

FED. SUPPLY CLASS

5306

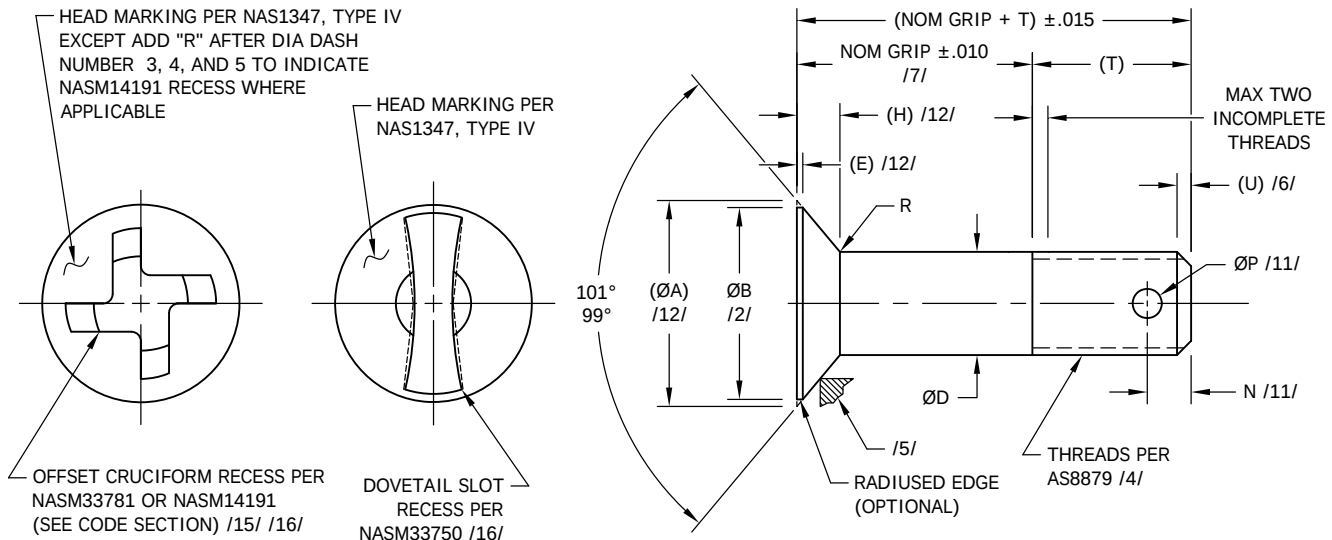


FIGURE 1 – DIMENSIONS

TABLE I – DIMENSIONS

| DIA<br>DASH<br>NO. | THREAD<br>UNJF-3A<br>/4/ | (ØA)<br>/12/ | ØB<br>MIN<br>/2/ | ØD             |                | (E)<br>/12/ | (H)<br>/12/ | N<br>/11/    | ØP<br>/11/   | R<br>RAD     | (T)  | (U)<br>/6/ | Y<br>TOL<br>/2/ | Z<br>TOL<br>/3/ | TENSILE<br>STRENGTH<br>/13/ /14/<br>LBF MIN |
|--------------------|--------------------------|--------------|------------------|----------------|----------------|-------------|-------------|--------------|--------------|--------------|------|------------|-----------------|-----------------|---------------------------------------------|
|                    |                          |              |                  | UNPLATED       | PLATED         |             |             |              |              |              |      |            |                 |                 |                                             |
| 3                  | .1900-32                 | .3813        | .339             | .1895<br>.1890 | .1895<br>.1885 | .015        | .083        | .126<br>.106 | .080<br>.070 | .035<br>.015 | .363 | .050       | .005            | .0040           | 3,180                                       |
| 4                  | .2500-28                 | .5066        | .464             | .2495<br>.2490 | .2495<br>.2485 | .015        | .111        | .126<br>.106 | .086<br>.076 | .035<br>.015 | .403 | .050       | .006            | .0030           | 5,790                                       |
| 5                  | .3125-24                 | .6335        | .578             | .3120<br>.3115 | .3120<br>.3110 | .015        | .140        | .130<br>.110 | .086<br>.076 | .045<br>.025 | .501 | .060       | .007            | .0030           | 9,260                                       |
| 6                  | .3750-24                 | .7604        | .717             | .3745<br>.3740 | .3745<br>.3735 | .015        | .167        | .130<br>.110 | .116<br>.106 | .045<br>.025 | .594 | .060       | .008            | .0025           | 14,000                                      |
| 7                  | .4375-20                 | .8884        | .826             | .4370<br>.4365 | .4370<br>.4360 | .022        | .195        | .134<br>.114 | .116<br>.106 | .055<br>.035 | .675 | .080       | .009            | .0025           | 19,000                                      |
| 8                  | .5000-20                 | 1.0139       | .951             | .4995<br>.4990 | .4995<br>.4985 | .022        | .222        | .134<br>.114 | .116<br>.106 | .055<br>.035 | .768 | .080       | .010            | .0020           | 25,600                                      |
| 9                  | .5625-18                 | 1.1408       | 1.071            | .5615<br>.5610 | .5615<br>.5605 | .025        | .250        | .134<br>.114 | .151<br>.141 | .055<br>.035 | .881 | .090       | .010            | .0020           | 32,400                                      |
| 10                 | .6250-18                 | 1.2723       | 1.201            | .6240<br>.6235 | .6240<br>.6230 | .025        | .280        | .134<br>.114 | .151<br>.141 | .055<br>.035 | .981 | .090       | .010            | .0020           | 40,900                                      |

FOR DESCRIPTION OF STATUS NOTES, SEE NAS380

|                              |       |                                                                                                               |  |                |  |
|------------------------------|-------|---------------------------------------------------------------------------------------------------------------|--|----------------|--|
| THIRD<br>ANGLE<br>PROJECTION |       | CUSTODIAN                                                                                                     |  | REVISION       |  |
|                              |       | NATIONAL AEROSPACE STANDARDS COMMITTEE                                                                        |  | 15             |  |
|                              |       | TITLE                                                                                                         |  | CLASSIFICATION |  |
| PROCUREMENT<br>SPECIFICATION | NOTED | BOLT, SHEAR, 100° FLUSH HEAD,<br>OFFSET CRUCIFORM, OFFSET CRUCIFORM – RIBBED<br>AND DOVETAIL SLOT, 95 KSI Fsu |  | PART STANDARD  |  |
|                              |       |                                                                                                               |  | NAS1580        |  |



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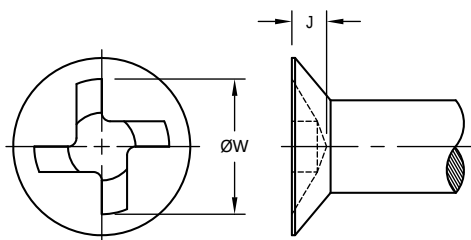


FIGURE 2 – OFFSET CRUCIFORM RECESS

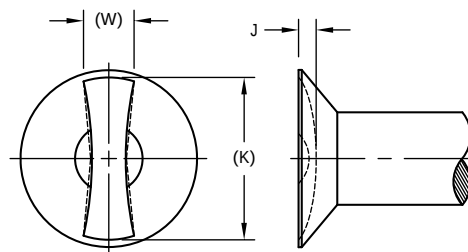


FIGURE 3 – DOVETAIL SLOT RECESS

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TABLE II – OFFSET CRUCIFORM RECESS DIMENSIONS

| DIA<br>DASH<br>NO. | RECESS<br>SIZE | J<br>MAX | ØW<br>MAX | GAGE<br>PENETRATION |       |
|--------------------|----------------|----------|-----------|---------------------|-------|
|                    |                |          |           | MIN                 | MAX   |
| 3                  | .1900          | .090     | .248      | .0560               | .0685 |
| 4                  | .2500          | .118     | .325      | .0750               | .0890 |
| 5                  | .3125          | .122     | .357      | .0700               | .0860 |
| 6                  | .3750          | .145     | .427      | .0850               | .1030 |
| 7                  | .4375          | .169     | .498      | .1005               | .1205 |
| 8                  | .5000          | .193     | .568      | .1155               | .1375 |
| 9                  | .5625          | .217     | .638      | .1305               | .1545 |
| 10                 | .6250          | .241     | .708      | .1450               | .1710 |

TABLE III – DOVETAIL SLOT RECESS DIMENSIONS

| DIA<br>DASH<br>NO. | RECESS<br>NO. | J    |      | (K)   | (W)  |
|--------------------|---------------|------|------|-------|------|
|                    |               | MIN  | MAX  |       |      |
| 3                  | 3             | .042 | .045 | .305  | .110 |
| 4                  | 4             | .051 | .054 | .422  | .134 |
| 5                  | 5             | .061 | .064 | .490  | .160 |
| 6                  | 6             | .084 | .088 | .639  | .198 |
| 7                  | 7             | .096 | .100 | .715  | .224 |
| 8                  | 8             | .101 | .105 | .766  | .256 |
| 9                  | 9             | .114 | .118 | .877  | .300 |
| 10                 | 10            | .137 | .141 | 1.020 | .344 |

**MATERIAL:** ALLOY STEEL: 4140 (UNS G41400) PER AMS6349 OR AMS6382.  
4340 (UNS G43406) PER AMS6484 OR AMS6415.  
8740 (UNS G87400) PER AMS6322, AMS6325 OR AMS6327.

CRES: A286 (UNS S66286) SHALL CONFORM TO THE CHEMISTRY OF AMS5731, AMS5732, AMS5737 OR AMS5853.

TITANIUM ALLOY: 6AL-4V (UNS R56400) PER AMS4928 OR AMS4967.

**HEAT TREAT:** DEVELOP BASIC MATERIAL PROPERTIES AS FOLLOWS, WITH CONTROLS PER AMS2759 FOR ALLOY STEEL AND CRES AND AMS-H-81200 OR AMS2801 FOR TITANIUM.

ALLOY STEEL: 160-180 KSI Ft<sub>u</sub>  
CRES: 160-190 KSI Ft<sub>u</sub> /14/  
TITANIUM: 160 KSI Ft<sub>u</sub> MIN

**FINISH:** ALLOY STEEL: CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2.

CRES: PASSIVATE IN ACCORDANCE WITH AMS2700 METHOD 1, CLASS 4 OR CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2. (SEE CODE FOR FINISH)

TITANIUM: NONE OR ALUMINUM COATING PER NAS4006. (SEE CODE FOR FINISH)

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**CODE:** THE DIAMETER DASH NUMBER FOLLOWING THE MATERIAL CODE DESIGNATES THE NOMINAL DIAMETER IN .0625 INCH INCREMENTS AND THE GRIP DASH NUMBER FOLLOWING THE RECESS CODE DESIGNATES THE GRIP LENGTH IN .0625 INCH INCREMENTS. IF MORE THAN ONE CODE LETTER IS USED IN THE PART NUMBER FOLLOWING THE GRIP DASH NUMBER, ARRANGE THE CODE LETTERS ALPHABETICALLY.

**MATERIAL:** CODE LETTER "A" FOLLOWING BASIC PART NUMBER INDICATES ALLOY STEEL.  
CODE LETTER "C" FOLLOWING BASIC PART NUMBER INDICATES CRES A286.  
CODE LETTER "V" FOLLOWING BASIC PART NUMBER INDICATES TITANIUM 6AL-4V.

**FINISH:** ALLOY STEEL: NO CODE LETTER FOLLOWING DIAMETER DASH NUMBER INDICATES CADMIUM PLATE.  
CRES: NO CODE LETTER FOLLOWING GRIP DASH NUMBER INDICATES PASSIVATE.  
CODE LETTER "P" FOLLOWING GRIP DASH NUMBER INDICATES CADMIUM PLATE.  
TITANIUM: NO CODE FOLLOWING GRIP DASH NUMBER INDICATES NO FINISH.  
CODE LETTER "G" FOLLOWING GRIP DASH NUMBER INDICATES ALUMINUM COAT.

**RECESS:** CODE LETTER "H" FOLLOWING DIA DASH NUMBER INDICATES DOVETAIL SLOT RECESS PER NASM33750.  
CODE LETTER "R" FOLLOWING DIA DASH NUMBER INDICATES RIBBED OFFSET CRUCIFORM RECESS PER NASM14191 FOR DIA DASH NUMBERS 3, 4 AND 5.  
CODE LETTER "T" FOLLOWING DIA DASH NUMBER INDICATES OFFSET CRUCIFORM RECESS PER NASM33781.

**DRILL:** CODE LETTER "D" FOLLOWING THE GRIP DASH NUMBER INDICATES DRILLED THREADS.

**OVERSIZE:** CODE LETTER "X" AND "Y" FOLLOWING THE GRIP DASH NUMBER INDICATES REPLACEMENT OVERSIZE REPAIR BOLT. (SEE LAST SHEET)

**EXAMPLE OF PART NUMBER:**

NAS1580C4H5 = .2500-28 CRES A286 BOLT, .312 GRIP LENGTH, PASSIVATED, DOVETAIL SLOT RECESS PER NASM33750.  
NAS1580C4T5P = .2500-28 CRES A286 BOLT, .312 GRIP LENGTH, CADMIUM PLATE, OFFSET CRUCIFORM RECESS PER NASM33781.  
NAS1580V4R5D = .2500-28 TITANIUM BOLT, .312 GRIP LENGTH, RIBBED OFFSET CRUCIFORM RECESS PER NASM14191, DRILLED THREADS.  
NAS1580C4R5DP = .2500-28 CRES A286 BOLT, .312 GRIP LENGTH, CADMIUM PLATE, RIBBED OFFSET CRUCIFORM RECESS PER NASM14191, DRILLED THREADS.  
NAS1580V4T5G = .2500-28 TITANIUM BOLT, .312 GRIP LENGTH, OFFSET CRUCIFORM RECESS PER NASM33781, ALUMINUM COATING.  
NAS1580A4T5 = .2500-28 ALLOY STEEL BOLT, .312 GRIP LENGTH, CADMIUM PLATE, OFFSET CRUCIFORM RECESS PER NASM33781

**NOTES:**

- (1) CONCENTRICITY: CONICAL SURFACE OF THE HEAD TO ØD SHALL BE WITHIN .003 FIM.  
ØD TO THREAD PITCH DIAMETER SHALL BE WITHIN .0045 FIM FOR DIA DASH NUMBER -3 THRU -5, AND SHALL BE WITHIN .006 FIM FOR DIA DASH NUMBER -6 AND LARGER.
- /2/ THE HEAD EDGE OUT OF ROUNDNESS SHALL NOT EXCEED "Y" FIM.
- /3/ THE SHANK SHALL BE STRAIGHT WITHIN "Z" VALUES FIM PER INCH OF LENGTH.

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