

INCH-POUND

MIL-DTL-28840/9G
w/AMENDMENT 3
03 March 2021
SUPERSEDING
MIL-DTL-28840/9G
w/AMENDMENT 2
29 January 2019

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, CIRCULAR, THREADED,
HIGH SHOCK, HIGH DENSITY, SHIPBOARD, BACKSHELL, 45 DEGREE,
CABLE SEALING AND SHIELD TERMINATION

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-28840.

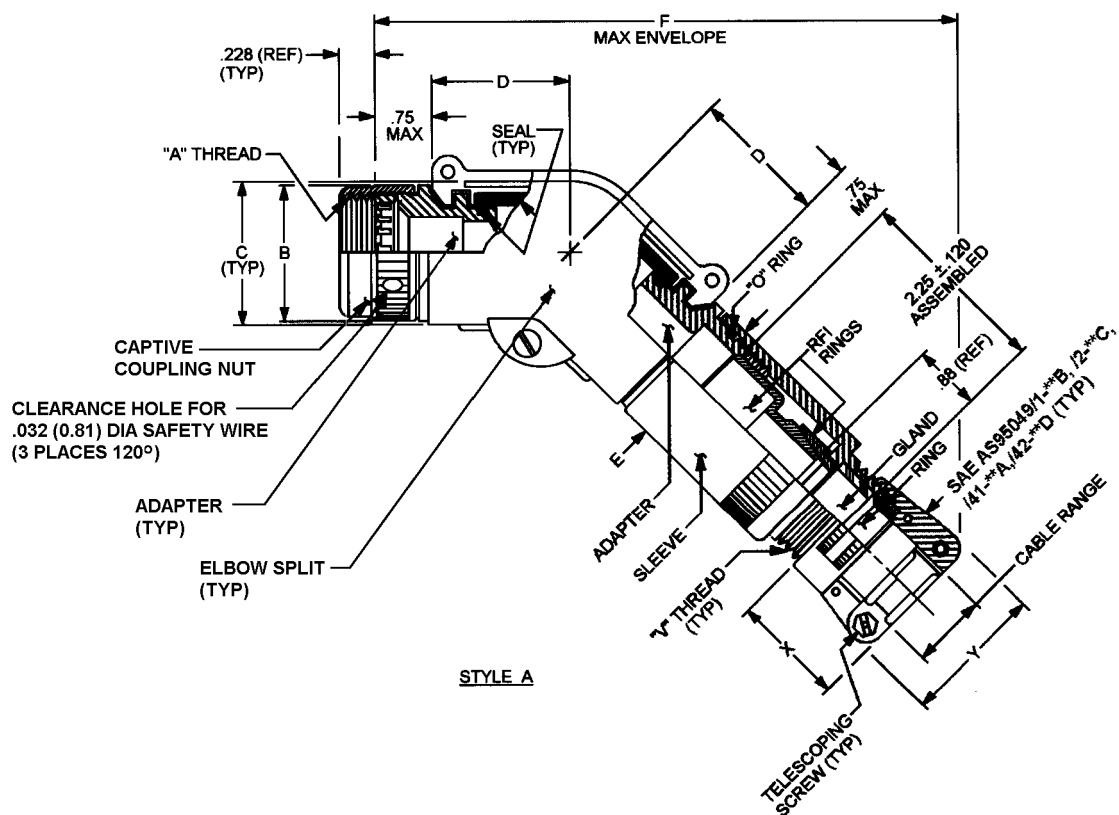
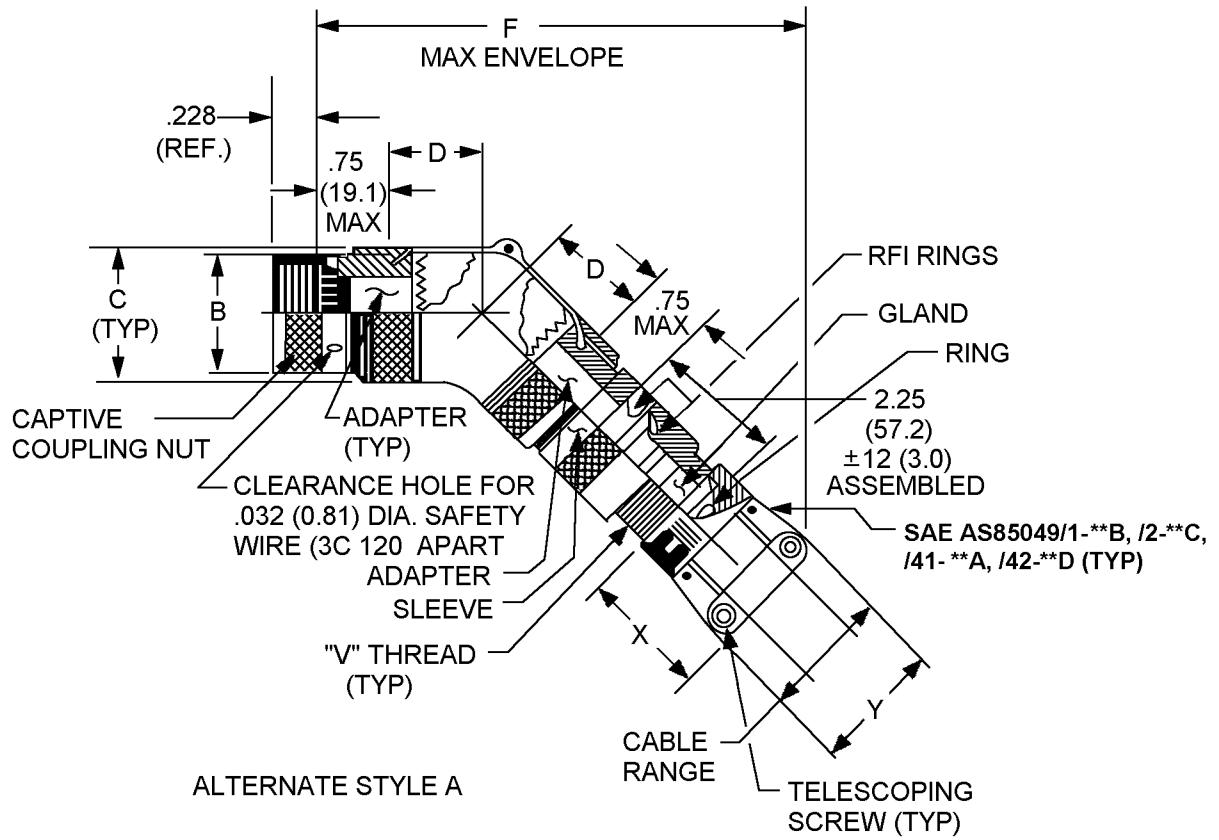


FIGURE 1. Dimensions and configurations.



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Inches	mm
.12	3.05
.228	5.79
.75	19.05
.88	22.35
2.25	57.15

FIGURE 1. Dimensions and configurations - Continued.

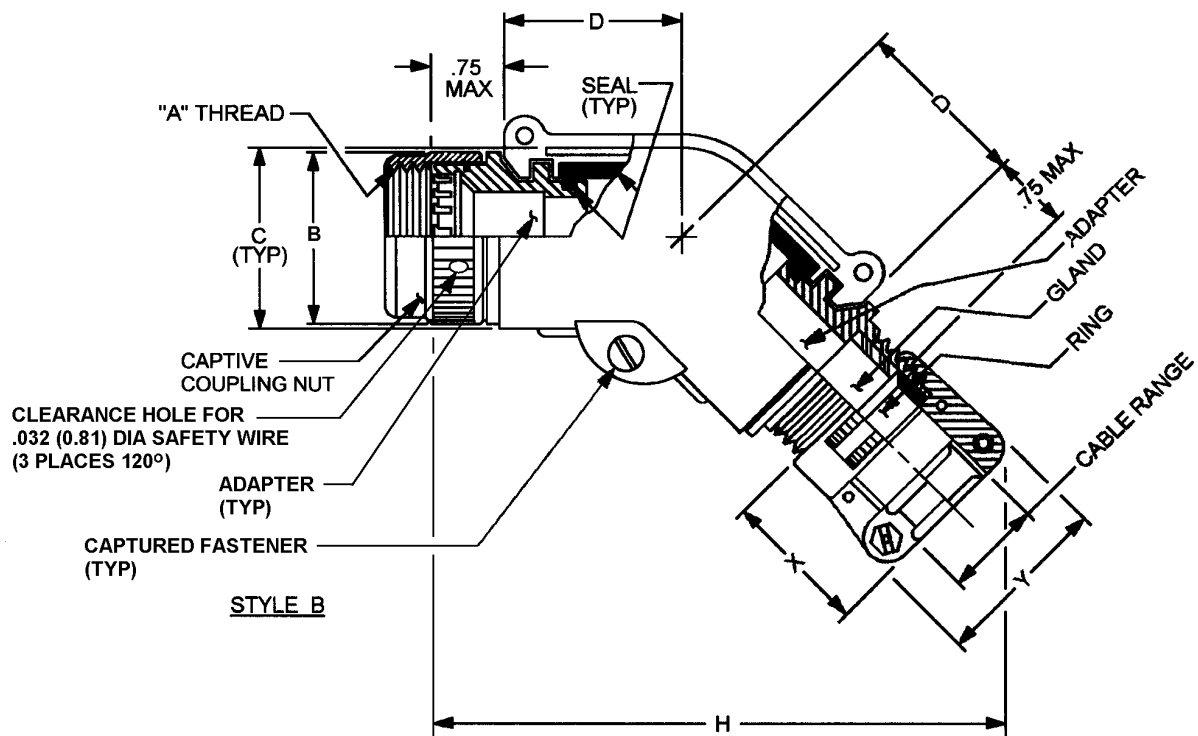


FIGURE 1. Dimensions and configurations - Continued.

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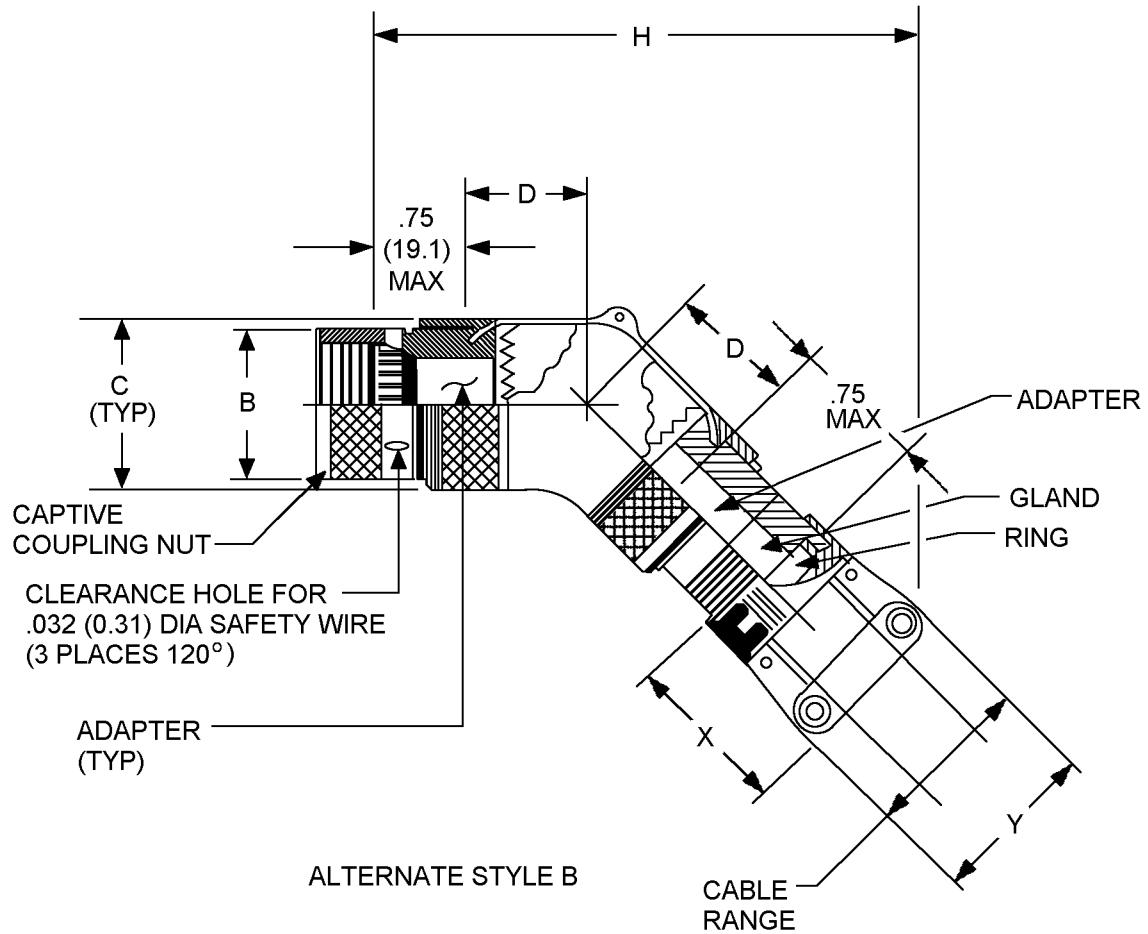


FIGURE 1. Dimensions and configurations - Continued.

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Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	A thread	B dia max	C dia max	D max				
A	01	A (11)	.750-20 UNEF	1.028 (26.11)	1.188 (30.17)	1.031 (26.19)				
A	02	B (13)	.875-20 UNEF	1.141 (28.98)						
B	03	B (13)								
A	04	C (15)	1.00-20 UNEF	1.263 (32.08)	1.438 (36.52)	1.156 (29.36)				
B	05	C (15)								
C	06	C (15)			1.125-18 UNEF	1.387 (35.23)	1.688 (42.87)	1.281 (32.54)		
D	07	C (15)								
A	08	D (17)	1.250-18 UNEF	1.513 (38.43)					1.938 (49.22)	1.406 (35.71)
B	09	D (17)								
C	10	D (17)	1.438-18 UNEF	1.703 (43.51)	2.188 (54.43)	1.531 (38.89)				
A	11	E (19)					1.562-18 UNEF	1.825 (46.35)		
B	12	E (19)	1.875-16 UN	2.143 (54.43)						
A	13	F (23)							1.875-16 UN	2.143 (54.43)
B	14	F (23)			1.875-16 UN	2.143 (54.43)				
C	15	F (23)					1.875-16 UN	2.143 (54.43)		
A	16	G (25)	1.875-16 UN	2.143 (54.43)						
B	17	G (25)							1.875-16 UN	2.143 (54.43)
C	18	G (25)			1.875-16 UN	2.143 (54.43)				
D	19	G (25)					1.875-16 UN	2.143 (54.43)		
A	20	H (29)	1.875-16 UN	2.143 (54.43)						
B	21	H (29)							1.875-16 UN	2.143 (54.43)

FIGURE 1. Dimensions and configurations - Continued.

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Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	Cable range		E max	F max style A	H max style B
			max	min			
A	01	A (11)	.312 (7.92)	.188 (4.77)	1.156 (29.36)	5.879 (149.33)	4.199 (106.65)
A	02	B (13)	.312 (7.92)	.188 (4.77)		5.879 (149.33)	4.199 (106.65)
B	03	B (13)	.438 (11.12)	.281 (7.14)		5.932 (150.67)	4.252 (108.00)
A	04	C (15)	.312 (7.92)	.188 (4.77)	1.281 (32.54)	6.092 (154.74)	4.412 (112.06)
B	05	C (15)	.438 (11.12)	.281 (7.14)		6.146 (156.11)	4.466 (113.44)
C	06	C (15)	.562 (14.27)	.344 (8.74)		6.202 (157.53)	4.522 (114.86)
D	07	C (15)	.750 (19.05)	.438 (11.12)	1.406 (35.71)	6.533 (165.94)	4.853 (123.27)
A	08	D (17)	.625 (15.87)	.375 (9.52)		6.413 (162.89)	4.733 (120.22)
B	09	D (17)	.750 (19.05)	.438 (11.12)		6.533 (165.94)	4.853 (123.27)
C	10	D (17)	.938 (23.82)	.625 (15.87)	1.531 (38.89)	6.636 (168.55)	4.956 (125.88)
A	11	E (19)	.625 (15.87)	.375 (9.52)	1.406 (35.71)	6.413 (162.89)	4.733 (120.22)
B	12	E (19)	.938 (23.82)	.625 (15.87)	1.531 (38.89)	6.846 (173.89)	5.166 (131.22)
A	13	F (23)	.750 (19.05)	.438 (11.12)	1.406 (25.71)	6.747 (171.37)	5.067 (128.70)
B	14	F (23)	.938 (23.82)	.625 (15.87)	1.531 (38.89)	6.846 (173.89)	5.166 (131.22)
C	15	F (23)	1.188 (30.18)	.812 (20.62)	1.781 (45.24)	7.103 (180.42)	5.423 (137.74)
A	16	G (25)	.938 (23.82)	.625 (15.87)	1.531 (38.89)	6.846 (173.89)	5.156 (130.96)
B	17	G (25)	1.188 (30.18)	.812 (20.62)	1.781 (45.24)	7.103 (180.42)	5.423 (137.74)
C	18	G (25)	1.250 (31.75)	.875 (22.23)		7.316 (185.83)	5.636 (143.15)
D	19	G (25)	1.380 (35.05)	1.000 (25.40)	2.156 (54.76)	7.425 (188.60)	5.745 (145.92)
A	20	H (29)	1.188 (30.18)	.812 (20.62)	1.781 (45.24)	7.316 (185.83)	5.636 (143.15)
B	21	H (29)	1.380 (35.05)	1.000 (25.40)	2.156 (54.76)	7.425 (188.60)	5.745 (145.92)

FIGURE 1. Dimensions and configurations - Continued.

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Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	V thread class 2* (see note 6)	X ref dim	Y ref dim
A	01	A (11)	.625-24 UNEF	1.281 (32.54)	.938 (23.82)
A	02	B (13)	.625-24 UNEF		.938 (23.82)
B	03	B (13)	.750-20 UNEF		1.125 (28.57)
A	04	C (15)	.625-24 UNEF		.938 (23.82)
B	05	C (15)	.750-20 UNEF		1.125 (28.57)
C	06	C (15)	.875-20 UNEF		1.312 (33.32)
D	07	C (15)	1.188-18 UNEF	1.312 (33.32)	1.593 (40.46)
A	08	D (17)	1.000-20 UNEF	1.281 (32.54)	1.312 (33.32)
B	09	D (17)	1.188-18 UNEF	1.312 (33.32)	1.593 (40.46)
C	10	D (17)	1.438-18 UNEF	1.406 (35.71)	1.750 (44.45)
A	11	E (19)	1.000-20 UNEF	1.281 (32.54)	1.312 (33.32)
B	12	E (19)	1.438-18 UNEF	1.406 (35.71)	1.750 (44.45)
A	13	F (23)	1.188-18 UNEF	1.312 (33.32)	1.593 (40.62)
B	14	F (23)	1.438-18 UNEF	1.406 (35.71)	1.750 (44.45)
C	15	F (23)	1.750-18 UNS	1.593 (40.46)	2.093 (53.16)
A	16	G (25)	1.438-18 UNEF	1.406 (35.71)	1.750 (44.45)
B	17	G (25)	1.750-18 UNS	1.593 (40.46)	2.093 (53.16)
C	18	G (25)	1.750-18 UNS	1.593 (40.46)	2.093 (53.16)
D	19	G (25)	2.000-16 UNS	1.625 (41.28)	2.343 (59.51)
A	20	H (29)	1.750-18 UNS	1.593 (40.46)	2.093 (53.16)
B	21	H (29)	2.000-18 UNS	1.625 (41.28)	2.343 (59.51)

FIGURE 1. Dimensions and configurations - Continued.

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Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	A thread	B dia max	C dia max	D max
A	22	J (33)	2.062-16 UNEF	2.329 (59.16)	2.688 (68.26)	1.781 (45.24)
B	23	J (33)				
B	24	A (11)	.750-20 UNEF	1.028 (26.11)	1.188 (30.17)	1.031 (26.19)
C	25	A (11)			1.438 (36.52)	1.156 (29.36)
C	26	B (13)	.875-20 UNEF	1.141 (28.98)	1.438 (36.52)	1.156 (29.36)
D	27	B (13)			1.688 (42.87)	1.281 (32.54)
E	28	C (15)	1.000-20 UNEF	1.263 (32.08)		

Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	Cable range		E max dim	F max style A	H max style B
			max	min			
A	22	J (33)	1.380 (35.05)	1.000 (25.40)	2.281 (57.94)	7.852 (199.44)	6.127 (156.77)
B	23	J (33)	1.625 (41.28)	1.250 (31.75)		6.454 (163.93)	6.454 (163.93)
B	24	A (11)	.438 (11.12)	.281 (7.14)	1.156 (29.36)	5.932 (150.67)	4.252 (108.00)
C	25	A (11)	.562 (14.27)	.344 (8.74)	1.281 (32.54)	6.202 (157.53)	4.522 (114.86)
C	26	B (13)	.562 (14.27)	.344 (8.74)	1.281 (32.54)	6.202 (157.53)	4.522 (114.86)
D	27	B (13)	.625 (15.87)	.375 (9.52)	1.406 (35.71)	6.413 (162.89)	4.733 (120.22)
E	28	C (15)	.625 (15.87)	.375 (9.50)		6.413 (162.89)	4.733 (120.22)

FIGURE 1. Dimensions and configurations - Continued.

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Backshell size (see note 3)	Dash no.	Shell size designator (see note 5)	V thread class 2* (see note 6)	X ref dim	Y ref dim
A	22	J (33)	2.000-18 UNS	1.625 (41.28)	2.343 (59.51)
B	23	J (33)	2.250-16 UNS	1.900 (48.26)	2.750 (69.85)
B	24	A (11)	.750-20 UNEF	1.281 (32.54)	1.125 (28.57)
C	25	A (11)	.875-20 UNEF	1.281 (32.54)	1.312 (33.32)
C	26	B (13)	.875-20 UNEF	1.281 (32.54)	1.312 (33.32)
D	27	B (13)	1.000-20 UNEF	1.281 (32.54)	1.312 (33.32)
E	28	C (15)	1.000-20 UNEF	1.281 (32.54)	1.312 (33.32)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Designator of backshell size within each shell size.
4. Dimensions apply after plating.
5. Shell sizes are provided within parentheses for information and are not a part of the designator.
6. See MIL-DTL-28840 for V thread, class 2*.

FIGURE 1. Dimensions and configurations - Continued.

REQUIREMENTS:

Dimensions and configurations: See figure 1.
Interface dimensions shall conform to MIL-DTL-28840.
Material and finish: See table I.

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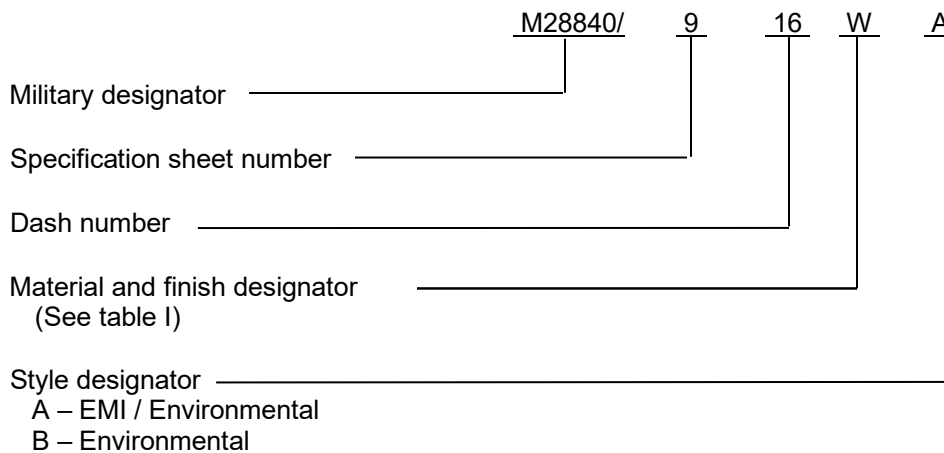
TABLE I. Material and finish.

Material and finish designator	Material	Finish
W	Aluminum alloy in accordance with ASTM B85/B85M, ASTM B26/B26M, ASTM B108/B108M, ASTM B209, ASTM B211, or ASTM B221	Cadmium plate, olive drab over electroless nickel
D	Corrosion resistant steel in accordance with ASTM A276, ASTM A473, or ASTM A580/A580M, type 316	Cadmium plate, black <u>1/</u>
F	Aluminum alloy in accordance with ASTM B85/B85M, ASTM B26/B26M, ASTM B108/B108M, ASTM B209, ASTM B211, or ASTM B221	Pure electro-deposited aluminum, non-reflective
L		Tin-zinc, non-reflective
S		Zinc nickel, non-reflective

1/ Lock washers and telescoping screws shall be stainless steel and passivated in accordance with SAE-AMS2700.

Marking: The backshell shall be identified with the manufacturer's name or trademark and the Part or Identifying Number (PIN).

PIN example:



QUALIFICATION: Two samples in each shell size for which qualification is desired shall be tested in accordance with MIL-DTL-28840.

RESTRICTIONS:

Material and finish designators W and D are inactive for NAVSEA new design, unless approved by NAVSEA.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government

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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.

Referenced documents. In addition to MIL-DTL-28840, this document references the following:

ASTM A276
ASTM A473
ASTM A580/A580M
ASTM B26/B26M
ASTM B85/B85M
ASTM B108/B108M
ASTM B209
ASTM B211
ASTM B221
SAE-AMS2700

CONCLUDING MATERIAL

Custodians:

Army - AT
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:

DLA - CC

(Project 5935-2021-012)

Review activities:

Army – AV, MI

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>.