

INCH-POUND

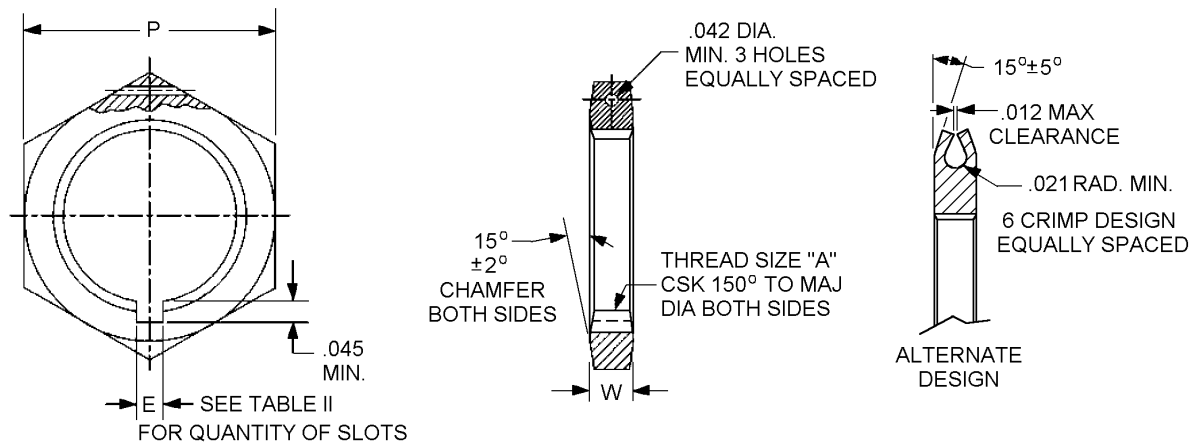
MS3186G  
 16 March 2011  
 SUPERSEDING  
 MS3186F  
 29 July 2008

## DETAIL SPECIFICATION SHEET

CONNECTOR, MOUNTING TO CONNECTORS, MOUNTING  
 NUTS, PLAIN HEXAGON

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 MIL-DTL-26482.



## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance shall be  $0.XX \pm .03$  (0.76 mm) and  $0.XXX \pm .015$  (0.38 mm).
4. Angular tolerances shall be  $X^\circ \pm 2^\circ$ .
5. By default, the safety wire holes are drilled. The safety wire openings depicted in the alternate design are crimped. The crimped edge is specified by adding a "-C" to the PIN.
6. Safety wire assembly specification NASM33540 refers to nominal hole diameters for lockwire installation.

Inches	mm
.012	0.31
.021	0.53
.042	1.07
.045	1.14

FIGURE 1. Dimensions and configurations.

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TABLE I. Connector intermateability.

Dash number	Material	For connector shell size (reference)			
		SAE-AS50151	MIL-DTL-26482	MIL-DTL-26500	MIL-DTL-83723 Series I
101	A	85	---	---	---
	S	35	---	---	---
	C	85	---	---	---
102	A	---	8	---	8
	S	---	8	---	8
	C	---	8	---	8
103	A	10S-10SL	---	---	---
	S	10S-10SL	---	---	---
	C	10S-10SL	---	---	---
104	A	---	---	8	---
	S	---	---	8	---
	C	---	---	8	---
105	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
106	A	---	10	---	10
	S	---	10	---	10
	C	---	10	---	10
107	A	12S-12	---	10	---
	S	12S-12	---	10	---
	C	12S-12	---	10	---
108	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
109	A	14S-14	12	---	12
	S	14S-14	12	---	12
	C	14S-14	12	---	12
110	A	---	---	12	---
	S	---	---	12	---
	C	---	---	12	---
111	A	16S-16	14	14	14
	S	16S-16	14	14	14
	C	16S-16	14	14	14
112	A	---	---	16	---
	S	---	---	16	---
	C	---	---	16	---
113	A	18	16	---	16
	S	18	16	---	16
	C	18	16	---	16
114	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
115	A	---	---	18	---
	S	---	---	18	---
	C	---	---	18	---

See footnotes at end of table.

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TABLE I. Connector intermateability - Continued.

Dash number	Material	For connector shell size (reference)				
		MIL-DTL-83723 Series III	MIL-DTL-38999 Series I	MIL-DTL-38999 Series II	MIL-DTL-28840	MIL-DTL-27599
101	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
102	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
103	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
104	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
105	A	8	---	---	---	---
	S	8	---	---	---	---
	C	8	---	---	---	---
106	A	---	9	---	---	9
	S	---	9	---	---	9
	C	---	9	---	---	9
107	A	10	---	---	---	---
	S	10	---	---	---	---
	C	10	---	---	---	---
108	A	---	11	---	---	11
	S	---	11	---	---	11
	C	---	11	---	---	11
109	A	---	---	8	11	8
	S	---	---	8	11	8
	C	---	---	8	11	8
110	A	12	---	---	---	---
	S	12	---	---	---	---
	C	12	---	---	---	---
111	A	14	13	10	13	10-13
	S	14	13	10	13	10-13
	C	14	13	10	13	10-13
112	A	16 <u>1/</u>	---	---	---	---
	S	16 <u>1/</u>	---	---	---	---
	C	16 <u>1/</u>	---	---	---	---
113	A	16 <u>2/</u>	15	12	---	12-15
	S	16 <u>2/</u>	15	12	---	12-15
	C	16 <u>2/</u>	15	12	---	12-15
114	A	---	---	---	15	---
	S	---	---	---	15	---
	C	---	---	---	15	---
115	A	---	---	---	---	14-17
	S	---	---	---	---	14-17
	C	---	---	---	---	14-17

See footnotes at end of table.

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TABLE I. Connector intermateability - Continued.

Dash number	Material	For connector shell size (reference)			
		SAE-AS50151	MIL-DTL-26482	MIL-DTL-26500	MIL-DTL-83723 Series I
116	A	20	18	---	18
	S	20	18	---	18
	C	20	18	---	18
117	A	22	20	20	20
	S	22	20	20	20
	C	22	20	20	20
118	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
119	A	---	---	22	---
	S	---	---	22	---
	C	---	---	22	---
120	A	24	22	---	22
	S	24	22	---	22
	C	24	22	---	22
121	A	---	24	24	24
	S	---	24	24	24
	C	---	24	24	24
122	A	28	---	---	---
	S	28	---	---	---
	C	28	---	---	---
123	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
124	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
125	A	32	---	---	---
	S	32	---	---	---
	C	32	---	---	---
126	A	---	---	---	---
	S	---	---	---	---
	C	---	---	---	---
127	A	36	---	---	---
	S	36	---	---	---
	C	36	---	---	---
128	A	40	---	---	---
	S	40	---	---	---
	C	40	---	---	---
129	A	44	---	---	---
	S	44	---	---	---
	C	44	---	---	---
130	A	48	---	---	---
	S	48	---	---	---
	C	48	---	---	---

See footnotes at end of table.

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TABLE I. Connector intermateability - Continued.

Dash number	Material	For connector shell size (reference)				
		MIL-DTL-83723 Series III	MIL-DTL-38999 Series I	MIL-DTL-38999 Series II	MIL-DTL-28840	MIL-DTL-27599
116	A	18	17	14	17	---
	S	18	17	14	17	---
	C	18	17	14	17	---
117	A	20	19	16	---	16-19
	S	20	19	16	---	16-19
	C	20	19	16	---	16-19
118	A	---	---	---	19	---
	S	---	---	---	19	---
	C	---	---	---	19	---
119	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
120	A	22	21	18	---	18-21
	S	22	21	18	---	18-21
	C	22	21	18	---	18-21
121	A	24	23	20	23	20-23
	S	24	23	20	23	20-23
	C	24	23	20	23	20-23
122	A	---	25	22	25	22-25
	S	---	25	22	25	22-25
	C	---	25	22	25	22-25
123	A	---	---	24	---	24
	S	---	---	24	---	24
	C	---	---	24	---	24
124	A	---	---	---	29	---
	S	---	---	---	29	---
	C	---	---	---	29	---
125	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
126	A	---	---	---	33	---
	S	---	---	---	33	---
	C	---	---	---	33	---
127	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
128	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
129	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---
130	A	---	---	---	---	---
	S	---	---	---	---	---
	C	---	---	---	---	---

1/ For bayonet coupling only.

2/ For threaded coupling only.

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TABLE II. Dimensions.

Dash number	Material	A Thread size	E max	P ± .017	S minimum number of slots	W ± .017	Supersedes dash number
101	A S C	.500-28UNEF-2B	None	.687	None	.125	-25 -26 -27
102	A S C	.5625-24UNEF-2B	.135	.750	2	.125	-28 -29 -30
103	A S C	.625-24UNEF-2B	None	.812	None	.125	-31 -32 -33
104	A S C	.625-20UN-2B	.135	.812	2	.125	--- --- ---
105	A S C	.625-20UN-2B	None	.812	None	.125	--- --- ---
106	A S C	.6875-24UNEF-2B	.135	.875	1	.125	-34 -35 -36
107	A S C	.750-20UNEF-2B	None	.937	None	.125	-37 -38 -39
108	A S C	.8125-20UNEF-2B	.135	1.000	1	.125	--- --- ---
109	A S C	.875-20UNEF-2B	.135	1.062	1	.125	-40 -41 -42
110	A S C	.9375-20UNEF-2B	None	1.125	None	.125	--- --- ---
111	A S C	1.000-20UNEF-2B	.135	1.188	1	.125	-43 -44 -45
112	A S C	1.125-20UN-2B	.135	1.312	1	.125	--- --- ---
113	A S C	1.125-18UNEF-2B	.135	1.312	1	.125	-46 -47 -48
114	A S C	1.1875-18UNEF-2B	None	1.375	None	.125	--- --- ---
115	A S C	1.250-20UN-2B	None	1.438	None	.125	--- --- ---

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TABLE II. Dimensions - Continued.

Dash No.	Material	A Thread size	E max	P ± .017	S Minimum number of slots	W ± .017	Supersedes dash number
116	A S C	1.250-18UNEF-2B	.135	1.438	1	.125	-49 -50 -51
117	A S C	1.375-18UNEF-2B	.192	1.562	1	.125	-52 -53 -54
118	A S C	1.4375-18UNEF-2B	None	1.625	None	.125	--- --- ---
119	A S C	1.500-20UN-2B	None	1.688	None	.125	--- --- ---
120	A S C	1.500-18UNEF-2B	.192	1.688	1	.125	-55 -56 -57
121	A S C	1.625-18UNEF-2B	.192	1.812	1	.125	-58 -59 -60
122	A S C	1.750-18UNS-2B	.192	2.000	1	.125	-61 -62 -63
123	A S C	1.875-16UN-2B	None	2.125	None	.125	--- --- ---
124	A S C	1.9375-16UN-2B	None	2.187	None	.189	--- --- ---
125	A S C	2.000-18UNS-2B	None	2.250	None	.189	-64 -65 -66
126	A S C	2.125-16UN-2B	None	2.375	None	.189	--- --- ---
127	A S C	2.250-16UN-2B	None	2.500	None	.189	-67 -68 -69
128	A S C	2.500-16UN-2B	None	2.750	None	.189	-70 -71 -72
129	A S C	2.750-16UN-2B	None	3.000	None	.189	-73 -74 -75
130	A S C	3.000-16UN-2B	None	3.250	None	.189	-76 -77 -78

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### REQUIREMENTS:

Design and construction: See figure 1 and tables I and II.

The hex nut shall be the same material and finish as the applicable connector.

### Materials:

- A: Heat treatable wrought aluminum (for use on aluminum shell connectors).
- C: CRES in accordance with ASTM-A484/A484M or ASTM-A582/A582M (for use with CRES shell connectors).
- S: Plated steel, cold rolled, in accordance with ASTM-A108.

### Finish:

- A: Anodic coating, color black, in accordance with MIL-A-8625.
- B: Cadmium over corrosion resistant steel, color black, in accordance with SAE-AMS-QQ-P-416.
- C: Cadmium, color clear, in accordance with SAE-AMS-QQ-P-416, Type II, to withstand 96 hours salt spray.
- D: Pure dense electrodeposited aluminum in accordance with MIL-DTL-83488, Type II, to withstand 500 hours dynamic salt spray. Color shall be non-reflective and shall meet the requirements as specified herein.
- E: Electrodeposited nickel in accordance with SAE-AMS-QQ-N-290, class 2, .0001 to .0002 inch (0.003 to 0.005 mm) minimum thickness.
- N: Electroless nickel in accordance with SAE-AMS-C-26074 or ASTM-B733 (space applications only). Use of a suitable underplate is permissible.
- T: Tin plate in accordance with ASTM-B545 over nickel in accordance with SAE-AMS-QQ-N-290. Tin application process shall inhibit whisker growth. Tin content shall not exceed 97% by mass and shall be alloyed with a minimum of 3% lead, by mass.
- P: Passivate.
- M: Nickel fluorocarbon polymer. Nickel with fluorocarbon polymer additives over a suitable underplate to withstand 500 hours dynamic salt spray. Color shall be non-reflective and shall meet the requirements as specified herein.
- W: Cadmium over nickel underplate, color olive drab, in accordance with SAE-AMS-QQ-P-416.
- Z: Zinc-nickel alloy in accordance with ASTM-B841, over a suitable underplate to withstand 500 hours dynamic salt spray. Color shall be black, non-reflective and shall meet the requirements as specified herein.



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Qualification. Qualification shall be in accordance with MIL-DTL-26482, except only the following tests shall be required:

Examination of product.

Safety wire hole pull out (see requirements).

Salt spray (corrosion).

Group A inspection shall consist of examination of product and safety wire pull out. Sampling for group A inspection shall be as specified in table III.

TABLE III. Group A sampling plan.

Lot size	Sampling
1 to 13	100 percent
14 to 150	13 units
151 to 280	20 units
281 to 500	29 units
501 to 1,200	34 units
1,201 to 3,200	42 units
3,201 and up	54 units

Threads shall be in accordance with FED-STD-H28.

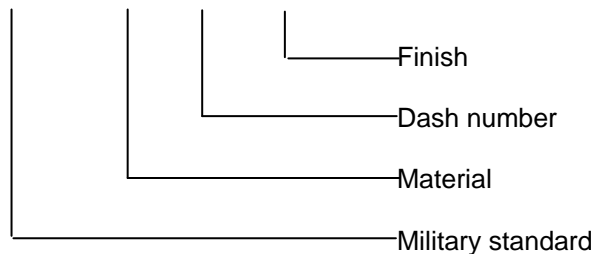
Remove all burrs and sharp edges.

Safety wires on mounting nuts with crimped edges shall be capable of withstanding a 30-pound pull in any direction when using the .020 inches (0.51 mm) minimum diameter wire specified in NASM33540. Two pulls shall be made, one parallel with axis of the nut and one perpendicular to axis of the nut.

Slots shall be 120° apart, orientation optional with respect to hexagon configuration. Slot dimensions shall provide sufficient clearance for mounting on applicable jam-nut connector.

Part or Identifying Number (PIN) (example):

MS3186    A    113    B - C (see note)



NOTE: No designator is used when hex nuts with drilled safety wire holes are required. When a crimped hex nut is required, a "- C" designator shall be added to the end of the PIN to indicate crimp design.

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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.

Referenced documents. In addition to MIL-DTL-26482, this document references the following:

MIL-A-8625  
MIL-DTL-27599  
MIL-DTL-28840  
MIL-DTL-26500  
MIL-DTL-38999  
MIL-DTL-83488  
MIL-DTL-83723  
FED-STD-H28  
NASM33540  
ASTM-A108  
ASTM-A484/A484M  
ASTM-A582/A582M  
ASTM-B545  
ASTM-B733  
ASTM-B841  
SAE-AMS-C-26074  
SAE-AMS-QQ-P-416  
SAE-AMS-QQ-N-290  
SAE-AS50151

## CONCLUDING MATERIAL

### Custodians:

Army - CR  
Navy - AS  
Air Force - 85  
DLA - CC

### Preparing activity:

DLA - CC

(Project 5935-2009-005)

### Review activities:

Army - CR4, MI  
Navy - EC, OS  
Air Force - 99

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.daps.dla.mil>.