

MIL-N-8985/2  
26 October 1976

MILITARY SPECIFICATION SHEET

NUTS, SHEAR, SELF-LOCKING, STEEL, 180 KSI Ft<sub>u</sub>, 450<sup>o</sup>F

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

The complete requirements for procuring the bolts described herein shall consist of this document and the issue in effect of MIL-B-8985.

DESIGN INFORMATION:

The nuts covered by this specification sheet are for use where shear loads (not tensile) are the primary consideration.

The nuts are designed to be used with bolts conforming to MIL-B-8906/2, and with washers conforming to MS21299.

The nuts are subject to the limitations specified in MS33588.

Tooling shall be in accordance with MS33787 and MIL-W-8982.

REQUIREMENTS:

MATERIAL: ALLOY STEEL, AMS6322D, AMS6304, AMS6485, AMS6487 AND AMS6414.

HARDNESS: ROCKWELL C38-C46

SURFACE TEXTURE: BEARING SURFACE 125 MICRO INCHES IN ACCORDANCE WITH ANSI B46.1-1962.

PLATING: CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 2.

AXIAL STRENGTH: SEATING TORQUE AND WRENCH TORQUE SHALL BE IN ACCORDANCE WITH TABLE I .

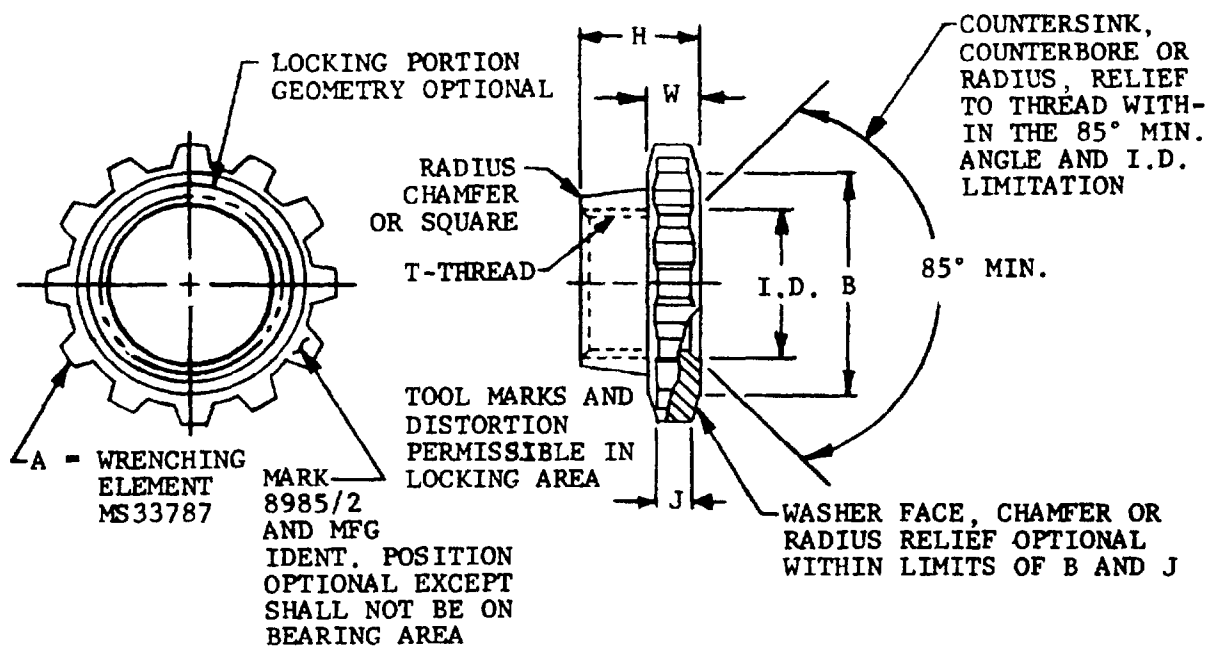
LUBRICATION: LUBRICATION SHALL BE IN ACCORDANCE WITH MIL-N-8985.

(SEE ILLUSTRATION ON PAGE 2)

FSC 5310

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ILLUSTRATION



AXIAL STRENGTH, SEATING TORQUE AND WRENCH TORQUE SHALL BE IN ACCORDANCE WITH TABLE II.

TABLE I

| DASH NO. | ULTIMATE AXIAL STRENGTH LB. MIN. | <sup>2/</sup> / <sub>3/</sub> | SEATING TORQUE FOR TORQUE EFFECTIVITY TEST IN LB | WRENCH TORQUE IN. LB. MIN. | MINIMUM BEARING AREA IN SQ INCHES <sup>1/</sup> |
|----------|----------------------------------|-------------------------------|--|----------------------------|---|
| -3       | 3,910                            |                               | 63   | 80                         | .0578   |
| -4       | 6,980                            |                               | 150  | 200                        | .0735   |
| -5       | 11,100                           |                               | 330  | 425                        | .0899   |
| -6       | 17,100                           |                               | 540  | 700                        | .0985   |
| -7       | 23,200                           |                               | 790  | 1000                       | .1823   |
| -8       | 30,900                           |                               | 1,100  | 1400                       | .1979   |
| -9       | 39,200                           |                               | 1,530  | 1900                       | .2942   |
| -10      | 49,000                           |                               | 2,000  | 2500                       | .3343   |
| -12      | 71,000                           |                               | 3,400  | 4400                       | .3737   |
| -14      | 97,100                           |                               | 5,600  | 7100                       | .5435   |
| -16      | 126,000                          |                               | 7,700  | 9800                       | .7444   |
| -18      | 162,000                          |                               | 10,000   | 12500                      | .9737   |
| -20      | 202,000                          |                               | 12,200   | 15500                      | 1.1857  |
| -22      | 247,000                          |                               | 14,400   | 17000                      | 1.4985  |
| -24      | 296,000                          |                               | 16,200   | 20500                      | 1.8438  |

<sup>1/</sup> BEARING AREA DATA ARE FOR DESIGN PURPOSES ONLY AND ARE NOT MANUFACTURING REQUIREMENTS

<sup>2/</sup> SHALL BE TESTED ON 220 KSI BOLTS

<sup>3/</sup> STRENGTH BASED ON NAS1348 SECTIONAL AREAS

TABLE II 1/

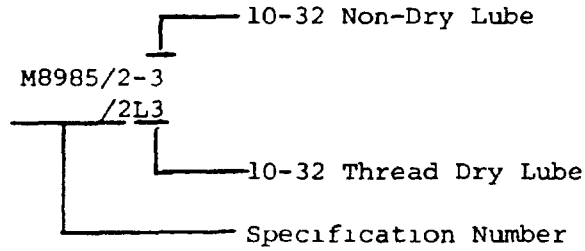
| DASH NUMBER |                    | THREAD<br>UNJF-3B | MS33787<br>ELEMENT<br>NUMBER | B<br>MIN | I D   |       | H<br>MAX. | J<br>MIN. | W<br>MIN. | X<br>SEE<br>NOTE<br>2/ | APPROX.<br>WEIGHT<br>LB/100 |
|-------------|--------------------|-------------------|------------------------------|----------|-------|-------|-----------|-----------|-----------|------------------------|-----------------------------|
| DRY<br>LUBE | NON<br>DRY<br>LUBE |                   |                              |          | MAX.  | MIN.  |           |           |           |                        |                             |
|             |                    |                   |                              |          |       |       |           |           |           |                        |                             |
| L3          | -3                 | 10-32             | 12                           | 343      | .210  | .190  | .151      | .024      | .060      | .003                   | .24                         |
| L4          | -4                 | 1/4-28            | 14                           | .408     | .270  | .250  | .199      | .049      | .088      | .003                   | 42                          |
| L5          | -5                 | 5/16-24           | 16                           | 474      | 332   | .312  | .245      | .072      | .113      | .004                   | .65                         |
| L6          | -6                 | 3/8-24            | 18                           | .538     | .405  | .375  | .294      | .096      | .140      | .004                   | 99                          |
| L7          | -7                 | 7/16-20           | 22                           | .671     | .467  | .437  | .344      | .110      | .157      | .005                   | 1 75                        |
| L8          | -8                 | 1/2-20            | 24                           | .730     | .530  | .500  | .394      | .128      | .181      | .005                   | 2.32                        |
| L9          | -9                 | 9/16-18           | 28                           | .855     | .597  | .562  | .447      | .136      | .196      | .005                   | 3.53                        |
| L10         | -10                | 5/8-18            | 30                           | .928     | .660  | .625  | .499      | .155      | .216      | .006                   | 4.41                        |
| L12         | -12                | 3/4-16            | 34                           | 1.042    | .781  | .750  | .608      | .301      | .371      | .007                   | 8.12                        |
| L14         | -14                | 7/8-14            | 40                           | 1.230    | .906  | .875  | .717      | .331      | .417      | .008                   | 12.67                       |
| L16         | -16                | 1-12              | 46                           | 1.418    | 1.031 | 1.000 | .829      | .387      | .463      | .009                   | 19.20                       |
| L18         | -18                | 1 1/8-12          | 52                           | 1.605    | 1.156 | 1.125 | .945      | .457      | .568      | .010                   | 28.88                       |
| L20         | -20                | 1 1/4-12          | 56                           | 1.775    | 1.281 | 1.250 | 1.060     | .539      | .633      | .011                   | 36.81                       |
| L22         | -22                | 1 3/8-12          | 62                           | 1.971    | 1.406 | 1.375 | 1.187     | .656      | .760      | .012                   | 53.30                       |
| L24         | -24                | 1 1/2-12          | 68                           | 2.166    | 1.531 | 1.500 | 1.311     | .744      | .884      | .013                   | 69.30                       |

NOTES 1/ Dimensions in inches. All dimensions after plating.  
2/ Bearing surface shall be normal with pitch diameter of thread with X checked in accordance with MIL-N-8985.

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PART NUMBER: Consists of the basic number of this specification sheet and a dash number taken from table I. The letter "L" in place of dash number indicates a dry lubricant has been added to the nut.

EXAMPLE:



CUSTODIANS:

ARMY - AV  
AIR FORCE - 11

PREPARING ACTIVITY

NAVY - AS  
DOD PROJECT NO. 5310-0897

REVIEW

AIR FORCE - 82  
DSA - 1S

| STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL  |   | OMB Approval<br>No 22-R255 |
|--|---|----------------------------|
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| DOCUMENT IDENTIFIER AND TITLE<br>MIL-N-8985/2  |   |                            |
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| <p>1 HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?<br/>A GIVE PARAGRAPH NUMBER AND WORDING</p> <p>B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES</p>   |   |                            |
| 2 COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID  |   |                            |
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|  |   | DATE                       |

DD FORM 1426  
1 JAN 72

REPLACES EDITION OF 1 JAN 66 WHICH MAY BE USED

S/N 0102-014-1802