

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-35 (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)

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

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

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

"01" 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

CUSTODIANS: ARMY-AW

NAVY-AS

AIR FORCE-08

DLA-IS

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 USUPERSEDING
MS90353 T 13 AUG 1993

AMSC- N/A

FSC 5320

DISTRIBUTION STATEMENT

A. Approved for public release; distribution is unlimited.

Page 4 of 4

DD Form 672, MAY 88

PREVIOUS EDITIONS ARE OBSOLETE

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

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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	CRIP CASH NO	CRIP RANGE		L	CRIP CASH NO	CRIP RANGE		L
	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	408	470	908
-1206	344	407	811	-1407	408	470	787	-1687	469	532	940
-1207	408	470	735	-1408	469	532	849	-1688	531	595	1003
-1208	469	532	798	-1409	531	595	912	-1689	596	657	1065
-1209	531	595	860	-1410	594	657	974	-1690	658	720	1128
-1210	594	657	923	-1411	656	720	1037	-1691	721	782	1190
-1211	656	720	985	-1412	719	782	1100	-1692	783	845	1253
-1212	719	782	1048	-1413	781	845	1163	-1693	846	907	1315
-1213	781	845	1110	-1414	844	907	1224	-1694	908	970	1378
-1214	844	907	1173	-1415	906	970	1287	-1695	969	1032	1440
-1215	906	970	1235	-1416	968	1032	1350	-1696	1031	1095	1503
-1216	968	1032	1298	-1417	1031	1095	1412	-1697	1094	1157	1565
-1217	1031	1095	1360	-1418	1094	1157	1474	-1698	1156	1220	1628
-1218	1094	1157	1423	-1419	1156	1220	1537	-1699	1219	1282	1690
-1219	1156	1220	1485	-1420	1219	1282	1600	-1700	1281	1345	1753
-1220	1219	1282	1548	-1421	1281	1345	1663	-1701	1344	1407	1815
-1221	1281	1345	1610	-1422	1344	1407	1724	-1702	1406	1469	1878
-1222	1344	1407	1673	-1423	1406	1469	1787	-1703	1468	1532	1940
-1223	1406	1469	1735	-1424	1468	1532	1849	-1704	1531	1595	2003
-1224	1468	1532	1798	-1425	1531	1595	1912	-1705	1594	1657	2065
-1225	1531	1595	1860	-1426	1594	1657	1974	-1706	1656	1720	2128
-1226	1594	1657	1923	-1427	1656	1720	2037	-1707	1719	1782	2190
-1227	1656	1720	1985	-1428	1719	1782	2099	-1708	1781	1845	2253
-1228	1719	1782	2048	-1429	1781	1845	2162	-1709	1844	1907	2315
-1229	1781	1845	2110	-1430	1844	1907	2224	-1710	1906	1970	2378
-1230	1844	1907	2173	-1431	1906	1970	2287	-1711	1970	2032	2440
-1231	1906	1970	2235	-1432	1968	2032	2349	-1712	2031	2095	2503
-1232	1968	2032	2298	-1433	2031	2095	2412	-1713	2094	2157	2565
-1233	2031	2095	2360	-1434	2094	2157	2474	-1714	2156	2220	2628
-1234	2094	2157	2423	-1435	2156	2220	2537	-1715	2219	2282	2690
-1235	2156	2220	2485	-1436	2219	2282	2599	-1716	2281	2345	2753
-1236	2219	2282	2548					-1717	2344	2407	2815
								-1718	2406	2470	2878
								-1719	2469	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

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SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE BOOKS SPECIFIED IN
THE SOLUTION: ML-F-81177

TABLE E. CRIP NUMBER TABULATION

TABLE E. 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	C (U) MAX
	MIN	MAX				MIN	MAX				MIN	MAX		
-0502	094	157	303	478	-0502	120	197	406	518	-1004	219	282	506	743
-0503	119	220	305	541	-0503	156	282	406	518	-1005	281	345	506	805
-0504	219	282	428	804	-0504	201	346	531	878	-1006	344	407	548	868
-0505	341	346	490	898	-0505	344	407	584	940	-1007	406	470	630	930
-0506	531	407	584	728	-0506	406	470	666	940	-1008	498	532	693	993
-0507	498	532	666	854	-0507	498	532	719	940	-1009	531	595	756	1055
-0508	531	595	740	916	-0508	531	595	781	990	-1010	595	720	818	1118
-0510	594	657	803	878	-0510	594	657	844	1053	-1011	644	657	861	1180
-0511	659	720	888	1041	-0511	659	720	908	1118	-1012	720	782	943	1243
-0512	719	782	928	1104	-0512	719	782	949	1178	-1013	781	845	1006	1305
-0513	781	845	988	1198	-0513	781	845	1040	1240	-1014	844	907	1068	1368
-0514	844	907	1043	1228	-0514	844	907	1094	1305	-1015	908	970	1131	1430
-0515	908	970	1115	1381	-0515	908	970	1156	1381	-1016	969	1032	1193	1493
-0516	999	1032	1178	1534	-0516	999	1032	1219	1429	-1017	1031	1095	1256	1555
					-0517	1031	1095	1281	1490	-1018	1094	1157	1318	1655
					-0518	1094	1157	1344	1553	-1019	1156	1220	1391	1755
					-0519	1156	1220	1406	1618	-1020	1219	1283	1443	1855
					-0520	1219	1283	1469	1678	-1021	1281	1345	1506	1955
					-0521	1281	1345	1531	1740	-1022	1344	1407	1568	2055
					-0522	1344	1407	1594	1803	-1023	1406	1470	1631	2155
					-0523	1406	1470	1656	1868	-1024	1469	1532	1693	2255
					-0524	1469	1532	1719	1928	-1025	1531	1595	1756	2355
					-0525	1531	1595	1781	1988	-1026	1594	1657	1818	2455
					-0526	1594	1657	1844	2048	-1027	1656	1720	1881	2555
					-0527	1656	1720	1908	2108	-1028	1719	1782	1943	2655
					-0528	1719	1782	1968	2168	-1029	1781	1845	2006	2755
					-0529	1781	1844	2028	2228	-1030	1844	1907	2068	2855
					-0530	1844	1907	2088	2288	-1031	1906	1970	2131	2955
					-0531	1906	1970	2148	2348	-1032	1969	2032	2193	3055

PREPARING ACTIVITY NAVY-AS
 CUSTOMERS ARMY- AV NAVY- AS
 AIR FORCE- 98 DLA- IS
 REVIEW MR. 82
 USER
 PROJECT NUMBER 8330-0815
 DISTRIBUTION STATEMENT

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

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

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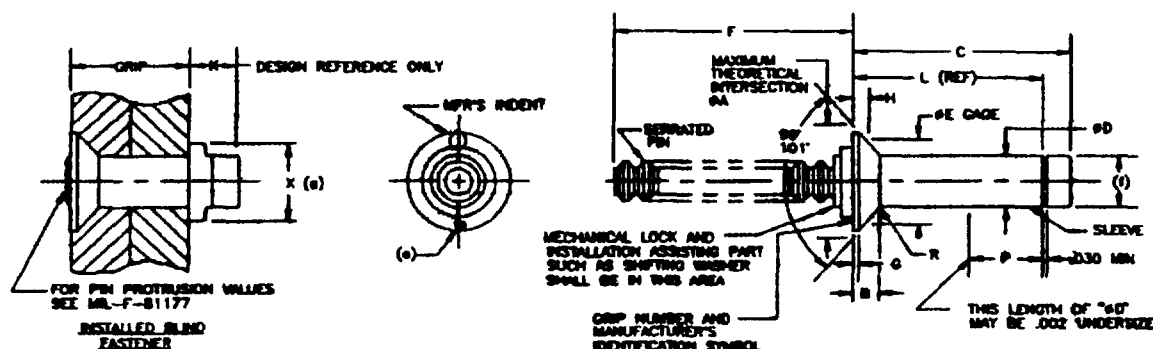


TABLE 1 FASTENER DIMENSIONS AND STRENGTHS

(b) SIZE DASH NUMBER		NOML SIZE	#A	B MAX.	#D	#E GAGE	F	G	H	K	P	R	X	INSTALLED FASTENER			
DOUBLE ACTION (c)	SINGLE ACTION													MINIMUM SINGLE SHEAR LBS.	MINIMUM TENSILE LBS.	HOLE LIMITS	
	(d)																(d)
<div><div></div><div>-06</div></div>	S06	U06	5/32	.333	.072	.164 .182	.2632 .2830	.844	.011	.2204 .0171	.302	.215	.010	.185	2340	1350	.184 .187
<div><div></div><div>-08</div></div>	S08	U08	3/16	.308	.080	.188 .197	.3272 .3370	.873	.013	.0243 .0308	.231	.250	.015	.238	3450	2100	.198 .202
-	-08	U08	1/4	.307	.166	.380 .398	.4320 .4318	1.000	.017	.0310 .0270	.278	.306	.020	.315	5800	3650	.280 .283
-	-10	U10	5/16	.334	.137	.312 .310	.5451 .5448	1.218	.020	.0367 .0325	.318	.350	.025	.373	8300	5200	.312 .316
-	-12	U12	3/8	.392	.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 .430	.7784 .7782	1.862	.025	.0489 .0460	.418	.480	.032	.522	16780	10180	.437 .441
-	-16	U16	1/2	1.047	.289	.468 .466	.8902 .8900	1.882	.028	.0622 .0456	.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 "06" 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, -08L, -08, -10, -10S, -10L, -10, -12, -12S, -12L, -14, -14S, -14L, -16, -16S, -16L ARE INACTIVE FOR NEW DESIGN AFTER 1 JAN 91 USE U06, U08, S06 AND S08.

(d) LETTER "U" SIGNIFIES SINGLE ACTION FASTENER WITHOUT FRAMBLE TYPE OF LOCKING COLLAR OR LOCKING COLLAR CAP. "U" AND "S" CODE FASTENERS IN SIZES "06" 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

CUSTOMERS: ARMY-AM NAVY-AS

AIR FORCE-88 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

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SUPERSEDING
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AMSC- N/A

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