LESS THAN 2.0 (AIR = 1.0) FOR A FIELD STRENGTH H = 200 OERSTEDS USING A MAGNETIC PERMEABILITY INDICATOR PER ASTM A 342/A 342M, TEST METHOD 3.

/13/ FOR CHROMIUM PLATED PARTS, THE CYLINDER DESCRIBED BY THE THREAD MAJOR DIAMETER (DIMENSION "ØTD") MUST FALL WITHIN THE CYLINDER DESCRIBED BY THE SHANK DIAMETER (DIMENSION "ØD, PLATED OR COATED").

/14/ LOCKWIRE HOLES SHALL BE DRILLED WITHIN .010 OF CENTER OF HEX FLAT WHEN SPECIFIED BY PART NUMBER.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209

/15/ HEAD MARKING: BASIC NUMBER PLUS GRIP DASH NUMBER PLUS "D", "L", OR "P", WHEN APPLICABLE, PLUS MANUFACTURER'S SYMBOL, RAISED OR DEPRESSED .010 MAX. ARRANGEMENT OPTIONAL.
"D" IDENTIFIES BOLT WITH DRILLED SHANK.
"L" IDENTIFIES BOLT WITH LOCKING ELEMENT (OPTIONAL TYPE).
"P" IDENTIFIES BOLT WITH PATCH TYPE LOCKING ELEMENT ONLY.
(10) "A" ALUMINUM COATED, "C" CHROME PLATED AND "U", "B" AND "M" PASSIVATED PER AMS2700 CODES NEED NOT APPEAR ON BOLT HEAD.

(16) SURFACE TEXTURE: "ØD", HEAD-TO-SHANK FILLET, BEARING SURFACE OF HEAD, THREAD FLANKS AND THREAD ROOT: 32 MICROINCHES Ra; ALL OTHER SURFACES: 125 MICROINCHES Ra PER ASME B46.1.

/17/ INTERMEDIATE OR LONGER LENGTHS MAY BE SPECIFIED BY THE USE OF WHOLE GRIP DASH NUMBERS ONLY. NOMINAL LENGTH EQUALS NOMINAL GRIP PLUS "T".

/18/ IF REQUIRED, TENSILE TESTING OF BOLTS REQUIRING CROSS-DRILLED THREADS SHALL BE PERFORMED PRIOR TO DRILLING AND THE APPLICATION OF PLATING AND/OR COATINGS. WHEN BOLTS HAVE BEEN DRILLED, STRENGTH MAY BE VERIFIED BY SHEAR TESTING, IN LIEU OF TENSILE TESTING, IN ACCORDANCE WITH NASM1312. USERS SHOULD BE AWARE THAT FASTENERS WITH CROSS-DRILLED THREADS MAY EXHIBIT A REDUCTION IN TENSILE STRENGTH.

/19/ THE EFFECT OF COLD WORK AND AGING INDUCED DURING THE MANUFACTURING CYCLE MAY INCREASE THE ULTIMATE TENSILE STRENGTH OF THE FINISHED PART, BUT ANY PART (TYPE I, II OR III AS LISTED IN NAS4003) SHALL NOT EXCEED 1.3 TIMES THE SPECIFIED TYPE I MINIMUM TENSILE VALUES AS LISTED IN NAS4003 TABLE III.

(20) DIMENSIONS TO BE MET AFTER PLATING.

(21) DIMENSIONS IN INCHES.

(22) REMOVE ALL BURRS AND SHARP EDGES.

(23) THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

(24) REFERENCED DOCUMENTS SHALL BE THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

(25) UNLESS OTHERWISE SPECIFIED, PART INVENTORY MANUFACTURED TO PREVIOUS REVISIONS OF THE APPLICABLE DRAWING OR SPECIFICATION MAY BE PROCURED AND USED UNTIL STOCK IS DEPLETED.

PROCUREMENT SPECIFICATION: NAS4003, EXCEPT AS NOTED. COLD WORK OF HEAD TO SHANK FILLET RADIUS AND FATIGUE TESTING ARE NOT REQUIRED FOR NAS6703 BOLTS. LOCKING ELEMENT FOR SELF-LOCKING BOLTS: PER NASM15981 AND MIL-DTL-18240, LOCKING ELEMENT TYPE, INCLUDING PATCH TYPE, IS OPTIONAL WHEN "L" CODE IS SPECIFIED. PATCH TYPE LOCKING ELEMENT (WITH NO METAL REMOVED) IS REQUIRED WHEN "P" CODE IS SPECIFIED. LOCKING ELEMENT MUST BE SUPPLIED BY A QUALIFIED SOURCE LISTED IN QPL-18240 OR APPROVED FOR LISTING IN QPL-18240. SHIPPING NOTICE SHOULD IDENTIFY SUPPLIER OF BOLT AND LOCKING ELEMENT SEPARATELY.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209

TABLE II – GRIP AND LENGTH DIMENSIONS (CONTINUED ON NEXT PAGE)

GRIP DASH NO.	GRIP ±.010	LENGTH ±.015 /17/ BASIC NUMBER AND THREAD SIZE						
		NAS6703 .1900-32	NAS6704 .2500-28	NAS6705 .3125-24	NAS6706 .3750-24	NAS6707 .4375-20	NAS6708 .5000-20	NAS6709 .5625-18
1	.062	.407	.487	.531	.640	.756	.797	.902
2	.125	.470	.550	.594	.703	.819	.860	.965
3	.188	.533	.613	.657	.766	.882	.923	1.028
4	.250	.595	.675	.719	.828	.944	.985	1.090
5	.312	.657	.737	.781	.890	1.006	1.047	1.152
6	.375	.720	.800	.844	.953	1.069	1.110	1.215
7	.438	.783	.863	.907	1.016	1.132	1.173	1.278
8	.500	.845	.925	.969	1.078	1.194	1.235	1.340
9	.562	.907	.987	1.031	1.140	1.256	1.297	1.402
10	.625	.970	1.050	1.094	1.203	1.319	1.360	1.465
11	.688	1.033	1.113	1.157	1.266	1.382	1.423	1.528
12	.750	1.095	1.175	1.219	1.328	1.444	1.485	1.590
13	.812	1.157	1.237	1.281	1.390	1.506	1.547	1.652
14	.875	1.220	1.300	1.344	1.453	1.569	1.610	1.715
15	.938	1.283	1.363	1.407	1.516	1.632	1.673	1.778
16	1.000	1.345	1.425	1.469	1.578	1.694	1.735	1.840
17	1.062	1.407	1.487	1.531	1.640	1.756	1.797	1.902
18	1.125	1.470	1.550	1.594	1.703	1.819	1.860	1.965
19	1.188	1.533	1.613	1.657	1.766	1.882	1.923	2.028
20	1.250	1.595	1.675	1.719	1.828	1.944	1.985	2.090
21	1.312	1.657	1.737	1.781	1.890	2.006	2.047	2.152
22	1.375	1.720	1.800	1.844	1.953	2.069	2.110	2.215
23	1.438	1.783	1.863	1.907	2.016	2.132	2.173	2.278
24	1.500	1.845	1.925	1.969	2.078	2.194	2.235	2.340
25	1.562	1.907	1.987	2.031	2.140	2.256	2.297	2.402
26	1.625	1.970	2.050	2.094	2.203	2.319	2.360	2.465
27	1.688	2.033	2.113	2.157	2.266	2.382	2.423	2.528
28	1.750	2.095	2.175	2.219	2.328	2.444	2.485	2.590
29	1.812	2.157	2.237	2.281	2.390	2.506	2.547	2.652
30	1.875	2.220	2.300	2.344	2.453	2.569	2.610	2.715
31	1.938	2.283	2.363	2.407	2.516	2.632	2.673	2.778
32	2.000	2.345	2.425	2.469	2.578	2.694	2.735	2.840
34	2.125	2.470	2.550	2.594	2.703	2.819	2.860	2.965
36	2.250	2.595	2.675	2.719	2.828	2.944	2.985	3.090
38	2.375	2.720	2.800	2.844	2.953	3.069	3.110	3.215
40	2.500	2.845	2.925	2.969	3.078	3.194	3.235	3.340
42	2.625	2.970	3.050	3.094	3.203	3.319	3.360	3.465
44	2.750	3.095	3.175	3.219	3.328	3.444	3.485	3.590
46	2.875	3.220	3.300	3.344	3.453	3.569	3.610	3.715
48	3.000	3.345	3.425	3.469	3.578	3.694	3.735	3.840
50	3.125	3.470	3.550	3.594	3.703	3.819	3.860	3.965
52	3.250	3.595	3.675	3.719	3.828	3.944	3.985	4.090
54	3.375	3.720	3.800	3.844	3.953	4.069	4.110	4.215
56	3.500	3.845	3.925	3.969	4.078	4.194	4.235	4.340
58	3.625	3.970	4.050	4.094	4.203	4.319	4.360	4.465
60	3.750	4.095	4.175	4.219	4.328	4.444	4.485	4.590
62	3.875	4.220	4.300	4.344	4.453	4.569	4.610	4.715
64	4.000	4.345	4.425	4.469	4.578	4.694	4.735	4.840

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209

TABLE II – GRIP AND LENGTH DIMENSIONS (CONTINUED)

GRIP DASH NO.	GRIP ±.010	LENGTH ±.015 /17/ BASIC NUMBER AND THREAD SIZE					
		NAS6710 .6250-18	NAS6712 .7500-16	NAS6714 .8750-14	NAS6716 1.0000-12	NAS6718 1.1250-12	NAS6720 1.2500-12
1	.062	.964	1.103	1.246	1.371	1.520	1.708
2	.125	1.027	1.166	1.309	1.434	1.583	1.771
3	.188	1.090	1.229	1.372	1.497	1.646	1.834
4	.250	1.152	1.291	1.434	1.559	1.708	1.896
5	.312	1.214	1.353	1.496	1.621	1.770	1.958
6	.375	1.277	1.416	1.559	1.684	1.833	2.021
7	.438	1.340	1.479	1.622	1.747	1.896	2.084
8	.500	1.402	1.541	1.684	1.809	1.958	2.146
9	.562	1.464	1.603	1.746	1.871	2.020	2.208
10	.625	1.527	1.666	1.809	1.934	2.083	2.271
11	.688	1.590	1.729	1.872	1.997	2.146	2.334
12	.750	1.652	1.791	1.934	2.059	2.208	2.396
13	.812	1.714	1.853	1.996	2.121	2.270	2.458
14	.875	1.777	1.916	2.059	2.184	2.333	2.521
15	.938	1.840	1.979	2.122	2.247	2.396	2.584
16	1.000	1.902	2.041	2.184	2.309	2.458	2.646
17	1.062	1.964	2.103	2.246	2.371	2.520	2.708
18	1.125	2.027	2.166	2.309	2.434	2.583	2.771
19	1.188	2.090	2.229	2.372	2.497	2.646	2.834
20	1.250	2.152	2.291	2.434	2.559	2.708	2.896
21	1.312	2.214	2.353	2.496	2.621	2.770	2.958
22	1.375	2.277	2.416	2.559	2.684	2.833	3.021
23	1.438	2.340	2.479	2.622	2.747	2.896	3.084
24	1.500	2.402	2.541	2.684	2.809	2.958	3.146
25	1.562	2.464	2.603	2.746	2.871	3.020	3.208
26	1.625	2.527	2.666	2.809	2.934	3.083	3.271
27	1.688	2.590	2.729	2.872	2.997	3.146	3.334
28	1.750	2.652	2.791	2.934	3.059	3.208	3.396
29	1.812	2.714	2.853	2.996	3.121	3.270	3.458
30	1.875	2.777	2.916	3.059	3.184	3.333	3.521
31	1.938	2.840	2.979	3.122	3.247	3.396	3.584
32	2.000	2.902	3.041	3.184	3.309	3.458	3.646
34	2.125	3.027	3.166	3.309	3.434	3.583	3.771
36	2.250	3.152	3.291	3.434	3.559	3.708	3.896
38	2.375	3.277	3.416	3.559	3.684	3.833	4.021
40	2.500	3.402	3.541	3.684	3.809	3.958	4.146
42	2.625	3.527	3.666	3.809	3.934	4.083	4.271
44	2.750	3.652	3.791	3.934	4.059	4.208	4.396
46	2.875	3.777	3.916	4.059	4.184	4.333	4.521
48	3.000	3.902	4.041	4.184	4.309	4.458	4.646
50	3.125	4.027	4.166	4.309	4.434	4.583	4.771
52	3.250	4.152	4.291	4.434	4.559	4.708	4.896
54	3.375	4.277	4.416	4.559	4.684	4.833	5.021
56	3.500	4.402	4.541	4.684	4.809	4.958	5.146
58	3.625	4.527	4.666	4.809	4.934	5.083	5.271
60	3.750	4.652	4.791	4.934	5.059	5.208	5.396
62	3.875	4.777	4.916	5.059	5.184	5.333	5.521
64	4.000	4.902	5.041	5.184	5.309	5.458	5.646

RESTRICTED USAGE: FOR REPAIR WORK ONLY

.0156 AND .0312 OVERSIZE SHANK FOR REPLACEMENT OF BOLTS SHOWN ON SHEET 1

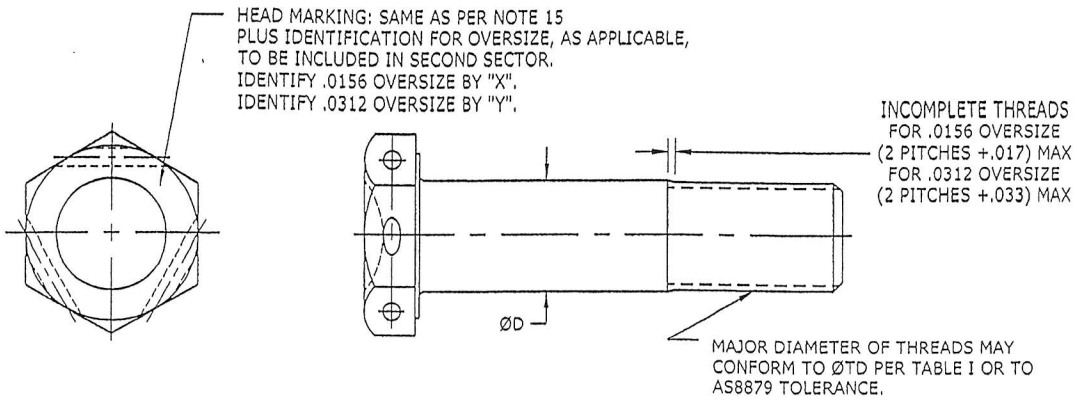

FIGURE 2 – OVERSIZE BOLT CONFIGURATION
(SEE SHEETS 1 THRU 6 FOR MATERIAL, FINISH, PROCUREMENT INFORMATION AND DIMENSIONS NOT SHOWN.)

TABLE III – OVERSIZE PART NUMBERS AND DIMENSIONS

PART NUMBER EXAMPLES (FOR CADMIUM PLATED, NON-LOCKING, UNDRILLED SHANK)		NOMINAL THREAD SIZE	ØD, .0156 OVERSIZE SHANK			
DRILLED HEAD	UNDRILLED HEAD		UNPLATED BOLTS		PLATED OR COATED BOLTS	
			MAX	MIN	MAX	MIN
NAS6703H*X	NAS6703-*X	.1900-32	.2026	.2021	.2026	.2016
NAS6704H*X	NAS6704-*X	.2500-28	.2651	.2646	.2651	.2641
NAS6705H*X	NAS6705-*X	.3125-24	.3276	.3271	.3276	.3266
NAS6706H*X	NAS6706-*X	.3750-24	.3901	.3896	.3901	.3891
NAS6707H*X	NAS6707-*X	.4375-20	.4526	.4521	.4526	.4516
NAS6708H*X	NAS6708-*X	.5000-20	.5151	.5146	.5151	.5141
NAS6709H*X	NAS6709-*X	.5625-18	.5771	.5766	.5771	.5761
NAS6710H*X	NAS6710-*X	.6250-18	.6396	.6391	.6396	.6386
NAS6712H*X	NAS6712-*X	.7500-16	.7646	.7641	.7646	.7636
NAS6714H*X	NAS6714-*X	.8750-14	.8896	.8891	.8896	.8886
NAS6716H*X	NAS6716-*X	1.0000-12	1.0146	1.0141	1.0146	1.0136
NAS6718H*X	NAS6718-*X	1.1250-12	1.1396	1.1386	1.1396	1.1381
NAS6720H*X	NAS6720-*X	1.2500-12	1.2646	1.2636	1.2646	1.2631
			ØD, .0312 OVERSIZE SHANK			
NAS6703H*Y	NAS6703-*Y	.1900-32	.2182	.2177	.2182	.2172
NAS6704H*Y	NAS6704-*Y	.2500-28	.2807	.2802	.2807	.2797
NAS6705H*Y	NAS6705-*Y	.3125-24	.3432	.3427	.3432	.3422
NAS6706H*Y	NAS6706-*Y	.3750-24	.4057	.4052	.4057	.4047
NAS6707H*Y	NAS6707-*Y	.4375-20	.4682	.4677	.4682	.4672
NAS6708H*Y	NAS6708-*Y	.5000-20	.5307	.5302	.5307	.5297
NAS6709H*Y	NAS6709-*Y	.5625-18	.5927	.5922	.5927	.5917
NAS6710H*Y	NAS6710-*Y	.6250-18	.6552	.6547	.6552	.6542
NAS6712H*Y	NAS6712-*Y	.7500-16	.7802	.7797	.7802	.7792
NAS6714H*Y	NAS6714-*Y	.8750-14	.9052	.9047	.9052	.9042
NAS6716H*Y	NAS6716-*Y	1.0000-12	1.0302	1.0297	1.0302	1.0292
NAS6718H*Y	NAS6718-*Y	1.1250-12	1.1552	1.1542	1.1552	1.1537
NAS6720H*Y	NAS6720-*Y	1.2500-12	1.2802	1.2792	1.2802	1.2787

* = GRIP DASH NUMBER IN .0625 INCREMENTS.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC
1000 WILSON BLVD.
ARLINGTON, VA 22209