

This military standard is approved by the Department of the Air Force and the Naval Air Systems Command and is mandatory for use by these activities. All other military activities are required to employ this standard where suitable.

Review activities:  
Navy - 4S  
USAF - 11

MARK MS18115 AND MANUFACTURERS IDENTIFICATION, RAISED OR DEPRESSED .010 MAX

CANCELLED AFTER 1 NOV 1980. USE MS3369. THE CANCELED MS18115 BOLTS ARE NOT SUITABLE FOR USE IN ANY APPLICATION. USE MS3369 BOLTS IDENTIFIED BY THE SAME SIZE AND GRIP DASH NUMBERS IN ALL DESIGNS AND FOR REPLACEMENT OF CANCELED BOLTS IN ALL EXISTING MILITARY EQUIPMENT. PERSONNEL SAFETY MAY BE INVOLVED.

**CANCELLED AFTER 1 NOV.1980. USE MS 5369.**

|                                          |                        |                                                                                                             |
|------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------|
| PA<br>Navy- 4S<br>Other Cust<br>USAF-11  | INTERNATIONAL INTEREST | TITLE<br>BOLTS, SELF-RETAINING, POSITIVE LOCKING, STEEL, 75 KSI Fsu, 125 KSI Ftu, HEX, SLOTTED HEAD, 450° P |
| PROCUREMENT SPECIFICATION<br>MIL-B-23964 | SUPERSEDES:            |                                                                                                             |

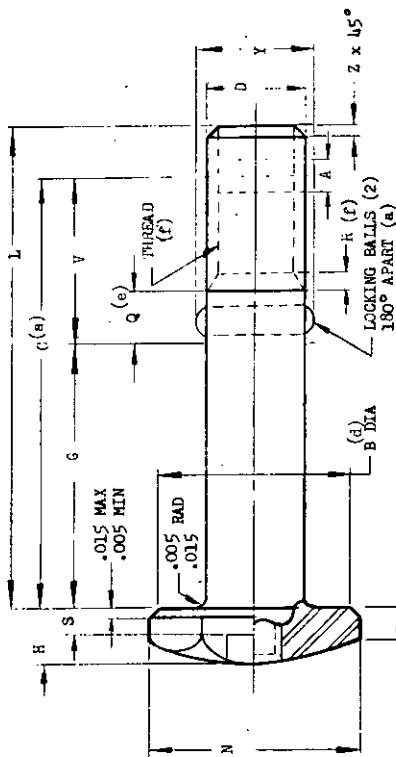


TABLE I

| NOMINAL SIZE | THREAD DESIGNATION | A    |      | B    |       | D     |      | H    |      | K    |      | N    |      | Q    |      | T    |      | S    |      | (c)<br>V | W    |      | Y    |      | Z    |      |
|--------------|--------------------|------|------|------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
|              |                    | MAX  | MIN  | MAX  | MIN   | MAX   | MIN  | MAX  | MIN  | MAX  | MIN  | MAX  | MIN  | MAX  | MIN  | MAX  | MIN  | MAX  | MIN  |          | MAX  | MIN  | MAX  | MIN  | MAX  | MIN  |
| 10           | 10-32UNF-3A        | .080 | .070 | .359 | .1874 | .1885 | .110 | .095 | .057 | .047 | .113 | .094 | .079 | .083 | .063 |      |      | .032 | .022 | .293     | .376 | .367 | .225 | .215 |      |      |
| 1/4          | 1/4-28UNF-3A       |      |      | .422 | .2412 | .2483 | .141 | .126 | .073 | .063 | .148 | .125 | .110 | .104 | .084 |      |      |      |      | .333     | .439 | .430 | .294 | .284 |      | .021 |
| 5/16         | 5/16-24UNF-3A      | .086 | .076 | .484 | .3117 | .3108 | .172 | .157 | .088 | .078 | .557 | .156 | .141 | .125 | .105 |      |      |      |      | .375     | .502 | .492 | .380 | .370 |      |      |
| 3/8          | 3/8-24UNF-3A       |      |      | .546 | .3712 | .3733 | .204 | .189 |      | .104 | .628 | .171 | .156 | .146 | .126 |      |      |      |      | .421     | .564 | .553 | .445 | .435 |      |      |
| 7/16         | 7/16-20UNF-3A      | .116 | .106 | .609 | .4367 | .4358 | .235 | .220 |      |      | .698 | .202 | .187 | .166 | .146 | .063 | .653 |      | .460 | .627     | .617 | .514 | .504 |      | .037 |      |
| 1/2          | 1/2-20UNF-3A       |      |      | .734 | .4991 | .4982 | .266 | .251 | .119 | .109 | .840 | .234 | .219 | .188 | .168 | .078 | .068 | .523 | .752 | .741     | .599 | .589 |      |      |      |      |
| 9/16         | 9/16-18UNF-3A      | .151 | .141 | .859 | .5616 | .5607 | .297 | .282 |      |      | .910 | .265 | .250 | .208 | .188 | .094 | .084 | .628 | .877 | .865     | .671 | .661 | .072 | .052 |      |      |

(a) GENERAL DIMENSIONAL AND MECHANICAL REQUIREMENTS:

COTTER PIN HOLE SHALL BE WITHIN .010 INCH OF BOLT CENTERLINE FOR BOLTS 5/16 DIA AND SMALLER; AND WITHIN .015 INCH FOR BOLTS 3/8 DIA AND LARGER. THE PIN HOLE SHALL BE PERPENDICULAR TO BOLT CENTERLINE WITH  $\pm 2^\circ$ . LOCATION OF COTTER PIN HOLE FROM BEARING SURFACE IS GIVEN BY  $C = [0 \text{ MIN} \div V] \pm .010$ . THE COTTER PIN HOLE SHALL BE PERPENDICULAR TO THE SLOT IN HEAD WITHIN  $\pm 5^\circ$ . ORIENTATION OF BALLS OR ELEMENT TO COTTER PIN HOLE SHALL BE IN LINE WITHIN  $\pm 3^\circ$ . BALL OR ELEMENT PROTRUSION FROM THE BOLT CENTERLINE SHALL BE EQUAL OR LESS THAN  $1/2 Y$  MAX.

(b) THE RETAINING DEVICE SHALL BE RELEASED ONLY BY DEPRESSING THE PLUNGER LOCATED IN THE HEAD OF THE BOLT.

(c) REFERENCE DIMENSIONS AND REQUIREMENTS ARE FOR DESIGN INFORMATION AND ARE NOT MANUFACTURING AND INSPECTION REQUIREMENTS.

(d) RADIUS RELIEF OR CHAMFER TO ".5" DIA.

(e) BALLS OR RETAINING ELEMENTS SHALL BE LOCATED WITHIN THE LIMITS OF Q DIMENSION.

(f) THREAD: IN ACCORDANCE WITH MIL-S-8879 EXCEPT THAT INCOMPLETE THREAD LENGTH (R) SHALL BE A MAXIMUM OF 1-1/2 AND A MINIMUM OF 1/2 THREAD PITCHES IN LENGTH AND MAJOR DIA. TO BE 0.001 BELOW MIN. SHANK DIA.

**ENTIRE STANDARD INACTIVE FOR DESIGN AFTER 12 FEBRUARY 1968. USE MS21125.**

APPROVED 1 Mar 64 REVISED 4 9 AUG 65 12 Feb 68 1 NOV 1980

FED. SUP CLASS  
5306

MILITARY STANDARD

MS18115(ASG)

SHEET 1 OF 3