

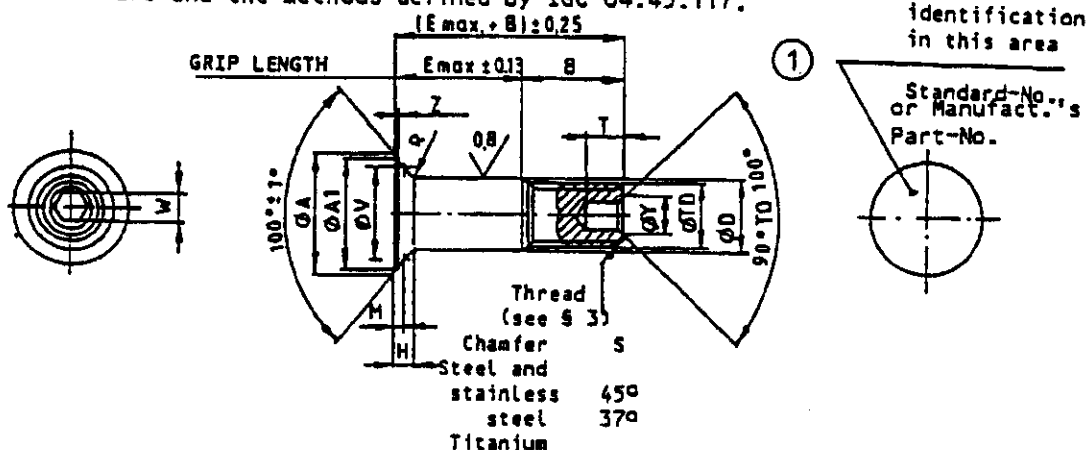
Dimensions in mm

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**1. General**

Apart from the customary definition of nuts and bolts (geometry, part number, materials ...) this document defines the mechanical data specific to each screw 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 04.45.117.



**2. Manufacturer's Part-No. HI-SHEAR HL755 JB**

**3. Thread**

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

**4. Tolerances**

Concentricity tolerances:

- cylindrical part of the head and diameter D:  
in values of dimension F (total comparator reading)
- conical surfaces of the head and diameter D:  
0.127 (total comparator reading)

**NOTE:** The top of the head may be flat or rounded depending on the manufacturer.

**5. Surface condition**

- per ANSI-B46-I

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The part number for these screws is made up of the standard number

- Part no. identification to be used in parts list on drawings:



**NOTE:** Underlined dimensions

Dimensions	Materials	c o d e s									
		- 2		- 9		- 12		- 14		- 16	
		in	mm	in	mm	in	mm	in	mm	in	mm
W	Titanium	.0645	1.63							.5100	12.95
		.0635	1.61							.5050	12.83
Y	Titanium	.090	2.28								
		.075	1.90								

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Dia- meter Code	TO		F (see 54)		H Ref.		M		R		S Ref.		T		V	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
- 2	.1595 .1570	4,034 3,988	.004	0,102	.049	1,24	.0330 .0298	0,538 0,757	.025 .015	0,63 0,38	1/32	0,79	.135 .115	3,42 2,92	.2028 .2026	5,161 5,146
- 3	.1840 .1810	4,673 4,597	.006	0,127	.044	1,42	.0295 .0263	0,749 0,568	.030 .020	0,76 0,51	1/32	0,79	.135 .115	3,43 2,92	.2560 .2558	6,502 6,497
- 4	.2440 .2410	6,197 6,122	.006	0,152	.074	1,88	.0227 .0195	0,576 0,495	.030 .020	0,76 0,51	1/32	0,79	.130 .130	3,31 3,30	.3732 .3730	9,479 9,476
- 5	.3060 .3020	7,777 7,671	.007	0,178	.092	2,34	.0234 .0198	0,594 0,503	.040 .030	1,01 0,76	3/64	1,19	.170 .150	4,32 3,81	.4791 .4789	12,169 12,166
- 6	.3680 .3640	9,347 9,246	.008	0,203	.110	2,79	.0295 .0259	0,749 0,658	.040 .030	1,01 0,76	3/64	1,19	.200 .180	5,08 4,57	.5488 .5486	14,173 14,143
- 7	.4310 .4280	10,947 10,820	.009	0,229	.126	3,20	.0347 .0307	0,881 0,780	.050 .040	1,27 1,01	3/64	1,19	.230 .210	5,84 5,33	.6482 .6480	16,718 16,713
- 8	.4930 .4890	12,522 12,395	.010	0,254	.142	3,61	.0504 .0464	1,280 1,178	.050 .040	1,27 1,01	3/64	1,19	.260 .240	6,60 6,10	.7260 .7258	18,288 18,283
- 9	.5530 .5500	14,097 13,970	.010	0,254	.153	3,89	.0533 .0493	1,354 1,232	.050 .040	1,27 1,01	1/16	1,59	.290 .270	7,37 6,86	.8012 .8010	20,350 20,345
- 10	.6180 .6120	15,697 15,543	.010	0,254	.174	4,42	.0633 .0589	1,608 1,496	.050 .040	1,27 1,01	1/16	1,59	.330 .305	8,38 7,75	.8902 .8900	22,611 22,606
- 12	.7430 .7370	18,872 18,720	.012	0,305	.229	5,82	.0776 .0716	1,971 1,819	.050 .040	1,27 1,01	1/16	1,59	.395 .365	10,03 9,27	1.1124 1.1122	28,254 28,250
- 14	.8680 .8610	22,047 21,889	.014	0,356	.263	6,68	.0894 .0822	2,263 2,180	.050 .040	1,27 1,01	3/64	1,98	.455 .425	11,53 10,80	1.3450 1.3438	34,137 34,133
- 16	.9930 .9880	25,222 25,043	.016	0,356	.298	7,57	.0817 .0736	2,587 2,341	.050 .040	1,27 1,01	3/64	1,98	.580 .550	14,73 13,97	1.5732 1.5730	39,959 39,954

dia- meter code	W		Y		Z max		dia- meter code	W		Y		Z max	
	in	mm	in	mm	in	mm		in	mm	in	mm	in	mm
- 2	.0801 .0791	2,03 2,01			.010	0,25	- 8	.2242 .2207	5,69 5,61	.289 .269	7,34 6,83	.022	0,56
- 3	.0806 .0791	2,04 2,01	.119 .104	3,02 2,54	.015	0,38	- 8	.2555 .2520	6,49 6,40	.326 .306	8,28 7,77	.022	0,56
- 4	.0967 .0947	2,43 2,41	.142 .122	3,60 3,10	.015	0,38	- 10	.2555 .2520	6,49 6,40	.326 .306	8,28 7,77	.022	0,56
- 5	.1295 .1270	3,29 3,22	.180 .160	4,57 4,07	.015	0,38	- 12	.3185 .3150	8,08 8,00	.398 .378	10,10 9,60	.022	0,56
- 6	.1617 .1582	4,09 4,02	.180 .197	4,57 5,00	.015	0,38	- 14	.3820 .3780	9,70 9,60	.471 .461	11,96 11,64	.022	0,56
- 7	.1930 .1895	4,90 4,81	.253 .233	6,43 5,92	.022	0,38	- 16	.5100 .5040	12,95 12,80	.618 .598	15,69 15,19	.022	0,56

Note: Height H is dimensioned from max. diameter D  
All dimensions are given subsequent to protection but prior to lubrication.

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8. Codes - Material - Protection - Lubrication

CODE	MATERIAL	PROTECTION	LUBRICATION
None	Alloy steel 4340 (MIL-S-5000) 4140 (MIL-S-5626) 8740 (MIL-S-6049) or equivalent Rc min. 740 MPa R 1240 thru 1380 MPa (MIL-H-6875)	Aluminum per A/DET 0012	per A/DET0013
V	Titanium alloy 6 AE4V (AMS 4928 or 4967) or equivalent Rmin 1100 MPa, Rmin 655	Aluminum per A/DET 0012	per A/DET 0013

9. Grip Length codes

Code b)	E grip length		Code b)	E grip length		Code b)	E grip length		Code b)	E grip length	
	±.005 in	±0,13 mm		±.005 in	±0,13 mm		±.005 in	±0,13 mm		±.005 in	±0,13 mm
- 1	1,16	1,59	- 13	13/16	20,64	- 25	19/16	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	1 11/16	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	11/16	26,99	- 29	1 13/16	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 1/8	79,38
- 7	7/16	11,11	- 19	1 3/16	30,46	- 31	1 15/16	49,21	- 52	3 1/4	82,55
- 8	1/2	12,70	- 20	1 1/4	31,95	- 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	1 7/16	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 per HS 342

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Dia- meter Code	Double shear strength min (N)		tensile strength min (N)			max. fatigue strength (N) <sup>1)</sup>	
	alloy steel	titanium	alloy steel	titanium	alloy steel	titanium	
- 2	20300	17850	8250	6650	2750	2750	
- 3	27250	23950	11500	10700	4050	4000	
- 4	47150	41350	22250	20000	7800	7000	
- 5	73850	64950	33350	30450	11700	10650	
- 6	106300	93400	48950	45350	17150	15900	
- 7	144550	127200	63600	58250	22250	20400	
- 8	188600	165900	88100	80050	30850	28000	
- 9	238850	209950	109450	100000	38250	36050	
- 10	294900	259350	137900	129900	48250	45350	
- 12	424400	373200	213500	204600	74750	71600	
- 14	578300	507100	289150	266900	101200	93400	
- 16	756200	662800	378100	346950	132350	121450	

1) min fatigue loads are equal to 10 % of max. fatigue loads.

### Associated information

Manufacturer's Material Code (CMS)

The main digits of the MMC for these bolts are

5	1	4	9						
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### Inspection, production and design documents.

Inspection of bolts assembly: M.C. A300.026.014

Installation of bolts, medium head: IFT 797

Tightening torque for standard nuts and bolts: M.C. A300.026.016

Recommended bores and fits: NSA 2010

Parts used for repair of standard cylindrical bolts for aircraft A300:

See note A/DET/ST No 437254/74 complete and

supplementing technical note 00 A 007.10084.

Inspection conditions for bolts: IGC 04.45.117 (to be issued)

### Corresponding documents:

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