

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODDS SPECIFIED IN THE SOLICITATION: MIL-P-8177

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

REQUIREMENT

1. MATERIAL

SLEEVE AND SERRATED PIN - ALLOY STEEL PER ASTM-A-331

MECHANICAL LOCK CARBON STEEL OR ALLOY STEEL CONFORMING TO THE CHEMICAL COMPOSITION OF 1010, 1020, 1144, 4037, OR 4130 OF FEDERAL STANDARD 66 OR A286 CRES CONFORMING TO THE CHEMICAL LIMITS OF AMS 5737, OR TYPE 316 CRES CONFORMING TO THE CHEMICAL REQUIREMENTS OF AMS 5690

2. HARDNESS

SLEEVE KNOOP (1000 GRAM LOAD) 328-408

SERRATED PIN ROCKWELL "C" 48 TO 53

MECHANICAL LOCK NOT APPLICABLE

3. PROTECTIVE TREATMENT

SLEEVE: CADMIUM PLATE PER QQ-P-416, TYPE 4, CLASS 2 OR ALUMINUM COATING PER MIL-C-83488.

SERRATED PIN: CADMIUM PLATE PER QQ-P-416, TYPE 1, CLASS 3 WITH HYDROGEN EMBRITTLEMENT RELIEF PER MIL-F-81177 OR ALUMINUM COATING PER MIL-C-83488.

MECHANICAL LOCK: CADMIUM PLATE PER QQ-P-416, TYPE 4, CLASS 2, (CARBON AND ALLOY STEEL) PASSIVATE PER QQ-P-36 (A286 AND TYPE 316 CRES) OR ALUMINUM COATING PER MIL-C-83488, AT MANUFACTURER'S OPTION.

4. INSPECTION

DUE TO INSTALLATION LOADS BEING HIGHER THAN PERFORMANCE LOAD REQUIREMENTS, MAGNETIC PARTICLE INSPECTION IS NOT REQUIRED.

5. LUBRICATION

NONE, EXCEPT MANUFACTURER'S OPTION TO LUBRICATE LOCK MECHANISM WITH LOX COMPATIBLE DRY FILM LUBRICANTION

6. EXAMPLE OF PART NUMBER

MS 90353 - 0808 D - 1/4 DIA. NOM SIZE, .156 MIN. GRIP, INSTALLED WITH A SINGLE ACTION TOOL.

"0" DENOTES ALUMINUM COATING, NO CODE DENOTES CADMIUM PLATING.

GRIP RANGE (SEE TABLE 8)

SIZE DASH NUMBER (SEE TABLE 1)

"-" DENOTES FASTENERS INSTALLED WITH A DOUBLE ACTION TOOL, FOR SIZES 05 AND 08.

"~" DENOTES FASTENERS INSTALLED WITH A SINGLE ACTION TOOL, FOR SIZES 08, 10, 12, 14, AND 16.

"S" DENOTES FASTENERS INSTALLED WITH A SINGLE ACTION TOOL, FOR SIZES 05 AND 08.

"U" DENOTES SINGLE ACTION FASTENERS INSTALLED WITH A SINGLE ACTION TOOL, FOR ALL SIZES (SEE SHEET 1, FOOTNOTE (d))

MS NUMBER

NOTES:

1. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED TOLERANCES. DECIMALS $\pm$.010

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.

PREPARING ACTIVITY: NAVY-AS

CUSTOMERS: ARMY-AV

NAVY-AS

AIR FORCE-08

DLA-15

REVIEW: ML, 82

USER:

PROJECT NUMBER: 5320-0815

MILITARY SPECIFICATION SHEET

TITLE

FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL, 112 K.S.I. F_u

SPECIFICATION SHEET NUMBER

MS90353

28 FEB 1994
REV U

SUPERSEDING
MS90353 T 13 AUG 1993

AMSC- N/A

FSC 5320

DISTRIBUTION STATEMENT

A. Approved for public release; distribution is unlimited.

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TABLE II CRIP NUMBER TABULATION (CONTINUED)											
91/8 (-12)				97/16 (-14)				91/2 (-16)			
CRIP CASH NO	CRIP RANGE		L REF	CRIP CASH NO	CRIP RANGE		L REF	CRIP CASH NO	CRIP RANGE		L REF
	MIN	MAX			MIN	MAX			MIN	MAX	
-1204	219	262	548	-1405	281	345	882	-1685	344	407	815
-1205	281	345	810	-1406	344	407	724	-1686	407	470	908
-1206	344	407	811	-1407	406	469	849	-1687	469	532	940
-1207	406	469	798	-1408	469	532	1151	-1688	531	595	1003
-1208	469	532	860	-1409	531	595	912	-1689	595	657	1065
-1209	531	595	860	-1410	594	657	974	-1690	657	720	1128
-1210	594	657	865	-1411	656	720	1037	-1691	720	782	1190
-1211	656	720	865	-1412	719	782	1099	-1692	782	845	1253
-1212	719	782	1048	-1413	781	845	1162	-1693	845	907	1315
-1213	781	845	1110	-1414	844	907	1224	-1694	907	969	1378
-1214	844	907	1173	-1415	906	969	1287	-1695	969	1032	1440
-1215	906	969	1235	-1416	968	1032	1350	-1696	1032	1095	1503
-1216	968	1032	1298	-1417	1031	1095	1412	-1697	1095	1157	1565
-1217	1031	1095	1360	-1418	1094	1157	1475	-1698	1157	1220	1628
-1218	1094	1157	1423	-1419	1156	1220	1537	-1699	1220	1282	1690
-1219	1156	1220	1485	-1420	1219	1282	1599	-1700	1282	1345	1753
-1220	1219	1282	1548	-1421	1281	1345	1662	-1701	1345	1407	1815
-1221	1281	1345	1610	-1422	1344	1407	1724	-1702	1407	1470	1878
-1222	1344	1407	1673	-1423	1406	1470	1787	-1703	1470	1532	1940
-1223	1406	1470	1735	-1424	1468	1532	1849	-1704	1532	1595	2003
-1224	1468	1532	1798	-1425	1531	1595	1912	-1705	1595	1657	2065
-1225	1531	1595	1860	-1426	1594	1657	1974	-1706	1657	1720	2128
-1226	1594	1657	1923	-1427	1656	1720	2037	-1707	1720	1782	2190
-1227	1656	1720	1985	-1428	1719	1782	2099	-1708	1782	1845	2253
-1228	1719	1782	2048	-1429	1781	1845	2162	-1709	1845	1907	2315
-1229	1781	1845	2110	-1430	1844	1907	2224	-1710	1907	1970	2378
-1230	1844	1907	2173	-1431	1906	1970	2287	-1711	1970	2032	2440
-1231	1906	1970	2235	-1432	1968	2032	2350	-1712	2032	2095	2503
-1232	1968	2032	2298	-1433	2031	2095	2412	-1713	2095	2157	2565
-1233	2031	2095	2360	-1434	2094	2157	2475	-1714	2157	2220	2628
-1234	2094	2157	2423	-1435	2156	2220	2537	-1715	2220	2282	2690
-1235	2156	2220	2485	-1436	2219	2282	2599	-1716	2282	2345	2753
-1236	2219	2282	2548					-1717	2345	2407	2815
								-1718	2407	2470	2878
								-1719	2470	2532	2940

PREPARING ACTIVITY: NAVY-AS CUSTODIANS: ARMY- AV NAVY- AS AIR FORCE- 98 DLA- IS REVISION: ML 82 USER: PROJECT NUMBER: 5320-0815	MILITARY SPECIFICATION SHEET TITLE FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, ALLOY STEEL, 112 K.S.I. Fou	SPECIFICATION SHEET NUMBER MS90353 28 FEB 1994 REV U SUPERSEDING MS90353 T 13 AUG 1983 AMSC- N/A FBC 5396
DISTRIBUTION STATEMENT A. Approved for public release, distribution is unlimited		Page 3 of 4

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

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TABLE E. CRIP NUMBER VARIATION

TABLE B. CRIP NUMBER TABULATION													
05/32 (-05)				01/4 (-06)				05/16 (-10)					
CRIP DASH NO	CRIP RANGE		L REF	C (U) MAX	CRIP DASH NO	CRIP RANGE		L REF	C (U) MAX	CRIP DASH NO	CRIP RANGE		L REF
	MIN	MAX				MIN	MAX				MIN	MAX	
-0502	094	157	393	478	-0503	120	197	393	478	-1004	219	282	406
-0503	159	220	395	541	-0504	156	282	395	541	-1005	281	345	531
-0504	219	342	428	804	-0505	201	346	428	804	-1006	344	407	584
-0505	341	542	490	898	-0506	344	545	490	898	-1007	406	470	646
-0506	541	745	550	729	-0507	406	532	550	729	-1008	488	532	719
-0507	498	532	854	854	-0508	498	532	854	854	-1009	531	595	781
-0508	531	595	717	872	-0509	531	595	717	872	-1010	594	657	844
-0510	594	657	790	834	-0510	594	657	790	834	-1011	656	720	844
-0511	659	720	842	898	-0511	659	720	842	898	-1012	719	782	898
-0512	719	782	805	956	-0512	719	782	805	956	-1013	781	845	943
-0513	781	845	867	1056	-0513	781	845	867	1056	-1014	844	907	988
-0514	844	907	898	1056	-0514	844	907	898	1056	-1015	906	970	1033
-0515	906	970	1115	1281	-0515	906	970	1115	1281	-1016	969	1032	1033
-0516	999	1032	1155	1308	-0516	999	1032	1155	1308	-1017	1031	1095	1095
					-0517	1031	1095	1140	1281	-1018	1094	1157	1157
					-0518	1094	1157	1202	1308	-1019	1156	1220	1220
					-0519	1156	1220	1265	1308	-1020	1219	1282	1282
					-0520	1219	1282	1308	1308	-1021	1281	1345	1345
					-0521	1281	1345	1390	1390	-1022	1344	1407	1407
					-0522	1344	1407	1452	1452	-1023	1406	1470	1470
					-0523	1406	1470	1515	1515	-1024	1469	1532	1532
					-0524	1469	1532	1577	1577	-1025	1531	1595	1595
					-0525	1531	1595	1640	1640	-1026	1594	1657	1657
					-0526	1594	1657	1702	1702	-1027	1656	1720	1720
					-0527	1656	1720	1765	1765	-1028	1719	1782	1782
					-0528	1719	1782	1827	1827	-1029	1781	1845	1845
										-1030	1844	1907	1907
										-1031	1906	1970	1970
										-1032	1969	2032	2032

PREPARING ACTIVITY NAVY-AS
CUSTOMERS ARMY- AV NAVY- AS
AIR FORCE- 98 DLA- IS
REVIEW MR. 82
USER
PROJECT NUMBER 8320-0815
DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET
TITLE
FASTENER, BLIND, HIGH STRENGTH, PULL TYPE,
POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD,
ALUMINUM STEEL, 112 K.S.I. Fw

SPECIFICATION SHEET NUMBER
MS90353
28 FEB 94
REV U
SUPERSEDING
MS90363 T 13 AUG 1983
AMSC- N/A FBC 3320

A. Approved for public release, distribution is unlimited

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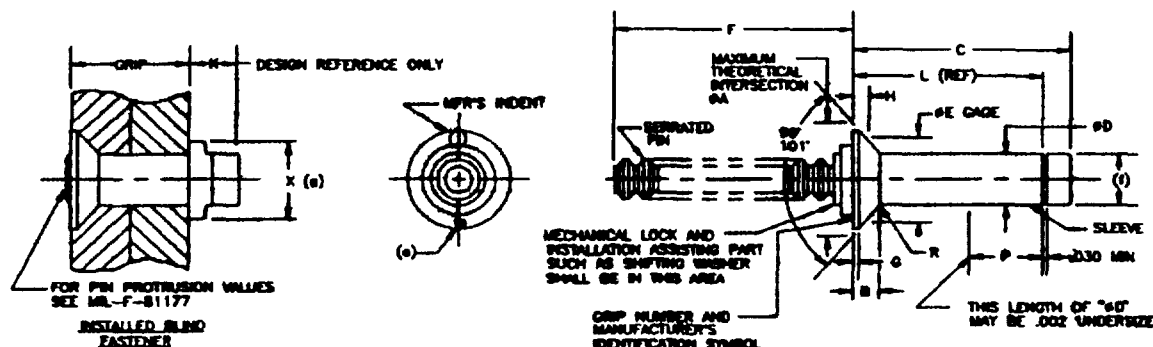


TABLE 1 FASTENER DIMENSIONS AND STRENGTHS

(b) SIZE DASH NUMBER		NOML SIZE	9A	B MAX.	9D	9E GAGE	F MIN.	G MAX.	H GAGE	K MAX.	P MAX.	R RAD MAX.	X (a) MIN.	INSTALLED FASTENER			
DOUBLE ACTION (c)	SINGLE ACTION													MINIMUM SINGLE SHEAR LBS.	MINIMUM TENSILE LBS.	HOLE LIMITS	
	(d)																(d)
-06	906	U06	5/32	.333	.072	.164 182	.2432 2630	.844	.011	.0208 .0171	.302	.215	.010	.185	2340	1350	184 187
-08	908	U08	3/16	.308	.080	.188 197	.3272 3370	.873	.013	.0243 .0208	.331	.250	.015	.238	3450	2100	198 202
-	-08	U08	1/4	.307	.106	.280 298	.4390 4318	1.000	.017	.0310 .0270	.378	.306	.020	.315	5800	3650	280 283
-	-10	U10	5/16	.334	.137	.312 318	.5451 5448	1.218	.020	.0367 .0325	.318	.350	.025	.373	8900	5200	312 318
-	-12	U12	3/8	.382	.166	.374 372	.8082 8080	1.888	.023	.0438 .0388	.384	.406	.030	.448	12280	7900	374 377
-	-14	U14	7/16	.390	.183	.437 435	.7784 7782	1.862	.025	.0489 .0460	.418	.480	.032	.522	16780	10180	437 441
-	-16	U16	1/2	1.047	.289	.488 486	.8902 8900	1.882	.028	.0522 .0458	.540	.598	.035	.588	21800	13500	500 504

- (a) MAXIMUM DIAMETER OF BLIND HEAD (X) SHALL NOT EXCEED MAXIMUM DIAMETER OF MANUFACTURED HEAD (A).
- (b) SIZES "08" AND "08" WITH "-" ARE INSTALLED WITH A DOUBLE ACTION TOOL. ALL OTHER SIZES ARE INSTALLED WITH A SINGLE ACTION TOOL. SIZES "U06" AND "U08" MAY BE INSTALLED WITH A DOUBLE OR SINGLE ACTION TOOL. SEE MIL-F-81177, APPENDIX A FOR TOOL SELECTION CHART.
- (c) -06, -08, -08S, -08S, -08, -10, -10S, -10S, -12, -12S, -12S, -14, -14S, -14S, -16, -16S, -16S ARE INACTIVE FOR NEW DESIGN AFTER 1 JAN 91 USE U06, U08, 906 AND 908.
- (d) LETTER "U" SIGNIFIES SINGLE ACTION FASTENER WITHOUT FRAMBLE TYPE OF LOCKING COLLAR OR LOCKING COLLAR CAP. "U" AND "S" CODE FASTENERS IN SIZES "08" AND "08" 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 HEAD SHALL NOT EXCEED ".60" MAX AND MAY BE .002 BELOW ".60" MIN. IN AREA "F" ONLY.

(U) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY: NAVY-AS
CUSTODIANS: ARMY-AN NAVY-AS
AIR FORCE-98 DLA-15
REVIEW: ML 82
PROJECT NUMBER: 5320-0815
DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET
TITLE
FASTENER, BLIND, HIGH STRENGTH, PULL TYPE,
POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD,
ALUMINUM STEEL, 112 K.S.I. F_u

SPECIFICATION SHEET NUMBER
MS90353 28 FEB 94
REV U
SUPERSEEDING
MS90353 T 13 AUG 1993
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