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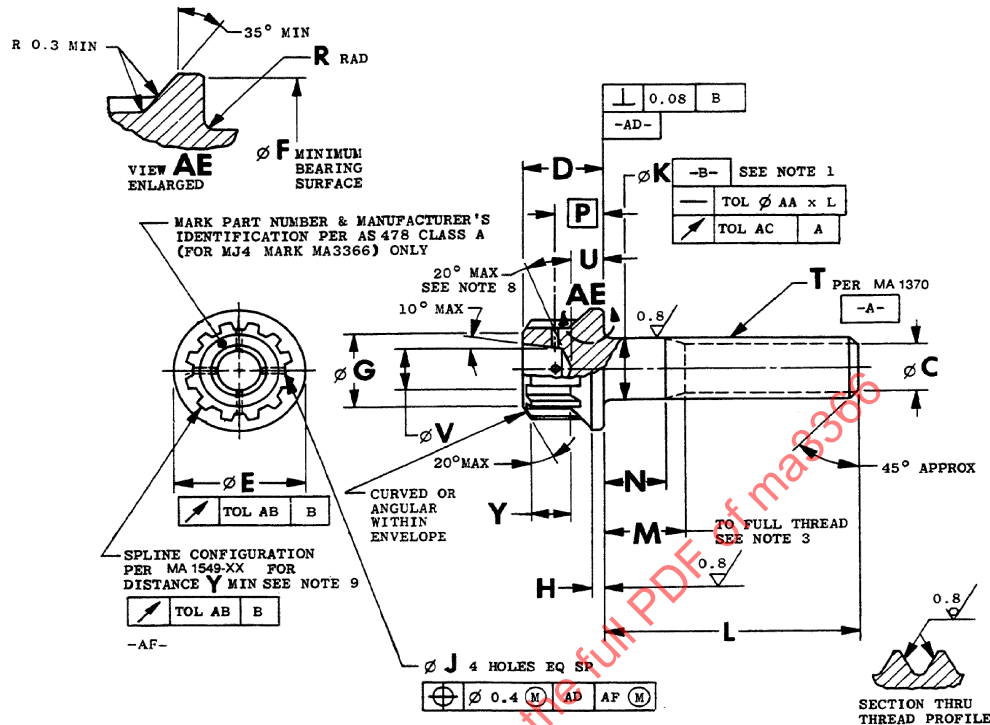
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MA3366

FEDERAL SUPPLY CLASS  
5306

RATIONALE

MA3366 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

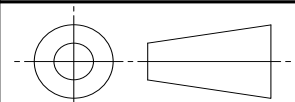


1. FOR PART NUMBERS WHERE DIMENSION **N** IS EQUAL OR LESS THAN ONE DIAMETER TO HEAD, THE THREAD PD SHALL REPLACE DATUM **B**
2. MATERIAL: CORROSION AND HEAT RESISTANT NICKEL BASE ALLOY AMS 5662 (UNS N07718)
3. PROCUREMENT SPECIFICATION: MA3377
4. HARDNESS: 40-46 HRC OR EQUIVALENT.
5. FLUORESCENT PENETRANT INSPECTION: AMS 2645 . ACCEPTANCE CRITERIA PER MA3377
6. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36-1978; REQUIREMENTS PER ANSI/ASME B46.1-1985 UNLESS OTHERWISE SPECIFIED SURFACES TO BE 3.2 MICROMETRES Ra.
7. PART NUMBER SHALL INCLUDE THE STANDARD NUMBER AND THE DASH NUMBER TO INDICATE DIAMETER AND LENGTH. EXAMPLE OF PART NUMBER:  
MA3366-040018 = BOLT, MJ4x0.7 THREAD, 18 LONG  
MA3366-120116 = BOLT, MJ12x1.25 THREAD, 116 LONG
8. SHAPE OF BOTTOM OF HOLE MAY BE FLAT OR CURVED WITHIN DIMENSIONS SHOWN, NO HOLE IS REQUIRED ON DIAMETER 4.
9. WRENCHING CONFIGURATION SHALL BE IN ACCORDANCE WITH MA 1549 FOR THE APPLICABLE DASH NO. SEE TABLE I
10. BREAK EDGES 0.1-0.4, UNLESS OTHERWISE SPECIFIED.
11. DIMENSIONING AND TOLERANCING: ANSI Y14.5M-1982 . TOLERANCE GRADES PER ANSI B4.2-1978 .
12. ALL DIMENSIONS IN SI MILLIMETRES UNLESS OTHERWISE SPECIFIED.
13. DO NOT USE UNASSIGNED PART NUMBERS.

MA, AS AND AMS ARE SAE PUBLICATIONS.  
ANSI IS AMERICAN NATIONAL STANDARDS INSTITUTE PUBLICATIONS.

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THIRD ANGLE PROJECTION



CUSTODIAN: E-25



METRIC AEROSPACE STANDARD

BOLT, MACHINE - SPLINE DRIVE EXTENDED WASHER,  
DRILLED HEAD, FULL SHANK, LONG THREAD, AMS 5662,  
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TABLE I

| PART NUMBER<br>SEE NOTE 7 | NOM<br>DIA<br>REF | THREAD<br>T    | C        | D<br>h15    | E<br>MAX | F<br>MIN | G<br>MIN | H<br>MIN | J<br>H13  |
|---------------------------|-------------------|----------------|----------|-------------|----------|----------|----------|----------|-----------|
| MA3366-040XXX             | 4                 | MJ4x0.7-4h6h   | 2.6-3.1  | 5.02-5.50   | 8.3      | 7.5      | 6        | 0.8      | 1.00-1.14 |
| MA3366-050XXX             | 5                 | MJ5x0.8-4h6h   | 3.0-4.0  | 5.92-6.50   | 9.1      | 8.3      | 7        | 1.0      | 1.00-1.14 |
| MA3366-060XXX             | 6                 | MJ6x1-4h6h     | 3.7-4.7  | 6.92-7.50   | 10.6     | 9.8      | 8        | 1.2      | 1.40-1.54 |
| MA3366-070XXX             | 7                 | MJ7x1-4h6h     | 4.7-5.7  | 7.62-8.20   | 12.1     | 11.3     | 9        | 1.4      | 1.40-1.54 |
| MA3366-080XXX             | 8                 | MJ8x1-4h6h     | 5.7-6.7  | 8.02-8.60   | 13.6     | 12.8     | 10       | 1.6      | 1.40-1.54 |
| MA3366-100XXX             | 10                | MJ10x1.25-4h6h | 7.4-8.4  | 9.40-10.10  | 16.7     | 15.7     | 12       | 2.0      | 1.60-1.74 |
| MA3366-120XXX             | 12                | MJ12x1.25-4h6h | 9.4-10.4 | 10.70-11.40 | 19.9     | 18.8     | 14       | 2.4      | 1.60-1.74 |

TABLE I

| NOM<br>DIA<br>REF | K<br>h12    | P   | R       | U       | V       | Y<br>MIN | AA     | AB   | AC   |
|-------------------|-------------|-----|---------|---------|---------|----------|--------|------|------|
| 4                 | 3.88-4.00   | 3.5 | 0.2-0.4 | —       | —       | 2.5      | 0.0030 | 0.10 | 0.12 |
| 5                 | 4.88-5.00   | 4.5 | 0.3-0.5 | 2.5-2.9 | 3.2-3.7 | 2.8      | 0.0030 | 0.13 | 0.12 |
| 6                 | 5.88-6.00   | 5.2 | 0.5-0.7 | 2.8-3.2 | 4.1-4.6 | 3.5      | 0.0030 | 0.15 | 0.12 |
| 7                 | 6.85-7.00   | 5.9 | 0.5-0.7 | 3.3-3.7 | 4.9-5.4 | 3.8      | 0.0030 | 0.18 | 0.15 |
| 8                 | 7.85-8.00   | 6.3 | 0.5-0.7 | 3.7-4.1 | 5.2-5.7 | 3.9      | 0.0030 | 0.20 | 0.15 |
| 10                | 9.85-10.00  | 7.7 | 0.6-0.8 | 4.7-5.1 | 6.7-7.2 | 4.2      | 0.0025 | 0.25 | 0.15 |
| 12                | 11.82-12.00 | 8.8 | 0.6-0.9 | 5.6-6.0 | 8.0-8.5 | 4.5      | 0.0025 | 0.30 | 0.18 |

| NOM<br>DIA<br>REF | WRENCHING<br>CONFIGURATION<br>DASH NO<br>SEE NOTE 9 |
|-------------------|-----------------------------------------------------|
| 4                 | 06                                                  |
| 5                 | 07                                                  |
| 6                 | 08                                                  |
| 7                 | 09                                                  |
| 8                 | 10                                                  |
| 10                | 12                                                  |
| 12                | 14                                                  |



## METRIC AEROSPACE STANDARD

BOLT, MACHINE - SPLINE DRIVE EXTENDED WASHER,  
DRILLED HEAD, FULL SHANK, LONG THREAD, AMS 5662,  
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TABLE II

| L<br>LENGTH | MJ4x0.7-4h6h          |          |          |                          | MJ5x0.8-4h6h          |          |          |                          |
|-------------|-----------------------|----------|----------|--------------------------|-----------------------|----------|----------|--------------------------|
|             | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 |
| 17.7-18.3   | 040018                | 4.0      | 1.1      | 0.355                    | 050020                | 4.0      | 0.9      | 0.566                    |
| 19.7-20.3   | 040020                | 6.0      | 3.1      | 0.374                    | 050022                | 6.0      | 2.9      | 0.598                    |
| 21.7-22.3   | 040022                | 8.0      | 5.1      | 0.393                    | 050024                | 8.0      | 4.9      | 0.630                    |
| 23.7-24.3   | 040024                | 10.0     | 7.1      | 0.412                    | 050026                | 10.0     | 6.9      | 0.662                    |
| 25.7-26.3   | 040026                | 12.0     | 9.1      | 0.431                    | 050028                | 12.0     | 8.9      | 0.694                    |
| 27.7-28.3   | 040028                | 14.0     | 11.1     | 0.450                    | 050030                | 14.0     | 10.9     | 0.726                    |
| 29.7-30.3   | 040030                | 16.0     | 13.1     | 0.469                    | 050032                | 16.0     | 12.9     | 0.758                    |
| 31.7-32.3   | 040032                | 18.0     | 15.1     | 0.488                    | 050034                | 18.0     | 14.9     | 0.790                    |
| 33.7-34.3   | 040034                | 20.0     | 17.1     | 0.507                    | 050036                | 20.0     | 16.9     | 0.822                    |
| 35.7-36.3   | 040036                | 22.0     | 19.1     | 0.526                    | 050038                | 22.0     | 18.9     | 0.854                    |
| 37.7-38.3   | 040038                | 24.0     | 21.1     | 0.545                    | 050040                | 24.0     | 20.9     | 0.886                    |
| 39.7-40.3   | 040040                | 26.0     | 23.1     | 0.564                    | 050042                | 26.0     | 22.9     | 0.918                    |
| 41.7-42.3   | 040042                | 28.0     | 25.1     | 0.583                    | 050044                | 28.0     | 24.9     | 0.950                    |
| 43.7-44.3   | 040044                | 30.0     | 27.1     | 0.602                    | 050046                | 30.0     | 26.9     | 0.982                    |
| 45.7-46.3   | 040046                | 32.0     | 29.1     | 0.621                    | 050048                | 32.0     | 28.9     | 1.014                    |
| 47.7-48.3   | 040048                | 34.0     | 31.1     | 0.640                    | 050050                | 34.0     | 30.9     | 1.046                    |
| 49.7-50.3   | 040050                | 36.0     | 33.1     | 0.659                    | 050052                | 36.0     | 32.9     | 1.078                    |
| 51.7-52.3   | 040052                | 38.0     | 35.1     | 0.678                    | 050054                | 38.0     | 34.9     | 1.110                    |
| 53.7-54.3   | 040054                | 40.0     | 37.1     | 0.697                    | 050056                | 40.0     | 36.9     | 1.142                    |
| 55.7-56.3   | 040056                | 42.0     | 39.1     | 0.716                    | 050058                | 42.0     | 38.9     | 1.174                    |
| 57.7-58.3   |                       |          |          |                          | 050060                | 44.0     | 40.9     | 1.206                    |
| 59.7-60.3   |                       |          |          |                          | 050064                | 48.0     | 44.9     | 1.270                    |
| 63.7-64.3   |                       |          |          |                          | 050068                | 52.0     | 48.9     | 1.334                    |
| 67.7-68.3   |                       |          |          |                          |                       |          |          |                          |

TABLE II (CONTINUED)

| L<br>LENGTH | MJ6x1-4h6h            |          |          |                          | MJ7x1-4h6h            |          |          |                          |
|-------------|-----------------------|----------|----------|--------------------------|-----------------------|----------|----------|--------------------------|
|             | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 |
| 21.7-22.3   | 060022                | 4.0      | 0.7      | 0.864                    | 070024                | 4.0      | 0.7      | 1.252                    |
| 23.7-24.3   | 060024                | 6.0      | 2.5      | 0.910                    | 070026                | 6.0      | 2.5      | 1.315                    |
| 25.7-26.3   | 060026                | 8.0      | 4.5      | 0.955                    | 070028                | 8.0      | 4.5      | 1.378                    |
| 27.7-28.3   | 060028                | 10.0     | 6.5      | 1.002                    | 070030                | 10.0     | 6.5      | 1.441                    |
| 29.7-30.3   | 060030                | 12.0     | 8.5      | 1.050                    | 070032                | 12.0     | 8.5      | 1.505                    |
| 31.7-32.3   | 060032                | 14.0     | 10.5     | 1.094                    | 070034                | 14.0     | 10.5     | 1.568                    |
| 33.7-34.3   | 060034                | 16.0     | 12.5     | 1.140                    | 070036                | 16.0     | 12.5     | 1.631                    |
| 35.7-36.3   | 060036                | 18.0     | 14.5     | 1.186                    | 070038                | 18.0     | 14.5     | 1.694                    |
| 37.7-38.3   | 060038                | 20.0     | 16.5     | 1.232                    | 070040                | 20.0     | 16.5     | 1.757                    |
| 39.7-40.3   | 060040                | 22.0     | 18.5     | 1.278                    | 070042                | 22.0     | 18.5     | 1.820                    |
| 41.7-42.3   | 060042                | 24.0     | 20.5     | 1.324                    | 070044                | 24.0     | 20.5     | 1.883                    |
| 43.7-44.3   | 060044                | 26.0     | 22.5     | 1.370                    | 070046                | 26.0     | 22.5     | 1.946                    |
| 45.7-46.3   | 060046                | 28.0     | 24.5     | 1.416                    | 070048                | 28.0     | 24.5     | 2.009                    |
| 47.7-48.3   | 060048                | 30.0     | 26.5     | 1.462                    | 070050                | 30.0     | 26.5     | 2.072                    |
| 49.7-50.3   | 060050                | 32.0     | 28.5     | 1.508                    | 070052                | 32.0     | 28.5     | 2.135                    |
| 51.7-52.3   | 060052                | 34.0     | 30.5     | 1.554                    | 070054                | 34.0     | 30.5     | 2.198                    |
| 53.7-54.3   | 060054                | 36.0     | 32.5     | 1.600                    | 070056                | 36.0     | 32.5     | 2.261                    |
| 55.7-56.3   | 060056                | 38.0     | 34.5     | 1.646                    | 070058                | 38.0     | 34.5     | 2.324                    |
| 57.7-58.3   | 060058                | 40.0     | 36.5     | 1.692                    | 070060                | 40.0     | 36.5     | 2.387                    |
| 59.7-60.3   | 060060                | 42.0     | 38.5     | 1.738                    | 070064                | 44.0     | 40.5     | 2.513                    |
| 63.7-64.3   | 060064                | 46.0     | 42.5     | 1.830                    | 070068                | 48.0     | 44.5     | 2.639                    |
| 67.7-68.3   | 060068                | 50.0     | 46.5     | 1.922                    | 070072                | 52.0     | 48.5     | 2.765                    |
| 71.7-72.3   | 060072                | 54.0     | 50.5     | 2.014                    | 070076                | 56.0     | 52.5     | 2.891                    |
| 75.7-76.3   | 060076                | 58.0     | 54.5     | 2.106                    | 070080                | 60.0     | 56.5     | 3.017                    |
| 79.7-80.3   | 060080                | 62.0     | 58.5     | 2.198                    | 070084                | 64.0     | 60.5     | 3.143                    |
| 83.7-84.3   | 060084                | 66.0     | 62.5     | 2.290                    | 070088                | 68.0     | 64.5     | 3.270                    |
| 87.7-88.3   |                       |          |          |                          | 070092                | 72.0     | 68.5     | 3.395                    |
| 91.7-92.3   |                       |          |          |                          | 070096                | 76.0     | 72.5     | 3.521                    |
| 95.7-96.3   |                       |          |          |                          |                       |          |          |                          |



## METRIC AEROSPACE STANDARD

BOLT, MACHINE - SPLINE DRIVE EXTENDED WASHER,  
DRILLED HEAD, FULL SHANK, LONG THREAD, AMS 5662,  
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TABLE II (CONTINUED)

| L<br>LENGTH | MJ8x1-4h6h            |          |          |                          | MJ10x1.25-4h6h        |          |          |                          |
|-------------|-----------------------|----------|----------|--------------------------|-----------------------|----------|----------|--------------------------|
|             | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 | DASH NO<br>SEE NOTE 7 | M<br>MAX | N<br>MIN | APPROX<br>MASS<br>kg/100 |
| 25.7-26.3   | 080026                | 4.0      | 0.7      | 1.762                    | —                     | —        | —        | —                        |
| 27.7-28.3   | 080028                | 6.0      | 2.5      | 1.844                    | —                     | —        | —        | —                        |
| 29.7-30.3   | 080030                | 8.0      | 4.5      | 1.926                    | —                     | —        | —        | —                        |
| 31.7-32.3   | 080032                | 10.0     | 6.5      | 2.028                    | 100032                | 6.0      | 2.0      | 3.253                    |
| 33.7-34.3   | 080034                | 12.0     | 8.5      | 2.091                    | 100034                | 8.0      | 4.0      | 3.382                    |
| 35.7-36.3   | 080036                | 14.0     | 10.5     | 2.172                    | 100036                | 10.0     | 6.0      | 3.511                    |
| 37.7-38.3   | 080038                | 16.0     | 12.5     | 2.254                    | 100038                | 12.0     | 8.0      | 3.640                    |
| 39.7-40.3   | 080040                | 18.0     | 14.5     | 2.336                    | 100040                | 14.0     | 10.0     | 3.769                    |
| 41.7-42.3   | 080042                | 20.0     | 16.5     | 2.418                    | 100042                | 16.0     | 12.0     | 3.898                    |
| 43.7-44.3   | 080044                | 22.0     | 18.5     | 2.500                    | 100044                | 18.0     | 14.0     | 4.027                    |
| 45.7-46.3   | 080046                | 24.0     | 20.5     | 2.582                    | 100046                | 20.0     | 16.0     | 4.156                    |
| 47.7-48.3   | 080048                | 26.0     | 22.5     | 2.594                    | 100048                | 22.0     | 18.0     | 4.285                    |
| 49.7-50.3   | 080050                | 28.0     | 24.5     | 2.746                    | 100050                | 24.0     | 20.0     | 4.414                    |
| 51.7-52.3   | 080052                | 30.0     | 26.5     | 2.828                    | 100052                | 26.0     | 22.0     | 4.543                    |
| 53.7-54.3   | 080054                | 32.0     | 28.5     | 2.910                    | 100054                | 28.0     | 24.0     | 4.672                    |
| 55.7-56.3   | 080056                | 34.0     | 30.5     | 2.992                    | 100056                | 30.0     | 26.0     | 4.801                    |
| 57.7-58.3   | 080058                | 36.0     | 32.5     | 3.074                    | 100058                | 32.0     | 28.0     | 4.930                    |
| 59.7-60.3   | 080060                | 38.0     | 34.5     | 3.156                    | 100060                | 34.0     | 30.0     | 5.059                    |
| 63.7-64.3   | 080064                | 42.0     | 38.5     | 3.320                    | 100064                | 38.0     | 34.0     | 5.317                    |
| 67.7-68.3   | 080068                | 46.0     | 42.5     | 3.484                    | 100068                | 42.0     | 38.0     | 5.575                    |
| 71.7-72.3   | 080072                | 50.0     | 46.5     | 3.648                    | 100072                | 46.0     | 42.0     | 5.833                    |
| 75.7-76.3   | 080076                | 54.0     | 50.5     | 3.812                    | 100076                | 50.0     | 46.0     | 6.091                    |
| 79.7-80.3   | 080080                | 58.0     | 54.5     | 3.976                    | 100080                | 54.0     | 50.0     | 6.349                    |
| 83.7-84.3   | 080084                | 62.0     | 58.5     | 4.140                    | 100084                | 58.0     | 54.0     | 6.603                    |
| 87.7-88.3   | 080088                | 66.0     | 62.5     | 4.304                    | 100088                | 62.0     | 58.0     | 6.865                    |
| 91.7-92.3   | 080092                | 70.0     | 66.5     | 4.468                    | 100092                | 66.0     | 62.0     | 7.123                    |
| 95.7-96.3   | 080096                | 74.0     | 70.5     | 4.632                    | 100096                | 70.0     | 66.0     | 7.377                    |
| 99.7-100.3  | 080100                | 78.0     | 74.5     | 4.796                    | 100100                | 74.0     | 70.0     | 7.639                    |
| 103.7-104.3 | 080104                | 82.0     | 78.5     | 4.860                    | 100104                | 78.0     | 74.0     | 7.897                    |
| 107.7-108.3 | 080108                | 86.0     | 82.5     | 5.124                    | 100108                | 82.0     | 78.0     | 8.155                    |
| 111.7-112.3 | 080112                | 90.0     | 86.5     | 5.288                    | 100112                | 86.0     | 82.0     | 8.413                    |
| 115.7-116.3 |                       |          |          |                          | 100116                | 90.0     | 86.0     | 8.671                    |
| 119.7-120.3 |                       |          |          |                          | 100120                | 94.0     | 90.0     | 8.929                    |
| 123.7-124.3 |                       |          |          |                          | 100124                | 98.0     | 94.0     | 9.187                    |
| 127.7-128.3 |                       |          |          |                          | 100128                | 102.0    | 98.0     | 9.445                    |
| 131.7-132.3 |                       |          |          |                          | 100132                | 106.0    | 102.0    | 9.703                    |
| 135.7-136.3 |                       |          |          |                          | 100136                | 110.0    | 106.0    | 9.961                    |
| 139.7-140.3 |                       |          |          |                          | 100140                | 114.0    | 110.0    | 10.219                   |