MIL-S-45933/2A 22 September 1977 SUPERSEDING MIL-S-45933/2 30 June 1971

MILITARY SPECIFICATION SHEET

STUD, KEYRING LOCKED, 160 KSI FTU, MULTIPLE STEP

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

The complete requirements for procuring the studs described herein shall consist of this document and the latest issue of specification MLL-S-45933.

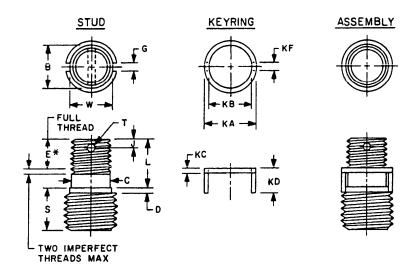


TABLE I - Sizes and Dimensions

DASH NO. 1/	nut end threads unjf-3a	STUD END THREADS UNJF-3A	B ±.005	c ±.005	D ±.005	E ±.030	G ±.005
1 2 3 4 5 6 7	.1120-40 .1380-32 .1640-32 .1900-32 .2500-28 .3125-24 .3750-24	.1640-32 .1900-32 .2500-28 .3125-24 .3750-24 .4375-20 .5625-18	.121 .135 .179 .236 .289 .338 .447	.112 .135 .164 .190 .250 .312	.025 .032 .037 .040 .045 .052 .060	.343 .375 .406 .437 .500 .562 .625	.035 .035 .065 .065 .081 .081

DASH NO.	J ±.010	\$ ±.015	T ±.005	W REF	KA +.000 005	KB +.010 000	KC +.005 000	KD ±.010	KF Ref
1 2 3 4 5 6 7	.109 .125 .156 .156	.190 .250 .250 .312 .437 .562	- .070 .070 .076 .076	.117 .129 .172 .233 .284 .334 .434	.164 .190 .250 .312 .375 .437	.127 .140 .185 .242 .295 .344 .453	.025 .027 .032 .035 .040 .047	.098 .122 .127 .145 .175 .203 .255	.030 .030 .060 .060 .076 .076

 $[\]underline{1/}$ Dash No. 1, 2 and 3 nut end threads are UNJC-3A: Dash No. 1 stud end is UNJC-3A

^{*} When "L" is equal to or less than "E", then "E" shall equal "L" minus two imperfect threads.

MIL-S-45933/2A

TABLE I - Continued

DASH NO.	NUT END THREADS	STUD END THREADS	В	С	D	E	G
	UNJF-3A	UNJF-3A	±.005	±.005	±.005	±.030	±.005
8 9 10 11 12 14 16	.4375-20 .5000-20 .5625-18 .6250-18 .7500-16 .8750-14 1.0000-12	.6250-18 .7500-16 .8750-14 1.0000-12 1.1250-12 1.3750-12 1.5000-12	.507 .619 .728 .836 .930 1.149 1.273	.437 .500 .562 .625 .750 .875	.060 .067 .075 .083 .099 .114 .114	.687 .812 .875 .937 1.062 1.187 1.312	.128 .159 .159 .190 .190 .253

DASH NO.	J 010	s ±.015	T.	W REF	KA +.000 005	KB +.010 000	KC +.005 000	кD ±.010	KF REF
8 9 10 11 12 14 16	.172 .187 .220 .220 .220 .250	.750 .875 .937 1.000 1.250 1.375 1.625	.106 .106 .141 .141 .141 .141	.496 .605 .717 .820 .913 1.126 1.253	.625 .750 .875 1.000 1.125 1.375 1.500	.516 .625 .734 .846 .938 1.156	.055 .062 .070 .078 .094 .109	.255 .312 .351 .390 .437 .531	.123 .154 .154 .185 .185 .248

TABLE II - Length Dash Numbers

		LENGTH DASH NUMBER										
L		NUT END DIAMETER										
END ±.015	.1120 .1380	.1640	.1900 .2500	.3125	.3750 .4375	.5000	.5625	.6250 .7500	.8750 1.0000			
.250 .312 .375 .437 .500 .562 .625 .687 .750 .812 .875 .937 1.000 1.062 1.125 1.187 1.250 1.312 1.375 1.437	4 5 6 7 8 9 10	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	10 11 12 13 14 15 16 17 18 19 20 21 22 23	12 13 14 15 16 17 18 19 20 21 22 23	14 15 16 17 18 19 20 21 22 23	16 17 18 19 20 21 22 23	18 19 20 21 22 23			

TABLE II - Continued

	LENGTH DASH NO.				LENGTH DASH NO.
L	NUT	END DIA		L	NUT END DIA
NUT END ±.015				NUT END ±.015	.2500 Thru 1.0000
1.500 1.562 1.625 1.687 1.750 1.812 1.875 1.937 2.000 2.125 2.250 2.375 2.500	24 25 26 27 28 29 30 31 32	24 25 26 27 28 29 30 31 32 34 36 38		2.625 2.750 2.875 3.000 3.125 3.250 3.375 3.500 3.625 3.750 3.875 4.000	42 44 46 48 50 52 54 56 58 60 62 64

NOTES:

1. MATERIAL: Studs: Alloy steel in accordance with MIL-S-6758

(4130) or MIL-S-5626 (4140).

Corrosion-resisting steel in accordance with

AMS 5737, composition A286.

Keyrings: Corrosion-resisting steel, composition

410, in accordance with AMS 5504 or

AMS 5613.

PROTECTIVE Alloy steel studs, with keyrings, shall be cadmium plated in accordance with QQ-P-416, Type II,

Class 2.

Corrosion-resisting steel studs, with keyrings, shall be passivated in accordance with QQ-P-35 or silver plated in accordance with AMS 2411.

3. SURFACE ROUGHNESS: Thread surfaces shall be 63 microinches, turned surfaces shall be 125 microinches and milled areas shall be 125-250 microinches, in accordance with ANSI B46.1.

4. THREADS: Threads shall be in accordance with MIL-S-8879.

5. HARDNESS: Alloy steel studs shall be Rockwell C36-40.
Corrosion-resisting steel studs shall be Rockwell
C35-30

Keyrings shall be Rockwell C35-45.

MIL-S-45933/2A

6. <u>DIMENSIONS</u>: All dimensions are in inches and shall apply after protective coating.

7. CONCENTRICITY: Nut end and stud end threads shall be concentric within 0.006 at the pitch diameter.

8. PART NUMBER: The part number consists of M45933/2 plus a size dash number from Table I, plus a length dash number from Table II.

Add "A" in lieu of the first "dash" for A286 cor-

rosion-resisting steel.

Add "D" in lieu of the second "dash" for drilled

Add "D" in lieu of the second "dash" for drilled hole in nut end.

Add "P" as suffix to length dash number for silver

plating. Examples:

M45933/2-5-16 Alloy steel stud, not drilled,

1.000 nut end length.

M45933/2A5D16P Corrosion-resisting steel stud, drilled nut end, 1.000 nut end

length, silver plated.

9. Studs shall be free of all hanging burrs and slivers which might become dislodged under usage.

10. These studs are manufactured under U.S. Patent No. 2,980,929 which expires 25 March 1978. The Government does not have a royalty free license.

11. Install studs in accordance with MIL-S-45933/3.

12. Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians:

Army - WC

Air Force - 99

Preparing Activity:

Army - WC

Project No. 5307-0199

Reviewer Activities:

Army - AV, EL

DSA - IS

NSA - NS

User Activities:

Navy - AS, OS

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