

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

**AS9761**

FEDERAL SUPPLY CLASS  
5306

# NOTICE

THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MS9761, NOTICE 1 AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MS9761, NOTICE 1. ANY PART NUMBERS ESTABLISHED BY THE ORIGINAL SPECIFICATION REMAIN UNCHANGED.

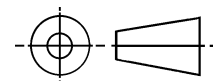
THE ORIGINAL MILITARY SPECIFICATION WAS ADOPTED AS AN SAE STANDARD UNDER THE PROVISIONS OF THE SAE TECHNICAL STANDARDS BOARD (TSB) RULES AND REGULATIONS (TSB 001) PERTAINING TO ACCELERATED ADOPTION OF GOVERNMENT SPECIFICATIONS AND STANDARDS. TSB RULES PROVIDE FOR (A) THE PUBLICATION OF PORTIONS OF UNREVISED GOVERNMENT SPECIFICATIONS AND STANDARDS WITHOUT CONSENSUS VOTING AT THE SAE COMMITTEE LEVEL, AND (B) THE USE OF THE EXISTING GOVERNMENT SPECIFICATION OR STANDARD FORMAT.

UNDER DEPARTMENT OF DEFENSE POLICIES AND PROCEDURES, ANY QUALIFICATION REQUIREMENTS AND ASSOCIATED QUALIFIED PRODUCTS LISTS ARE MANDATORY FOR DOD CONTRACTS. ANY REQUIREMENT RELATING TO QUALIFIED PRODUCTS LISTS (QPL'S) HAS NOT BEEN ADOPTED BY SAE AND IS NOT PART OF THIS SAE TECHNICAL DOCUMENT.

SAENORM.COM : Click to view the full PDF of as9761



THIRD ANGLE PROJECTION



PREPARED BY SAE COMMITTEE E-25

PROCUREMENT SPECIFICATION: NONE

**SAE Aerospace**  
An SAE International Group

## **AEROSPACE STANDARD**

BOLT, MACHINE - DOUBLE HEXAGON EXTENDED  
WASHER HEAD, DRILLED, PD SHANK, TITANIUM  
AMS 4967, .3125-24 UNJF-3A

**AS9761**  
SHEET 1 OF 3

ISSUED 1999-12 REAFFIRMED 2005-05

MARK MANUFACTURER'S IDENTIFICATION PER AS 478 CLASS A

WRENCHING CONFIGURATION PER AS 870 FOR THIS DISTANCE

.3750 NOM

45°

.500

φ.070 4 HOLES EQUALLY SPACED AS SHOWN CSK 90° TO .100 DIA

.338

.241

.176

.166 MIN

5° MAX

.206 DIA

CHAMFER 28° - 32° TO .375 DIA

.070 MIN

.025 R

.015 R

32°

140° MIN

.290 DIA

.280 DIA

.3125-24UNJF-3A MIL-S-8879

THIS SURFACE MUST BE SQUARE WITH SHANK WITHIN .003 FIR.

35° MIN TO ROOT OF DOUBLE HEXAGON

MAXIMUM 2 INCOMPLETE THREADS (SEE NOTE 4)

CHAMFER .047x45° APPROX.

32°

SECTION THRU THREAD PROFILE

PART NO	L	K	APPROX WEIGHT LB/100	PART NO	L	K	APPROX WEIGHT LB/100	PART NO	L	K	APPROX WEIGHT LB/100
MS9761-04	.500	.088-.108	1.21	MS9761-25	1.812	.878-.938	2.54	MS9761-46	4.375	3.440-3.500	5.13
MS9761-05	.562	.088-.108	1.28	MS9761-26	1.875	.940-1.000	2.60	MS9761-47	4.500	3.565-3.625	5.26
MS9761-06	.625	.088-.108	1.34	MS9761-27	2.000	1.065-1.125	2.73	MS9761-48	4.625	3.690-3.750	5.38
MS9761-07	.688	.088-.108	1.40	MS9761-28	2.125	1.190-1.250	2.86	MS9761-49	4.750	3.815-3.875	5.51
MS9761-08	.750	.088-.108	1.47	MS9761-29	2.250	1.315-1.375	2.98	MS9761-50	4.875	3.940-4.000	5.64
MS9761-09	.812	.088-.108	1.53	MS9761-30	2.375	1.440-1.500	3.11	MS9761-51	5.000	4.065-4.125	5.76
MS9761-10	.875	.088-.108	1.59	MS9761-31	2.500	1.565-1.625	3.23	MS9761-52	5.125	4.190-4.250	5.89
MS9761-11	.938	.088-.108	1.65	MS9761-32	2.625	1.690-1.750	3.36	MS9761-53	5.250	4.315-4.375	6.02
MS9761-12	1.000	.088-.125	1.72	MS9761-33	2.750	1.815-1.875	3.49	MS9761-54	5.375	4.440-4.500	6.14
MS9761-13	1.062	.128-.188	1.78	MS9761-34	2.875	1.940-2.000	3.61	MS9761-55	5.500	4.565-4.625	6.27
MS9761-14	1.125	.190-.250	1.84	MS9761-35	3.000	2.065-2.125	3.74	MS9761-56	5.625	4.690-4.750	6.39
MS9761-15	1.188	.252-.312	1.91	MS9761-36	3.125	2.190-2.250	3.87	MS9761-57	5.750	4.815-4.875	6.52
MS9761-16	1.250	.315-.375	1.97	MS9761-37	3.250	2.315-2.375	3.99	MS9761-58	5.875	4.940-5.000	6.65
MS9761-17	1.312	.378-.438	2.03	MS9761-38	3.375	2.440-2.500	4.12	MS9761-59	6.000	5.065-5.125	6.77
MS9761-18	1.375	.440-.500	2.10	MS9761-39	3.500	2.565-2.625	4.25				
MS9761-19	1.438	.502-.562	2.16	MS9761-40	3.625	2.690-2.750	4.37				
MS9761-20	1.500	.565-.625	2.22	MS9761-41	3.750	2.815-2.875	4.50				
MS9761-21	1.562	.628-.688	2.29	MS9761-42	3.875	2.940-3.000	4.63				
MS9761-22	1.625	.690-.750	2.35	MS9761-43	4.000	3.065-3.125	4.75				
MS9761-23	1.688	.752-.812	2.41	MS9761-44	4.125	3.190-3.250	4.88				
MS9761-24	1.750	.815-.875	2.48	MS9761-45	4.250	3.312-3.375	5.00				

1. SHANK SHALL BE STRAIGHT WITHIN .003 PER INCH OF BOLT LENGTH.
2. THE RUNOUT OF THREAD PD IN RELATION TO THE SHANK SHALL BE WITHIN .006 FIR.
3. THE RUNOUT OF THE SHANK IN RELATION TO THE WASHER FACE DIAMETER AND DOUBLE HEXAGON OD SHALL BE WITHIN .008 FIR.
4. INCOMPLETE THREADS NOT TO ENTER FILLET.
5. MATERIAL: TITANIUM AMS 4967.
6. HARDNESS: ROCKWELL C36-42.