

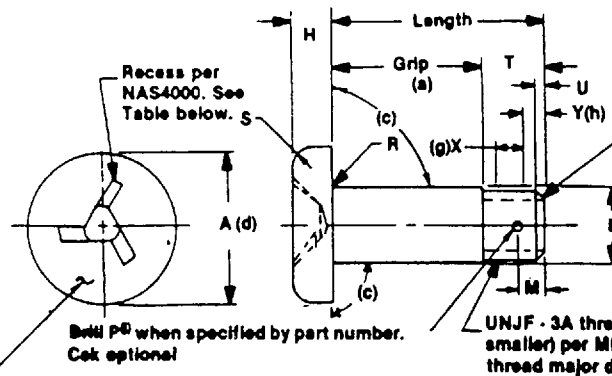


**Aerospace
Industries
Association**

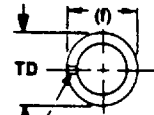
NATIONAL AEROSPACE STANDARD

© COPYRIGHT 1996 AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC. ALL RIGHTS RESERVED

FED. SUP CLASS
5306



Point shall be flat and chamfered.
See procurement specification for details.



Locking element when specified by part number.

UNJF - 3A threads (except UNJC-3A for .1640-32 and smaller) per MIL-S-8878 except for reduction of thread major diameter per "TD"

Head marking shall be raised or depressed (.010 max) and arranged as follows:

- First Sector** - Mark with basic part number ("NAS" optional) except mark .1120-40 size with "4", .1380-32 size with "6", .1640-32 size with "8" and (optional) .1900-32 size with "10".
- Second Sector** - Mark with manufacturer's symbol or trademark (symbol location optional in any sector), grip dash number and "L" or "p", when applicable. "L" identifies bolts with optional locking element. "p" identifies bolts with patch type locking element only.
- Third Sector** - Mark with recess dash number encircled. Recess number should be approximately 25% larger than other numerals in head marking.

BASIC NUMBER	Nom Thread Size	A Dia	D Dia		H	M ±.010	PD +.005 - .000	R	S	T (Ref) (b)	TD	U Max	X (g)	Y (h)
			Before Plate	After Plate										
NAS0000	.1120-40	.218 .206	.1187 .1101	.1115 .1106	.068 .066			.018	.031 .041	.238	.1886 .1886	.031	.125	.076
NAS0001	.1380-32	.278 .266	.1367 .1261	.1375 .1366	.098 .074			.066	.043 .063	.276	.1340 .1316			
NAS0002	.1640-32	.338 .306	.1627 .1621	.1636 .1625	.102 .098				.080 .090	.323	.1886 .1876	.038	.156	.084
NAS0003	.1900-32	.373 .367	.1867 .1861	.1886 .1886	.118 .163	.164	.070	.068 .018	.064 .064	.323	.1848 .1816			
NAS0004	.1900-32	.373 .367	.1867 .1861	.1886 .1886	.118 .103	.164	.070		.064 .064	.323	.1848 .1816			
NAS0005	.1900-32	.373 .367	.1867 .1861	.1886 .1886	.118 .103	.164	.070		.064 .064	.323	.1848 .1816			
NAS0006	.2080-28	.482 .473	.2487 .2481	.2486 .2486	.150 .133	.170	.076		.076 .086	.370	.2448 .2416	.046	.178	.107
NAS0007	.2125-24	.515 .504	.3112 .3108	.3120 .3110	.183 .162	.182	.076		.188 .118	.436	.2080 .2028	.062	.308	.125
NAS0008	.2750-24	.740 .716	.3737 .3731	.3748 .3738	.218 .181	.183	.106	.026 .016	.144 .164	.464	.2680 .2648			

BASIC NUMBER	AA (g)	BB (h)	Recess Number
NAS0000 NAS0001 NAS0002 NAS0003	.0045	.0640	NAS4000-2 NAS4000-3 NAS4000-4 NAS4000-5
NAS0004 NAS0005 NAS0006			NAS4000-6 NAS4000-7 NAS4000-8
NAS0007		.0630	NAS4000-4
NAS0008		.0625	NAS4000-8

LIST OF CURRENT SHEETS	
NO.	REV.
1	7
2	6
3	2
4	4

**INACTIVE FOR NEW DESIGN
AFTER JANUARY 1, 1986
NO SUPERSEDING STANDARD**

⑦ FOR DESCRIPTION OF STATUS NOTES SEE NAS380

CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE		THIRD ANGLE PROJECTION
PROCUREMENT SPECIFICATION	TITLE	CLASSIFICATION
NOTED ON SHEET 2	⑦ BOLT, PAN HEAD, CLOSE TOLERANCE, SHORT THREAD, TRI-SLOT RECESS, ALLOY STEEL, SELF-LOCKING AND NONLOCKING	STANDARD PART
		NAS 5000 THRU 5006
		SH 1 OF 4

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N.W., WASHINGTON, D. C. 20036

© COPYRIGHT 1996 AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC. ALL RIGHTS RESERVED

MATERIAL: Alloy Steel per Procurement Specification, Locking element - plastic per MIL-F-18240 and QPL18240.

HEAT TREAT: Develop basic material properties as follows with controls per MIL-H-6875; 160 - 180 KSI Ft_u, 95 KSI FSU per MIL-H-6875.

FINISH: Cadmium plate per QQ-P-416, Type II, Class 2. Parts plated to Class 3 may be used until stock depleted. Embrittlement requirements per NAS4002.
Black bolts, Code "B" - Cadmium plate, as described above, with dull black chromate treatment.

Chromium Plate - Chromium plate per QQ-P-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. Not required for -1 or -2 grips.

CODE: Dash number indicates grip in .0625 increments. See Sheet 3 for tabulation of grip and length dimensions. Add "B" after basic part number for black bolts. May be used with "D," "L," or "P" codes. Add "C" after basic number for chromium plated bolts. May be used with "D," "L," and "P" codes. Add "D" after basic number for drilled shank. Add "L" after basic part number for self-locking bolts, optional configuration. Add "P" after basic part number for self-locking bolts, patch type.
Add "J" as the fifth digit in basic four-digit part number for the deep number 4 recess.

Examples of part numbers:

NAS5003-10 = Bolt, .1900-32 thread, .625 grip, nonlocking.
NAS5003B10 = Bolt, .1900-32 thread, .625 grip, nonlocking, black color.
NAS5003L10 = Bolt, .1900-32 thread, .625 grip, self-locking, optional configuration
NAS5003P10 = Bolt, .1900-32 thread, .625 grip, self-locking, patch type
NAS5003JB10 = Bolt, .1900-32 thread, .625 grip, nonlocking, black color 4J recess.

- NOTES: (a) Grip length of bolt shall be measured from the underside of head to the end of the full cylindrical portion of the shank.
(b) Reference dimensions are for design purposes only, not an inspection requirement.
(c) Bearing surface squareness: Within .003 FIM of shank diameter.
(d) Concentricity: Outside diameter "A" to "D" diameter within .008 FIM;
"D" diameter to thread pitch diameter within "AA" values.
(e) Shank straightness: Within "BB" values FIM per inch of length.
(f) 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 screw thread.
(g) "X" minimum (5 thread pitches) = region of minimum engagement of female thread required to meet MIL-F-18240 requirements. Locking element within "X" region must develop required torque when tested per MIL-F-18240.
(h) For ease of starting, locking element shall not be effective in "Y" area (3 thread pitches).
(j) Cotter pin hole centerline within .010 and normal within 2° of bolt centerline.
(i) 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 MIL-STD-1312. Users should be aware that fasteners with cross-drilled threads may exhibit a reduction in tensile strength.

SURFACE TEXTURE: (AA max per ANSI/ASME B46.1) "D" dia, bearing surface of head, thread flanks and thread root 32;
other surfaces 125.
Dimensions to be met after plating or coating.
Dimensions in inches.

PROCUREMENT SPECIFICATION: NAS4002, except as noted. Cold working of head to shank fillet is not required for NAS5000 thru 5003 bolts. Locking element for self-locking bolts: per MS15061 and MIL-F-18240. Any type of configuration of locking element 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 QPL18240 or approved for listing in QPL18240. Shipping notice should identify supplier of screw and locking element separately.

INACTIVE FOR NEW DESIGN
AFTER JANUARY 1, 1986
NO SUPERSEDING STANDARD

NAS 5000 THRU 5006
Documents
Sharing Hub

29 March 1996

6

15 August 1985

5

5 MARCH 1980

4

17 Dec. 1979

3

15 Feb. 1972

2

16 March 1970

1

REVISION

Dec. 1968

APPROVAL DATE

THIS DRAWING SUPERSEDES ALL ANTECEDENT STANDARD DRAWINGS FOR THE SAME PRODUCT AND SHALL BECOME EFFECTIVE NO LATER THAN SIX MONTHS FROM THE LAST DATE OF APPROVAL SHOWN HEREON.