

**INCH-POUND**

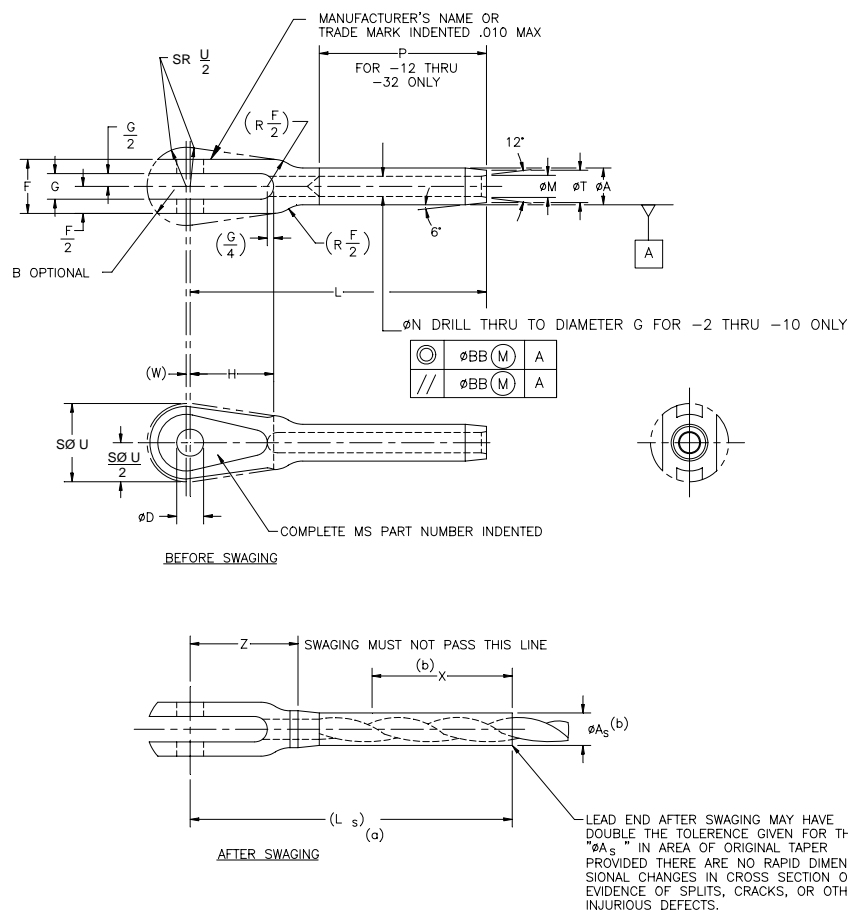
MS20667J  
w/Amendment 2  
12 October 2007  
SUPERSEDING  
MS20667J  
w/Amendment 1  
9 February 2006

## DETAIL SPECIFICATION SHEET

### TERMINAL, WIRE ROPE, SWAGING, FORK END

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

The requirements for acquiring the product described herein shall consist of this specification sheet, MIL-DTL-781, and QPL-781.



#### NOTES:

- Reference dimensions are for design purposes only and are not an inspection requirement.
- Swaged terminals shall conform to ' $\phi A_s$ ' for length X.
- G dimension should be inspected below cross-hole.
- The U dimension compliance will be determined prior to final material removed for slotting (G dimension).

FIGURE 1. Terminal, wire rope, swaging, fork end.

MS20667J  
w/Amendment 2

TABLE I. Dash numbers and dimensions.

| Dash number | Wire rope diameter |         | Minimum breaking strength lb $\frac{1}{2}$ | $\varnothing A$ | $\varnothing A_s$ |                  | B radius | $\varnothing D$ | F<br>+0.010<br>-0.005 |       |
|-------------|--------------------|---------|--|-----------------|-------------------|------------------|----------|-----------------|-----------------------|-------|
|             | Nominal            | Minimum |  |                 |                   |                  |          |                 |                       |       |
| -2          | 1/16               | 0.062   | 480  | 0.160           | 0.138             | +0.000<br>-0.005 | 0.130    | 0.190           | +0.002<br>-0.000      | 0.218 |
| -3          | 3/32               | 0.093   | 920  | 0.218           | 0.190             |                  | 0.150    |                 |                       | 0.190 |
| -4          | 1/8                | 0.125   | 2,000                                      | 0.250           | 0.219             | +0.000<br>-0.005 | 0.220    | 0.250           | +0.002<br>-0.000      | 0.383 |
| -5          | 5/32               | 0.156   | 2,800                                      | 0.297           | 0.250             |                  | 0.240    |                 |                       | 0.250 |
| -6          | 3/16               | 0.187   | 4,200                                      | 0.359           | 0.313             | +0.000<br>-0.007 | 0.310    | 0.313           | +0.002<br>-0.000      | 0.543 |
| -7          | 7/32               | 0.218   | 5,600                                      | 0.427           | 0.375             |                  | 0.370    |                 |                       | 0.375 |
| -8          | 1/4                | 0.250   | 7,000                                      | 0.494           | 0.438             | +0.000<br>-0.008 | 0.390    | 0.438           | +0.002<br>-0.000      | 0.688 |
| -9          | 9/32               | 0.281   | 8,000                                      | 0.563           | 0.500             |                  | 0.420    |                 |                       | 0.438 |
| -10         | 5/16               | 0.312   | 9,800                                      | 0.635           | 0.563             | +0.000<br>-0.008 | 0.460    | 0.500           | +0.005<br>-0.000      | 0.765 |
| -12         | 3/8                | 0.375   | 14,400                                     | 0.703           | 0.625             |                  | 0.497    |                 |                       | 0.562 |
| -14         | 7/16               | 0.437   | 17,600                                     | 0.781           | 0.688             | +0.000<br>-0.009 | 0.620    | 0.625           | +0.005<br>-0.000      | 1.035 |
| -16         | 1/2                | 0.500   | 22,800                                     | 0.844           | 0.750             |                  | 0.744    |                 |                       | 0.750 |
| -18         | 9/16               | 0.562   | 28,500                                     | 0.984           | 0.875             | +0.000<br>-0.010 | 0.810    | 0.875           | +0.005<br>-0.000      | 1.351 |
| -20         | 5/8                | 0.625   | 35,000                                     | 1.109           | 1.000             |                  | 0.870    |                 |                       | 0.875 |
| -24         | 3/4                | 0.750   | 49,600                                     | 1.359           | 1.250             | +0.000<br>-0.012 | 0.993    | 1.000           | +0.005<br>-0.000      | 1.656 |
| -28         | 7/8                | 0.875   | 66,500                                     | 1.593           | 1.437             |                  | 1.117    |                 |                       | 1.125 |
| -32         | 1                  | 1.000   | 85,400                                     | 1.812           | 1.625             |                  |          |                 |                       |       |

$\frac{1}{2}$  To achieve the minimum breaking strength, for the terminal test only, a galvanized carbon steel wire rope shall be used.

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | G     |                  | H     | L<br>+0.020<br>-0.000 |
|-------------|-------|------------------|-------|-----------------------|
| -2          | 0.093 | $\pm 0.003$      | 0.500 | 1.572                 |
| -3          | 0.108 |                  | 0.670 | 1.945                 |
| -4          | 0.195 |                  | 0.735 | 2.352                 |
| -5          | 0.202 |                  | 0.800 | 2.655                 |
| -6          | 0.260 | +0.005<br>-0.003 | 0.880 | 3.071                 |
| -7          | 0.296 |                  | 0.970 | 3.440                 |
| -8          | 0.313 |                  | 1.070 | 3.806                 |
| -9          | 0.327 | +0.007<br>-0.003 | 1.170 | 4.120                 |
| -10         | 0.348 |                  | 1.268 | 4.438                 |
| -12         | 0.380 |                  | 1.525 | 5.333                 |
| -14         |       |                  | 1.776 | 6.102                 |
| -16         | 0.473 | 1.903            | 6.938 |                       |
| -18         | 0.567 | +0.009<br>-0.003 | 2.375 | 7.750                 |
| -20         | 0.663 |                  | 2.770 | 8.673                 |
| -24         | 0.663 |                  | 2.791 | 9.740                 |
| -28         | 0.756 |                  | 3.170 | 10.802                |
| -32         | 0.851 |                  | 3.562 | 12.312                |

MS20667J  
w/Amendment 2

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | Ls<br>reference | ØM    | ØN               |       | P                |                | ØT |                  |                  |
|-------------|-----------------|-------|------------------|-------|------------------|----------------|----|------------------|------------------|
| -2          | 1.75            | 0.090 | +0.010<br>-0.000 | 0.078 | +0.005<br>-0.000 |                |    | 0.138            |                  |
| -3          | 2.06            | 0.119 |                  | 0.109 |                  |                |    | 0.190            |                  |
| -4          | 2.61            | 0.154 |                  | 0.141 |                  |                |    | 0.219            |                  |
| -5          | 3.00            | 0.188 |                  | 0.172 |                  |                |    | 0.250            |                  |
| -6          | 3.24            | 0.223 |                  | 0.203 |                  |                |    | 0.313            |                  |
| -7          | 3.74            | 0.257 |                  | 0.234 |                  |                |    | 0.375            |                  |
| -8          | 4.10            | 0.291 |                  | 0.265 |                  |                |    | 0.438            |                  |
| -9          | 4.48            | 0.326 |                  | 0.297 |                  |                |    | 0.500            |                  |
| -10         | 4.86            | 0.360 |                  | 0.328 |                  |                |    | 0.563            |                  |
| -12         | 5.74            | 0.430 |                  | 0.390 |                  |                |    | +0.008<br>-0.000 | 3.511<br>4.011   |
| -14         | 6.57            | 0.514 | 0.468            | 4.698 | 0.688            |                |    |                  |                  |
| -16         | 7.50            | 0.584 | +0.012<br>-0.000 | 0.531 | +0.009<br>-0.000 | 5.011<br>5.511 |    | 0.750            |                  |
| -18         | 8.34            | 0.653 |                  | 0.594 | 5.011            |                |    | 0.875            |                  |
| -20         | 9.36            | 0.722 |                  | 0.656 | +0.010<br>-0.000 |                |    | 5.511            | 1.000            |
| -24         | 10.31           | 0.860 |                  | 0.781 | +0.012<br>-0.000 |                |    | 6.511<br>7.166   | +0.062<br>-0.000 |
| -28         | 11.56           | 1.013 | +0.015<br>-0.000 | 0.921 | +0.012<br>-0.010 | 8.229          |    | 1.437            |                  |
| -32         | 13.22           | 1.151 |                  | 1.046 |                  |                |    | 8.229            | 1.625            |

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | SØ U<br>+0.025<br>-0.010 | W<br>reference | X       |         | Z       | ØBB<br>(FIM) |
|-------------|--------------------------|----------------|---------|---------|---------|--------------|
|             |                          |                | Minimum | Minimum | Minimum |              |
| -2          | 0.344                    | 0.031          | 0.70    | 0.60    | 0.016   |              |
| -3          | 0.438                    |                | 0.80    | 0.75    |         |              |
| -4          | 0.547                    |                | 1.05    | 0.91    |         |              |
| -5          | 0.688                    |                | 1.29    | 0.96    |         |              |
| -6          | 0.781                    | 0.047          | 1.31    | 1.13    |         |              |
| -7          | 0.906                    |                | 1.55    | 1.25    |         |              |
| -8          | 0.969                    |                | 1.70    | 1.36    |         |              |
| -9          | 1.156                    | 0.063          | 1.89    | 1.43    |         |              |
| -10         | 1.265                    |                | 2.06    | 1.50    |         |              |
| -12         | 1.500                    |                | 3.12    | 1.89    |         |              |
| -14         | 1.750                    |                | 3.57    | 2.16    |         |              |
| -16         | 1.875                    | 0.093          | 4.31    | 2.31    | 0.020   |              |
| -18         | 2.340                    |                | 4.51    | 2.81    |         |              |
| -20         | 2.730                    |                | 5.04    | 3.23    |         |              |
| -24         | 2.750                    |                | 5.80    | 3.30    |         |              |
| -28         | 3.125                    | 0.093          | 6.31    | 3.70    | 0.030   |              |
| -32         | 3.510                    |                | 7.26    | 4.15    |         | 0.040        |

REQUIREMENTS:

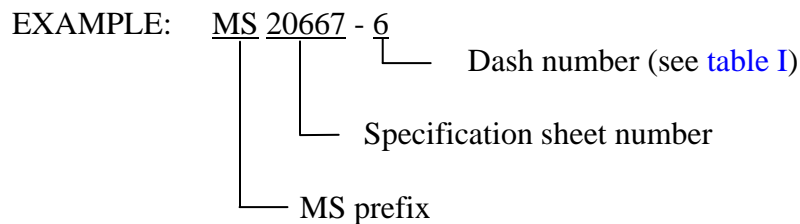
1. Material: Material shall be in accordance with MIL-DTL-781
2. Finish: Finish shall be in accordance with MIL-DTL-781.
3. Swage: Swage shall be in accordance with MIL-DTL-6117.
4. Tolerances: Unless otherwise specified, tolerances: decimals  $\pm 0.010$ , angles  $\pm 3^\circ$ .

MS20667J  
w/Amendment 2

## NOTES:

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

1. The part or identifying number (PIN) to be used for terminals acquired to this specification is created as shown below.



2. Dimensions are in inches.
3. Interpret drawing in accordance with ASME Y14.5M.
4. Remove burrs and sharp edges. (See MIL-DTL-781.)
5. Interchangeability relationship: MS20667 and AN667 parts identified by the same dash number are universally, functionally, and dimensionally interchangeable.
6. In the event of a conflict between the test of this document and the references cited herein, the text of this document takes precedence.
7. Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation.
8. MS20667 supersedes AN667.
9. Corrosion resistant steel parts can be universally substituted carbon and alloy steel parts in accordance with [table II](#). Carbon and alloy steel parts are inactive for new design and cannot be substituted for corrosion resistant steel parts.

MS20667J  
w/Amendment 2

TABLE II. Substitution table.

| MS PART NUMBERS              |                                 |
|------------------------------|---------------------------------|
| Corrosion<br>resistant steel | Carbon steel,<br>cadmium plated |
| MS20667-2                    | MS20667F2                       |
| MS20667-3                    | MS20667F3                       |
| MS20667-4                    | MS20667F4                       |
| MS20667-5                    | MS20667F5                       |
| MS20667-6                    | MS20667F6                       |
| MS20667-7                    | MS20667F7                       |
| MS20667-8                    | MS20667F8                       |
| MS20667-9                    | MS20667F9                       |
| MS20667-10                   | MS20667F10                      |
| MS20667-12                   | MS20667F12                      |
| MS20667-14                   | MS20667F14                      |
| MS20667-16                   | MS20667F16                      |
| MS20667-18                   | MS20667F18                      |
| MS20667-20                   | MS20667F20                      |
| MS20667-24                   | MS20667F24                      |
| MS20667-28                   | MS20667F28                      |
| MS20667-32                   | MS20667F32                      |

AMENDMENT NOTATIONS: The margins of this specification are marked with vertical lines to indicate where modifications from this amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:

Army - CR4

Navy - AS

Air Force - 99

Preparing Activity:

DLA - GS5

(Project 1640-2007-006)

Review Activities:

Army - MD

Air Force - 71

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