

INCH-POUND

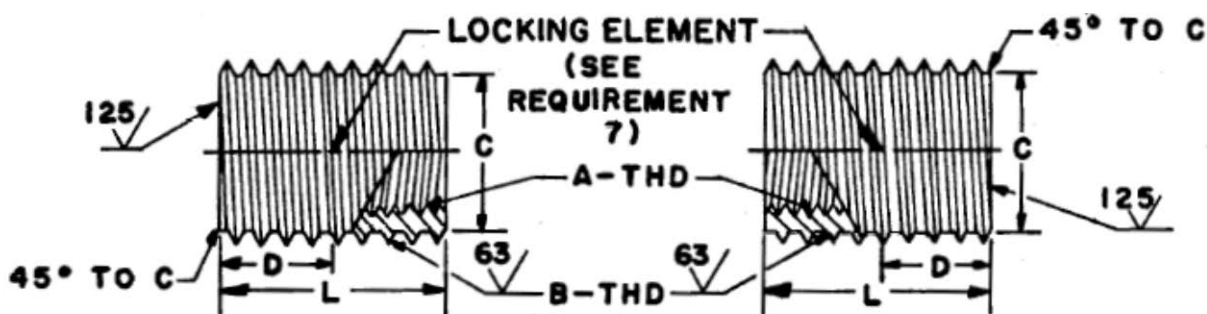
MIL-DTL-45932/2C  
 5 May 2015  
 SUPERSEDING  
 MIL-I-45932/2B  
 20 September 1977

## DETAIL SPECIFICATION SHEET

INSERT, SCREW THREAD – THIN WALL, LOCKED IN,  
 NON METALLIC LOCKING ELEMENT (-60° TO +250° FAHRENHEIT)

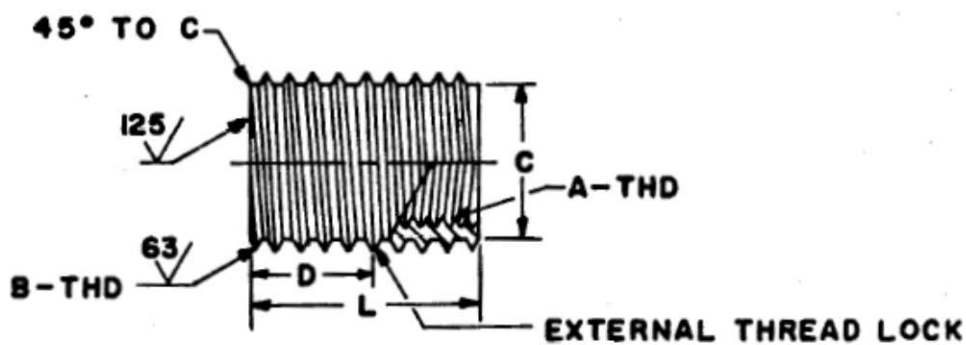
This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and procurement specification MIL-DTL-45932.



**TYPE A**  
 NON-METALLIC LOCK  
 INTERNAL/EXTERNAL

**TYPE B**  
 NON-METALLIC LOCK  
 EXTERNAL ONLY



**TYPE C**  
 ALL METAL LOCK  
 EXTERNAL ONLY

FIGURE 1. INSERT, SCREW THREAD.

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TABLE I. DASH NUMBERS AND DIMENSIONS.

| Dash Number      |           |           | A                         | B                                     |                      | C               |                 | D              | L              |
|------------------|-----------|-----------|---------------------------|---------------------------------------|----------------------|-----------------|-----------------|----------------|----------------|
| Cres – Comp. 303 |           |           | Internal Thread<br>UNJ-3B | External Thread<br>Altered Minor Dia. |                      | Dia.            |                 | Ref            | ±.01           |
| Type<br>A        | Type<br>B | Type<br>C | Thread<br>Size            | Thread<br>Size                        | Max<br>Minor<br>Dia. | Max             | Min             |                |                |
| *101             |           |           | .060-80                   | .099-48                               | .0755                | .071            | .066            | .04            | .10            |
| 104              |           | 004       | .086-56                   | .138-40                               | .1073                | .102            | .097            | .09            | .19            |
| 204              | 304       |           |                           | .164-32                               | .1380                | .133            | .128            | .09            | .19            |
| 404              |           |           |                           | .138-40                               | .1073                | .102            | .097            | .08            | .15            |
| 108              |           | 008       | .112-40                   | .164-32                               | .1380                | .133            | .128            | .09            | .19            |
| 208              | 308       |           |                           | .190-32                               | .1620                | .157            | .152            | .09            | .19            |
| 408              |           |           |                           | .164-32                               | .1380                | .133            | .128            | .08            | .15            |
| 112              |           | 012       | .138-32                   | .190-32                               | .1620                | .157            | .152            | .10            | .21            |
| 212              | 312       |           |                           | .216-28                               | .1890                | .185            | .179            | .10            | .21            |
| 412              |           |           |                           | .190-32                               | .1620                | .157            | .152            | .08            | .15            |
| 114              |           | 014       | .164-32                   | .216-28                               | .1890                | .185            | .179            | .12            | .25            |
| 214              | 314       |           |                           | .250-28                               | .2170                | .212            | .207            | .12            | .25            |
| 414              |           |           |                           | .216-28                               | .1890                | .185            | .179            | .10            | .21            |
| 116              |           | 016       | .190-24                   | .250-28                               | .2170                | .212            | .207            | .15            | .29            |
| 216              | 316       |           |                           | .3125-24                              | .2785                | .273            | .268            | .15            | .29            |
| 416              |           |           |                           | .250-28                               | .2170                | .212            | .207            | .10            | .21            |
| 117              |           | 017       | .190-32                   | .250-28                               | .2170                | .212            | .207            | .15            | .29            |
| 217              | 317       |           |                           | .3125-24                              | .2785                | .273            | .268            | .15            | .29            |
| 417              |           |           |                           | .250-28                               | .2170                | .212            | .207            | .10            | .21            |
| 118              |           | 018       | .250-20                   | .3125-24                              | .2785                | .273            | .268            | .19            | .38            |
| 218              | 318       |           |                           | .375-24                               | .3405                | .335            | .330            | .19            | .38            |
| 418              |           |           |                           | .3125-24                              | .2785                | .273            | .268            | .12            | .25            |
| 119              |           | 019       | .250-28                   | .3125-24                              | .2785                | .273            | .268            | .19            | .38            |
| 219              | 319       |           |                           | .375-24                               | .3405                | .335            | .330            | .19            | .38            |
| 419              |           |           |                           | .3125-24                              | .2785                | .273            | .268            | .12            | .25            |
| 120              |           | 020       | .3125-18                  | .375-24                               | .3405                | .335            | .330            | .24            | .47            |
| 220              | 320       |           |                           | .4375-20                              | .4010                | .396            | .391            | .24            | .47            |
| 420              |           |           |                           | .375-24                               | .3405                | .335            | .330            | .15            | .31            |
| 121              |           | 021       | .3125-24                  | .375-24                               | .3405                | .335            | .330            | .24            | .47            |
| 221              | 321       |           |                           | .4375-20                              | .4010                | .396            | .391            | .24            | .47            |
| 421              |           |           |                           | .375-24                               | .3405                | .335            | .330            | .15            | .31            |
| *122             |           |           | <del>.375-16</del>        | <del>.4375-20</del>                   | <del>.4010</del>     | <del>.396</del> | <del>.391</del> | <del>.28</del> | <del>.56</del> |
| *123             |           |           | <del>.375-24</del>        |                                       |                      |                 |                 |                |                |
| 222              | 322       |           | .375-16                   | .500-20                               | .4630                | .458            | .453            | .28            | .56            |
| 223              | 323       |           | .375-24                   |                                       |                      |                 |                 |                |                |
| 226              | 326       |           | .500-13                   | .625-18                               | .5618                | .557            | .552            | .38            | .75            |
| 227              | 327       |           | .500-20                   |                                       |                      |                 |                 |                |                |

\* Inactive for new design after 12 November 1973.

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TABLE II. COMPOSITION A286 DASH NUMBERS AND DIMENSIONS\*.

| Dash Number     | A                  | B                                  |                | C    |      | D   | L    |
|-----------------|--------------------|------------------------------------|----------------|------|------|-----|------|
|                 | Int. Thd. Class 3B | External Thread Altered Minor Dia. |                | Dia. |      | Ref | ±.01 |
| Cres Comp. A286 | Thread Size        | Thread Size                        | Max Minor Dia. | Max  | Min  |     |      |
| CA101           | .060-80            | .099-48                            | .0755          | .071 | .066 | .04 | .10  |
| CA104           | .086-56            | .138-40                            | .1073          | .102 | .097 | .09 | .19  |
| CA108           | .112-40            | .164-32                            | .1380          | .133 | .128 | .09 | .19  |
| CA112           | .138-32            | .190-32                            | .1620          | .157 | .152 | .10 | .21  |
| CA114           | .164-32            | .216-28                            | .1890          | .185 | .179 | .12 | .25  |
| CA116           | .190-24            | .250-28                            | .2170          | .212 | .207 | .15 | .29  |
| CA117           | .190-32            | .250-28                            | .2170          | .212 | .207 | .15 | .29  |
| CA118           | .250-20            | .3125-24                           | .2785          | .273 | .268 | .19 | .38  |
| CA119           | .250-28            | .3125-24                           | .2785          | .273 | .268 | .19 | .38  |
| CA120           | .3125-18           | .375-24                            | .3405          | .335 | .330 | .24 | .47  |
| CA121           | .3125-24           | .375-24                            | .3405          | .335 | .330 | .24 | .47  |
| CA122           | .375-16            | .4375-20                           | .4010          | .396 | .391 | .28 | .56  |
| CA123           | .375-24            | .4375-20                           | .4010          | .396 | .391 | .28 | .56  |

\* Inactive for new design after 12 November 1973.

TABLE III. CARBON STEEL DASH NUMBERS AND DIMENSIONS\*.

| Dash Number  | A                  | B                                  |                | C     |       | D   | L    |
|--------------|--------------------|------------------------------------|----------------|-------|-------|-----|------|
|              | Int. Thd. Class 3B | External Thread Altered Minor Dia. |                | Dia.  |       | Ref | ±.01 |
| Carbon Steel | Thread Size        | Thread Size                        | Max Minor Dia. | Max   | Min   |     |      |
| 916          | .190-24            | .375-16                            | .2983          | .293  | .288  | .22 | .43  |
| 917          | .190-32            | .375-16                            | .2983          | .293  | .288  | .22 | .43  |
| 918          | .250-20            | .4375-14                           | .3499          | .344  | .339  | .25 | .50  |
| 919          | .250-28            | .4375-14                           | .3499          | .344  | .339  | .25 | .50  |
| 920          | .3125-18           | .500-13                            | .4056          | .400  | .395  | .28 | .56  |
| 921          | .3125-24           | .500-13                            | .4056          | .400  | .395  | .28 | .56  |
| 922          | .375-16            | .5625-12                           | .4603          | .455  | .450  | .31 | .62  |
| 923          | .375-24            | .5625-12                           | .4603          | .455  | .450  | .31 | .62  |
| 924          | .4375-14           | .625-11                            | .5135          | .508  | .503  | .35 | .69  |
| 925          | .4375-20           | .625-11                            | .5135          | .508  | .503  | .35 | .69  |
| 926          | .500-13            | .750-10                            | .6273          | .622  | .617  | .38 | .75  |
| 927          | .500-20            | .750-10                            | .6273          | .622  | .617  | .38 | .75  |
| 928          | .5625-12           | .875-14                            | .7874          | .782  | .777  | .44 | .87  |
| 929          | .5625-18           | .875-14                            | .7874          | .782  | .777  | .44 | .87  |
| 930          | .625-11            | 1.000-12                           | .8978          | .892  | .887  | .50 | 1.00 |
| 931          | .625-18            | 1.000-12                           | .8978          | .892  | .887  | .50 | 1.00 |
| 932          | .750-10            | 1.125-12                           | 1.0228         | 1.017 | 1.012 | .56 | 1.12 |
| 933          | .750-16            | 1.125-12                           | 1.0228         | 1.017 | 1.012 | .56 | 1.12 |
| 934          | .875-9             | 1.250-12                           | 1.1478         | 1.142 | 1.137 | .63 | 1.25 |
| 935          | .875-14            | 1.250-12                           | 1.1478         | 1.142 | 1.137 | .63 | 1.25 |
| 937          | 1.000-8            | 1.375-12                           | 1.2728         | 1.267 | 1.262 | .69 | 1.38 |
| 938          | 1.000-12           | 1.375-12                           | 1.2728         | 1.267 | 1.262 | .69 | 1.38 |

\* Inactive for new design after 12 November 1973.

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REQUIREMENTS:

1. Material:

Corrosion-resisting steel, composition 303 in accordance with SAE AIR4127. (See Table I)

Corrosion-resisting steel, composition A286 in accordance with SAE AMS5734.

(Inactive – see Table II)

Carbon steel, composition C1117 in accordance with SAE AIR4127. (Inactive – see Table III)

Nonmetallic locking element shall be nylon 6/6 in accordance with L-P-410, or equivalent.

(-60°F to +250°F)

2. Protective coating:

Corrosion-resisting steel, composition 303, shall be passivated in accordance with SAE AMS2700, followed by a solid film lubricant coating in accordance with MIL-PRF-46010.

Corrosion-resisting steel, composition A286, shall be silver plated in accordance with ASTM B700, Type II, Grade B.

Carbon steel shall be cadmium plated in accordance with SAE AMS-QQ-P-416, Type II, Class 2, followed by a solid film lubricant coating in accordance with MIL-PRF-46010. As an alternative to cadmium plating, may be ZnNi plated in accordance with ASTM F1941 Fe/Zn-Ni 8ET alkaline zinc nickel electroplate, 12%-16% mass percent nickel, with chemical conversion coating per MIL-DTL-5541 TYPE II CLASS 1A plus solid film lubricant coating per MIL-PRF-46010.

3. Threads:

Threads shall be in accordance with SAE AS8879, except as noted in Tables I, II, and III and Shall accept external SAE AS8879 threads.

4. Dimensions:

All dimensions are in inches and shall apply after plating and before addition of solid film lubricant.

5. Tolerances:

Angles  $\pm 2^\circ$ .

6. Part number:

The part number consists of M45932/2 and a dash number taken from Table I, II, or III.

Example: M45932/2-104.

7. Configuration of locking element (strip, patch, or plug) shall be at the manufacturer's option.

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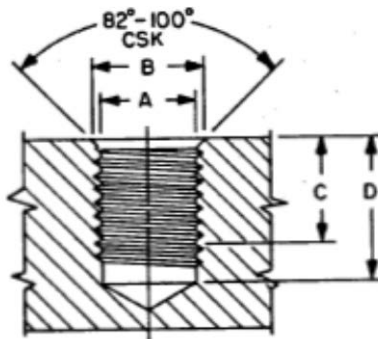


FIGURE 2. HOLE INSTALLATION.

TABLE IV. HOLE PREPARATION – ACTIVE DASH NUMBERS.

| Nom Thread Size (Class 3) | Dash Numbers |            |        | A Drill Dia. |      | B CSK Dia. |      | C Full Thread Depth Min | D Drill Depth Min |
|---------------------------|--------------|------------|--------|--------------|------|------------|------|-------------------------|-------------------|
|                           | Type A       | Type B     | Type C | Max          | Min  | Max        | Min  |                         |                   |
|                           | .138-40UNF   | 104<br>404 |        | 004          | .117 | .112       | .188 | .168                    | .220<br>.180      |
| .164-32UNC                | 204          | 304        |        | .144         | .139 | .214       | .194 | .220                    | .300              |
|                           | 108          |            | 008    |              |      |            |      | .220                    | .200              |
|                           | 408          |            |        |              |      |            |      | .180                    | .250              |
| .190-32UNF                | 208          | 308        |        | .170         | .165 | .240       | .220 | .220                    | .320              |
|                           | 112          |            | 012    |              |      |            |      | .240                    | .320              |
|                           | 412          |            |        |              |      |            |      | .180                    | .260              |
| .216-28UNF                | 212          | 312        |        | .195         | .190 | .266       | .246 | .240                    | .370              |
|                           | 114          |            | 014    |              |      |            |      | .280                    | .370              |
|                           | 414          |            |        |              |      |            |      | .240                    | .330              |
| .250-28UNF                | 214          | 314        |        | .225         | .220 | .300       | .280 | .280                    | .410              |
|                           | 116          |            | 016    |              |      |            |      | .325                    | .410              |
|                           | 117          |            | 017    |              |      |            |      | .325                    | .410              |
|                           | 416          |            |        |              |      |            |      | .240                    | .330              |
|                           | 417          |            |        |              |      |            |      | .240                    | .330              |
| .3125-24UNF               | 216          | 316        |        | .285         | .280 | .382       | .362 | .325                    | .510              |
|                           | 217          | 317        |        |              |      |            |      | .325                    | .510              |
|                           | 118          |            | 018    |              |      |            |      | .415                    | .510              |
|                           | 119          |            | 019    |              |      |            |      | .415                    | .510              |
|                           | 418          |            |        |              |      |            |      | .280                    | .375              |
|                           | 419          |            |        |              |      |            |      | .280                    | .375              |
| .375-24UNF                | 218          | 318        |        | .347         | .342 | .445       | .425 | .415                    | .600              |
|                           | 219          | 319        |        |              |      |            |      | .505                    | .600              |
|                           | 120          |            | 020    |              |      |            |      | .340                    | .435              |
|                           | 121          |            | 021    |              |      |            |      |                         |                   |
|                           | 420          |            |        |              |      |            |      |                         |                   |
|                           | 421          |            |        |              |      |            |      |                         |                   |
| .4375-20UNF               | 220          | 320        |        | .408         | .403 | .507       | .487 | .505                    | .710              |
|                           | 221          | 321        |        |              |      |            |      |                         |                   |
| .500-20UNF                | 222          | 322        |        | .472         | .467 | .570       | .550 | .595                    | .820              |
|                           | 223          | 323        |        |              |      |            |      |                         |                   |
| .625-18UNF                | 226          | 326        |        | .582         | .577 | .695       | .675 | .795                    | 1.035             |
|                           | 227          | 327        |        |              |      |            |      |                         |                   |

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TABLE V. HOLE PREPARATION – INACTIVE DASH NUMBERS.

| Nom<br>Thread<br>Size<br>(Class 3) | Dash<br>Numbers |       | A<br>Drill<br>Dia. |       | B<br>CSK<br>Dia. |       | C<br>Full<br>Thread<br>Depth<br>Min | D<br>Drill<br>Depth<br>Min |
|------------------------------------|-----------------|-------|--------------------|-------|------------------|-------|-------------------------------------|----------------------------|
|                                    | Type A          |       | Max                | Min   | Max              | Min   |                                     |                            |
| .099-48UNC                         | CA101           | 101   | .079               | .076  | .125             | .105  | .120                                | .150                       |
| .138-40UNF                         | CA104           |       | .117               | .112  | .188             | .168  | .220                                | .280                       |
| .164-32UNC                         | CA108           |       | .144               | .139  | .214             | .194  | .220                                | .300                       |
| .190-32UNF                         | CA112           |       | .170               | .165  | .240             | .220  | .240                                | .320                       |
| .216-28UNF                         | CA114           |       | .195               | .190  | .266             | .246  | .280                                | .370                       |
| .250-28UNF                         | CA116           | CA117 | .225               | .220  | .300             | .280  | .325                                | .410                       |
| .3125-24UNF                        | CA118           | CA119 | .285               | .280  | .382             | .362  | .415                                | .510                       |
| .375-24UNF                         | CA120           | 120   | .347               | .342  | .445             | .425  | .505                                | .600                       |
| .375-24UNF                         | CA121           |       | .347               | .342  | .445             | .425  | .505                                | .600                       |
| .4375-20UNF                        | CA122           | 122   | .408               | .403  | .507             | .487  | .595                                | .710                       |
| .4375-20UNF                        | CA123           | 123   | .408               | .403  | .507             | .487  | .595                                | .710                       |
| .375-16UNC                         | 916             | 917   | .316               | .311  | .455             | .435  | .460                                | .620                       |
| .4375-14UNC                        | 918             | 919   | .363               | .358  | .517             | .497  | .530                                | .710                       |
| .500-13UNC                         | 920             | 921   | .426               | .421  | .580             | .560  | .590                                | .780                       |
| .5625-12UNC                        | 922             | 923   | .488               | .483  | .642             | .622  | .650                                | .870                       |
| .625-11UNC                         | 924             | 925   | .535               | .530  | .705             | .685  | .720                                | .950                       |
| .750-10UNC                         | 926             | 927   | .645               | .640  | .830             | .810  | .780                                | 1.030                      |
| .875-14UNF                         | 928             | 929   | .800               | .795  | .955             | .935  | .900                                | 1.040                      |
| 1.000-12UNF                        | 930             | 931   | .910               | .905  | 1.080            | 1.060 | 1.030                               | 1.250                      |
| 1.125-12UNF                        | 932             | 933   | 1.035              | 1.030 | 1.205            | 1.185 | 1.150                               | 1.370                      |
| 1.250-12UNF                        | 934             | 935   | 1.160              | 1.155 | 1.340            | 1.320 | 1.280                               | 1.500                      |
| 1.375-12UNF                        | 936             | 937   | 1.285              | 1.280 | 1.455            | 1.435 | 1.410                               | 1.630                      |

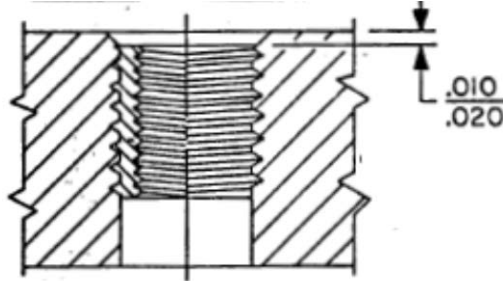
NOTES: Table IV and V

1. Axis of hole shall be normal to entry surface or a spotface shall be provided when required.
2. Surface roughness – Machined surfaces shall be 125 microinches.
3. Remove all burrs and sharp edges.
4. All dimensions are in inches, unless otherwise specified.

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## NOTES:

1. Install insert to depth shown in Figure 3.

FIGURE 3. INSERT INSTALLATION.

2. Typical drawing callout to be located in vicinity of part identification.
3. Replacement of inserts can be made with same size parts as those removed and in the same manner as those originally installed. However, when the tapped hole for type A is damaged beyond repair, it can be redrilled and retapped and the larger insert having the same internal thread may be used.
4. CHANGES FROM PREVIOUS ISSUE. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

## MILITARY INTEREST

## Custodians:

Army - AR  
 Air Force - 99  
 DLA - IS

## Preparing activity:

DLA - IS

(Project 5325-2014-012)

## Review activities:

Army - AV

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.