

INCH-POUND

MIL-DTL-45932/2C
w/AMENDMENT 1
22 February 2016
SUPERSEDING
MIL-DTL-45932/2C
5 May 2015

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.

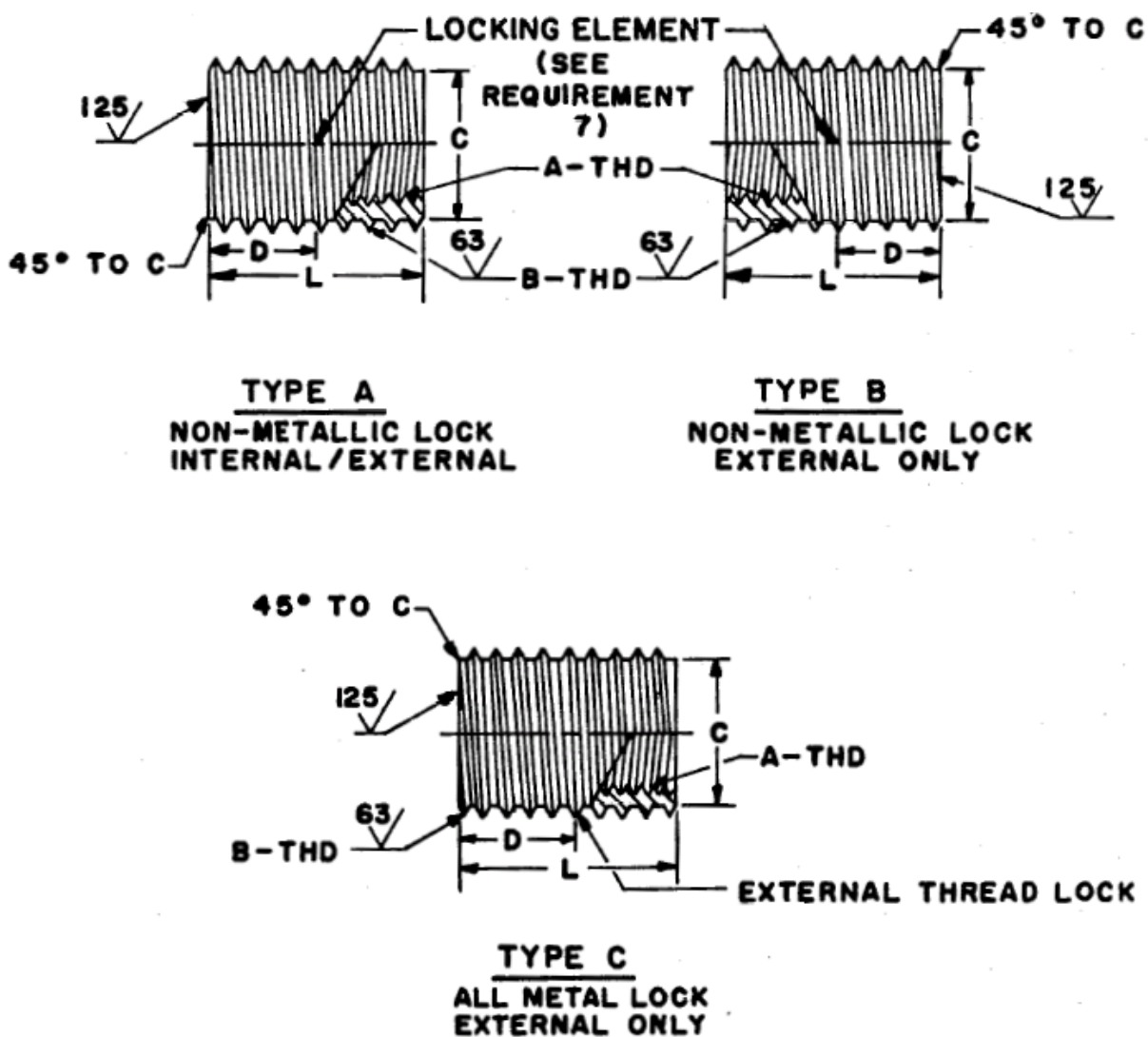


FIGURE 1. INSERT, SCREW THREAD.

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TABLE I. DASH NUMBERS AND DIMENSIONS.

1/ Dash Number			A Internal Thread UNJ-3B	B		C		D	L
Cres – Comp. 303				External Thread Altered Minor Dia.	Max Minor Dia.	Dia.		Ref	±.01
Type A	Type B	Type C	Thread Size			Thread Size	Max		
*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			.375-16	.4375-20	.4010	.396	.391	.28	.56
*123			.375-24						
222	322		.375-16	.500-20	.4630	.458	.453	.28	.56
223	323		.375-24						
226	326		.500-13						
227	327		.500-20	.625-18	.5618	.557	.552	.38	.75

* Inactive for new design after 12 November 1973.

1/ All dash numbers shown are for aerospace applications. For non-aerospace applications add "M" to the dash number.

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TABLE II. COMPOSITION A286 DASH NUMBERS AND DIMENSIONS*.

Dash Number	A Int. Thd. Class 3B	B External Thread Altered Minor Dia.		C Dia.		D Ref	L ±.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

* All dash numbers are Type A. Inactive for new design after 12 November 1973.

TABLE III. CARBON STEEL DASH NUMBERS AND DIMENSIONS*.

1/ Dash Number	A Int. Thd. Class 3B	B External Thread Altered Minor Dia.		C Dia.		D Ref	L ±.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

* All dash numbers are Type A. Inactive for new design after 12 November 1973.

1/ All dash numbers shown are for aerospace applications. For non-aerospace applications add "M" to the dash number.

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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*.
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 (see Note 4), followed by a solid film lubricant coating*. As an alternative to cadmium plating, may be ZnNi plated in accordance with ASTM F1941/F1941M 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*.

*Inserts for aerospace applications shall be solid film lubricated in accordance with SAE AS5272 Type I (see Note 5). Inserts for non-aerospace applications shall be solid film lubricated in accordance with MIL-PRF-46010 (see Note 6).

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 for aerospace applications consists of M45932/2 and a dash number taken from Table I or III.

Example: M45932/2-104.

Add M to Table I and III dash number that are for non-aerospace applications.

Example: M45932/2-104M

Table II dash numbers may be used for both aerospace and non-aerospace applications.

Example: M45932/2-CA104

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

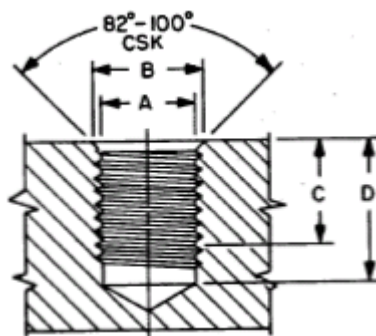
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FIGURE 2. HOLE INSTALLATION.

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		004	.117	.112	.188	.168	.220	.280
	404							.180	.240
.164-32UNC	204	304						.220	.300
	108		008	.144	.139	.214	.194	.220	.200
	408							.180	.250
	208	308						.220	.320
.190-32UNF	112		012	.170	.165	.240	.220	.240	.320
	412							.180	.260
	212	312						.240	.370
.216-28UNF	114		014	.195	.190	.266	.246	.280	.370
	414							.240	.330
	214	314						.280	.410
.250-28UNF	116		016	.225	.220	.300	.280	.325	.410
	117		017					.325	.410
	416							.240	.330
	417							.240	.330
	216	316						.325	.510
.3125-24UNF	217	317		.285	.280	.382	.362	.325	.510
	118		018					.415	.510
	119		019					.415	.510
	418							.280	.375
	419							.280	.375
	218	318						.415	.600
.375-24UNF	219	319		.347	.342	.445	.425		
	120		020					.505	.600
	121		021						
	420							.340	.435
	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 Thread Size (Class 3)	Dash Numbers		A Drill Dia.		B CSK Dia.		C Full Thread Depth Min	D Drill Depth Min
			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

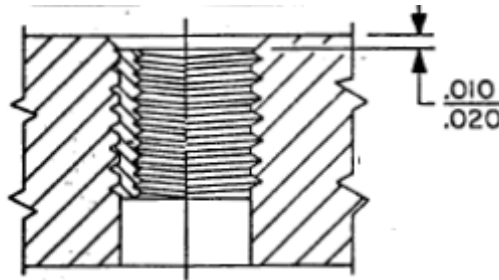
NOTES: Table IV and V

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. Cadmium is not recommended. To the users of this document, it is recommended that cadmium plating be used only when other materials and finishes specified in this document cannot meet performance requirements.
5. SAE AS5272 Type I lubricant is technically equivalent to MIL-L-46010 Type I lubricant used in previous revisions.
6. MIL-PRF-46010 lubricant is lead (Pb) free and is not technically equivalent to MIL-L-46010 Type I lubricant used in previous revisions. Use of MIL-PRF-46010 in aerospace applications should first be validated.
7. Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

MILITARY INTEREST

Custodians:

Army - AR
Air Force - 99
DLA - IS

Preparing activity:

DLA - IS

(Project 5325-2016-003)

Review activities:

Army - AV

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