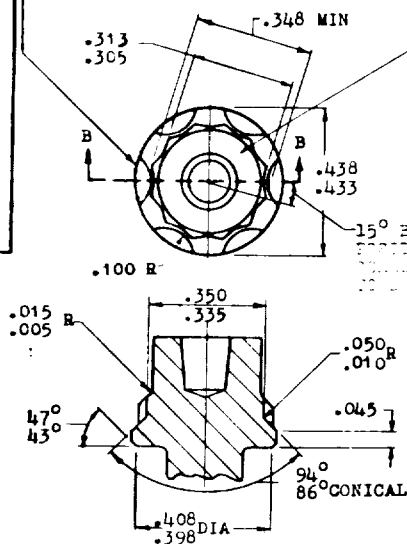


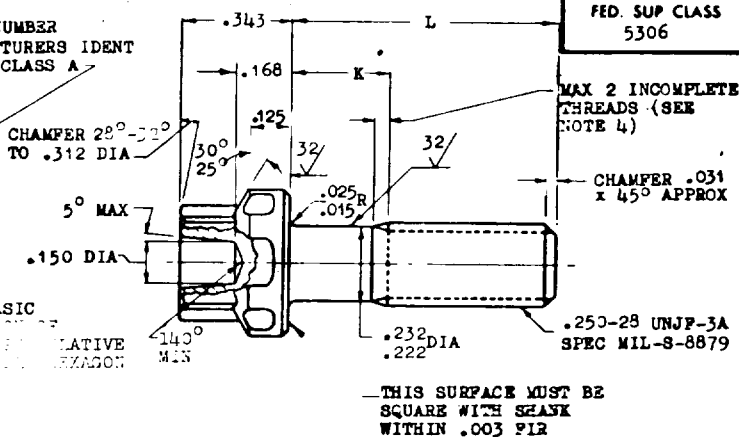
**MS9681 (ASG)**

6 SCALLOPS EQUALLY  
SPACED AND LOCATED  
WITHIN .010 EITHER  
SIDE OF TRUE POSITION

MARK PART NUMBER  
AND MANUFACTURERS IDENT  
PER AS 478 CLASS A



SECTION B-B

SECTION THRU  
THREAD PROFILE

PART NUMBER	L	K	APPROX WEIGHT LB/100	PART NUMBER	L	K	APPROX WEIGHT LB/100	PART NUMBER	L	K	APPROX WEIGHT LB/100
MS9681-04	.375	.079-.099	1.20	MS9681-22	1.500	.690-.750	2.49	MS9681-43	3.575	3.065-3.125	5.19
MS9681-05	.438	.079-.099	1.27	MS9681-23	1.562	.752-.812	2.56	MS9681-44	4.000	3.190-3.250	5.35
MS9681-06	.500	.079-.099	1.35	MS9681-24	1.625	.815-.875	2.63	MS9681-45	4.125	3.315-3.375	5.48
MS9681-07	.562	.079-.099	1.42	MS9681-25	1.688	.878-.938	2.70	MS9681-46	4.250	3.440-3.500	5.61
MS9681-08	.625	.079-.099	1.50	MS9681-26	1.750	.940-1.000	2.78	MS9681-47	4.375	3.565-3.625	5.75
MS9681-09	.688	.079-.099	1.57	MS9681-27	1.875	1.065-1.125	2.92	MS9681-48	4.500	3.690-3.750	5.89
MS9681-10	.750	.079-.099	1.64	MS9681-28	2.000	1.190-1.250	3.06	MS9681-49	4.625	3.815-3.875	6.03
MS9681-11	.812	.079-.099	1.71	MS9681-29	2.125	1.315-1.375	3.20	MS9681-50	4.750	3.940-4.000	6.17
MS9681-12	.875	.079-.125	1.78	MS9681-30	2.250	1.440-1.500	3.35	MS9681-51	4.875	4.065-4.125	6.31
MS9681-13	.938	.128-.188	1.85	MS9681-31	2.375	1.565-1.625	3.49	MS9681-52	5.000	4.190-4.250	6.45
MS9681-14	1.000	.190-.250	1.92	MS9681-32	2.500	1.690-1.750	3.63	MS9681-53	5.125	4.315-4.375	6.59
MS9681-15	1.062	.252-.312	1.99	MS9681-33	2.625	1.815-1.875	3.77	MS9681-54	5.250	4.440-4.500	6.73
MS9681-16	1.125	.315-.375	2.06	MS9681-34	2.750	1.940-2.000	3.91	MS9681-55	5.375	4.565-4.625	6.87
MS9681-17	1.188	.378-.438	2.14	MS9681-35	2.875	2.065-2.125	4.06	MS9681-56	5.500	4.690-4.750	7.01
MS9681-18	1.250	.440-.500	2.21	MS9681-36	3.000	2.190-2.250	4.20	MS9681-57	5.625	4.815-4.875	7.15
MS9681-19	1.312	.502-.562	2.28	MS9681-37	3.125	2.315-2.375	4.35	MS9681-58	5.750	4.940-5.000	7.29
MS9681-20	1.375	.565-.625	2.35	MS9681-38	3.250	2.440-2.500	4.49	MS9681-59	5.875	5.065-5.125	7.43
MS9681-21	1.438	.628-.688	2.42	MS9681-39	3.375	2.565-2.625	4.64	MS9681-60	6.000	5.190-5.250	7.57
				MS9681-40	3.500	2.690-2.750	4.78				
				MS9681-41	3.625	2.815-2.875	4.91				
				MS9681-42	3.750	2.940-3.000	5.05				

1. SHANK SHALL BE STRAIGHT WITHIN .003 FIR PER INCH OF BOLT LENGTH.
2. THE CONCENTRICITY OF THREAD PD IN RELATION TO THE SHANK SHALL BE WITHIN .006 FIR.
3. THE CONCENTRICITY OF THE SHANK IN RELATION TO THE WASHER FACE DIAMETER AND DOUBLE HEXAGON OD SHALL BE WITHIN .007 FIR.
4. INCOMPLETE THREADS NOT TO ENTER PILLET.
5. MATERIAL: STEEL AMS 6322.
6. HARDNESS: ROCKWELL C26-32.
7. FINISH: CADMIUM PLATE AMS 2400. DIMENSIONS SPECIFIED ARE AFTER PLATING.
8. MAGNETIC PARTICLE INSPECTION PER AMS 2640 AFTER PLATING.
9. MANUFACTURING SPECIFICATION: AMS 7452 EXCEPT HEAD MUST BE UPSET.
10. HEAD TO SHANK FILLET SHALL BE COLD ROLLED AFTER HEAT TREATMENT TO REMOVE ALL VISUAL EVIDENCE OF GRINDING OR TOOL MARKS.
11. SURFACE ROUGHNESS: AS 291. UNLESS OTHERWISE SPECIFIED, SURFACES TO BE 125 MICROINCHES EXCEPT UPSET HEAD.
12. BREAK SHARP EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.
13. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: LINEAR DIMENSIONS  $\pm .010$ , ANGULAR DIMENSIONS  $\pm 5^\circ$ .
14. DO NOT USE UNASSIGNED PART NUMBERS.

**(B) REINSTATED AFTER 27 JUN 84**

AS & AMS ARE SOCIETY OF AUTOMOTIVE ENGINEERS, INC. PUBLICATIONS.

THIS STANDARD WAS DEVELOPED COOPERATIVELY WITH THE ENGINE AND PROPELLER UTILITY PARTS COMMITTEE OF THE SAE.

P.A.	AS	TITLE	MILITARY STANDARD
Other Cust	(B)	BOLT, MACHINE-STEEL AMS 6322, CADMIUM PLATED, DOUBLE HEXAGON EXTENDED WASHER HEAD, CUP WASHER LOCKED, .250-28 UNJF-3A	<b>MS9681 (ASG)</b>
99			
PROCUREMENT SPECIFICATION	SUPERSEDES:		PAGE 1 OF 1

Review activities:  
AIR FORCE-82  
DLA-IS  
(B)

This standard has been approved by the Department of the Air Force and the Department of the Navy and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.