

MS24665 REV F VALID NOTICE 1

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NOTICE  
OF VALIDATION

INCH-POUND

MS24665F  
NOTICE 1  
29 February 1996

MILITARY SPECIFICATION

PIN, COTTER (SPLIT)

MS24665F, dated 16 March 1960 remains active for new design,  
however, the document is valid for acquisition when needed.

Preparing activity:  
DLA-IS

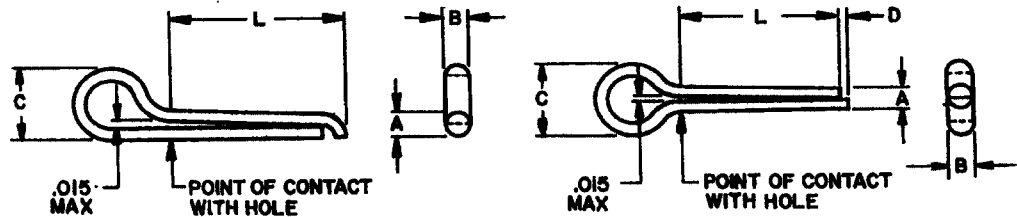
AMSC N/A

FSC 5315

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1.13.05  
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**HAMMER LOCK**  
 (SEE NOTE 2)

**EXTENDED PRONG SQUARE CUT**  
 (PLAIN)  
 (SEE NOTE 2)

**TABLE I. CONFIGURATION DIMENSIONS**

| SIZE<br>NOMINAL<br>DIAMETER | A    |      | B    |      | C    | D   | HOLE SIZE<br>RECOMMENDED |
|-----------------------------|------|------|------|------|------|-----|--------------------------|
|                             | MAX  | MIN  | MAX  | MIN  | MIN  | MIN |                          |
| 1/32 - .031                 | .032 | .028 | .032 | .022 | .06  | .01 | .047                     |
| 3/64 - .047                 | .048 | .044 | .048 | .035 | .09  | .02 | .062                     |
| 1/16 - .062                 | .060 | .056 | .060 | .044 | .12  | .03 | .078                     |
| 1/8 - .078                  | .076 | .072 | .076 | .057 | .16  | .04 | .094                     |
| 3/32 - .094                 | .090 | .086 | .090 | .069 | .19  | .04 | .109                     |
| 1/4 - .125                  | .120 | .116 | .120 | .093 | .25  | .06 | .141                     |
| 5/32 - .156                 | .150 | .146 | .150 | .116 | .31  | .07 | .172                     |
| 3/16 - .188                 | .176 | .172 | .176 | .137 | .38  | .09 | .203                     |
| 1/2 - .219                  | .207 | .202 | .207 | .161 | .44  | .10 | .234                     |
| 1/4 - .250                  | .225 | .220 | .225 | .176 | .50  | .11 | .266                     |
| 5/16 - .312                 | .280 | .275 | .280 | .220 | .62  | .14 | .312                     |
| 3/8 - .375                  | .335 | .329 | .335 | .263 | .75  | .16 | .375                     |
| 1/2 - .438                  | .406 | .400 | .406 | .320 | .88  | .20 | .438                     |
| 1/2 - .500                  | .473 | .467 | .473 | .373 | 1.00 | .23 | .500                     |
| 5/8 - .625                  | .598 | .590 | .598 | .472 | 1.25 | .30 | .625                     |
| 1/2 - .750                  | .723 | .715 | .723 | .572 | 1.50 | .36 | .750                     |

1/ Not a preferred size. Do not use for new design.

**REQUIREMENTS:**

- MATERIAL.** CARBON, STEEL, BRASS, CORROSION RESISTANT STEEL AND NICKEL COPPER ALLOY IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- PROTECTIVE COATING.** CARBON STEEL SHALL BE CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3 OR PHOSPHATE COATED IN ACCORDANCE WITH MIL-P-16232, TYPE 2, CLASS 3 AND THE PROCUREMENT SPECIFICATION. BRASS SHALL BE BLACK CHEMICAL FINISH AS SPECIFIED IN MIL-P-495 AND IN ACCORDANCE WITH THE PROCUREMENT SPECIFICATION. CORROSION RESISTANT STEEL SHALL BE CLEANED, DESCALED AND PASSIVATED IN ACCORDANCE WITH ASTM A380 AND THE PROCUREMENT SPECIFICATION.

**(F) ENTIRE STANDARD REVISED**

|                                        |                                              |                     |                          |
|----------------------------------------|----------------------------------------------|---------------------|--------------------------|
| P.A. AR                                | INTERNATIONAL INTEREST                       | TITLE               | <b>MILITARY STANDARD</b> |
| Other Cust OS 99                       |                                              | PIN, COTTER (SPLIT) | <b>MS24665</b>           |
| PROCUREMENT SPECIFICATION ANSI B18.8.1 | SUPERSEDES: BFA3.1, BFA3.2, AN380, AND AN381 | PAGE 1              | OF 8                     |

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REVIEWER ACTIVITIES:  
 ARMY-AV, ER  
 AIR FORCE-II, 82  
 NSA-NS  
 DLA-IS

AMSC N/A

DD FORM 1 MAY 73 **672-1** (COORDINATED)

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3. HARDNESS. CORROSION RESISTANT STEEL COTTER PINS SHALL HAVE A HARDNESS AS FOLLOWS:

| NOMINAL COTTER PIN DIA      | VICKERS (10 Kg LOAD) | ROCKWELL 15N   |
|-----------------------------|----------------------|----------------|
| 1/16 - .062 AND LESS        | 200 TO 350 HV10      | 65 TO 78 HR15N |
| 5/64 - .078 AND 3/32 - .094 | 170 TO 245 HV10      | 60 TO 70 HR15N |
| 1/8 - .125 AND LARGER       | 140 TO 220 HV10      | 55 TO 67 HR15N |

CORROSION RESISTANT STEEL COTTER PINS SHALL BE TESTED FOR HARDNESS IN ACCORDANCE WITH MIL-STD-1312 TEST NO 6.

4. LENGTH TOLERANCE. THE COTTER PINS SHALL MEET THE LENGTH TOLERANCE AS SPECIFIED IN THE PROCUREMENT SPECIFICATION.

5. PART NUMBER. THE PART NUMBER SHALL CONSIST OF THE BASIC MS SHEET NUMBER PLUS THE DASH NUMBER TAKEN FROM TABLES II, III, IV, V AND VI AS APPLICABLE.

EXAMPLE: MS24665-39

— DASH NUMBER

— BASIC MS SHEET NUMBER

MS24665-39 INDICATES - PIN, COTTER (SPLIT), BRASS WITH BLACK CHEMICAL FINISH  
 NOMINAL DIAMETER 1/32 INCH, LENGTH 1/2 INCH.

6. QUALITY ASSURANCE PROVISIONS. QUALITY ASSURANCE PROVISIONS SHALL BE IN ACCORDANCE WITH ANSI B18.18.1M.

7. PACKAGING. PACKAGING SHALL BE IN ACCORDANCE WITH ASTM D3951.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. PREFERRED POINT TYPES SHALL BE THE EXTENDED FRONS SQUARE (PLAIN) CUT OR HAMMER LOCK TYPES AS DEPICTED HEREIN. OTHER OPTIONAL COTTER PIN DESIGN SHALL BE IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
3. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
4. REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

|                           |          |                                       |                   |                          |
|---------------------------|----------|---------------------------------------|-------------------|--------------------------|
| P.A.                      | AR       | INTERNATIONAL INTEREST                | TITLE             | <b>MILITARY STANDARD</b> |
| Other Cust                | OS<br>99 |                                       | PIN,COTTER(SPLIT) | <b>MS24665</b>           |
| PROCUREMENT SPECIFICATION |          | SUPERSEDES:                           |                   | PAGE OF                  |
| ANSI B18.8.1              |          | BFAX3,BFAX3.1,BFAX3.2,AN380,AND AN381 |                   | 2 8                      |

DD FORM 1 MAY 73 **672-1** (COORDINATED)

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APPROVED 16 MAR 60 REVISED (F) FOR CHANGES SEE PAGES 1,2,3,4,5,6,7 AND 8

USER ACTIVITIES:  
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 NAVY-YD

REVIEWER ACTIVITIES:  
 ARMY-AV,ER  
 AIR FORCE-11,82  
 NSA-NS  
 DLA-IS

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TABLE II. DASH NUMBERS AND DIMENSIONS - BRASS

| L<br>LENGTH         | NOMINAL DIAMETER |            |            |                   |            |            |            |            |                   |                   |                   |                   |                   |                   |                   |                   |
|---------------------|------------------|------------|------------|-------------------|------------|------------|------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                     | 1/32             | 3/64       | 1/16       | 5/64              | 3/32       | 1/8        | 5/32       | 3/16       | 7/32              | 1/4               | 5/16              | 3/8               | 7/16              | 1/2               | 5/8               | 3/4               |
|                     | DASH<br>NO       | DASH<br>NO | DASH<br>NO | DASH<br>NO        | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        |
| 1/4                 | 35               | 99         |            |                   |            |            |            |            |                   |                   |                   |                   |                   |                   |                   |                   |
| 1/2                 | 39               | 103        | 170        | 246 <sup>1/</sup> | 315        | 383        |            |            |                   |                   |                   |                   |                   |                   |                   |                   |
| 3/4                 | 41               | 105        | 172        | 248 <sup>1/</sup> | 317        | 385        | 454        | 526        |                   |                   |                   |                   |                   |                   |                   |                   |
| 1                   | 43               | 107        | 174        | 250 <sup>1/</sup> | 319        | 387        | 455        | 527        | 591 <sup>1/</sup> | 651               | 713               |                   |                   |                   |                   |                   |
| 1-1/4               | 44               | 108        | 176        | 252 <sup>1/</sup> | 321        | 389        | 457        | 529        | 592 <sup>1/</sup> | 652               | 714               |                   |                   |                   |                   |                   |
| 1-1/2               | 45               | 109        | 178        | 254 <sup>1/</sup> | 323        | 391        | 459        | 531        | 593 <sup>1/</sup> | 653               | 715               | 779               | 863 <sup>1/</sup> |                   |                   |                   |
| 1-3/4               | 46               | 110        | 180        | 256 <sup>1/</sup> | 325        | 393        | 461        | 533        | 594 <sup>1/</sup> | 654               | 716               | 780               | 864 <sup>1/</sup> |                   |                   |                   |
| 2                   | 47               | 111        | 181        | 257 <sup>1/</sup> | 326        | 394        | 462        | 534        | 595 <sup>1/</sup> | 655               | 717               | 781               | 865 <sup>1/</sup> | 919               |                   |                   |
| 2-1/4               |                  |            |            |                   | 327        | 395        | 463        | 535        | 596 <sup>1/</sup> | 656               | 718               | 782               | 866 <sup>1/</sup> | 920               |                   |                   |
| 2-1/2               | 48               | 112        | 182        | 258 <sup>1/</sup> | 328        | 396        | 464        | 536        | 597 <sup>1/</sup> | 657               | 719               | 783               | 867 <sup>1/</sup> | 921               |                   |                   |
| 2-3/4               |                  |            |            |                   |            |            | 465        | 537        |                   |                   |                   |                   |                   |                   |                   |                   |
| 3                   | 49               | 113        | 183        | 259 <sup>1/</sup> | 329        | 397        | 466        | 538        | 598 <sup>1/</sup> | 658               | 720               | 784               | 869 <sup>1/</sup> | 922               | 959               | 989 <sup>1/</sup> |
| 3-1/2               |                  |            |            |                   |            |            | 467        | 539        | 599 <sup>1/</sup> | 659               | 721               | 785               | 870 <sup>1/</sup> | 923               | 960               | 990 <sup>1/</sup> |
| 4                   |                  |            |            |                   |            |            | 468        | 540        | 600 <sup>1/</sup> | 660 <sup>1/</sup> | 722               | 786               | 871 <sup>1/</sup> | 924               | 961               | 991 <sup>1/</sup> |
| 4-1/2 <sup>1/</sup> |                  |            |            |                   |            |            |            |            |                   | 661 <sup>1/</sup> | 723 <sup>1/</sup> | 787 <sup>1/</sup> | 872 <sup>1/</sup> | 925 <sup>1/</sup> | 962 <sup>1/</sup> | 992 <sup>1/</sup> |
| 5                   |                  |            |            |                   |            |            |            |            |                   | 662               | 724               | 788               | 873 <sup>1/</sup> | 926               | 963               | 993 <sup>1/</sup> |
| 6                   |                  |            |            |                   |            |            |            |            |                   | 663               | 726               | 790               | 874 <sup>1/</sup> | 927               | 964               | 994 <sup>1/</sup> |

1/ NOT A PREFERRED SIZE. DO NOT USE FOR NEW DESIGN.

TABLE III. DASH NUMBERS AND DIMENSIONS - STEEL, PHOSPHATE COATED

| L<br>LENGTH | NOMINAL DIAMETER |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
|-------------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|             | 1/32             | 3/64       | 1/16       | 5/64       | 3/32       | 1/8        | 5/32       | 3/16       | 7/32       | 1/4        | 5/16       | 3/8        | 7/16       | 1/2        | 5/8        | 3/4        |
|             | DASH<br>NO       | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO |
| 1/2         |                  |            | 814        |            |            |            |            |            |            |            |            |            |            |            |            |            |
| 3/4         |                  |            | 816        |            |            | 830        |            |            |            |            |            |            |            |            |            |            |
| 1-1/4       |                  |            |            |            |            | 834        |            |            |            |            |            |            |            |            |            |            |

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USER ACTIVITIES:  
 ARMY-AT, ME, MI  
 NAVY-YD

REVIEWER ACTIVITIES:  
 ARMY-AV, ER  
 AIRFORCE-II, 82  
 NSA-NS  
 DLA-IS

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|                                           |                |                                                        |                                  |                                            |
|-------------------------------------------|----------------|--------------------------------------------------------|----------------------------------|--------------------------------------------|
| P.A.<br>Other Cust                        | AR<br>OS<br>99 | INTERNATIONAL<br>INTEREST                              | TITLE<br><br>PIN, COTTER (SPLIT) | <b>MILITARY STANDARD</b><br><b>MS24665</b> |
| PROCUREMENT SPECIFICATION<br>ANSI B18.8.1 |                | SUPERSEDES:<br>BFAX3, BFA3.1, BFA3.2, AN380, AND AN381 |                                  | PAGE 3 OF 8                                |

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TABLE IV. DASH NUMBERS AND DIMENSIONS - STEEL, CADMIUM PLATED

| I,<br>LENGTH        | NOMINAL DIAMETER |            |            |                    |            |            |            |            |                    |                   |                   |                   |                    |                   |                   |                   |
|---------------------|------------------|------------|------------|--------------------|------------|------------|------------|------------|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|
|                     | 1/32             | 3/64       | 1/16       | 5/64 <sup>1/</sup> | 3/32       | 1/8        | 5/32       | 3/16       | 7/32 <sup>1/</sup> | 1/4               | 5/16              | 3/8               | 7/16 <sup>1/</sup> | 1/2               | 5/8               | 3/4 <sup>1/</sup> |
|                     | DASH<br>NO       | DASH<br>NO | DASH<br>NO | DASH<br>NO         | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO         | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        | DASH<br>NO         | DASH<br>NO        | DASH<br>NO        | DASH<br>NO        |
| 1/4                 | 1                | 65         |            |                    |            |            |            |            |                    |                   |                   |                   |                    |                   |                   |                   |
| 1/2                 | 5                | 69         | 132        | 208 <sup>1/</sup>  | 261        | 349        |            |            |                    |                   |                   |                   |                    |                   |                   |                   |
| 3/4                 | 7                | 71         | 134        | 210 <sup>1/</sup>  | 263        | 351        | 418        | 490        |                    |                   |                   |                   |                    |                   |                   |                   |
| 1                   | 9                | 73         | 136        | 212 <sup>1/</sup>  | 265        | 353        | 419        | 491        | 561 <sup>1/</sup>  | 621               | 681               |                   |                    |                   |                   |                   |
| 1-1/4               | 10               | 74         | 138        | 214 <sup>1/</sup>  | 267        | 355        | 421        | 493        | 562 <sup>1/</sup>  | 622               | 682               |                   |                    |                   |                   |                   |
| 1-1/2               | 11               | 75         | 140        | 216 <sup>1/</sup>  | 269        | 357        | 423        | 495        | 563 <sup>1/</sup>  | 623               | 683               | 747               |                    |                   |                   |                   |
| 1-3/4               | 12               | 76         | 142        | 218 <sup>1/</sup>  | 291        | 359        | 425        | 497        | 564 <sup>1/</sup>  | 624               | 684               | 748               | 840 <sup>1/</sup>  |                   |                   |                   |
| 2                   | 13               | 77         | 143        | 219 <sup>1/</sup>  | 292        | 360        | 426        | 498        | 565 <sup>1/</sup>  | 625               | 685               | 749               | 841 <sup>1/</sup>  | 899               |                   |                   |
| 2-1/4               |                  |            |            |                    | 293        | 361        | 427        | 499        | 566 <sup>1/</sup>  | 626               | 686               | 750               | 842 <sup>1/</sup>  | 900               |                   |                   |
| 2-1/2               | 14               | 78         | 144        | 220 <sup>1/</sup>  | 294        | 362        | 428        | 500        | 567 <sup>1/</sup>  | 627               | 687               | 751               | 843 <sup>1/</sup>  | 901               |                   |                   |
| 2-3/4               |                  |            |            |                    |            |            | 429        | 501        |                    |                   |                   |                   |                    |                   |                   |                   |
| 3                   | 15               | 79         | 145        | 221 <sup>1/</sup>  | 295        | 363        | 430        | 502        | 568 <sup>1/</sup>  | 628               | 688               | 752               | 845 <sup>1/</sup>  | 903               | 947               | 977 <sup>1/</sup> |
| 3-1/2               |                  |            |            |                    |            |            | 431        | 503        | 569 <sup>1/</sup>  | 629               | 689               | 753               | 846 <sup>1/</sup>  | 904               | 948               | 978 <sup>1/</sup> |
| 4                   |                  |            |            |                    |            |            | 432        | 504        | 570 <sup>1/</sup>  | 630               | 690               | 754               | 847 <sup>1/</sup>  | 905               | 949               | 979 <sup>1/</sup> |
| 4-1/2 <sup>1/</sup> |                  |            |            |                    |            |            |            |            |                    | 631 <sup>1/</sup> | 691 <sup>1/</sup> | 755 <sup>1/</sup> | 848 <sup>1/</sup>  | 906 <sup>1/</sup> | 950 <sup>1/</sup> | 980 <sup>1/</sup> |
| 5                   |                  |            |            |                    |            |            |            |            |                    | 632               | 692               | 756               | 849 <sup>1/</sup>  | 907               | 951               | 981 <sup>1/</sup> |
| 6                   |                  |            |            |                    |            |            |            |            |                    | 633               | 694               | 758               | 850 <sup>1/</sup>  | 908               | 952               | 982 <sup>1/</sup> |

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APPROVED 16 MAR 60 REVISED (F) FOR CHANGES SEE PAGES 1,2,3,4,5,6,7 AND 8

|                                           |                |                                                        |                                |                                  |
|-------------------------------------------|----------------|--------------------------------------------------------|--------------------------------|----------------------------------|
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| PROCUREMENT SPECIFICATION<br>ANSI B18.8.1 |                | SUPERSEDES:<br>BFAX3, BFA3.1, BFA3.2, AN380, AND AN381 |                                | PAGE<br>4 OF<br>8                |

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REVIEWER ACTIVITIES:  
ARMY-AV, ER  
AIRFORCE-11, 82  
NSA-NS  
DLA-IS

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 ARMY - AV, ER  
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 DLA - IS

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TABLE Y. DASH NUMBERS AND DIMENSIONS - CORROSION RESISTANT STEEL

| L<br>LENGTH         | NOMINAL DIAMETER |         |         |                    |         |         |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
|---------------------|------------------|---------|---------|--------------------|---------|---------|---------|---------|--------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|
|                     | 1/32             | 3/64    | 1/16    | 5/64 <sup>1/</sup> | 3/32    | 1/8     | 5/32    | 3/16    | 7/32 <sup>1/</sup> | 1/4               | 5/16              | 3/8               | 7/16 <sup>1/</sup> | 1/2               | 5/8               | 3/4 <sup>1/</sup> |
|                     | DASH NO          | DASH NO | DASH NO | DASH NO            | DASH NO | DASH NO | DASH NO | DASH NO | DASH NO            | DASH NO           | DASH NO           | DASH NO           | DASH NO            | DASH NO           | DASH NO           | DASH NO           |
| 1/4                 | 18               | 82      | 1010    |                    |         |         |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
| 5/16                | 1001             |         | 1011    |                    |         |         |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
| 3/8                 | 1002             |         | 1012    |                    |         |         |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
| 7/16                | 1003             |         | 1013    |                    |         |         |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
| 1/2                 | 22               | 86      | 151     | 227 <sup>1/</sup>  | 298     | 366     |         |         |                    |                   |                   |                   |                    |                   |                   |                   |
| 3/4                 | 24               | 88      | 153     | 229 <sup>1/</sup>  | 300     | 368     | 436     | 508     |                    |                   |                   |                   |                    |                   |                   |                   |
| 1                   | 26               | 90      | 155     | 231 <sup>1/</sup>  | 302     | 370     | 437     | 509     | 576 <sup>1/</sup>  | 636               | 697               |                   |                    |                   |                   |                   |
| 1-1/4               | 27               | 91      | 157     | 233 <sup>1/</sup>  | 304     | 372     | 439     | 511     | 577 <sup>1/</sup>  | 637               | 698               |                   |                    |                   |                   |                   |
| 1-1/2               | 28               | 92      | 159     | 235 <sup>1/</sup>  | 306     | 374     | 441     | 513     | 578 <sup>1/</sup>  | 638               | 699               | 763               | 851 <sup>1/</sup>  |                   |                   |                   |
| 1-3/4               | 29               | 93      | 161     | 237 <sup>1/</sup>  | 308     | 376     | 443     | 515     | 579 <sup>1/</sup>  | 639               | 700               | 764               | 852 <sup>1/</sup>  |                   |                   |                   |
| 2                   | 30               | 94      | 162     | 238 <sup>1/</sup>  | 309     | 377     | 444     | 516     | 580 <sup>1/</sup>  | 640               | 701               | 765               | 853 <sup>1/</sup>  | 909               |                   |                   |
| 2-1/4               |                  |         |         |                    | 310     | 378     | 445     | 517     | 581 <sup>1/</sup>  | 641               | 702               | 766               | 854 <sup>1/</sup>  | 910               |                   |                   |
| 2-1/2               | 31               | 95      | 163     | 239 <sup>1/</sup>  | 311     | 379     | 446     | 518     | 582 <sup>1/</sup>  | 642               | 703               | 767               | 855 <sup>1/</sup>  | 911               |                   |                   |
| 2-3/4               |                  |         |         |                    |         |         | 447     | 519     |                    |                   |                   |                   |                    |                   |                   |                   |
| 3                   | 32               | 96      | 164     | 240 <sup>1/</sup>  | 312     | 380     | 448     | 520     | 583 <sup>1/</sup>  | 643               | 704               | 768               | 857 <sup>1/</sup>  | 913               | 953               | 983 <sup>1/</sup> |
| 3-1/2               |                  |         |         |                    |         |         | 449     | 521     | 584 <sup>1/</sup>  | 644               | 705               | 769               | 858 <sup>1/</sup>  | 914               | 954               | 984 <sup>1/</sup> |
| 4                   |                  |         |         |                    |         |         | 450     | 522     | 585 <sup>1/</sup>  | 645               | 706               | 770               | 859 <sup>1/</sup>  | 915               | 955               | 985 <sup>1/</sup> |
| 4-1/2 <sup>1/</sup> |                  |         |         |                    |         |         |         |         |                    | 646 <sup>1/</sup> | 707 <sup>1/</sup> | 771 <sup>1/</sup> | 860 <sup>1/</sup>  | 916 <sup>1/</sup> | 956 <sup>1/</sup> | 986 <sup>1/</sup> |
| 5                   |                  |         |         |                    |         |         |         |         |                    | 647               | 708               | 772               | 861 <sup>1/</sup>  | 917               | 957               | 987 <sup>1/</sup> |
| 6                   |                  |         |         |                    |         |         |         |         |                    | 648               | 710               | 774               | 862 <sup>1/</sup>  | 918               | 958               | 988 <sup>1/</sup> |

1/ NOT A PREFERRED SIZE. DO NOT USE FOR NEW DESIGN.

|                                           |                |                                                        |                                 |                                  |
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| P.A.<br>Other Cust                        | AR<br>OS<br>99 | INTERNATIONAL<br>INTEREST                              | TITLE<br><br>PIN,COTTER (SPLIT) | MILITARY STANDARD<br><br>MS24665 |
| PROCUREMENT SPECIFICATION<br>ANSI B18.8.1 |                | SUPERSEDES:<br>BFAX3, BFA3.1, BFA3.2, AN380, AND AN381 |                                 | PAGE 5 OF 8                      |

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**5315**

TABLE VI. DASH NUMBERS AND DIMENSIONS - NICKEL-COPPER ALLOY

| L<br>LENGTH | NOMINAL DIAMETER |            |            |                    |            |            |            |            |                    |            |            |            |                    |            |            |                   |
|-------------|------------------|------------|------------|--------------------|------------|------------|------------|------------|--------------------|------------|------------|------------|--------------------|------------|------------|-------------------|
|             | 1/32             | 3/64       | 1/16       | 5/64 <sup>1/</sup> | 3/32       | 1/8        | 5/32       | 3/16       | 7/32 <sup>1/</sup> | 1/4        | 5/16       | 3/8        | 7/16 <sup>1/</sup> | 1/2        | 5/8        | 3/4 <sup>1/</sup> |
|             | DASH<br>NO       | DASH<br>NO | DASH<br>NO | DASH<br>NO         | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO         | DASH<br>NO | DASH<br>NO | DASH<br>NO | DASH<br>NO         | DASH<br>NO | DASH<br>NO | DASH<br>NO        |
| 1/2         |                  |            | 189        | 265 <sup>1/</sup>  | 332        | 400        |            |            |                    |            |            |            |                    |            |            |                   |
| 3/4         |                  |            | 191        | 267 <sup>1/</sup>  | 334        | 402        | 472        | 544        |                    |            |            |            |                    |            |            |                   |
| 1           |                  |            | 193        | 269 <sup>1/</sup>  | 336        | 404        | 473        | 545        | 606 <sup>1/</sup>  | 666        | 729        |            |                    |            |            |                   |
| 1-1/4       |                  |            | 195        | 271 <sup>1/</sup>  | 338        | 406        | 475        | 547        | 607 <sup>1/</sup>  | 667        | 730        |            |                    |            |            |                   |
| 1-1/2       |                  |            | 197        | 273 <sup>1/</sup>  | 340        | 408        | 477        | 549        | 608 <sup>1/</sup>  | 668        | 731        | 795        | 875 <sup>1/</sup>  |            |            |                   |
| 1-3/4       |                  |            | 199        | 275 <sup>1/</sup>  | 342        | 410        | 479        | 551        | 609 <sup>1/</sup>  | 669        | 732        | 796        | 876 <sup>1/</sup>  |            |            |                   |
| 2           |                  |            | 200        | 276 <sup>1/</sup>  | 343        | 411        | 480        | 552        | 610 <sup>1/</sup>  | 670        | 733        | 797        | 877 <sup>1/</sup>  | 928        |            |                   |
| 2-1/2       |                  |            | 201        | 277 <sup>1/</sup>  | 345        | 413        | 482        | 554        | 612 <sup>1/</sup>  | 672        | 735        | 799        | 879 <sup>1/</sup>  | 930        |            |                   |
| 3           |                  |            | 202        | 278 <sup>1/</sup>  | 346        | 414        | 484        | 556        | 613 <sup>1/</sup>  | 673        | 736        | 800        | 881 <sup>1/</sup>  | 932        | 965        | 995 <sup>1/</sup> |
| 4           |                  |            |            |                    |            |            | 486        | 558        | 615 <sup>1/</sup>  | 675        | 738        | 802        | 883 <sup>1/</sup>  | 934        | 967        | 996 <sup>1/</sup> |
| 5           |                  |            |            |                    |            |            |            |            |                    | 677        | 740        | 804        | 885 <sup>1/</sup>  | 936        | 969        | 997 <sup>1/</sup> |
| 6           |                  |            |            |                    |            |            |            |            |                    | 678        | 742        | 806        | 886 <sup>1/</sup>  | 937        | 970        | 998 <sup>1/</sup> |

<sup>1/</sup> NOT A PREFERRED SIZE. DO NOT USE FOR NEW DESIGN.

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|                                           |                |                                                        |                                 |                                  |
|-------------------------------------------|----------------|--------------------------------------------------------|---------------------------------|----------------------------------|
| P.A.<br>Other Cust                        | AR<br>OS<br>99 | INTERNATIONAL<br>INTEREST                              | TITLE<br><br>PIN,COTTER (SPLIT) | MILITARY STANDARD<br><br>MS24665 |
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 ARMY-AT, ME, MI  
 NAVY-YD

REVIEWER ACTIVITIES:  
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TABLE VII. CANCELLATIONS

THE PINS COVERED BY THE FOLLOWING DASH NUMBERS LISTED IN MS24665, REV. A ARE CANCELLED.

| CANCELLED<br>MS24665<br>REV. A | USE<br>MS24665<br>REV. E | CANCELLED<br>MS24665<br>REV. A | USE<br>MS24665<br>REV. E | CANCELLED<br>MS24665<br>REV. A | USE<br>MS24665<br>REV. E. |
|--------------------------------|--------------------------|--------------------------------|--------------------------|--------------------------------|---------------------------|
| DASH NUMBER                    |                          | DASH NUMBER                    |                          | DASH NUMBER                    |                           |
| 3                              | 52/                      |                                | 1552/                    |                                | 3682/                     |
| 20                             | 222/                     | 154                            | 1552/                    |                                | 3682/                     |
|                                | 242/                     |                                | 1572/                    | 369                            | 3702/                     |
|                                | 242/                     |                                | 1592/                    | 371                            | 3722/                     |
|                                | 262/                     |                                | 1612/                    | 373                            | 3742/                     |
| 37                             | 302/                     | 168                            | 1702/                    | 375                            | 3762/                     |
| 67                             | 602/                     | 228                            | 2292/                    | 417                            | 4182/                     |
| 83                             | 862/                     | 230                            | 2312/                    |                                | 4362/                     |
| 84                             | 862/                     | 232                            | 2332/                    |                                | 4362/                     |
| 85                             | 862/                     | 234                            | 2352/                    |                                | 4362/                     |
| 87                             | 882/                     | 236                            | 2372/                    | 435                            | 4362/                     |
| 89                             | 902/                     |                                | 2982/                    |                                | 4372/                     |
| 101                            | 1032/                    |                                | 2982/                    | 438                            | 4392/                     |
| 130                            | 1322/                    |                                | 3002/                    | 440                            | 4412/                     |
| 148                            | 1512/                    | 299                            | 3002/                    | 442                            | 4432/                     |
| 149                            | 1512/                    | 301                            | 3022/                    |                                | 5132/                     |
| 150                            | 1512/                    | 303                            | 3042/                    | 514                            | 5152/                     |
|                                | 1532/                    | 305                            | 3062/                    | 757                            | 7582/                     |
|                                | 1532/                    | 307                            | 3062/                    | 775                            | 7742/                     |
| 152                            | 1532/                    |                                | 3662/                    | 789                            | 7902/                     |

2/ SUGGESTED REPLACEMENT, DASH NUMBER INDICATED IS NEXT LOWER LENGTH.

|                                           |                |                                                       |                                  |                                            |
|-------------------------------------------|----------------|-------------------------------------------------------|----------------------------------|--------------------------------------------|
| P.A.<br>Other Cust.                       | AR<br>OS<br>99 | INTERNATIONAL<br>INTEREST                             | TITLE<br><br>PIN, COTTER (SPLIT) | <b>MILITARY STANDARD</b><br><b>MS24665</b> |
| PROCUREMENT SPECIFICATION<br>ANSI B18.8.1 |                | SUPERSEDES:<br>BFA3, BFA3.1, BFA3.2, AN380, AND AN381 |                                  | PAGE<br>7 OF<br>8                          |

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5315

TABLE VIII. INTERCHANGEABILITY

THE PINS COVERED BY THE FOLLOWING DASH NUMBERS LISTED IN AN380 AND AN381 ARE INACTIVE.  
USE ONLY INTERCHANGEABLE PINS LISTED IN THIS TABLE.

| IN-<br>ACTIVE | USE     | IN-<br>ACTIVE | USE     | IN-<br>ACTIVE | USE     | IN-<br>ACTIVE | USE     | IN-<br>ACTIVE | USE     |
|---------------|---------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|
| AN380         | MS24665 | AN380         | MS24665 | AN381         | MS24665 | AN381         | MS24665 | AN381         | MS24665 |
| DASH NUMBER   |         | DASH NUMBER   |         | DASH NUMBER   |         | DASH NUMBER   |         | DASH NUMBER   |         |
| 1-1           | 3/      | 5-7           | 425     | 2-5           | 3/      | 3-22          | 3/      | 6-28          | 515     |
| 1-2           | 5       | 5-8           | 426     | 2-6           | 3/      | 3-24          | 306     | 6-32          | 516     |
| 1-3           | 7       | 5-10          | 428     | 2-7           | 3/      | 3-26          | 3/      | 6-36          | 517     |
| 1-4           | 9       | 6-6           | 495     | 2-8           | 151     | 3-28          | 308     | 6-40          | 518     |
| 2-1           | 3/      | 6-8           | 498     | 2-10          | 3/      | 3-32          | 309     | 6-48          | 520     |
| 2-2           | 132     | 6-10          | 500     | 2-12          | 153     | 4-8           | 366     | 7-32          | 580     |
| 2-3           | 134     | 6-12          | 502     | 2-14          | 3/      | 4-12          | 368     | 7-36          | 581     |
| 2-4           | 136     | 8-8           | 625     | 2-16          | 155     | 4-14          | 3/      | 7-40          | 582     |
| 2-5           | 138     | 8-10          | 627     | 2-20          | 157     | 4-16          | 370     | 8-32          | 640     |
| 2-6           | 140     | 8-12          | 628     | 2-24          | 159     | 4-18          | 3/      | 8-36          | 641     |
| 2-7           | 142     | 8-14          | 629     | 2-28          | 161     | 4-20          | 372     | 8-40          | 642     |
| 2-8           | 143     | 8-16          | 630     | 2-32          | 162     | 4-22          | 3/      | 8-48          | 643     |
| 3-2           | 281     |               |         | 25-8          | 227     | 4-24          | 374     | 8-56          | 644     |
| 3-3           | 283     | AN381         |         | 25-10         | 3/      | 4-26          | 3/      | 8-64          | 645     |
| 3-4           | 285     |               |         | 25-12         | 229     | 4-28          | 376     | 10-32         | 701     |
| 3-5           | 287     | 1-6           | 3/      | 25-14         | 3/      | 4-32          | 377     | 10-36         | 702     |
| 3-6           | 289     | 1-8           | 22      | 25-16         | 231     | 4-36          | 378     | 10-40         | 703     |
| 3-7           | 291     | 1-12          | 24      | 25-18         | 3/      | 5-8           | 3/      |               |         |
| 3-8           | 292     | 1-16          | 26      | 25-20         | 233     | 5-12          | 436     |               |         |
| 4-2           | 349     | 15-5          | 3/      | 25-22         | 3/      | 5-16          | 437     |               |         |
| 4-3           | 351     | 15-6          | 3/      | 25-24         | 235     | 5-18          | 3/      |               |         |
| 4-4           | 353     | 15-7          | 3/      | 25-26         | 3/      | 5-20          | 439     |               |         |
| 4-5           | 355     | 15-8          | 86      | 25-28         | 237     | 5-22          | 3/      |               |         |
| 4-6           | 357     | 15-10         | 3/      | 25-32         | 238     | 5-24          | 441     |               |         |
| 4-7           | 359     | 15-12         | 88      | 3-8           | 298     | 5-26          | 3/      |               |         |
| 4-8           | 360     | 15-14         | 3/      | 3-10          | 3/      | 5-28          | 443     |               |         |
| 4-10          | 362     | 15-16         | 90      | 3-12          | 300     | 5-32          | 444     |               |         |
| 5-2           | 3/      | 15-20         | 91      | 3-14          | 3/      | 5-36          | 445     |               |         |
| 5-3           | 418     | 15-24         | 92      | 3-16          | 302     | 5-40          | 446     |               |         |
| 5-4           | 419     | 15-28         | 93      | 3-18          | 3/      | 6-24          | 513     |               |         |
| 5-5           | 421     | 15-32         | 94      | 3-20          | 304     | 6-26          | 3/      |               |         |
| 5-6           | 423     |               |         |               |         |               |         |               |         |

3/ NO REPLACEMENT

|                                           |                |                                                          |                              |                              |
|-------------------------------------------|----------------|----------------------------------------------------------|------------------------------|------------------------------|
| P.A.<br>Other Cost                        | AR<br>OS<br>99 | INTERNATIONAL<br>INTEREST                                | TITLE<br>PIN, COTTER (SPLIT) | MILITARY STANDARD<br>MS24665 |
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REVIEWER ACTIVITIES:  
ARMY - AV, ER  
AIR FORCE - 11, 82  
NSA - NS  
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