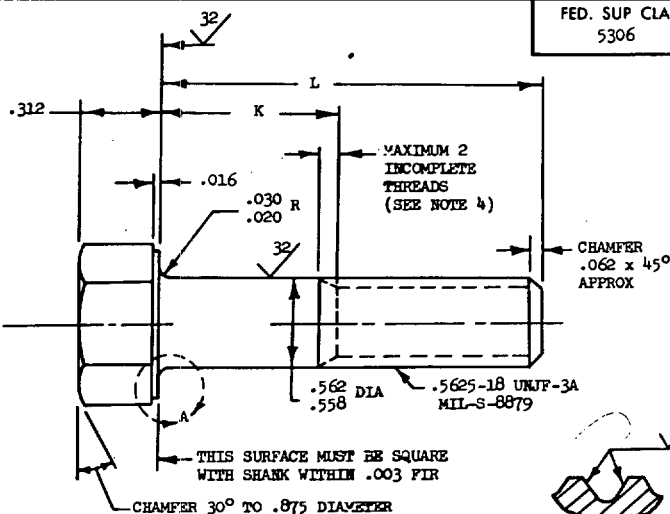
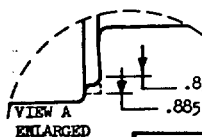
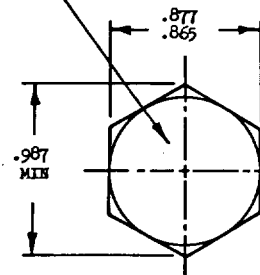


User activities:

Review activities:  
AIR FORCE-82  
DLA-IS

This military standard is approved by the Department of Defense and is mandatory on all activities. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

**MS9657**MARK PART NUMBER AND  
MANUFACTURER IDENTIFICATION  
PER AS478 CLASS ASECTION THRU  
THREAD PROFILE

PART NUMBER	L	K	APPROX WEIGHT LB/100	PART NUMBER	L	K	APPROX WEIGHT LB/100
MS9657-15	1.562	.128-.188	9.05	MS9657-31	3.125	1.690-1.750	14.50
MS9657-16	1.625	.190-.250	9.27	MS9657-32	3.250	1.815-1.875	14.94
MS9657-17	1.688	.252-.312	9.49	MS9657-33	3.375	1.940-2.000	15.37
MS9657-18	1.750	.315-.375	9.70	MS9657-34	3.500	2.065-2.125	15.81
MS9657-19	1.812	.378-.438	9.92	MS9657-35	3.625	2.190-2.250	16.25
MS9657-20	1.875	.440-.500	10.14	MS9657-36	3.750	2.315-2.375	16.68
MS9657-21	1.938	.502-.562	10.36	MS9657-37	3.875	2.440-2.500	17.12
MS9657-22	2.000	.565-.625	10.58	MS9657-38	4.000	2.565-2.625	17.56
MS9657-23	2.125	.690-.750	11.01	MS9657-39	4.125	2.690-2.750	17.99
MS9657-24	2.250	.815-.875	11.45	MS9657-40	4.250	2.815-2.875	18.43
MS9657-25	2.375	.940-1.000	11.88	MS9657-41	4.375	2.940-3.000	18.86
MS9657-26	2.500	1.065-1.125	12.32	MS9657-42	4.500	3.065-3.125	19.30
MS9657-27	2.625	1.190-1.250	12.76	MS9657-43	4.625	3.190-3.250	19.74
MS9657-28	2.750	1.315-1.375	13.19	MS9657-44	4.750	3.315-3.375	20.17
MS9657-29	2.875	1.440-1.500	13.63	MS9657-45	4.875	3.440-3.500	20.61
MS9657-30	3.000	1.565-1.625	14.07	MS9657-46	5.000	3.565-3.625	21.04
				MS9657-47	5.125	3.690-3.750	21.48
				MS9657-48	5.250	3.815-3.875	21.92
				MS9657-49	5.375	3.940-4.000	22.35
				MS9657-50	5.500	4.065-4.125	22.79
				MS9657-51	5.625	4.190-4.250	23.23
				MS9657-52	5.750	4.315-4.375	23.66
				MS9657-53	5.875	4.440-4.500	24.10
				MS9657-54	6.000	4.565-4.625	24.54

- SHANK SHALL BE STRAIGHT WITHIN .002 TOTAL PER INCH OF BOLT LENGTH.
- THE CONCENTRICITY OF THREAD PD IN RELATION TO THE SHANK SHALL BE WITHIN .006 FIR.
- THE CONCENTRICITY OF THE SHANK IN RELATION TO THE WASHER FACE DIAMETER AND HEXAGON SHALL BE WITHIN .026 FIR.
- INCOMPLETE THREADS NOT TO ENTER FILLET.
- MATERIAL: TITANIUM AMS 4967.
- HARDNESS: ROCKWELL C36-42.
- MANUFACTURING SPECIFICATION: AMS 7461, EXCEPT MATERIAL AS NOTED.
- FLUORESCENT PENETRANT INSPECTION PER AMS 2645.
- SURFACE TEXTURE: USAS B46.1-1962. UNLESS OTHERWISE SPECIFIED, SURFACES TO BE 125 MICROINCHES EXCEPT UPSET HEAD.
- BREAK SHARP EDGES .003-.015 UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: LINEAR DIMENSIONS  $\pm .010$ , ANGULAR DIMENSIONS  $\pm 5^\circ$ .
- DO NOT USE UNASSIGNED PART NUMBERS.

② REINSTATED AFTER 27 JUN 84

AS & AMS ARE SOCIETY OF AUTOMOTIVE ENGINEERS, INC. PUBLICATIONS.  
THIS STANDARD WAS DEVELOPED COOPERATIVELY WITH THE MILITARY SERVICES BY THE SAE AEROSPACE PART STANDARDS DIVISION.

P.A. AS Other Cus. AV 99	INTERNATIONAL INTEREST ASCC AIR STD 17/2	TITLE BOLT, MACHINE - HEXAGON HEAD, FULL SHANK, TITANIUM, AMS 4967, .5625-18 UNJF-3A	MILITARY STANDARD <b>MS9657</b>
PROCUREMENT SPECIFICATION NONE	SUPERSEDES:	PAGE 1 OF 1	