

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 BOOKS SPECIFIED IN THE SOLICITATION: MIL-F-81177

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

Form Approved
OMB No. 0704-0188

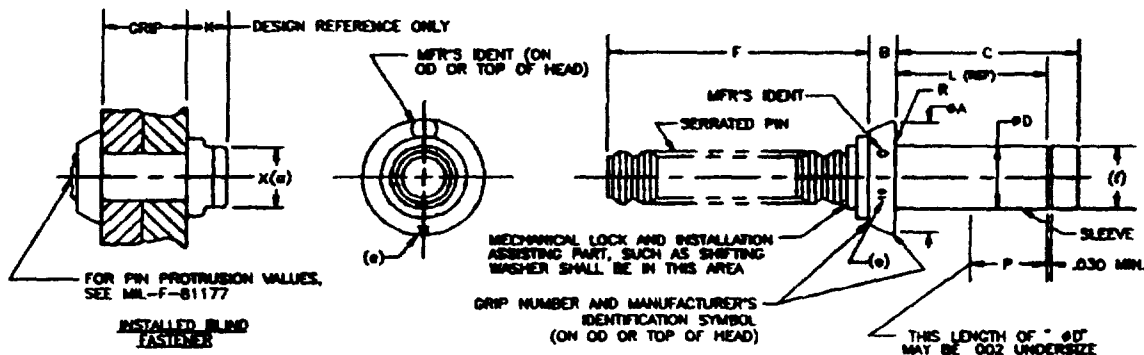




TABLE 1. FASTENER DIMENSIONS AND STRENGTHS

(b) SIZE DASH NUMBER			NOM. SIZE	6A	B	#D	F	K	P	R	X	INSTALLED FASTENER		HOLE LIMITS	
DOUBLE ACTION	SINGLE ACTION											MINIMUM SINGLE SHEAR LBS.	MINIMUM TENSILE LBS.		
(c)	(d)	(e)													
	-05	S05	U05	5/32	.272 .250	.070 .062	.184 .182	.844	.202	.215	.010	.195	2340	1350	.184 .187
	-06	S06	U06	3/16	.332 .308	.135 .125	.199 .197	.875	.231	.250	.015	.238	3450	2100	.189 .202
-	-08	U08		1/4	.432 .400	.140 .130	.280 .258	1.000	.278	.306	.018	.318	5800	3650	.280 .283
-	-10	U10		5/16	.522 .480	.141 .131	.312 .310	1.218	.319	.350	.021	.373	8500	5200	.312 .315
-	-12	U12		3/8	.627 .580	.205 .195	.374 .372	1.842	.384	.405	.025	.448	12200	7500	.374 .377
-	-14	U14		7/16	.727 .675	.207 .187	.437 .435	1.562	.419	.460	.030	.522	18700	10150	.437 .441
-	-16	U16		1/2	.832 .770	.270 .260	.499 .498	1.562	.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 "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 MIL-F-81177, APPENDIX A FOR TOOL SELECTION CHART
- (c) -05, -08, -09, -09A, -09B, -10, -12, -14 AND -16 ARE INACTIVE FOR NEW DESIGN AFTER 1 JAN 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 "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 "#D" MAX AND MAY BE .002 BELOW "#D" MIN IN AREA "P" ONLY

① DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY: NAVY-AS
CUSTODIANS: ARMY-AN NAVY-AS
AIR FORCE-99 DLA-15
REVIEW: ML, B2
USER:
PROJECT NUMBER: 5320-0816
DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET
TITLE
FASTENER, BLIND, HIGH STRENGTH, PULL TYPE,
POSITIVE MECHANICAL LOCK, PROTRUDING HEAD,
ALLOY STEEL, 112 K.S.J. For

SPECIFICATION SHEET NUMBER
MS90354 28 FEB 84
REV 1
SUPERSEDED
MS90354 R 13 AUG 1993
AMSC- N/A FSC 5320

A. Approved for public release, distribution is unlimited.

Page 1 of 4

DD Form 672, MAY 88

PRINTING ERRORS ARE CORRECTED

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 DOCS SPECIFIED IN THE SOLICITATION ML-F-81177

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

TABLE N GRIP NUMBER TABULATION

#5/32 (-05)				#3/16 (-06)				#1/4 (-08)				#5/16 (-10)			
GRIP DASH NO	GRIP RANGE		L REF	C (U) MAX	GRIP DASH NO	GRIP RANGE		L REF	C (U) MAX	GRIP DASH NO	GRIP RANGE		L REF	C (U) MAX	
	MIN	MAX				MIN	MAX				MIN	MAX			
-0501	031	095	217	372	-0602	094	137	303	479	-0802	094	137	344	553	
-0502	094	157	280	434	-0603	156	220	365	541	-0803	156	220	408	618	
-0503	156	220	342	496	-0604	219	282	428	604	-0804	219	282	468	680	
-0504	219	282	398	559	-0605	281	345	490	666	-0805	281	345	531	743	
-0505	281	345	467	622	-0606	344	407	553	729	-0806	344	407	594	806	
-0506	344	407	530	684	-0607	406	470	615	791	-0807	406	470	658	868	
-0507	406	470	592	746	-0608	468	532	678	854	-0808	468	532	719	920	
-0508	468	532	665	809	-0609	531	595	740	916	-0809	531	595	781	983	
-0509	531	595	717	872	-0610	594	657	803	979	-0810	594	657	844	1055	
-0510	594	657	780	934	-0611	656	720	865	1041	-0811	656	720	906	1118	
-0511	656	720	842	996	-0612	719	782	928	1104	-0812	719	782	968	1180	
-0512	719	782	905	1058	-0613	781	845	990	1166	-0813	781	845	1031	1243	
-0513	781	844	967	1122	-0614	844	907	1053	1229	-0814	844	907	1094	1305	
-0514	844	907	1030	1184	-0615	906	970	1115	1291	-0815	906	970	1156	1368	
-0515	906	970	1082	1246	-0616	968	1032	1178	1354	-0816	968	1032	1218	1430	
-0516	968	1032	1155	1309	-0617	1031	1095	1240	1416	-0817	1031	1095	1281	1493	
					-0618	1094	1157	1303	1479	-0818	1094	1157	1342	1555	
					-0619	1156	1220	1365	1541	-0819	1156	1220	1406	1618	
					-0620	1219	1282	1428	1604	-0820	1219	1282	1468	1680	
					-0621	1281	1345	1490	1666	-0821	1281	1345	1531	1743	
					-0622	1344	1407	1553	1729	-0822	1344	1407	1594	1805	
					-0623	1406	1470	1615	1791	-0823	1406	1470	1658	1868	
					-0624	1468	1532	1678	1854	-0824	1468	1532	1719	1930	
					-0625	1531	1595	1740	1916	-0825	1531	1595	1781	1993	
					-0626	1594	1657	1803	1979	-0826	1594	1657	1844	2055	
					-0627	1656	1720	1865	2041	-0827	1656	1720	1906	2118	
					-0628	1719	1782	1928	2104	-0828	1719	1782	1968	2180	
										-0829	1781	1845	2031	2243	
										-0830	1844	1907	2094	2305	
														2368	
														2430	
														2493	

Form Approved
OMB No. 0704-0188

PREPARING ACTIVITY NAVY-AS CUSTODIANS. ARMY-AN NAVY-AS AIR FORCE-99 DLA-15 REVIEW IS, MI, 82 USER: PROJECT NUMBER 5320-0818 DISTRIBUTION STATEMENT	MILITARY SPECIFICATION SHEET TITLE FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, PROTRUDING HEAD, ALLOY STEEL, 112 K.S.I Fm	SPECIFICATION SHEET NUMBER MS90354 28 FEB 84 REV T SUPERSEDING MS90354 R 13 AUG 1993 AMSC- N/A FSC 5320
A. Approved for public release, distribution is unlimited		Page 2 of 4

DD Form 672, MAY 88

PREVIOUS EDITIONS ARE OBSOLETE

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 CODES SPECIFIED IN THE SOLICITATION ML-F-81177

TABLE II. CRIP NUMBER TABULATION (CONTINUED)

[illegible]

PREPARING ACTIVITY: NAVY-AS CUSTODIANS: ARMY-AM NAVY-AS AIR FORCE-99 DLA-IS REVIEWER: ML, B2 USER: PROJECT NUMBER: 5320-0818	<u>MILITARY SPECIFICATION SHEET</u> TITLE: FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, PROTRUDING HEAD, ALLOY STEEL, 112 K.S.I. Fcu	SPECIFICATION SHEET NUMBER MS90354 28 FEB 94 REV T
		SUPERSUCCESSOR MS90354 R 13 AUG 1993 AMSC- N/A FSC 5320
DISTRIBUTION STATEMENT A. Approved for public release, distribution is unlimited.		Page <u>3</u> of <u>4</u>

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 DOCS SPECIFIED IN THE SOLICITATION: MIL-F-81177

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

Form Approved
OMB No. 0704-0188

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 AMS5690

2 HARDNESS

SLEEVE KNOOP (1000 GRAM LOAD) 326-466

SERRATED PIN. ROCKWELL "C" 48 TO 53

MECHANICAL LOCK NOT APPLICABLE

3 PROTECTIVE TREATMENT

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

SERRATED PIN CADMIUM PLATE PER QQ-P-416, TYPE I, 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 II, CLASS 2 (CARBON AND ALLOY STEEL) PASSIVATE PER QQ-T-35 (A286 AND TYPE 304 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 LUBRICATION

6 EXAMPLE OF PART NUMBER

MS 90354 - 0806 D - 1/4 DIA. NOM SIZE, 156 MIN GRIP, INSTALLED WITH A SINGLE ACTION TOOL

"D" DENOTES ALUMINUM COATING, NO CODE DENOTES CADMIUM PLATING

GRIP RANGE (SEE TABLE II)

SIZE 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, 12, 14, AND 18

"S" DENOTES FASTENERS INSTALLED WITH A SINGLE ACTION TOOL, FOR SIZES 05 AND 06

"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 ± 0.10
- 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-AY

NAVY-AS

AIR FORCE-99

DLA-15

REVIEW: IS M, 82

USER:

PROJECT NUMBER: 5320-0818

MILITARY SPECIFICATION SHEET

TITLE

FASTENER, BLIND, HIGH STRENGTH, PULL TYPE, POSITIVE MECHANICAL LOCK, PROTRUDING HEAD, ALLOY STEEL, 112 K 51 Fm

SPECIFICATION SHEET NUMBER

MS90354

28 FEB 1994
REV 1

SUPERSEDING

MS90354 R 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