

INCH-POUND

MIL-S-24149/5C(SH)

27 March 1989

SUPERSEDING

MIL-S-24149/5B

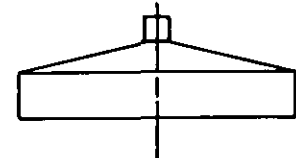
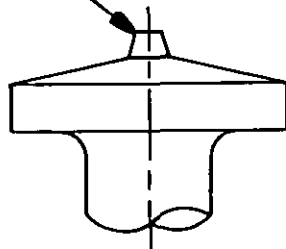
1 June 1981

## MILITARY SPECIFICATION SHEET

STUDS, WELDING,  
TYPE VII, CLASS 1,2,3, ALUMINUM ALLOY, FOR  
STORED ENERGY (CAPACITOR DISCHARGE) ARC WELDING

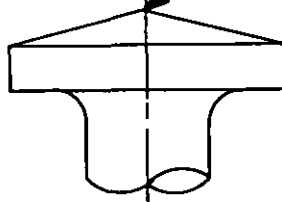
This specification sheet is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

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-S-24149(SH).

OPTIONAL  
TIP

ALUMINUM ALLOY STUDS, TYPE VII, STYLE A, TIPPED WELD-END.

.040 MAX. FLAT ON POINT



ALUMINUM ALLOY STUDS, TYPE VII, STYLE B, POINTED WELD-END.

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## NOTE:

1. The choice of weld-end style shall be based on the type of stored energy welding equipment to be used.

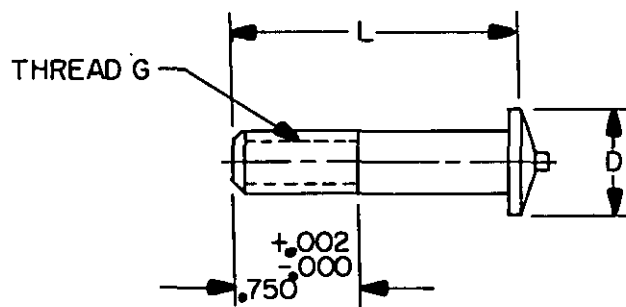
FIGURE 1. Optional weld-end styles.

AMSC N/A

FSC 5307

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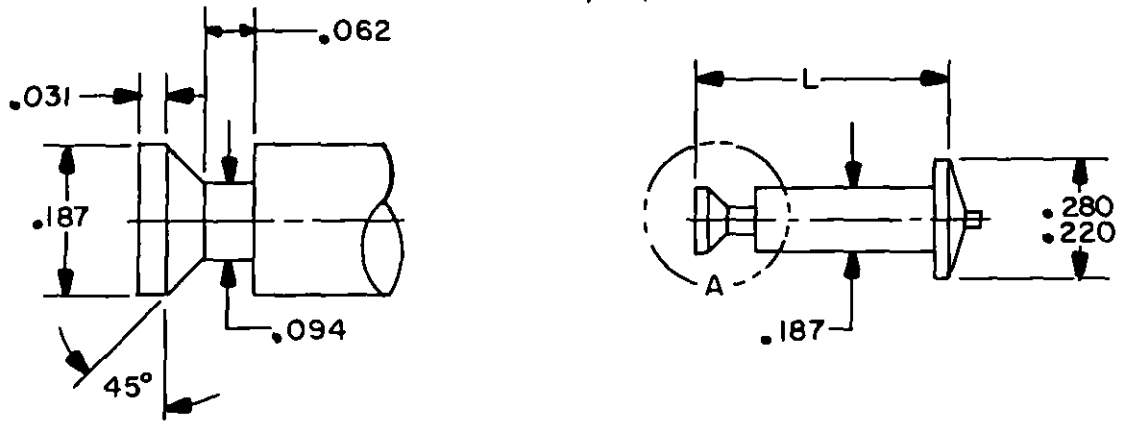
FIGURE 2. Type VII, class 1, stud with threaded section.TABLE I. Configuration part numbers.

G	D	L +0.031	M24149/5 dash no.
0.1900-32UNF-2A	0.280/.220	1.250	-1
		1.375	-2
		1.500	-3
		1.625	-4
		1.750	-5
		1.875	-6
		2.000	-7
		2.250	-8
		2.500	-9
		2.750	-10
		3.000	-11
		3.250	-12
		3.500	-13
0.2500-20UNC-2A	0.340/.280	1.250	-14
		1.375	-15
		1.500	-16
		1.625	-17
		1.750	-18
		1.875	-19
		2.000	-20
		2.250	-21
		2.500	-22
		2.750	-23
		3.000	-24
		3.250	-25
		3.500	-26

## NOTE:

1. Dimensions are in inches. Unless otherwise specified, tolerance: decimals plus or minus 0.015.

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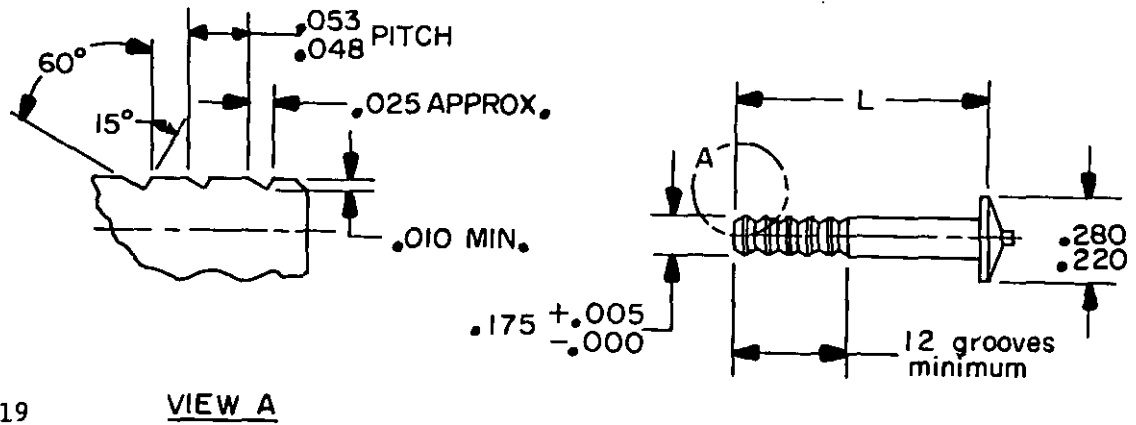
VIEW AFIGURE 3. Type VII, class 2, stud with notched end.TABLE II. Length part numbers.

L +0.031	M24149/5 dash no.
.625	-101
.750	-102
.875	-103
1.000	-104
1.125	-105
1.250	-106
1.375	-107
1.500	-108
1.625	-109
1.750	-110
1.875	-111
2.000	-112
2.250	-113
2.500	-114
2.750	-115
3.000	-116

## NOTE:

1. Dimensions are in inches. Unless otherwise specified, tolerances: decimals plus or minus 0.015, angles plus or minus 2 degrees.

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VIEW AFIGURE 4. Type VII, class 3, stud with grooves (annular rings).TABLE III. Length part numbers.

L $\pm 0.031$	M24149/5 dash no.
.625	-201
.750	-202
.875	-203
1.000	-204
1.125	-205
1.250	-206
1.375	-207
1.500	-208
1.625	-209
1.750	-210
1.875	-211
2.000	-212
2.250	-213
2.500	-214
2.750	-215
3.000	-216

## NOTE:

1. Dimensions are in inches. Unless otherwise specified, tolerances: decimals plus or minus 0.015, angles plus or minus 1 degree.

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## REQUIREMENTS:

1. Material - Aluminum alloy.
2. Tensile strength - 35,000 lb/in<sup>2</sup>, minimum
3. Chemical composition - Studs shall be of the chemical compositions indicated in table IV.

TABLE IV. Chemical composition (single values are maximum).

Alloy no.	Copper	Mag-nesium	Man-ganese	Sil-icon	Iron	Zinc	Ti-tanium	Chro-mium	Others		Alum-inum
									Each	Total	
5083	0.10	4.0/4.9	0.30/1.0	0.40	0.40	0.25	0.15	0.05/.25	0.05	0.15	Remainder
5086	.10	3.5/4.5	.20/.70	.40	.50	.25	.15	.05/.25	.05	.15	Remainder
5356	.10	4.5/5.5	.05/.20	.25	.40	.10	.06/.20	.05/.20	.05	.15	Remainder
5456	.10	4.7/5.5	.50/1.0	.25	.40	.25	.20	.05/.20	.05	.15	Remainder

4. Part number - The part number consists of the prefix letter "M" and the specification sheet number plus the applicable dash number.

## Example:

M24149/5-7 - Type VII, class 1 welding stud 0.1900-32 UNF-2A thread, 2.000 inch length.

## NOTE:

1. Changes from previous issue - Revision letters are not used to denote changes due to the extensiveness of the changes.

Preparing activity:

Navy - SH

(Project 5307-N028)