

TABLE 1. DASH NUMBERS AND DIMENSIONS

| SIZE NUMBER | 7/0 | | | 6/0 | | | 5/0 | | | 4/0 | | | 3/0 | | | 2/0 | | |
|-------------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|
| | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN |
| | .0625 | .0638 | .0618 | .0780 | .0793 | .0773 | .0940 | .0953 | .0933 | .1090 | .1103 | .1083 | .1250 | .1263 | .1243 | .1410 | .1423 | .1403 |
| R RADIUS | .062 | | | .078 | | | .094 | | | .109 | | | .125 | | | .141 | | |
| L LENGTH | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | |
| | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS |
| .375 | 1 | 2A | 3 | 25 | 26A | 27 | 49 | 50A | 51 | 73 | 74A | 75 | 97 | 98A | 99 | 121 | 122A | 123 |
| .500 | 4 | 5A | 6 | 28 | 29A | 30 | 52 | 53A | 54 | 76 | 77A | 78 | 100 | 101A | 102 | 124 | 125A | 126 |
| .625 | 7 | 8A | 9 | 31 | 32A | 33 | 55 | 56A | 57 | 79 | 80A | 81 | 103 | 104A | 105 | 127 | 128A | 129 |
| .750 | 10 | 11A | 12 | 34 | 35A | 36 | 58 | 59A | 60 | 82 | 83A | 84 | 106 | 107A | 108 | 130 | 131A | 132 |
| .875 | 13 | 14A | 15 | 37 | 38A | 39 | 61 | 62A | 63 | 85 | 86A | 87 | 109 | 110A | 111 | 133 | 134A | 135 |
| 1.000 | 16 | 17A | 18 | 40 | 41A | 42 | 64 | 65A | 66 | 88 | 89A | 90 | 112 | 113A | 114 | 136 | 137A | 138 |
| 1.250 | 19 | 20A | 21 | 43 | 44A | 45 | 67 | 68A | 69 | 91 | 92A | 93 | 115 | 116A | 117 | 139 | 140A | 141 |
| 1.500 | 22 | 23A | 24 | 46 | 47A | 48 | 70 | 71A | 72 | 94 | 95A | 96 | 118 | 119A | 120 | 142 | 143A | 144 |

DASH NUMBERS FOR ALLOY STEEL CONTAINING THE LETTER "A" INDICATE ULTIMATE TENSILE STRENGTH 125,000 TO 145,000 psi. DASH NUMBERS FOR ALLOY STEEL WITHOUT THE LETTER "A" INDICATE MS24692B MINIMUM ULTIMATE TENSILE STRENGTH 106,000 psi AND SHALL NOT BE USED FOR HIGH DESIGN.

| SIZE NUMBER | 0 | | | 1 | | | 2 | | | 3 | | | 4 | | | 5 | | |
|-------------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|-------------|--------------|---------|
| | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN | DIA NOM | DIA LARG MAX | DIA MIN |
| | .1540 | .1573 | .1553 | .1720 | .1733 | .1713 | .1930 | .1943 | .1923 | .2190 | .2203 | .2183 | .2500 | .2513 | .2493 | .2890 | .2903 | .2883 |
| R RADIUS | .154 | | | .172 | | | .193 | | | .219 | | | .250 | | | .289 | | |
| L LENGTH | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | |
| | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS |
| .500 | 145 | 146A | 147 | 172 | 173A | 174 | 193 | 194A | 195 | 219 | 220A | 221 | 250 | 251A | 252 | 289 | 290A | 291 |
| .625 | 148 | 149A | 150 | 175 | 176A | 177 | 196 | 197A | 198 | 221 | 222A | 223 | 253 | 254A | 255 | 292 | 293A | 294 |
| .750 | 151 | 152A | 153 | 178 | 179A | 180 | 199 | 200A | 201 | 224 | 225A | 226 | 256 | 257A | 258 | 295 | 296A | 297 |
| .875 | 154 | 155A | 156 | 181 | 182A | 183 | 202 | 203A | 204 | 227 | 228A | 229 | 259 | 260A | 261 | 298 | 299A | 300 |
| 1.000 | 157 | 158A | 159 | 184 | 185A | 186 | 205 | 206A | 207 | 230 | 231A | 232 | 262 | 263A | 264 | 301 | 302A | 303 |
| 1.250 | 160 | 161A | 162 | 187 | 188A | 189 | 208 | 209A | 210 | 233 | 234A | 235 | 265 | 266A | 267 | 304 | 305A | 306 |
| 1.500 | 163 | 164A | 165 | 190 | 191A | 192 | 211 | 212A | 213 | 236 | 237A | 238 | 268 | 269A | 270 | 307 | 308A | 309 |
| 1.750 | 166 | 167A | 168 | 193 | 194A | 195 | 214 | 215A | 216 | 239 | 240A | 241 | 271 | 272A | 273 | 310 | 311A | 312 |
| 2.000 | 169 | 170A | 171 | 196 | 197A | 198 | 217 | 218A | 219 | 242 | 243A | 244 | 274 | 275A | 276 | 313 | 314A | 315 |
| 2.250 | | | | 199 | 199A | 200 | 220 | 220A | 221 | 245 | 245A | 246 | 277 | 277A | 278 | 316 | 317A | 318 |
| 2.500 | | | | 201 | 201A | 202 | 223 | 223A | 224 | 248 | 248A | 249 | 280 | 280A | 281 | 319 | 320A | 321 |
| 2.750 | | | | 202 | 202A | 203 | 225 | 225A | 226 | 251 | 251A | 252 | 283 | 283A | 284 | 322 | 323A | 324 |
| 3.000 | | | | 205 | 205A | 206 | 228 | 228A | 229 | 254 | 254A | 255 | 286 | 286A | 287 | 325 | 326A | 327 |

DASH NUMBERS FOR ALLOY STEEL CONTAINING THE LETTER "A" INDICATE ULTIMATE TENSILE STRENGTH 125,000 TO 145,000 psi. DASH NUMBERS FOR ALLOY STEEL WITHOUT THE LETTER "A" INDICATE MS24692B MINIMUM ULTIMATE TENSILE STRENGTH 106,000 psi AND SHALL NOT BE USED FOR HIGH DESIGN.

ENTIRE STANDARD REVISED

| | | | |
|--|--|-------------------------------------|--|
| ARMY-AR NAVY-OS AIR FORCE-99 | INTERNATIONAL INTEREST | TITLE PIN, TAPERED, PLAIN | MILITARY STANDARD MS24692 |
| PROCUREMENT SPECIFICATION MIL-P-16610 | SUPERSEDES AN385, BFCX1, BFCX2, BFCX2.1 AND IN PART BFCX2.2 | PAGE 1 OF 6 | |

USER ACTIVITIES:
ARMY-AT, ME
NAVY-AS, MC, SH

REVIEWER ACTIVITIES:
ARMY-AV
DLA-IS

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This military standard is approved for use by all Departments and Agencies of the Department of Defense without limitation for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

TABLE I. DASH NUMBERS AND DIMENSIONS - CONTINUED

| SIZE NUMBER | 6 | | | 7 | | | 8 | | | 9 | | | 10 | | |
|---------------|-------------|---------|-----|-------------|---------|-----|-------------|---------|-----|-------------|---------|-----|-------------|---------|-----|
| DIA NOM | .3410 | | | .4090 | | | .4920 | | | .5910 | | | .7060 | | |
| DIA LARGZ MAX | .3423 | | | .4103 | | | .4933 | | | .5923 | | | .7073 | | |
| DIA MIN | .3403 | | | .4083 | | | .4913 | | | .5903 | | | .7053 | | |
| R RADII | .341 | | | .409 | | | .492 | | | .591 | | | .706 | | |
| L LENGTH | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | | DASH NUMBER | | |
| | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS | CAR STL | ALY STL | CRS |
| 1.250 | 328 | 329A | 330 | | | | | | | | | | | | |
| 1.500 | 331 | 332A | 333 | | | | | | | | | | | | |
| 1.750 | 334 | 335A | 336 | | | | | | | | | | | | |
| 2.000 | 337 | 338A | 339 | 364 | 365A | 366 | 391 | 392A | 393 | | | | | | |
| 2.250 | 340 | 341A | 342 | 367 | 368A | 369 | 394 | 395A | 396 | | | | | | |
| 2.500 | 343 | 344A | 345 | 370 | 371A | 372 | 397 | 398A | 399 | | | | | | |
| 2.750 | 346 | 347A | 348 | 373 | 374A | 375 | 400 | 401A | 402 | 430 | 431A | 432 | | | |
| 3.000 | 349 | 350A | 351 | 376 | 377A | 378 | 403 | 404A | 405 | 433 | 434A | 435 | | | |
| 3.250 | 352 | 353A | 354 | 379 | 380A | 381 | 406 | 407A | 408 | 436 | 437A | 438 | | | |
| 3.500 | 355 | 356A | 357 | 382 | 383A | 384 | 409 | 410A | 411 | 439 | 440A | 441 | 469 | 470A | 471 |
| 3.750 | 358 | 359A | 360 | 385 | 386A | 387 | 412 | 413A | 414 | 442 | 443A | 444 | 472 | 473A | 474 |
| 4.000 | 361 | 362A | 363 | 388 | 389A | 390 | 415 | 416A | 417 | 445 | 446A | 447 | 475 | 476A | 477 |
| 4.250 | | | | | | | 418 | 419A | 420 | 448 | 449A | 450 | 478 | 479A | 480 |
| 4.500 | | | | | | | 421 | 422A | 423 | 451 | 452A | 453 | 481 | 482A | 483 |
| 4.750 | | | | | | | 424 | 425A | 426 | 454 | 455A | 456 | 484 | 485A | 486 |
| 5.000 | | | | | | | 427 | 428A | 429 | 457 | 458A | 459 | 487 | 488A | 489 |
| 5.250 | | | | | | | | | | 460 | 461A | 462 | 490 | 491A | 492 |
| 5.500 | | | | | | | | | | 463 | 464A | 465 | 493 | 494A | 495 |
| 5.750 | | | | | | | | | | 466 | 467A | 468 | 496 | 497A | 498 |
| 6.000 | | | | | | | | | | | | | 499 | 500A | 501 |

1/ DASH NUMBERS FOR ALLOY STEEL CONTAINING THE LETTER "A" INDICATE ULTIMATE TENSILE STRENGTH 125,000 TO 145,000 psi. DASH NUMBERS FOR ALLOY STEEL WITHOUT THE LETTER "A" INDICATE MINIMUM ULTIMATE TENSILE STRENGTH 106,000 psi AND SHALL NOT BE USED FOR NEW DESIGN.

REQUIREMENTS:

1. MATERIAL:

- A - CARBON STEEL PINS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM A108 AND SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH OF 55,000 psi.
- B - ALLOY STEEL PINS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM A331 AND SHALL HAVE AN ULTIMATE TENSILE STRENGTH OF 125,000 TO 145,000 psi.
- C - CORROSION RESISTANT STEEL PINS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM A582 AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70,000 psi.

2. PROTECTIVE FINISH:

CARBON AND ALLOY STEEL PINS: WHEN SPECIFIED, CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 2 OR MIL-C-81562, TYPE II, CLASS 2.

CORROSION RESISTANT STEEL PINS: CLEANED, DEOILED AND PASSIVATED IN ACCORDANCE WITH ASTM A380.

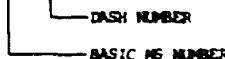
3. DRILLED HOLES:

"E" DIAMETER SHALL BE .024 ± .005 FOR SIZES 7/0 THROUGH 4/0 AND .046 ± .005 FOR SIZES 3/0 THROUGH 6. SIZES 7 THROUGH 10 SHALL NOT BE DRILLED. CORROSION RESISTANT STEEL PINS SHALL NOT BE DRILLED.

4. PART NUMBER:

THE PART NUMBER SHALL CONSIST OF THE BASIC NS NUMBER, FOLLOWED BY A DASH NUMBER TAKEN FROM TABLE I AND A LETTER DESIGNATION FOR DRILLED PINS, CADMIUM PLATED PINS OR DRILLED AND CADMIUM PLATED PINS.

EXAMPLE: MS24692-1



MS24692-1 INDICATES: PIN, TAPERED, PLAIN; SIZE NUMBER 7/0; DIAMETER .0625; LENGTH .375; CARBON STEEL.

OTHER ACTIVITIES:
 ARMY - AT
 NAVY - AS, MC, SH

REVIEWER ACTIVITIES:
 ARMY - AV
 DLA - IS

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4.5 AND 6

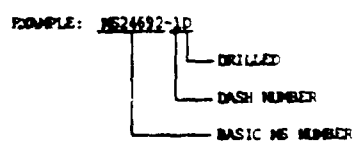
APPROVED 29 JUL 60
 REVISED ① FOR CHANGES SEE PAGES

| | | | |
|--|--|----------------------------------|-------------------|
| P. A. ARMY-AR Other Code NAVY-OS AIR FORCE-99 | INTERNATIONAL INTEREST | TITLE PIN, TAPERED, PLAIN | MILITARY STANDARD |
| | | | MS24692 |
| PROCUREMENT SPECIFICATION MIL-P-15610 | SUPERSEDES: AN385, BFCX1, BFCX2, BFCX2 I AND IN PART BFCX2.2 | PAGE 2 OF 6 | |

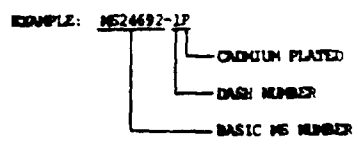
OTHER ACTIVITIES
ARMY - AT
NAVY - AS, MC, SH

REVISED ACTIVITIES
ARMY - AV
DLA - IS

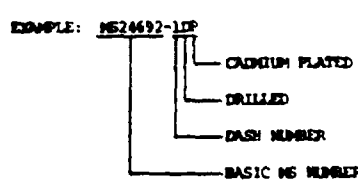
This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for replacement use shall be made from this document which applies to all.



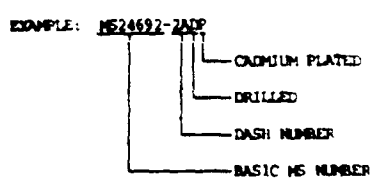
MS24692-1D INDICATES: PIN, TAPERED, PLAIN; SIZE NUMBER 7/0; DIAMETER .0625; LENGTH .375; CARBON STEEL, DRILLED.



MS24692-1P INDICATES: PIN, TAPERED, PLAIN; SIZE NUMBER 7/0; DIAMETER .0625; LENGTH .375; CARBON STEEL, CADMIUM PLATED.



MS24692-1DP INDICATES: PIN, TAPERED, PLAIN; SIZE NUMBER 7/0; DIAMETER .0625; LENGTH .375; CARBON STEEL, DRILLED, CADMIUM PLATED.



MS24692-2ADP INDICATES: PIN, TAPERED, PLAIN; SIZE NUMBER 7/0; DIAMETER .0625; LENGTH .375; ALLOY STEEL, DRILLED, CADMIUM PLATED MINIMUM ULTIMATE TENSILE STRENGTH 125,000 TO 145,000 psi.

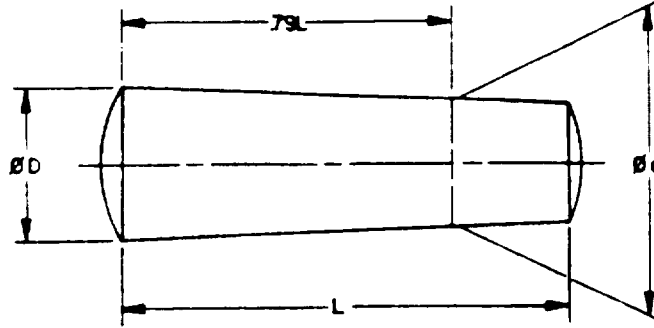
NOTES:

1. ALL DIMENSIONS ARE IN INCHES. TOLERANCES $\pm .010$ UNLESS OTHERWISE SPECIFIED.
2. TO OBTAIN THE DIAMETER OF THE SMALL END, MULTIPLY THE LENGTH BY .02083 AND SUBTRACT THE PRODUCT FROM THE LARGE END NOMINAL DIAMETER.
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 NON-GOVERNMENT) 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.

APPROVED 29 JUL 60 REVISED ① FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

| | | | |
|--|--|----------------------------------|-------------------|
| P. A. ARMY - AR Other Code NAVY - OS AIR FORCE - 99 | INTERNATIONAL INTEREST | TITLE PIN, TAPERED, PLAIN | MILITARY STANDARD |
| | | | MS24692 |
| PROCUREMENT SPECIFICATION MIL - P - 16610 | SUPERSEDES: AN385, BFCX1, BFCX2, BFCX2.1 AND IN PART BFCX2.2 | PAGE 3 OF 6 | 5315-0422 |

PIN SHIP CLASS
5315



USER ACTIVITIES:
ARMY - AT, ME
NAVY - AS, MC, SH

REVISER ACTIVITIES:
ARMY - AV
DLA - IS

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TABLE 11-A

| SHEAR LOAD "P" IN POUNDS - CARBON STEEL 1/2, 2/3, 3 | | | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| L | 7/0 | 6/0 | 5/0 | 4/0 | 3/0 | 2/0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| .375 | 49 | 79 | 120 | 165 | 210 | 275 | 340 | | | | | | | | | | |
| .500 | 65 | 75 | 115 | 155 | 210 | 275 | 330 | 410 | | | | | | | | | |
| .625 | 82 | 71 | 110 | 150 | 205 | 265 | 320 | 395 | 510 | 670 | | | | | | | |
| .750 | 98 | 66 | 105 | 145 | 195 | 255 | 310 | 385 | 500 | 650 | | | | | | | |
| .875 | 35 | 62 | 98 | 140 | 190 | 250 | | | | | | | | | | | |
| 1.000 | 12 | 59 | 93 | 130 | 185 | 240 | 305 | 375 | 490 | 640 | 850 | 1160 | | | | | |
| 1.250 | 27 | 5 | 83 | 120 | 170 | 225 | 285 | 355 | 460 | 610 | 820 | 1130 | 1610 | | | | |
| 1.500 | 22 | | 74 | 110 | 155 | 210 | 270 | 340 | 440 | 590 | 790 | 1090 | 1560 | | | | |
| 1.750 | | | | | | | 250 | 320 | 420 | 560 | 760 | 1060 | 1520 | | | | |
| 2.000 | | | | | 145 | 195 | 235 | 300 | 400 | 540 | 740 | 1020 | 1480 | 2210 | 3300 | | |
| 2.250 | | | | | | | | 285 | 380 | 520 | 710 | 990 | 1440 | 2170 | 3240 | | |
| 2.500 | | | | | | | | 265 | 360 | 490 | 680 | 960 | 1400 | 2120 | 3180 | | |
| 2.750 | | | | | | | | 250 | 340 | 470 | 650 | 930 | 1370 | 2070 | 3130 | | |
| 3.000 | | | | | | | | 235 | 320 | 450 | 630 | 900 | 1330 | 2020 | 3070 | 4600 | |
| 3.250 | | | | | | | | | | | | | 1290 | 1980 | 3010 | 4530 | |
| 3.500 | | | | | | | | | | | | | 1260 | 1930 | 2950 | 4460 | 6590 |
| 3.750 | | | | | | | | | | | | | 1220 | 1890 | 2900 | 4390 | 6510 |
| 4.000 | | | | | | | | | | | | | 1180 | 1840 | 2840 | 4320 | 6420 |
| 4.250 | | | | | | | | | | | | | | | 2790 | 4250 | 6340 |
| 4.500 | | | | | | | | | | | | | | | 2730 | 4190 | 6260 |
| 4.750 | | | | | | | | | | | | | | | 2680 | 4120 | 6180 |
| 5.000 | | | | | | | | | | | | | | | 2630 | 4050 | 6100 |
| 5.250 | | | | | | | | | | | | | | | | 3990 | 6020 |
| 5.500 | | | | | | | | | | | | | | | | 3930 | 5940 |
| 5.750 | | | | | | | | | | | | | | | | 3860 | 5860 |
| 6.000 | | | | | | | | | | | | | | | | | 5780 |

TABLE 11-B

| SHEAR LOAD "P" IN POUNDS - ALLOY STEEL 1/2, 2/3, 3 | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|-------|-------|
| L | 7/0 | 6/0 | 5/0 | 4/0 | 3/0 | 2/0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| .375 | 115 | 190 | 285 | 390 | 500 | 650 | 800 | | | | | | | | | | |
| .500 | 110 | 180 | 270 | 375 | 500 | 650 | 800 | 960 | | | | | | | | | |
| .625 | 100 | 165 | 255 | 355 | 485 | 625 | 785 | 960 | 1200 | 1580 | | | | | | | |
| .750 | 90 | 160 | 245 | 345 | 470 | 605 | 760 | 940 | 1200 | 1560 | | | | | | | |
| .875 | 85 | 150 | 230 | 330 | 450 | 590 | 735 | 920 | 1170 | 1540 | | | | | | | |
| 1.000 | 80 | 135 | 220 | 315 | 430 | 570 | 725 | 895 | 1140 | 1520 | 2020 | 2640 | | | | | |
| 1.250 | 65 | 120 | 195 | 285 | 405 | 535 | 675 | 850 | 1100 | 1460 | 1950 | 2750 | 3810 | | | | |
| 1.500 | 50 | 105 | 180 | 260 | 370 | 500 | 640 | 810 | 1040 | 1400 | 1890 | 2670 | 3710 | | | | |
| 1.750 | | | | | 340 | 460 | 595 | 765 | 990 | 1340 | 1820 | 2600 | 3620 | | | | |
| 2.000 | | | | | | 560 | 715 | 950 | 1280 | 1750 | 2510 | 3520 | 5250 | 7830 | | | |
| 2.250 | | | | | | | | 680 | 900 | 1230 | 1690 | 2420 | 3430 | 5130 | 7680 | | |
| 2.500 | | | | | | | | 630 | 850 | 1170 | 1620 | 2350 | 3330 | 5040 | 7560 | | |
| 2.750 | | | | | | | | 600 | 805 | 1120 | 1560 | 2280 | 3230 | 4910 | 7410 | 11100 | |
| 3.000 | | | | | | | | 560 | 760 | 1070 | 1500 | 2190 | 3160 | 4800 | 7290 | 10900 | |
| 3.250 | | | | | | | | | | | | | 3080 | 4700 | 7140 | 10740 | |
| 3.500 | | | | | | | | | | | | | 2980 | 4560 | 7010 | 10600 | 15640 |
| 3.750 | | | | | | | | | | | | | 2890 | 4420 | 6880 | 10420 | 15440 |
| 4.000 | | | | | | | | | | | | | 2810 | 4380 | 6750 | 10250 | 15270 |
| 4.250 | | | | | | | | | | | | | | | 6620 | 10100 | 15050 |
| 4.500 | | | | | | | | | | | | | | | 6490 | 9940 | 14860 |
| 4.750 | | | | | | | | | | | | | | | 6360 | 9780 | 14670 |
| 5.000 | | | | | | | | | | | | | | | 6240 | 9620 | 14470 |
| 5.250 | | | | | | | | | | | | | | | | 9470 | 14280 |
| 5.500 | | | | | | | | | | | | | | | | 9340 | 14100 |
| 5.750 | | | | | | | | | | | | | | | | 9160 | 13900 |
| 6.000 | | | | | | | | | | | | | | | | | 13720 |

| | | | |
|--|------------------------|--|-------------------|
| P A ARMY-AR Other Cost NAVY-OS AIR FORCE-99 | INTERNATIONAL INTEREST | TITLE | MILITARY STANDARD |
| | | PIN, TAPERED, PLAIN | MS24692 |
| PROCUREMENT SPECIFICATION MIL-P-16610 | SUPERSEDES | AN385, BFCX1, BFCX2, BFCX2.1 AND IN PART BFCX2.2 | PAGE 4 OF 6 |

APPROVED 29 JUL 60 REVISED FOR CHANGES SEE PAGE 3, 4, 5 AND 6

TABLE II-C

SHEAR LOAD "P" IN POUNDS - CORROSION RESISTANT STEEL 1/2, 3/4, 1

| L | 7/0 | 6/0 | 5/0 | 4/0 | 3/0 | 2/0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| .375 | 70 | 115 | 175 | 240 | | | | | | | | | | | | | |
| .500 | 65 | 110 | 165 | 230 | 305 | 395 | 490 | | | | | | | | | | |
| .625 | 60 | 100 | 155 | 220 | 295 | 385 | 480 | 590 | | | | | | | | | |
| .750 | 56 | 96 | 150 | 210 | 285 | 375 | 470 | 580 | 780 | 970 | | | | | | | |
| .875 | 51 | 90 | 140 | 200 | 275 | 360 | 450 | 560 | 720 | 950 | | | | | | | |
| 1.000 | 47 | 84 | 135 | 190 | 265 | 350 | 440 | 550 | 700 | 930 | 1240 | 1680 | | | | | |
| 1.250 | 39 | 73 | 120 | 175 | 245 | 325 | 410 | 520 | 670 | 890 | 1190 | 1630 | 2330 | | | | |
| 1.500 | 31 | 63 | 105 | 160 | 225 | 305 | 390 | 490 | 640 | 850 | 1150 | 1580 | 2270 | | | | |
| 1.750 | | | | | 210 | 285 | 365 | 460 | 610 | 820 | 1110 | 1530 | 2210 | | | | |
| 2.000 | | | | | | | 340 | 440 | 580 | 780 | 1070 | 1490 | 2150 | 3210 | 4780 | | |
| 2.250 | | | | | | | | 410 | 550 | 750 | 1030 | 1440 | 2100 | 3140 | 4700 | | |
| 2.500 | | | | | | | | 385 | 520 | 720 | 990 | 1390 | 2040 | 3070 | 4620 | | |
| 2.750 | | | | | | | | 360 | 490 | 690 | 950 | 1350 | 1980 | 3000 | 4530 | 6770 | |
| 3.000 | | | | | | | | 340 | 470 | 650 | 910 | 1300 | 1930 | 2930 | 4450 | 6660 | |
| 3.250 | | | | | | | | | | | | | 1870 | 2870 | 4370 | 6560 | |
| 3.500 | | | | | | | | | | | | | 1820 | 2800 | 4280 | 6460 | 9560 |
| 3.750 | | | | | | | | | | | | | 1770 | 2740 | 4200 | 6360 | 9430 |
| 4.000 | | | | | | | | | | | | | 1720 | 2670 | 4120 | 6270 | 9310 |
| 4.250 | | | | | | | | | | | | | | | 4040 | 6170 | 9190 |
| 4.500 | | | | | | | | | | | | | | | 3970 | 6070 | 9080 |
| 4.750 | | | | | | | | | | | | | | | 3890 | 5970 | 8960 |
| 5.000 | | | | | | | | | | | | | | | 3810 | 5880 | 8840 |
| 5.250 | | | | | | | | | | | | | | | | 5780 | 8720 |
| 5.500 | | | | | | | | | | | | | | | | 5690 | 8610 |
| 5.750 | | | | | | | | | | | | | | | | 5600 | 8490 |
| 6.000 | | | | | | | | | | | | | | | | | 8380 |

- 1/ THESE TABLES ARE BASED ON MAXIMUM ALLOWABLE SHEAR STRESSES OF 20,000 psi FOR CARBON STEEL, 47,500 psi FOR ALLOY STEEL AND 29,000 psi FOR CORROSION RESISTANT STEEL. EACH IS ASSUMED TO OCCUR AT "d" DIAMETER. (SEE SHEET 4)
- 2/ THESE VALUES ARE BASED ON THE FOLLOWING FORMULA:

$$\text{SHEAR LOAD: } P = \frac{\pi}{4} d^2 \times S \quad \text{EXAMPLE: } .7854d^2 \times 20,000$$
- 3/ FOR DESIGN INFORMATION ONLY.

TABLE III.

RECOMMENDED PIN SIZE BY SHAFT DIAMETER FOR AVERAGE CONDITIONS

| SIZE NUMBER | 7/0 | 6/0 | 5/0 | 4/0 | 3/0 | 2/0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| DIAMETER OF SHAFT | .188 | .219 | .250 | .312 | .375 | .438 | .500 | .562 | .625 | .750 | .812 | .875 | 1.000 | 1.250 | 1.500 | 2.000 | 2.500 |

OVER ACTIVITIES
 ARMY - AT, ME
 NAVY - AS, MC, SH

REVIEWER ACTIVITIES
 ARMY - AV
 DLA - IS

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Section for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

APPROVED 29 JUL 60 REVISION (D) FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

| | | | |
|--|--|---|-------------------|
| P. A ARMY - AR NAVY - OS AIR FORCE - 99 | INTERNATIONAL INTEREST | TITLE PIN, TAPERED, PLAIN | MILITARY STANDARD |
| | | | MS24692 |
| PROCUREMENT SPECIFICATION MIL - P-10610 | SUPERSEDES AN385, BFCX1, BFCX2, BFCX2.1 AND IN PART BFCX2.2 | PAGE 5 OF 6 | 5315-0422 |

INTERCHANGEABILITY

THE PINS COVERED BY DASH NUMBERS GIVEN IN AN385 ARE CANCELED AFTER 30 AUGUST 1973 AND SUPERSEDED BY PINS COVERED BY DASH NUMBERS GIVEN IN MS24692. THE CANCELED PINS SHOULD BE USED UNTIL EXISTING STOCKS ARE DEPLETED. USE ONLY THE SUPERSEDING PINS OF MS24692 FOR NEW DESIGN AND ENGINEERING. REPLACEMENT SHALL BE IN ACCORDANCE WITH THIS TABLE AND USING THE FOLLOWING CODING:

- A. FOR AN385 DRILLED PIN WITH "H" BEFORE THE FIRST DASH NUMBER. EXAMPLE: AN385H70-3 SUPERSEDED BY MS24692-10 AND AN385A70-3 SUPERSEDED BY MS24692-2AD.
- B. FOR AN385 CADMIUM PLATED PIN WITH "P" BEFORE THE SECOND DASH NUMBER. EXAMPLE: AN385-70P3 SUPERSEDED BY MS24692-1P AND AN385A70P3 SUPERSEDED BY MS24692-2AP.
- C. FURTHER EXAMPLES: AN385H70P3 SUPERSEDED BY MS24692-1DP AND AN385A70P3 SUPERSEDED BY MS24692-2ADP.
- D. SAME AS 1/.

TABLE IV.

| DASH NUMBER | | DASH NUMBER | | DASH NUMBER | | DASH NUMBER | | DASH NUMBER | | DASH NUMBER | |
|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
| CANC AN385 | SUPSD BY MS24692D | CANC AN385 | SUPSD BY MS24692D | CANC AN385 | SUPSD BY MS24692D | CANC AN385 | SUPSD BY MS24692D | CANC AN385 | SUPSD BY MS24692D | CANC AN385 | SUPSD BY MS24692D |
| 70-3 | 1 | 50-4 | 52 | 30-6 | 103 | 10-10 | 160 | 2-14 | 223 | 4-16 | 286 |
| A70-3 | 2A | A50-4 | 53A | A30-6 | 104A | A10-10 | 161A | A2-14 | 224A | A4-16 | 287A |
| 70-4 | 4 | 50-5 | 55 | 30-7 | 106 | 10-12 | 163 | 2-16 | 226 | 4-18 | 289 |
| A70-4 | 5A | A50-5 | 56A | A10-7 | 107A | A10-12 | 164A | A2-16 | 227A | A4-18 | 290A |
| 70-5 | 7 | 50-6 | 58 | 30-8 | 109 | 10-14 | 166 | 2-18 | 229 | 4-20 | 292 |
| A70-5 | 8A | A50-6 | 59A | A30-8 | 110A | A10-14 | 167A | A2-18 | 230A | A4-20 | 293A |
| 70-6 | 10 | 50-7 | 61 | 30-10 | 112 | 10-16 | 169 | 2-20 | 232 | 4-22 | 295 |
| A70-6 | 11A | A50-7 | 62A | A30-10 | 113A | A10-16 | 170A | A2-20 | 233A | A4-22 | 296A |
| 70-7 | 13 | 50-8 | 64 | 30-12 | 115 | 1-5 | 172 | 3-7 | 244 | 4-24 | 298 |
| A70-7 | 14A | A50-8 | 65A | A30-12 | 116A | A1-5 | 173A | A3-7 | 245A | A4-24 | 299A |
| 70-8 | 16 | 50-10 | 67 | 30-14 | 118 | 1-6 | 175 | 3-8 | 247 | 5-14 | 310 |
| A70-8 | 17A | A50-10 | 68A | A30-14 | 119A | A1-6 | 176A | A3-8 | 248A | A5-14 | 311A |
| 70-10 | 19 | 50-12 | 70 | 20-5 | 124 | 1-7 | 178 | 3-10 | 250 | 5-16 | 313 |
| A70-10 | 20A | A50-12 | 71A | A20-5 | 125A | A1-7 | 179A | A3-10 | 251A | A5-16 | 314A |
| 70-12 | 22 | 40-3 | 73 | 20-6 | 127 | 1-8 | 181 | 3-12 | 253 | 5-18 | 316 |
| A70-12 | 23A | A40-3 | 74A | A20-6 | 128A | A1-8 | 182A | A3-12 | 254A | A5-18 | 317A |
| 60-3 | 25 | 40-4 | 76 | 20-7 | 130 | 1-10 | 184 | 3-14 | 256 | 5-20 | 319 |
| A60-3 | 26A | A40-4 | 77A | A20-7 | 131A | A1-10 | 185A | A3-14 | 257A | A5-20 | 320A |
| 60-4 | 28 | 40-5 | 79 | 20-8 | 133 | 1-12 | 187 | 3-16 | 259 | 5-22 | 322 |
| A60-4 | 29A | A40-5 | 80A | A20-8 | 134A | A1-12 | 188A | A3-16 | 260A | A5-22 | 323A |
| 60-5 | 31 | 40-6 | 82 | 20-10 | 136 | 1-14 | 190 | 3-18 | 262 | 5-24 | 325 |
| A60-5 | 32A | A40-6 | 83A | A20-10 | 137A | A1-14 | 191A | A3-18 | 263A | A5-24 | 326A |
| 60-6 | 34 | 40-7 | 85 | 20-12 | 139 | 1-16 | 193 | 3-20 | 265 | 6-16 | 337 |
| A60-6 | 35A | A40-7 | 86A | A20-12 | 140A | A1-16 | 194A | A3-20 | 266A | A6-16 | 338A |
| 60-7 | 37 | 40-8 | 88 | 20-14 | 142 | 2-6 | 208 | 3-22 | 268 | 6-18 | 340 |
| A60-7 | 38A | A40-8 | 89A | A20-14 | 143A | A2-6 | 209A | A3-22 | 269A | A6-18 | 341A |
| 60-8 | 40 | 40-10 | 91 | 10-5 | 148 | 2-7 | 211 | 3-24 | 271 | 6-20 | 343 |
| A60-8 | 41A | A40-10 | 92A | A10-5 | 149A | A2-7 | 212A | A3-24 | 272A | A6-20 | 344A |
| 60-10 | 43 | 40-12 | 94 | 10-6 | 151 | 2-8 | 214 | 4-12 | 280 | 6-22 | 346 |
| A60-10 | 44A | A40-12 | 95A | A10-6 | 152A | A2-8 | 215A | A4-12 | 281A | A6-22 | 347A |
| 60-12 | 46 | 30-4 | 97 | 10-7 | 154 | 2-10 | 217 | 4-14 | 283 | 6-24 | 349 |
| A60-12 | 47A | A30-4 | 98A | A10-7 | 155A | A2-10 | 218A | A4-14 | 284A | A6-24 | 350A |
| 50-3 | 49 | 30-5 | 100 | 10-8 | 157 | 2-12 | 220 | | | | |
| A50-3 | 50A | A30-5 | 101A | A10-8 | 158A | A2-12 | 221A | | | | |

USER ACTIVITIES
ARMY - AT
NAVY - AS, MC, SH

REVISOR ACTIVITIES
ARMY - AV
DLA - IS

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| | | | |
|---|--|---|-------------------|
| P. A. ARMY - AR NAVY - OS AIR FORCE - 99 | INTERNATIONAL INTEREST | TITLE PIN, TAPERED, PLAIN | MILITARY STANDARD |
| | | | MS24692 |
| PROCUREMENT SPECIFICATION MIL - P - 16810 | SUPERSEDES AN385, BFCX1, BFCX2, BFCX2.1 AND IN PART BFCX2.2 | PAGE 6 OF 6 | 5315-0422 |