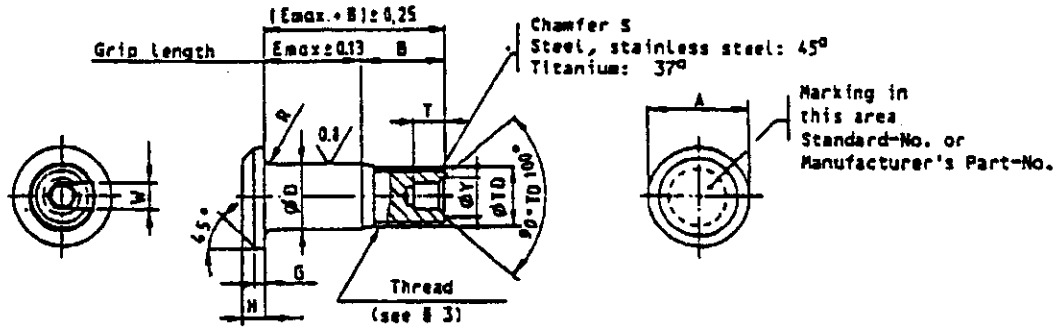
Dimensions in inches and millimeters

Index

1. General

Apart from the customary definition of nuts and bolts (geometry, part number, materials ...), this document defines the mechanical data specific to each bolt and the normal conditions of application. This data is that which is checked on acceptance according to the general procedure and the methods defined by IGC 04.43.117.



2. Manufacturer: HI-SHEAR HL756JB

3. Thread

Rolled thread per MIL-S-8879 except for outer diameter which is equal to TD diameter.

Approved AIRBUS-INDUSTRIE	Title	Classification
	BOLT - MEDIUM HEAD, FLAT, STEEL ALLOY, TITANIUM	ASNA2004
	Issue: 3/81 Revision: (1) 9/82 3 12/98	Page 01 of 04

Published and distributed by: AIRBUS-INDUSTRIE
31700 BLAGNAC
FRANCE

4. Tolerances

Coaxiality tolerances of diameters D and A: 0.254 (TCR) a)

5. Surface condition

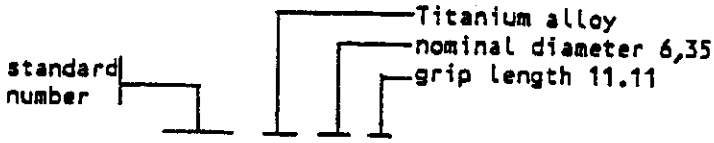
Per ANSI 846.1

6. Coded part number

The part number for these bolts is made up of the standard number ASN-A 2004 followed by:

- material, protection, lubrication codes (see § 8)
- diameter code (see § 7)
- grip length code (see § 9)

Part number to be used in parts lists on drawings:



7. Dimensions

Nominal diameter		Diameter Code	Thread	A				B		D			
				Titanium steel alloy		stainless steel		part no.		Titanium steel alloy		stainless steel	
in	mm		Class 3A	in	mm	in	mm	in	mm	in	mm	in	mm
5/32	3,96	- 2	1640-32UNJC	.322 .306	8,17 7,77			.312	7,92	.1635 .1625	4,152 4,127		
3/16	4,76	- 3	1900-32UNJF	.377 .357	9,57 9,07			.325	8,26	.1895 .1885	4,813 4,788		
1/4	6,35	- 4	2500-28UNJF	.440 .415	11,17 10,54			.395	10,03	.2495 .2485	6,337 6,312		
5/16	7,94	- 5	3125-24UNJF	.505 .475	12,82 12,07			.500	12,75	.3120 .3110	7,925 7,899		
3/8	9,52	- 6	3750-24UNJF	.600 .530	15,24 13,46			.545	13,84	.3745 .3735	9,512 9,487		
7/16	11,11	- 7	4375-20UNJF	.676 .592	17,17 15,04			.635	16,13	.4370 .4360	11.100 11.074		
1/2	12,70	- 8	5000-20UNJF	.770 .717	19,56 18,21			.685	17,40	.4995 .4985	12,687 12,662		
9/16	14,29	- 9	5625-18UNJF	.877 .842	22,27 21,39			.770	19,56	.5615 .5605	14,262 14,237		
5/8	15,38	- 10	6250-18UNJF	.953 .905	24,20 22,99			.825	20,96	.6240 .6230	15,850 15,824		
3/4	19,05	- 12	7500-16UNJF	1.150 1.110	29,21 28,19			1.050	26,67	.7490 .7480	19,024 18,999		

a) TCR total comparator reading

Published and distributed by: AIRBUS-INDUSTRIE
31700 BLAGNAC
FRANCE

Diameter Code	T3		G part number Titanium steel alloy				H steel alloy		H titanium		R		S part number		T	
			in		in		in		in		in		in		in	
- 2	.1395 .1370	4,061 3,988	.030	0,74			.060 .055	1,52 1,40	.060 .055	1,52 1,40	.025 .015	0,63 0,38	1/32	0,79	.138 .115	3,43 2,92
- 3	.1840 .1810	4,673 4,567	.036	0,89			.074 .064	1,88 1,63	.074 .064	1,88 1,63	.025 .015	0,63 0,38	1/32	0,79	.138 .115	3,43 2,92
- 4	.2420 .2410	6,197 6,122	.045	1,14			.090 .077	2,28 1,98	.090 .080	2,28 2,03	.025 .015	0,63 0,38	1/32	0,79	.138 .138	3,51 3,30
- 5	.3060 .3020	7,772 7,671	.055	1,40			.112 .098	2,84 2,49	.112 .102	2,84 2,59	.030 .020	0,76 0,51	3/64	1,19	.170 .153	4,32 3,81
- 6	.3680 .3640	9,347 9,246	.075	1,90			.140 .130	3,55 3,30	.140 .130	3,55 3,30	.030 .020	0,76 0,51	3/64	1,19	.200 .180	5,08 4,57
- 7	.4310 .4280	10,947 10,820	.095	2,41			.160 .150	4,06 3,81	.160 .150	4,06 3,81	.030 .020	0,76 0,51	3/64	1,19	.230 .210	5,84 5,33
- 8	.4930 .4880	12,522 12,396	.095	2,41			.188 .178	4,77 4,52	.188 .178	4,77 4,52	.030 .020	0,76 0,51	3/64	1,19	.260 .240	6,60 6,10
- 9	.5580 .5600	14,097 13,970	.125	3,18			.210 .200	5,33 5,08	.210 .200	5,33 5,08	.040 .025	1,01 0,64	1/16	1,59	.290 .270	7,36 6,84
- 10	.6140 .6120	15,697 15,545	.140	3,55			.238 .228	6,04 5,79	.238 .228	6,04 5,79	.040 .025	1,01 0,64	1/16	1,59	.330 .305	8,38 7,75
- 12	.7430 .7370	18,87 18,72	.200	5,08			.335 .320	8,51 8,13	.335 .320	8,51 8,13	.045 .030	1,14 0,76	1/16	1,59	.395 .365	10,03 9,27

Diameter code	W steel alloy		W Titanium		Y	
	in		in		in	
- 2	.0801 .0791	2,03 2,01	.0645 .0633	1,63 1,61	.090 .075	2,28 1,90
- 3	.0806 .0791	2,04 2,01	.0806 .0791	2,04 2,01	.119 .104	3,02 2,64
- 4	.0967 .0947	2,44 2,41	.0967 .0947	2,45 2,41	.142 .122	3,60 3,10
- 5	.1295 .1270	3,29 3,22	.1295 .1270	3,29 3,22	.180 .160	4,57 4,07
- 6	.1617 .1582	4,10 4,02	.1617 .1582	4,10 4,02	.217 .197	5,51 5,00

Diameter code	W steel alloy		W Titanium		Y	
	in		in		in	
- 7	.1930 .1895	4,90 4,81	.1930 .1895	4,90 4,81	.253 .233	6,42 5,92
- 8	.2242 .2207	5,69 5,61	.2242 .2207	5,69 5,61	.289 .269	7,34 6,83
- 9	.2555 .2520	6,49 6,40	.2555 .2520	6,49 6,40	.326 .306	8,28 7,77
- 10	.2555 .2520	6,49 6,40	.2555 .2520	6,49 6,40	.326 .306	8,28 7,77
- 12	.3185 .3150	8,08 8,00	.3135 .3150	8,08 8,00	.398 .378	10,10 9,50

Note: All dimensions are given subsequent to protection but prior to lubrication
The underlined y dimensions (item 2) are only effective for titanium.

8. - Code - Material - Protection - Lubrication

CODES	MATERIAL	PROTECTION	LUBRICATION
None	Steel alloy 4340 (MIL-S-5000) 4140 (MIL-S-5626) 8740 (MIL-S-6049) or equivalent, Rc min. 740 MPa a 1240 ea 1380 MPa (MIL-S-6049)	Aluminum per A/DET 0012	per A/DET 0013
V	Titanium alloy 6 A 4V (AMS4928 and 4967) or equivalent, R min. 1100 MPa Rc min. 655 MPa	Aluminum A/DET 0012	per A/DET 0013

Classification

ASNA2004

Published and distributed by: AIRBUS-INDUSTRIE
31700 BLAGNAC
FRANCE

9. Grip length code

Code b)	E Grip length ±.005 in	±0,13 mm	Code b)	E Grip length ±.005 in	±0,13 mm	Code b)	E Grip length ±.005 in	±0,13 mm	Code b)	E Grip length ±.005 in	±0,13 mm
- 1	1/16	1,59	- 13	13/16	20,64	- 25	1 9/16	39,69	- 40	2 1/2	63,50
- 2	1/8	3,18	- 14	7/8	22,22	- 26	1 5/8	41,28	- 42	2 5/8	66,68
- 3	3/16	4,76	- 15	15/16	23,81	- 27	111/16	42,86	- 44	2 3/4	69,85
- 4	1/4	6,35	- 16	1	25,40	- 28	1 3/4	44,45	- 46	2 7/8	73,02
- 5	5/16	7,94	- 17	1 1/16	26,99	- 29	113/16	46,04	- 48	3	76,20
- 6	3/8	9,52	- 18	1 1/8	28,58	- 30	1 7/8	47,62	- 50	3 1/6	79,38
- 7	7/16	11,11	- 19	1 3/16	30,16	- 31	115/16	49,21	- 52	3 1/4	82,55
- 8	1/2	12,70	- 20	1 1/4	31,75	- 32	2	50,80	- 54	3 3/8	85,72
- 9	9/16	14,29	- 21	1 5/16	33,34	- 34	2 1/8	53,98	- 56	3 1/2	88,90
- 10	5/8	15,88	- 22	1 3/8	34,92	- 36	2 1/4	57,15	- 58	3 5/8	92,08
- 11	11/16	17,46	- 23	17/16	36,51	- 38	2 3/8	60,32	- 60	3 3/4	95,25
- 12	3/4	19,05	- 24	1 1/2	38,10						

b) This code is expressed in 1/16" of grip length

10. Procurement specification

Specification HS 342

11. Mechanical data

Diameter Code	Double shear strength min (N) steel alloy		Titanium	Tensile strength min (N) steel alloy		titanium	Maximum fatigue load (N) 1) steel alloy	Titanium
- 2	20300		17850	10900		9700	3550	3180
- 3	27250		23950	17100		14150	5330	4670
- 4	47150		41350	29150		25900	9780	8670
- 5	73850		64950	46050		40900	15560	13960
- 6	106300		93400	70050		62250	24000	21570
- 7	144550		127200	94300		84050	32900	29090
- 8	188600		165900	128100		113850	44480	39580
- 9	238850		209950	161900		144100	55150	50260
- 10	294900		259350	206050		182350	69830	64050
- 12	424400		373400	297600		264660	101400	93400

1) Minimum fatigue loads are equal to 10 % of maximum fatigue loads.

Associated information — Manufacturer's Material Code (MMC)

The main digits of the MMC for these bolts are:

5	1	1	1	.	.	.	.	.	-

Inspection, production and design documents

- Inspection of bolts assembly: MC A 300.026.014
- Installation of bolts, medium head: IPT 7979
- Tightening torque for standard nuts and bolts: M.C. A 300.026.016
- Recommended bores and fits: NSA 2010
- Parts used for repair of standard cylindrical bolts for aircraft A 300: See note A/DET/ST No. 437254/74 complete and supplementing technical note CQA007.10084.
- Inspection conditions for bolts: IGC 04.45.117 (to be used)

Equivalent documents

Classification

ASNA2004

Published and distributed by: AIRBUS-INDUSTRIE
31700 BLAGNAC
FRANCE