

MS21140 REV J

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INCH-POUND

MS21140J

25 March 1998

Superseding

MS21140H

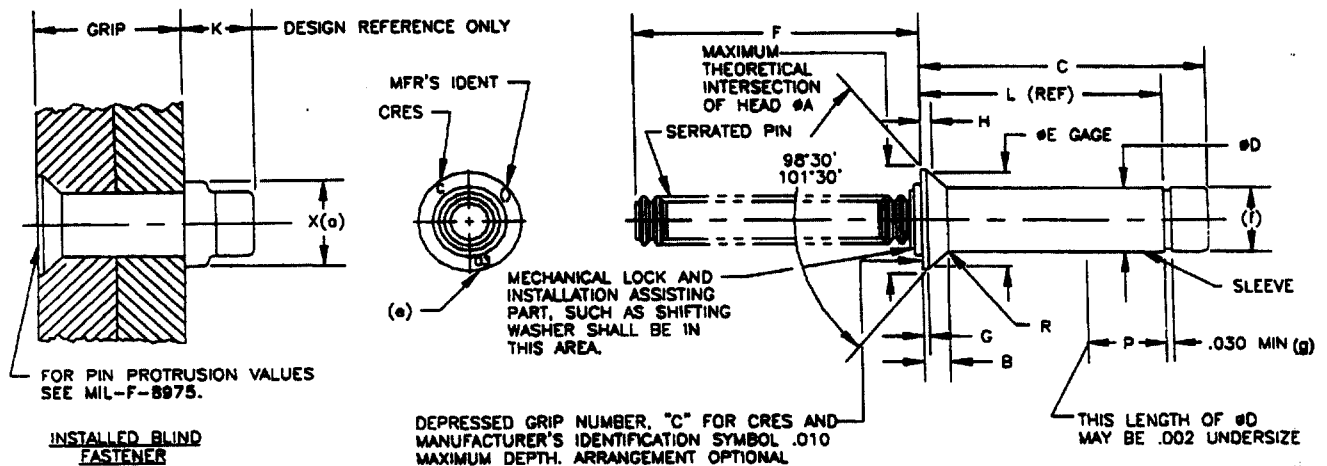
31 March 1994

MILITARY SPECIFICATION SHEET

**FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL
 LOCK, 100° FLUSH HEAD, CORROSION RESISTING STEEL, 95 KSI Fsu**

This specification is approved for use by all Departments and Agencies of the
 Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the
 issue of the following specification listed in that issue of the Department of Defense Index of Specifications and
 Standards (DoDISS) specified in the solicitation: MIL-F-8975.



J Denote change(s)

AMS N/C

1 of 6

FSC 5320

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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TABLE I. Fastener Dimensions and Strengths.

Size Dash Number (b)			Nom	ØA	B	ØD	ØE	F	G	H	K		P	R	X	Installed Fastener		Hole Limits (Ref)
Double Action	Single Action		Size	Ref	Max	Gage	Min	Max	Gage	Max	Min	Max	Max	Max	(a)	Min Ultimate Single	Min Ultimate Tensile	
(c)	(c)	(d)														Shear (Lbs.)	(Lbs.)	
-	S04	-	.1250	.229	.038	.129 .127	.1841 .1839	.812	.011	.0185 .0155	.150	.095	.190	.012	.154	1222	675	.132 .129
-05	S05	U05	.1562	.334	.074	.164 .162	.2832 .2830	.844	.011	.0206 .0171	.202	.120	.215	.010	.195	1980	1150	.167 .164
-06	S06	U06	.1875	.387	.082	.199 .197	.3272 .3270	.875	.013	.0243 .0205	.231	.146	.250	.015	.238	2925	1690	.202 .199
-	-08	U08	.2500	.508	.108	.260 .258	.4320 .4318	1.000	.017	.0310 .0270	.279	.188	.305	.020	.315	5000	2900	.263 .260
-	-10	U10	.3125	.635	.140	.312 .310	.5451 .5449	1.208	.020	.0367 .0325	.319	.224	.350	.025	.373	7200	4170	.315 .312
-	-12	U12	.3750	.763	.168	.374 .372	.6582 .6580	1.562	.023	.0428 .0380	.364	.264	.405	.030	.448	10380	5970	.377 .374

(a) Maximum diameter of blind head (X) shall not exceed maximum diameter of manufactured head (A).

(b) Sizes "05" and "06" with "-" are installed with a double action tool. All other sizes are installed with a single action tool. Sizes "U05" and "U06" may be installed with a double or single action tool. See Amendment 3 of MIL-F-8975 for tool selection.

(c) -05, -06, ~~S05, S06~~, -08, -10, and -12 are inactive for new design after 1 January 91. Use U05, U06, S05 and S06.

(d) Letter "U" signifies single action fastener without frangible type of locking collar or locking collar cap. "U" and "S" code fasteners in sizes "05" and "06" are color identified green on locking collar, shifting washer, or serrated pin. "S" code fasteners may be supplied with a locking collar cap.

(e) Single digit marking is permissible for grip dash numbers less than 10.

(f) Diameter of serrated pin shall not exceed "ØD" maximum and may be .002 below "ØD" minimum, in area "P" only

(g) Not required on -04 diameter parts.

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Table II. Grip Tabulations.

.1250 (-04)					Ø.1562 (-05)					Ø.1875 (-06)				
Grip Dash No.	Grip Range		C	L	Grip Dash No.	Grip Range		C	L	Grip Dash No.	Grip Range		C	L
	Min	Max	Max			Min.	Max.	Max.			Min.	Max.	Max.	
0402	.094	.157	.391	.254	0502	.094	.157	.434	.280	-0602	.120	.157	.505	.329
0403	.156	.220	.453	.316	-0503	.156	.220	.496	.342	-0603	.156	.220	.541	.365
0404	.219	.282	.516	.379	-0504	.219	.282	.559	.405	-0604	.219	.282	.604	.428
0405	.281	.345	.578	.441	-0505	.281	.345	.622	.467	-0605	.281	.345	.666	.490
0406	.344	.407	.641	.504	-0506	.344	.407	.684	.530	-0606	.344	.407	.729	.553
0407	.406	.470	.703	.566	-0507	.406	.470	.746	.592	-0607	.406	.470	.791	.615
0408	.469	.532	.766	.629	-0508	.469	.532	.809	.655	-0608	.469	.532	.854	.678
0409	.531	.595	.828	.691										
					-0509	.531	.595	.872	.717	-0609	.531	.595	.916	.740
					-0510	.594	.657	.934	.780	-0610	.594	.657	.979	.803
					-0511	.656	.720	.996	.842	-0611	.656	.720	1.041	.865
					-0512	.719	.782	1.059	.905	-0612	.719	.782	1.104	.928
					-0513	.781	.845	1.122	.697	-0613	.781	.845	1.166	.990
					-0514	.844	.907	1.184	1.030	-0614	.844	.907	1.229	1.053
					-0515	.906	.970	1.246	1.092	-0615	.906	.970	1.291	1.115
					-0516	.969	1.032	1.309	1.155	-0616	.969	1.032	1.354	1.178
										-061	1.031	1.095	1.416	1.240
										-0618	1.094	1.157	1.479	1.303
										-0619	1.156	1.220	1.541	1.365
										-0620	1.219	1.282	1.604	1.428
										-0621	1.281	1.345	1.666	1.490
										-0622	1.344	1.407	1.729	1.553
										-0623	1.406	1.470	1.791	1.615
										-0624	1.469	1.532	1.854	1.678
										-0625	1.531	1.595	1.916	1.740
										-0626	1.594	1.657	1.979	1.803

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Table II. Grip Tabulations (Continued)

Ø.2500 (-08)					Ø.3125 (-10)					Ø.3750 (-12)				
Grip Dash No.	Grip Range		C	L	Grip Dash No.	Grip Range		C	L	Grip Dash No.	Grip Range		C	L
	Min.	Max.	Max.			Min.	Max.	Max.			Min.	Max.	Max.	
-0803	.156	.220	.616	.406										
-0804	.219	.282	.678	.469	-1004	.219	.282	.743	.506	-1204	.219	.282	.820	.548
-0805	.281	.345	.740	.531	-1005	.281	.345	.805	.568	-1205	.281	.345	.883	.610
-0806	.344	.407	.803	.594	-1006	.344	.407	.868	.631	-1206	.344	.407	.945	.673
-0807	.406	.470	.866	.656	-1007	.406	.470	.930	.693	-1207	.406	.470	1.007	.735
-0808	.469	.532	.928	.719	-1008	.469	.532	.993	.756	-1208	.469	.532	1.070	.798
-0809	.531	.595	.990	.781	-1009	.531	.595	1.055	.818	-1209	.531	.595	1.133	.860
-0810	.594	.657	1.053	.844	-1010	.594	.657	1.118	.881	-1210	.594	.657	1.195	.923
-0811	.656	.720	1.116	.906	-1011	.656	.720	1.180	.943	-1211	.656	.720	1.257	.985
-0812	.719	.782	1.178	.969	-1012	.719	.782	1.243	1.006	-1212	.719	.782	1.320	1.048
-0813	.781	.845	1.240	1.031	-1013	.781	.845	1.305	1.068	-1213	.781	.845	1.383	1.110
-0814	.844	.907	1.303	1.094	-1014	.844	.907	1.368	1.131	-1214	.844	.907	1.445	1.173
-0815	.906	.970	1.366	1.156	-1015	.906	.970	1.430	1.193	-1215	.906	.970	1.507	1.235
-0816	.969	1.032	1.428	1.219	-1016	.969	1.032	1.493	1.256	-1216	.969	1.032	1.570	1.298
-8017	1.031	1.095	1.490	1.281	-1017	1.031	1.095	1.555	1.318	-1217	1.031	1.095	1.633	1.360
-0818	1.094	1.157	1.553	1.344	-1018	1.094	1.157	1.618	1.381	-1218	1.094	1.157	1.695	1.423
-0819	1.156	1.220	1.616	1.406	-1019	1.156	1.220	1.680	1.443	-1219	1.156	1.220	1.757	1.485
-0820	1.219	1.282	1.678	1.469	-1020	1.219	1.282	1.743	1.506	-1220	1.219	1.282	1.820	1.548
-0821	1.281	1.345	1.740	1.531	-1021	1.281	1.345	1.805	1.658	-1221	1.281	1.345	1.883	1.610
-0822	1.344	1.407	1.803	1.594	-1022	1.344	1.407	1.868	1.631	-1222	1.344	1.407	1.945	1.673
-0823	1.406	1.470	1.866	1.656	-1023	1.406	1.470	1.930	1.693	-1223	1.406	1.470	2.007	1.735
-0824	1.469	1.532	1.928	1.719	-1024	1.469	1.532	1.993	1.756	-1224	1.469	1.532	2.070	1.798
-0825	1.531	1.595	1.990	1.781	-1025	1.531	1.595	2.055	1.818	-1225	1.531	1.595	2.133	1.860
-0826	1.594	1.657	2.053	1.844	-1026	1.594	1.657	2.118	1.881	-1226	1.594	1.657	2.195	1.923
					-1027	1.656	1.720	2.180	1.943	-1227	1.656	1.720	2.257	1.985
					-1028	1.719	1.782	2.243	2.006	-1228	1.719	1.782	2.320	
										-1229	1.781	1.845	2.383	
										-1230	1.844	1.907	2.445	2.173
										-1231	1.906	1.970	2.507	2.235
										-1232	1.969	2.032	2.570	2.298

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Requirements:

1. Material:

Sleeve: Corrosion resistant steel per chemical requirements of AMS5737 (A286).
 Serrated Pin: Corrosion resistant steel per chemical requirements of AMS5737 (A286).
 Mechanical Lock: Corrosion resistant steel per chemical requirements of AMS5737 or 316 CRES conforming to the chemical requirements of AMS5690. Optional to use INCO 600 per AMS 5687 (no finish requirement) on -04 dia. lock collars only

2. Protective coating:

Sleeve: Passivation per QQ-P-35, or cadmium plated per QQ-P-416, Type II, (clear dichromate), Class 2.
 Serrated Pin: Passivation per QQ-P-35.
 Mechanical Lock: Passivation per QQ-P-35.

3. Lubrication: When lubricated, parts shall be lubricated per AS 5272, MIL-L-87132 or DOD-L-85645.

4. Hole preparation: See MS33522 except for hole size shown in MIL-F-8975.

5. Example of part number: (For inactive code see sheet 1, footnote (c).)

6. MS21140 - 08 03 P = Ø.2500 nom. Size. .156 min. grip, cadmium plated, installed with a single action tool.

"P" denotes cadmium plating.
 "L" denotes longer pintail.
 "W" denotes fastener contains drive washer for blunt nosed tool installation.
 No code denotes passivation treatment.
 Grip range (see table II).
 See dash number (see Table I).
 "-" denotes fasteners installed with a double action tool for sizes 05 and 06.
 "-" denotes fasteners installed with a single action tool for sizes 08, 10, and 12.
 "S" denotes fasteners installed with a single action tool for sizes 04, 05 and 06.
 "U" denotes single action tool fasteners installed with a single action tool for all sizes. (See sheet 1, footnote (d)).

MS number

NOTES:

1. Dimensions in inches: Dimensions apply before lubrication.
2. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence.
3. Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation.

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Military Interests:

Custodians:

Army - AV

Navy - AS

Air Force - 99

Preparing activity:

DLA - IS

(Project 5320-0905)

REVIEW:

Army - MI

Air Force - 82