



DASH NO	1/2 GRIP LENGTH
02	.875
05	.500
09	.500
10	.750

ACCEPTABLE SOCKET DESIGN

TABLE 1 DIMENSIONS AND PART NUMBERS.

NOMINAL SIZE		.190	.250	.375	500
THREADS PER INCH UNF - 3A		32	28	24	20
Ø D - BODY DIAMETER	MAX	.1900	.2500	.3750	.5000
	MIN	.1840	.2425	.3678	.4919
Ø A - HEAD DIAMETER	MAX	.3125	.3750	.5625	.750
	MIN	.3030	.3650	.5500	.7350
H - HEAD HEIGHT	MAX	.1900	.2500	.3750	.5000
	MIN	.1850	.2440	.3680	.4920
S - HEAD SIZE HEIGHT	MIN	.1710	.2250	.3370	.4500
J - SOCKET WIDTH ACROSS FLATS	MAX	.1587	.1900	.3160	.3790
	MIN	.1562	.1875	.3125	.3750
T - KEY ENGAGEMENT	MIN	.0900	.1200	.1820	.2450
G - WALL THICKNESS	MIN	.0650	.0850	.1430	.1900
F - CHAMFER OR RADIUS	MAX	.0050	.0080	.0080	.0100
R - FILLET EXTENSION	MAX	.0140	.0140	.0200	.0260
	MIN	.0090	.0090	.0150	.0200
MINIMUM TENSILE LOAD - LBS		3,200	5,800	14,000	26,000
L - LENGTH	TOLERANCE	DASH NO	DASH NO	DASH NO	DASH NO
	500 750 1 000	+ .000 - .031	01 03	04 06	
1 250 1 500 2 000 2 500	+ .000 - .040	02 <sup>1/2</sup>	05 <sup>1/2</sup>	07 08 09 <sup>1/2</sup>	10 <sup>1/2</sup>

1/2 GRIP LENGTH MAX

USER ACTIVITIES  
ARMY - MC, MI  
NAVY - MC

REVIEWER ACTIVITIES  
ARMY - EA  
NAVY - OS  
AIR FORCE - 82  
DLA - IS  
NSA - NS

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

APPROVED 1 AUG 84 REVISED

PA	AR	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
Other Cust	SH		SCREW, CAP, SOCKET HEAD, ALLOY STEEL, UNF-3A	MS51480
99				
PROCUREMENT SPECIFICATION	SUPERSEDES		PAGE	OF
FF-S-86			1	2

REQUIREMENTS

1. MATERIAL. ALLOY STEEL IN ACCORDANCE WITH PROCUREMENT SPECIFICATION HAVING A MINIMUM TENSILE STRENGTH OF 160,000 PSI.
2. FINISH. ZINC COATING IN ACCORDANCE WITH ASTM B533-78, Fe/Zn 5 (5 μm) TYPE II.
3. THREADS. THE THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/2. ACCEPTABILITY OF SCREW THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/20, SYSTEM 21.
4. THREAD LENGTH. SCREWS, DASH NUMBERS 01, 03, 04, 06, 07, AND 08 SHALL HAVE COMPLETE (FULL FORM) THREADS EXTENDING WITHIN TWO THREADS OF THE HEAD AS MEASURED WITH A THREAD RING GAGE. THREADS SHALL NOT EXTEND TO THE FILET EXTENSION NOR SHALL THREADS EXTEND TO AND UNDERCUT THE HEAD OF THE SCREW.
5. PART NUMBER. THE BASIC MS PART NUMBER IS FOLLOWED BY A DASH NUMBER FROM TABLE I

EXAMPLE: MS51480-01 - SCREW, CAP, SOCKET HEAD, ALLOY STEEL, 190-32UNF-3A,  
LENGTH 750, ZINC COATED

NOTES:

1. ALL DIMENSIONS ARE IN INCHES
2. THE HEAD MAY OR MAY NOT BE KNURLED AT THE MANUFACTURER'S OPTION. TYPE OF KNURLING OPTIONAL
3. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BIDS OR REQUEST FOR PROPOSAL, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
4. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN

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NAVY - MC

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	SH 99			MS51480	
PROCUREMENT SPECIFICATION FF-S-86		SUPERSEDES		PAGE 2 OF 2	