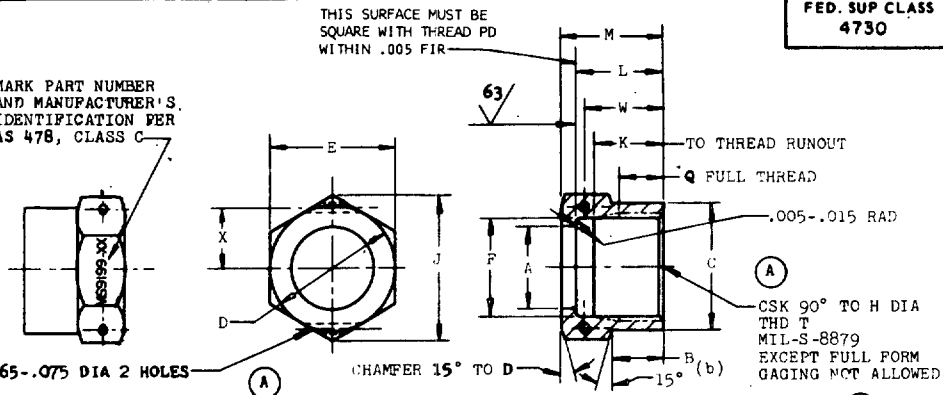


**MS9199**

(a) MARK PART NUMBER AND MANUFACTURER'S IDENTIFICATION PER AS 478, CLASS C



| PART NO.  | NOM<br>TUBE<br>OD<br>REF | THREAD T |            | A<br>DIA<br>+.003<br>-1.000 | B<br>±.015<br>(b) | C<br>DIA<br>±.005 | D<br>DIA | E           | F<br>DIA    |
|-----------|--------------------------|----------|------------|-----------------------------|-------------------|-------------------|----------|-------------|-------------|
| MS9199-08 | .500                     | .750     | -16UNJF-3B | .570                        | .493              | .865              | .875     | .865-.877   | .689-.696   |
| MS9199-09 | .562                     | .8125    | -16UNJF-3B | .634                        | .493              | .927              | .977     | .928-.940   | .751-.760   |
| MS9199-10 | .625                     | .875     | -14UNJF-3B | .698                        | .617              | .990              | 1.000    | .990-1.002  | .805-.815   |
| MS9199-11 | .688                     | 1.000    | -12UNJF-3B | .770                        | .588              | 1.115             | 1.125    | 1.114-1.127 | .918-.930   |
| MS9199-12 | .750                     | 1.0625   | -12UNJF-3B | .834                        | .588              | 1.180             | 1.250    | 1.239-1.252 | .981-.991   |
| MS9199-14 | .875                     | 1.1875   | -12UNJF-3B | .961                        | .615              | 1.220             | 1.275    | 1.264-1.277 | 1.106-1.116 |
| MS9199-16 | 1.000                    | 1.3125   | -12UNJF-3B | 1.089                       | .652              | 1.433             | 1.500    | 1.489-1.502 | 1.231-1.241 |
| MS9199-18 | 1.125                    | 1.500    | -12UNJF-3B | 1.217                       | .680              | 1.620             | 1.750    | 1.738-1.752 | 1.419-1.429 |
| MS9199-20 | 1.250                    | 1.625    | -12UNJF-3B | 1.347                       | .727              | 1.745             | 1.812    | 1.800-1.814 | 1.544-1.554 |
| MS9199-24 | 1.500                    | 1.875    | -12UNJF-3B | 1.617                       | .880              | 1.995             | 2.125    | 2.113-2.127 | 1.794-1.804 |
| MS9199-28 | 1.750                    | 2.250    | -12UNJF-3B | 1.890                       | .930              | 2.410             | 2.500    | 2.487-2.502 | 2.169-2.179 |
| MS9199-32 | 2.000                    | 2.500    | -12UNJF-3B | 2.167                       | 1.060             | 2.660             | 2.750    | 2.737-2.752 | 2.419-2.429 |
| MS9199-40 | 2.500                    | 3.000    | -12UNJF-3B | 2.667                       | .860              | 3.200             | 3.250    | 3.237-3.252 | 2.919-2.929 |
| MS9199-48 | 3.000                    | 3.500    | -12UNJF-3B | 3.180                       | .910              | 3.700             | 3.812    | 3.798-3.814 | 3.419-3.429 |

| NOM<br>TUBE<br>OD<br>REF | H<br>+.030<br>-1.000 | J<br>MIN | K<br>MAX | L<br>±.005 | M     | Q<br>MIN | W     | X           | APPROX<br>WEIGHT<br>LB/100 |
|--------------------------|----------------------|----------|----------|------------|-------|----------|-------|-------------|----------------------------|
| .500                     | .750                 | .987     | .569     | .723       | .828  | .383     | .648  | .400-.420   | 1.747                      |
| .562                     | .812                 | 1.059    | .569     | .723       | .828  | .383     | .668  | .427-.447   | 2.059                      |
| .625                     | .875                 | 1.130    | .667     | .817       | .927  | .452     | .777  | .465-.485   | 2.230                      |
| .688                     | 1.000                | 1.271    | .738     | .868       | .968  | .468     | .818  | .520-.540   | 2.777                      |
| .750                     | 1.062                | 1.414    | .738     | .868       | .968  | .488     | .818  | .580-.600   | 3.501                      |
| .875                     | 1.188                | 1.556    | .765     | .915       | 1.015 | .515     | .865  | .645-.665   | 4.298                      |
| 1.000                    | 1.312                | 1.699    | .786     | .962       | 1.062 | .536     | .912  | .715-.735   | 4.819                      |
| 1.125                    | 1.500                | 1.983    | .800     | .990       | 1.120 | .550     | .945  | .840-.860   | 7.006                      |
| 1.250                    | 1.625                | 2.054    | .810     | 1.017      | 1.167 | .560     | .967  | .890-.910   | 7.072                      |
| 1.500                    | 1.875                | 2.411    | .937     | 1.170      | 1.320 | .687     | 1.100 | 1.040-1.060 | 9.860                      |
| 1.750                    | 2.250                | 2.838    | .945     | 1.170      | 1.370 | .695     | 1.170 | 1.255-1.275 | 14.740                     |
| 2.000                    | 2.500                | 3.123    | 1.050    | 1.300      | 1.500 | .800     | 1.300 | 1.395-1.415 | 17.313                     |
| 2.500                    | 3.000                | 3.693    | .850     | 1.100      | 1.300 | .600     | 1.100 | 1.680-1.700 | 21.421                     |
| 3.000                    | 3.500                | 4.334    | .900     | 1.150      | 1.350 | .650     | 1.150 | 2.000-2.020 | 27.750                     |

DIAMETERS A AND F SHALL BE CONCENTRIC TO THREAD PD WITHIN .004 FIR.

(b) MULTIPLE MARKING PERMISSIBLE PROVIDED POSITIVE IDENTIFICATION IS SHOWN. PARTS MUST BE MARKED BEFORE THREADING.

(c) TO THEORETICAL SHARP CORNER.

MATERIAL: ALUMINUM AMS 4121.

FINISH: ANODIC TREATMENT, AMS 2470 - DO NOT DYE.

(d) SURFACE ROUGHNESS: ANSI B46.1-1962 UNLESS OTHERWISE SPECIFIED, SURFACES TO BE 125 MICROINCHES EXCEPT HEX. PARTS SUBJECT TO FLUORESCENT PENETRANT INSPECTION PER AMS 2645.

BREAK SHARP EDGES .003-.015 UNLESS OTHERWISE SPECIFIED. FILLETS .005-.020 RAD OR CHAM.

DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED: TOLERANCES; LINEAR DIMENSIONS ±.010,

ANGULAR DIMENSIONS ±5°.

DO NOT USE UNASSIGNED PART NUMBERS.

(A)

AS & AMS ARE SAE PUBLICATIONS

THIS STANDARD WAS DEVELOPED COOPERATIVELY WITH THE MILITARY SERVICES BY THE SAE AEROSPACE PART STANDARDS DIVISION.

|  |   |                            |
|--|---|----------------------------|
| <b>P.A</b><br><b>USAF-82</b><br>Other Cust<br><b>Navy-AS</b> | <b>TITLE</b><br>NUT, TUBE COUPLING - ALUMINUM, AMS 4121 | <b>MILITARY STANDARD</b>   |
|  |   | <b>MS9199</b>              |
| <b>PROCUREMENT SPECIFICATION</b><br>NONE                     | <b>SUPERSEDES:</b>                                      | <b>SHEET</b> 1 <b>OF</b> 1 |

Users activities:  
Navy - MC, XH

Reviewer activities:  
USAF - II

This military standard is approved by the Department of Defense and is mandatory on all activities. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

APPROVED 9 MAY 62 REVISED 13 DEC 72