MIL-DTL-38999

Series III

ab Connectors
A Subsidiary of TT electronics plc

TT electronics
AB Connectors Limited

AB Connectors

Company Profile

Operating from the principal site in South Wales, U.K., AB Connectors Limited, a subsidiary of TT electronics plc., is one of the recognised market leaders in design, test and manufacture of harsh environment interconnection systems, bespoke harness assemblies and equipment sub-units.

With a satellite assembly facility in North Carolina, USA, and a co-ordinated global sales and distribution network, AB Connectors Ltd. offers an unrivalled service to both engineers and buyers alike.

Through a commitment to a structured new product introduction process, AB Connectors is continuing investment in research and development of new materials and processes, surface treatments and the very latest manufacturing technology and techniques to ensure the products meet the most exacting standards encountered in the modern Military, Mass Transportation and Industrial market places.

Quality system approvals include BS/EN/ISO 9001 along with product approvals to BS9000, IECQ and CECC. As a result of these qualifications, AB Connectors have been awarded several major customer approvals and accreditations.

AB Connectors total commitment to providing customers with high levels of service, cost effectiveness, quality and innovation solutions in interconnection products, make it the ideal first choice supply partner.

MIL-DTL-38999

High Density Connectors

The MIL-DTL-38999 Series III range of connectors are designed & approved to meet the most stringent requirements of the Military and Aerospace Industries.

The rugged design of these connectors offers a high performance when subjected to vibration, shock and EMI/RFI environments.

This range has a quick mate threaded coupling system combined with a high performance anti-vibration mechanism.

The stub acme style threads on the coupling nut and receptacles avoid the possibility of cross threading. This feature also improves the ease of blind mating.

The EMI/RFI performance is enhanced by the grounding spring mechanism.

Other benefits to the MIL-DTL-38999 Series III connector performance include:

- The connectors are scoop proof to eliminate the possibility of contact damage
- Polarisation is by the angular position of the Keyways.
- Upper temperature performance limit of 175ºC and a lower temperature rating of -65ºC.
- High contact density with the availability of up to 128 size 22D contacts in one connector.
- Elongated fixing holes on the fixed connector allow the easy replacement of older generation connectors. This facilitates the easier upgrading of equipment design.

The MIL-DTL-38999 Series III connector range is ideally suited to meet the demands of the modern Military Communication Systems.

A further benefit of the MIL-DTL-38999 Series III connectors provided by AB Connectors Ltd. is that this range can also be provided in Marine Nickel Aluminium Bronze to CECC 75 201 002 (The MK35 range). This allows a standardisation of the product style on equipment across all three Armed Services.

Contents

MIL-DTL-38999
technical information

Materials

Shell:	Aluminium
Insulator:	Rigid plastic silicone rubber
Contacts:	Copper alloy

Standard Plating Finishes

Aluminium parts:	Cadmium Olive drab (W)
Contacts:	Gold over nickel plated

* Consult factory for alternative finishes.

Environmental Ratings

Temperature range:	-65˚C to + 175˚C	
Shock:	300g, 3 ms according EN 2591-D2 method A	
Vibration:	Sine:	10 to 2000 Hz, 3x12 hrs (60g, 140-2000 Hz) with temperature cycling
	Random:	50 to 2000 Hz , 2x8 hrs (1g² / Hz, 100-2000Hz) at T° max. 25 to 2000 Hz , 2x8 hrs (5g² / Hz, 100-300Hz) (at ambient T°) Test with accessories in acc. with EN 2591-D3
Sealing:	Mated connectors meet altitude immersion requirements of MIL-DTL-38999	
Salt spray:	500 hrs	
Resistance to fluids:	Gasoline: JP5 (OTAN F44) Mineral hydraulic fluid: MIL-H-5606 (OTAN H515) Synthetic hydraulic fluid: Skydrol 500 B4 Mineral lubricating: MIL-L-7870A (OTAN 0142) Synthetic lubricating: MIL-L-23699 (OTAN 0156), MIL-L7808 Cleaning fluid: MIL-DTL-25769 diluted De-icing fluid: MIL-A-8243 Extinguishing fluid: Chlorobrométhane Cooling fluid: Coolanol	

Mechanical Features

Coupling:	3 start stub acme thread
Contact termination:	Crimp
Sealing:	Dynamic sealing ring & individual wire seal grommet. IP67 rated.
Endurance:	500 mating / unmating operations

Note: The company reserves the right and may change or vary specification without prior written notice.

MIL-DTL-38999
technical information

Test Voltage Rating (Vrms)

Test Voltage, ac rms, 60 Hz

Altitude	Service rating M		Service rating N		Service rating I		Service rating II	
	mated	unmated	mated	unmated	mated	unmated	mated	unmated
Sea Level	1300	1300	1000	1000	1800	1800	2300	2300
50,000 ft.	800	550	600	400	1000	600	1000	800
70,000 ft.	800	350	600	260	1000	400	1000	500
100,000 ft.	800	200	600	200	1000	200	1000	200

Insulation Resistance

≥ 5 000 MΩ (at 500 Vdc) - at ambient

Max. Current Rating

≥ 5 000 MΩ (at 500 Vdc)

Cts Size	22	20	16	12	8 Twinax
Contact Rating (A)	5	7,5	13	23	N/A

Shell continuity: 2.5 mΩ
Shielding: 90 db at 100 MHz - 50 db at 10 GHz

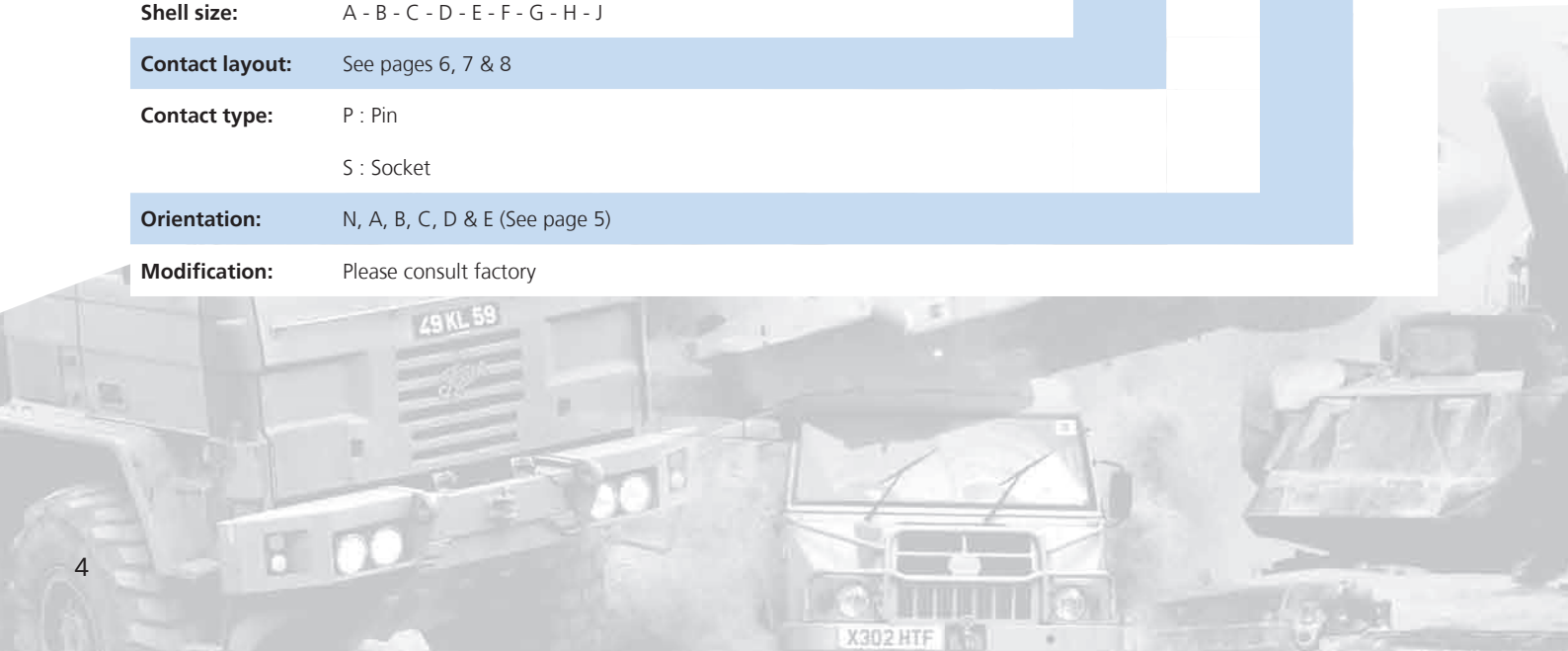
MIL-DTL-38999
part number explanations

AB Part Number Explanation

Product Range:	AB AC	20	W	11	35	P	N	XX
Shell style:	20 : Square flange receptacle 24 : Jam nut receptacle 26 : Plug with RFI shielding							
Plating:	QB : Zinc cobalt black passivate W : Olive drab cadmium Q : Zinc cobalt green passivate							
Shell size:	9, 11, 13, 15, 17, 19, 21, 23 or 25							
Contact layout:	See pages 6, 7 & 8							
Contact type:	P : Pin S : Socket							
Orientation:	N, A, B, C, D & E (See page 5)							
Modification:	Please consult factory							

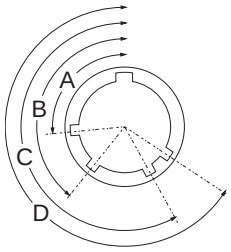
MIL-DTL-38999 Part Number Explanation

Basic Series:	D38999	20	W	B	35	P	N	XX
Shell style:	20 : Square flange receptacle 24 : Jam nut receptacle 26 : Plug with RFI shielding							
Plating:	W : Olive drab cadmium							
Shell size:	A - B - C - D - E - F - G - H - J							
Contact layout:	See pages 6, 7 & 8							
Contact type:	P : Pin S : Socket							
Orientation:	N, A, B, C, D & E (See page 5)							
Modification:	Please consult factory							

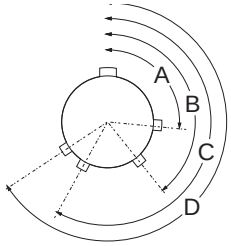


MIL-DTL-38999
orientation

Viewed from face of receptacle



Viewed from front of plug

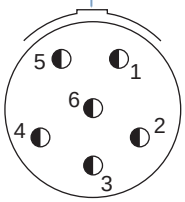


Shell Size	MS Shell Size	Angles	N	A	B	C	D	E
9	A	A°	105	102	80	35	64	91
		B°	140	132	118	140	155	131
		C°	215	248	230	205	234	197
		D°	265	320	312	275	304	240
11	B	A°	95	113	90	53	119	51
		B°	141	156	145	156	146	141
		C°	208	182	195	220	176	184
		D°	236	292	252	255	298	242
13	C	A°	95	113	90	53	119	51
		B°	141	156	145	156	146	141
		C°	208	182	195	220	176	184
		D°	236	292	252	255	298	242
15	D	A°	95	113	90	53	119	51
		B°	141	156	145	156	146	41
		C°	208	182	195	220	176	184
		D°	236	292	252	255	298	242
17	E	A°	80	135	49	66	62	79
		B°	142	170	169	140	145	153
		C°	196	200	200	200	180	197
		D°	293	310	244	257	280	272
19	F	A°	80	135	49	66	62	79
		B°	142	170	169	140	145	153
		C°	196	200	200	200	180	197
		D°	293	310	244	257	280	272
21	G	A°	80	135	49	66	62	79
		B°	142	170	169	140	145	153
		C°	196	200	200	200	180	197
		D°	293	310	244	257	280	272
23	H	A°	80	135	49	66	62	79
		B°	142	170	169	140	145	153
		C°	196	200	200	200	180	197
		D°	293	310	244	257	280	272
25	J	A°	80	135	49	66	62	79
		B°	142	170	169	140	145	153
		C°	196	200	200	200	180	197
		D°	293	310	244	257	280	272

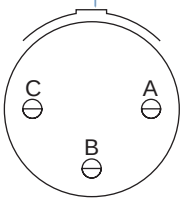
MIL-DTL-38999
insert arrangements

- Size 22D Contact
- Size 20 Contact
- Size 16 Contact
- Size 12 Contact
- Twinax Contact, Size 8

Shell Size 9



0935
Service M
6 Contacts,
Size 22D



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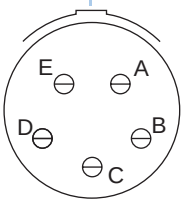
Service I
3 Contacts,
Size 20

Shell Size 11



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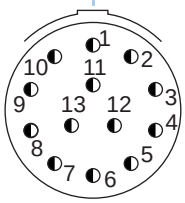

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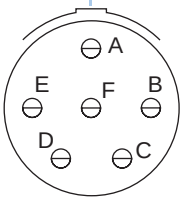
Size 22D



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6 Contacts,
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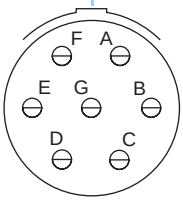

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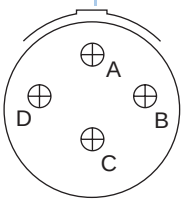
7 Contacts,
Size 20

Shell Size 13



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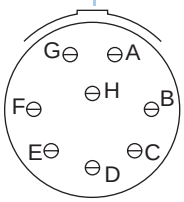
4 Contacts,
Size 16



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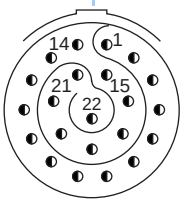
Size 20



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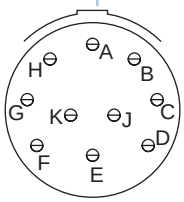
22 Contacts,
Size 22D



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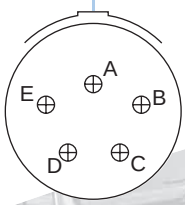
10 Contacts,
Size 20

Shell Size 15



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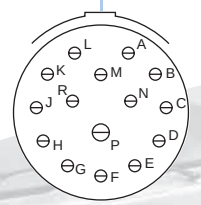
5 Contacts,
Size 16



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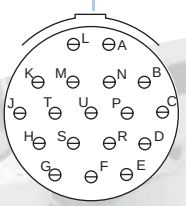
Service I
14 Contacts,
Size 20
1 Contacts,
Size 16



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18 Contacts,
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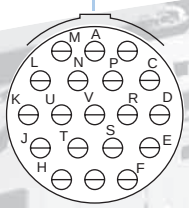

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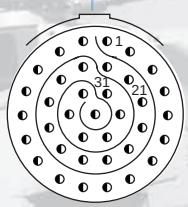
19 Contact,
Size 20



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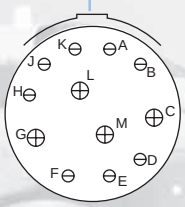
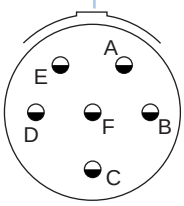
37 Contacts,
Size 22D



1597
Service I
8 Contact,
Size 20
4 Contacts,
Size 16

Note: Consult factory for other insert arrangements

Shell Size 17



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Service I
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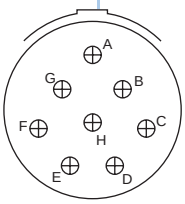
Size 12



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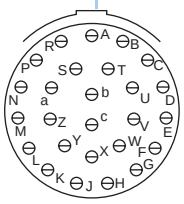
Service II
8 Contacts,
Size 16



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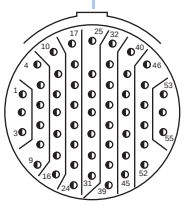
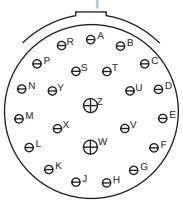
Service I
26 Contacts,
Size 20

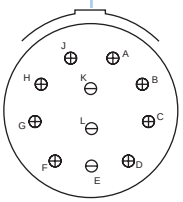


1735
Service M
55 Contacts,
Size 22D

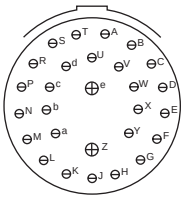


1799
Service I
2 Contacts,
Size 16
21 Contacts,
Size 20

Shell Size 19



1911
Service I
11 Contacts,
Size 16



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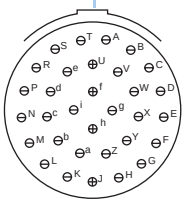
Service I
2 Contacts, Size 16
26 Contacts,
Size 20



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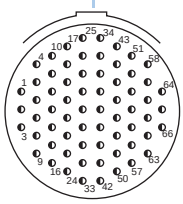
Service M
32 Contacts,
Size 20



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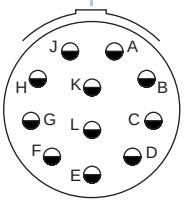
66 Contacts,
Size 22D

Shell Size 21



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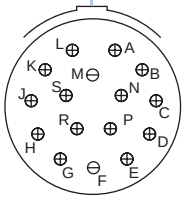
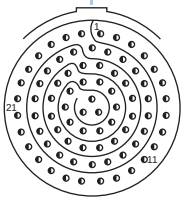
Service I
11 Contacts,
Size 12



2116
Service II
16 Contacts,
Size 16



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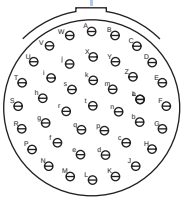
Service M
79 Contacts,
Size 22D



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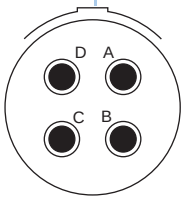
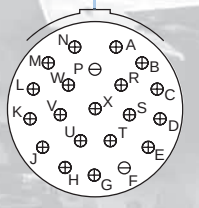
Service I
41 Contacts,
Size 20

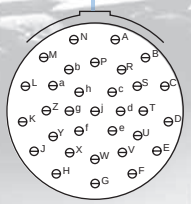


2175
Service M
4 Twinax Contacts

Shell Size 23



2321
Service II
21 Contacts,
Size 16



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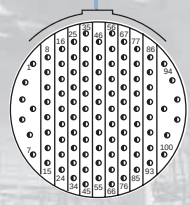
32 Contacts,
Size 20



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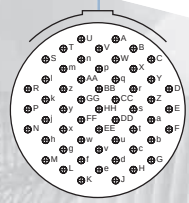
Service M
100 Contacts,
Size 22D



2355
Service I
55 Contacts,
Size 20

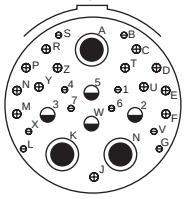
Note: Consult factory for other insert arrangements

MIL-DTL-38999

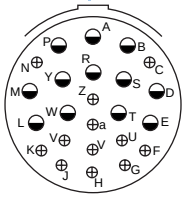
insert arrangements

continued...

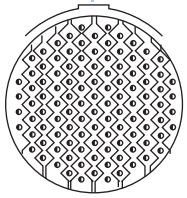
Shell Size 25



2520
Service N
10 Contacts, Size 20
13 Contacts, Size 16
4 Contacts, Size 12
3 Twinax Contacts,
Size 8

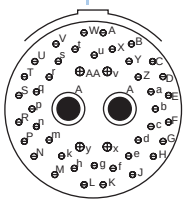


2524
Service I
12 Contacts,
Size 12
12 Contacts,
Size 16



2535
Service M
128 Contacts,
Size 22D

Shell Size 25



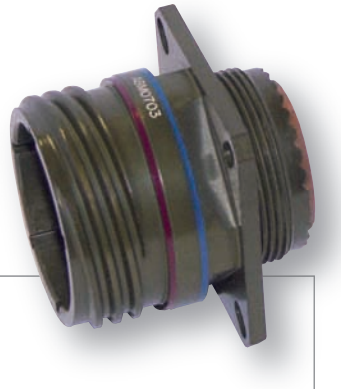
2546
Service I
40 Contacts, Size 20
4 Contacts, Size 16
2 Twinax Contacts,
Size 8

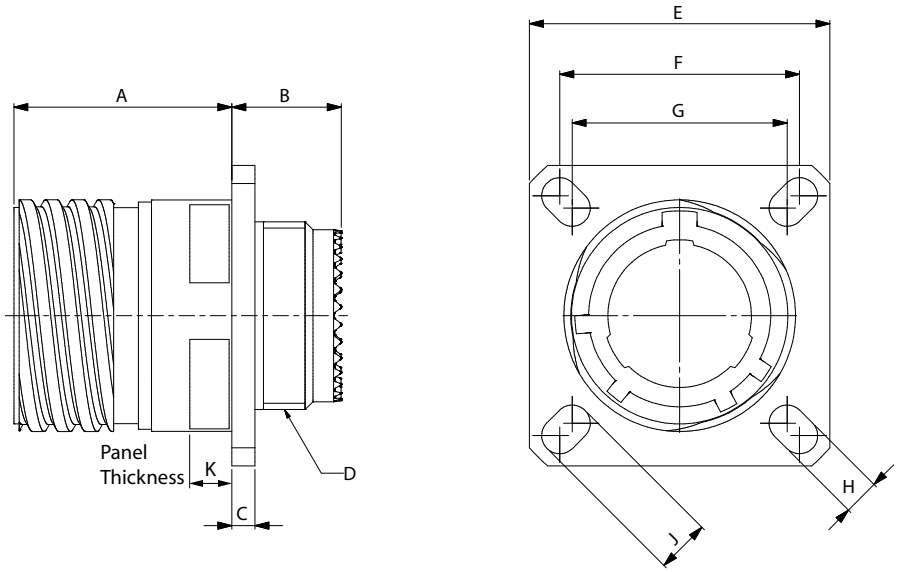
Note: Consult factory for other insert arrangements

MIL-DTL-38999
insert arrangement specification

Shell Size	Contact Arrangement	No. of Contacts	Size 22D	Size 20	Size 16	Size 12	Size 8 Twinax
9	09-35	6	6				
	09-98	3		3			
11	11-05	5		5			
	11-35	13	13				
	11-98	6		6			
	11-99	7		7			
13	13-04	4			4		
	13-08	8		8			
	13-35	22	22				
	13-98	10		10			
15	15-05	5			5		
	15-15	15		14	1		
	15-18	18		18			
	15-19	19		19			
	15-35	37	37				
	15-97	12		8	4		
17	17-06	6				6	
	17-08	8			8		
	17-26	26		26			
	17-35	55	55				
	17-99	23		21	2		
19	19-11	11			11		
	19-28	28		26	2		
	19-32	32		32			
	19-35	66	66				
21	21-11	11				11	
	21-16	16			16		
	21-35	79	79				
	21-41	41		41			
	21-75	4					4
23	23-21	21			21		
	23-32	32		32			
	23-35	100	100				
	23-55	55		55			
25	25-20	30		10	13	4	3
	25-24	24			12	12	
	25-35	128	128				
	25-46	46		40	4		2

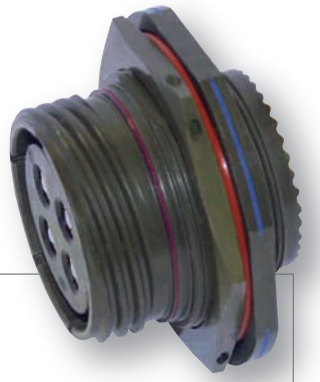
MIL-DTL-38999
receptacle type 20

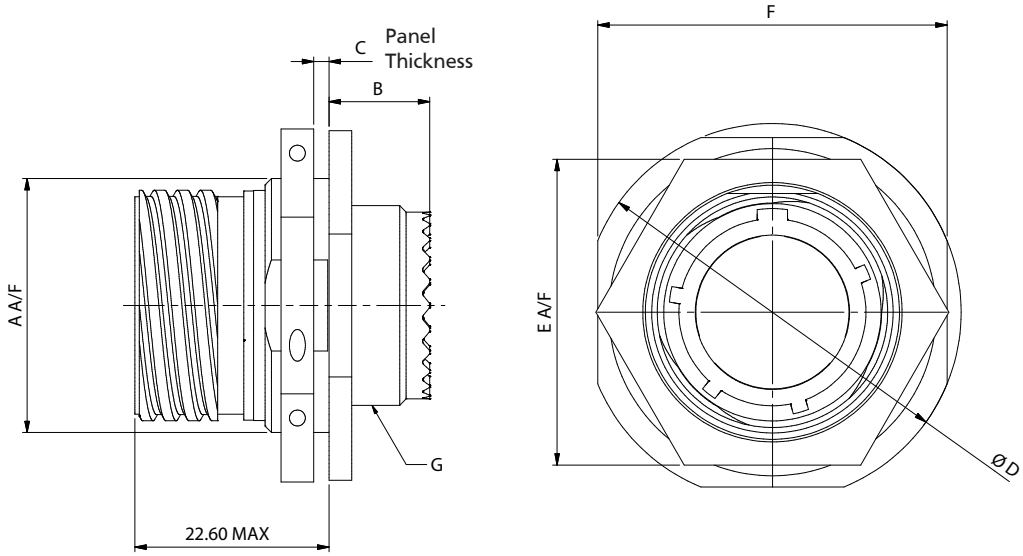




Shell Size	A max.	B max.	C max.	D thread	E ± 0.30	F	G	H ± 0.20	J ± 0.20	K max.
09	20.90	10.60	2.50	M12 x 1-6g	23.80	18.26	15.09	3.25	5.49	5.94
11	20.90	10.60	2.50	M15 x 1-6g	26.20	20.62	18.26	3.25	4.93	5.94
13	20.90	10.60	2.50	M18 x 1-6g	28.60	23.01	20.62	3.25	4.93	5.94
15	20.90	10.60	2.50	M22 x 1-6g	31.00	24.61	23.01	3.25	4.93	5.94
17	20.90	10.60	2.50	M25 x 1-6g	33.30	26.97	24.61	3.25	4.93	5.94
19	20.90	10.60	2.50	M28 x 1-6g	36.50	29.36	26.97	3.25	4.93	5.94
21	20.10	11.40	3.20	M31 x 1-6g	39.70	31.75	29.36	3.25	4.93	5.18
23	20.10	11.40	3.20	M34 x 1-6g	42.90	34.93	31.75	3.91	6.15	5.18
25	20.10	11.40	3.20	M37 x 1-6g	46.00	38.10	34.93	3.91	6.15	5.18

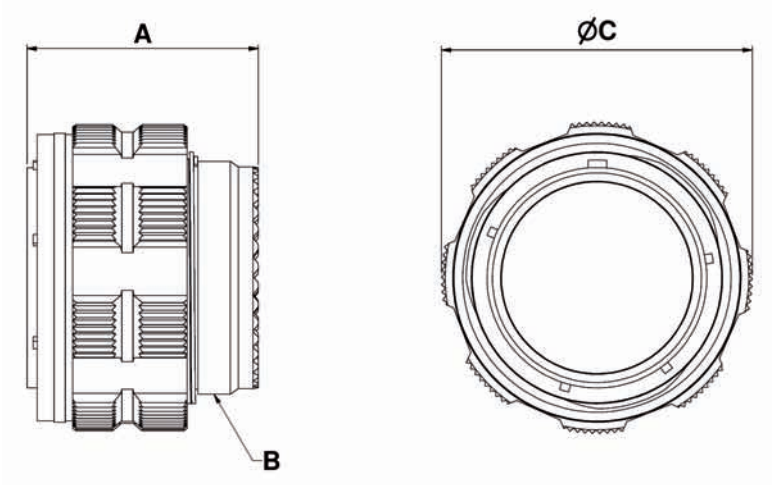
MIL-DTL-38999
receptacle type 24





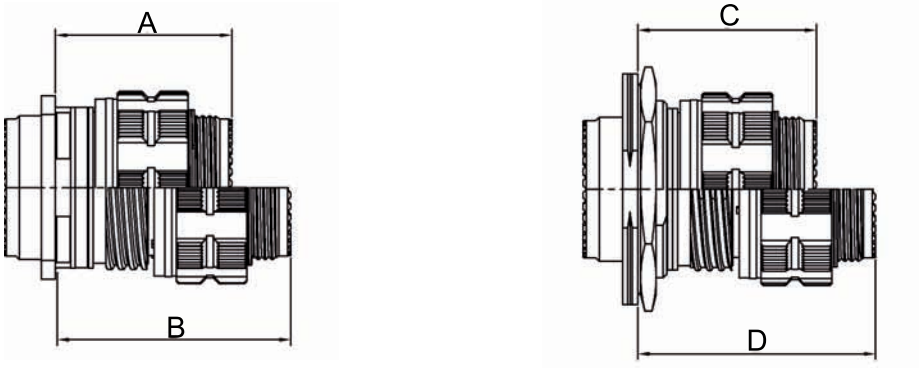
Shell Size	A +0.10 -0.15	B max.	C max.	D Ø max.	E max.	F ± 0.40	G thread
09	16.53	9.90	3.20	30.50	23.00	27.00	M12 x 1-6g
11	19.07	9.90	3.20	35.20	26.00	31.80	M15 x 1-6g
13	23.82	9.90	3.20	38.40	31.00	34.90	M18 x 1-6g
15	26.97	9.90	3.20	41.60	34.00	38.10	M22 x 1-6g
17	30.15	9.90	3.20	44.80	37.00	41.30	M25 x 1-6g
19	33.32	9.90	3.50	49.50	41.00	46.00	M28 x 1-6g
21	36.50	9.90	3.50	52.70	46.00	49.20	M31 x 1-6g
23	39.67	9.90	3.50	55.90	47.00	52.40	M34 x 1-6g
25	42.85	9.90	3.50	59.00	52.00	55.60	M37 x 1-6g

MIL-DTL-38999
plug type 26



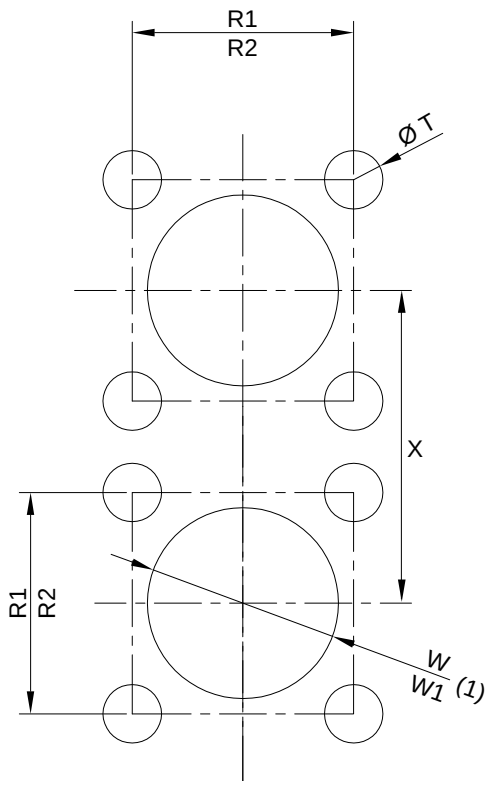
Shell Size	A max.	B Thread	C max.
09	31.00	M12 x 1-6g	21.80
11	31.00	M15 x 1-6g	25.00
13	31.00	M18 x 1-6g	29.40
15	31.00	M22 x 1-6g	32.50
17	31.00	M25 x 1-6g	35.70
19	31.00	M28 x 1-6g	38.50
21	31.00	M31 x 1-6g	41.70
23	31.00	M34 x 1-6g	44.90
25	31.00	M37 x 1-6g	48.00

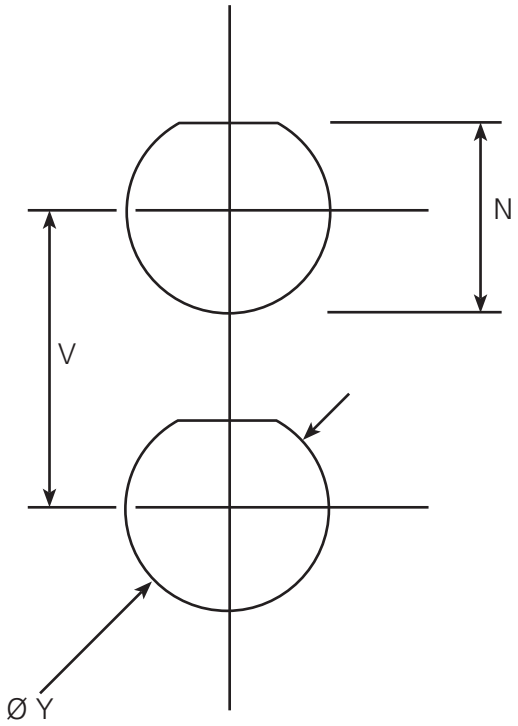
MIL-DTL-38999
mated connector dimensions



Shell Size	A max.	B max.	C max.	D max.
09	37.00	52.30	38.30	53.60
11	37.00	52.30	38.30	53.60
13	37.00	52.30	38.50	53.80
15	37.00	52.30	38.50	53.80
17	37.00	52.30	38.50	53.80
19	37.00	52.30	38.50	53.80
21	36.00	51.30	38.50	53.80
23	36.00	51.30	38.50	53.80
25	36.00	51.30	38.50	53.80

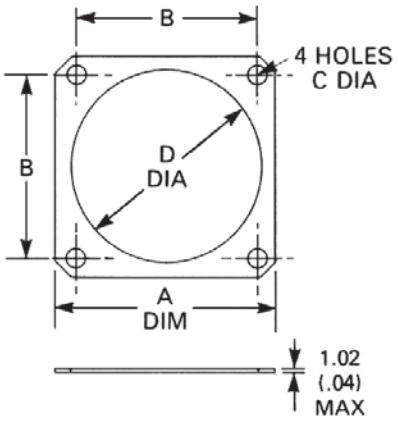
MIL-DTL-38999
panel cut-out information





Shell Size	N -0.25	R1 Rear Mount	R2 Front Mount	T Ø +/- 0.13	V min.	W min. Rear Mount	W1 min. Front Mount	X min . + 0.25	Ø Y
09	16.74 -0.06	18.26	15.09	3.25	30.76	16.66	13.11	24.61	17.10
11	19.59	20.62	18.26	3.25	34.21	20.22	15.88	27.22	20.96
13	24.26	23.01	20.62	3.25	40.00	23.42	19.05	30.15	25.65
15	27.56	24.61	23.01	3.25	44.63	26.59	23.01	33.24	28.83
17	30.73	26.97	24.61	3.25	45.77	30.96	25.81	36.44	32.01
19	33.91	29.36	26.97	3.25	50.40	32.94	28.98	39.24	35.18
21	37.08	31.75	29.36	3.25	56.16	36.12	32.16	42.44	38.35
23	40.26	34.93	31.75	3.91	60.81	39.29	34.93	45.64	41.53
25	43.43	38.10	34.93	3.91	62.18	42.47	37.69	48.48	44.70

MIL-DTL-38999
screened gaskets



Shell Size	AB Part No.	A max.	B CRS	C Ø	D Ø min.
09	508/2/38401/109	24.33	18.26	3.12	14.22
11	508/2/38401/111	26.70	20.62	3.12	17.02
13	508/2/38401/113	29.08	23.01	3.12	21.08
15	508/2/38401/115	31.47	24.61	3.12	24.38
17	508/2/38401/117	33.83	26.97	3.12	27.43
19	508/2/38401/119	37.03	29.36	3.12	30.73
21	508/2/38401/121	40.18	31.75	3.12	33.78
23	508/2/38401/123	43.38	34.93	3.61	37.08
25	508/2/38401/125	46.53	38.10	3.61	40.13

MIL-DTL-38999 BACKSHELLS

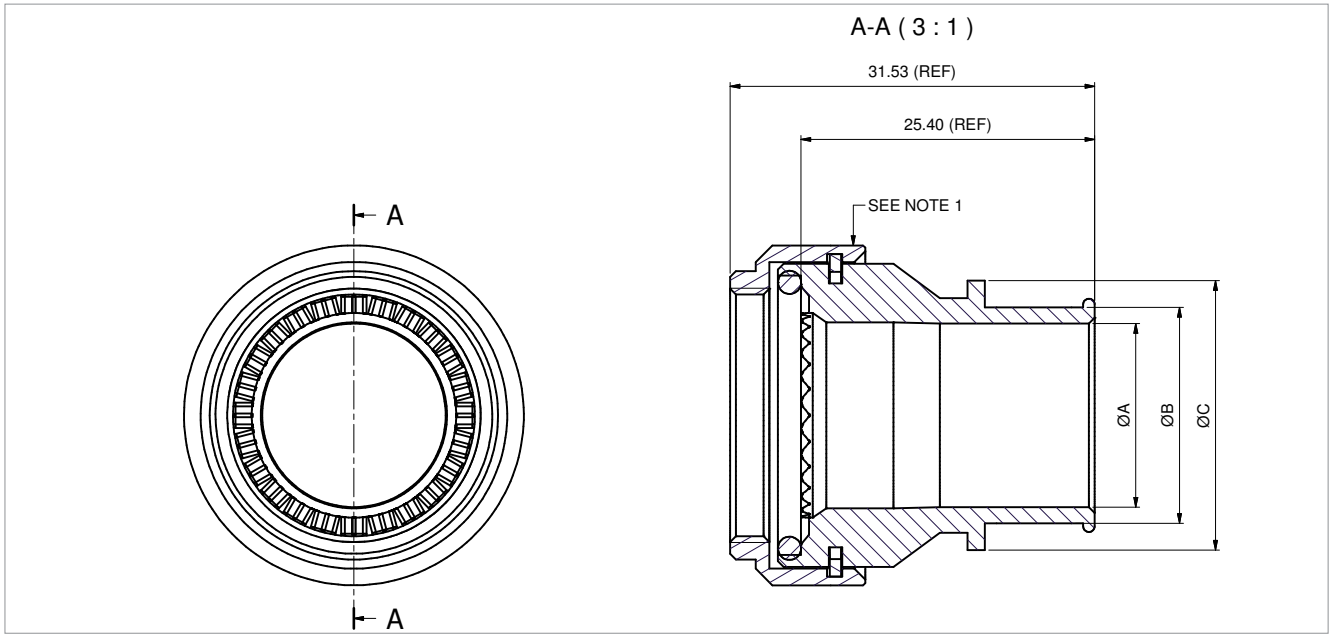
Backshell Part Number Explanations

Note - Refer to individual tables for part numbers

Screen and HSA Assembly	Straight Assembly
	90^0 Assembly
Protective Caps:	Fixed Protective Caps
	Free Protective Caps
Stowage Receptacle:	Stowage Receptacle

MIL-DTL-38999

Screen and HSA Straight Assembly
Style: ABAC 01-**-*-**



Cable Entry Size	A Ø min.	B Ø max.	C Ø max.
03	4.77	9.75	13.70
04	6.35	9.75	13.70
05	7.92	10.72	15.30
06	9.52	12.32	17.00
07	11.10	13.90	18.50
08	12.70	15.50	20.10
09	14.27	17.07	21.70
10	15.88	18.68	23.30
11	17.47	20.27	24.90
12	19.05	21.85	26.50
13	20.62	23.42	28.10
14	22.23	25.03	29.70
15	23.82	26.62	31.30
16	25.40	28.20	32.90
17	27.00	29.80	34.50
18	28.60	31.40	36.10
19	30.20	33.00	37.70
20	31.80	34.60	39.30
21	33.38	36.18	40.90
22	35.00	37.80	42.50
23	36.58	39.38	44.10

Parts List

Assembly No' ABAC 01-**-*-	Item 1 (Accessory Nut) 514-2-	Item 2 (0 Ring) M0400	Item 3 (Circlip)	Item 4 (Straight Adaptor) 514-2-
09	18740-*-00	093	05-08-272-00-CH	18731-*-**
11	18741-*-00	094	05-10-272-000-CH	18731-*-**
13	18742-*-00	095	SB-MSE-92-0-CH	18731-*-**
15	18743-*-00	121B.18.CRASR.AC	05-14-272-000-CH	18731-*-**
17	18744-*-00	096	SB-MSE-92-2-CH	18731-*-**
19	18745-*-00	097	SB-MSE-92-3-CH	18731-*-**
21	18746-*-00	098	121B-18-IC-CH	18731-*-**
23	18747-*-01	099	121B-20-IC-CH	18731-*-**
25	18748-*-00	100	SB-MSE-92-6-CH	18731-*-**

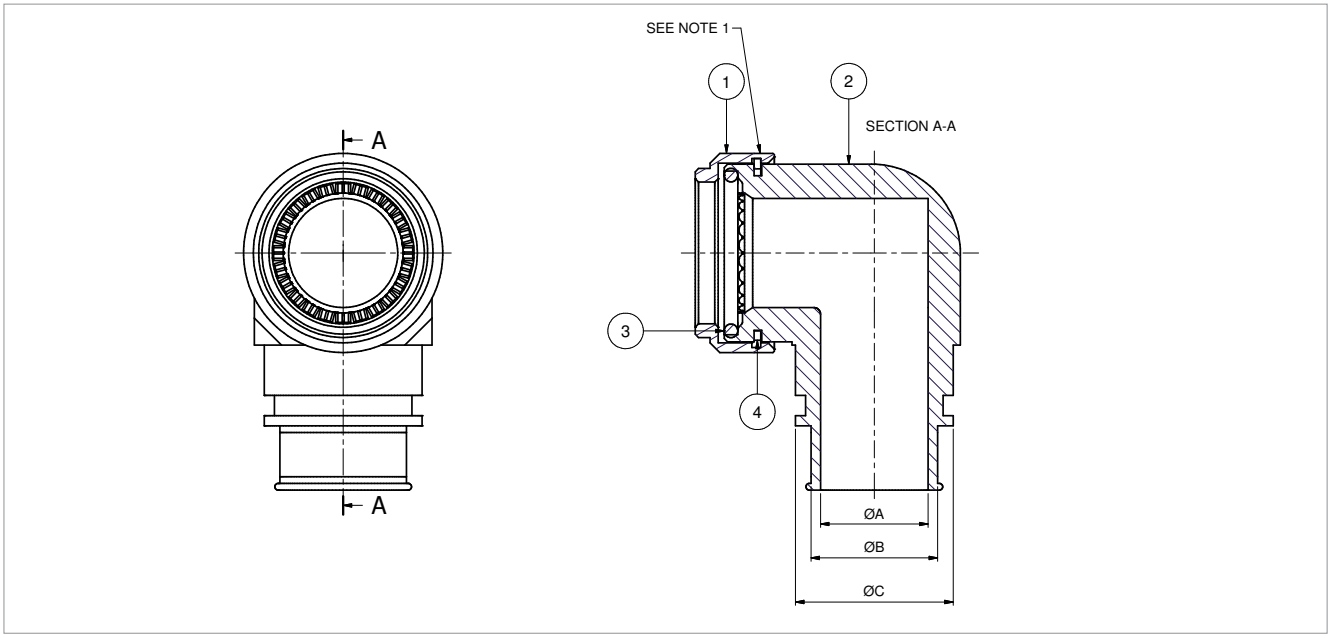
Assembly: ABAC.01. ## . # . 15

Cable entry size — Plating code

MIL-DTL-38999

Screen and HSA 90⁰ Assembly

Style: ABAC 03-**-*-**



Cable Entry Size	A Ø min.	B Ø max.	C Ø max.
03	4.77	9.75	13.70
04	6.35	9.75	13.70
05	7.92	10.72	15.30
06	9.52	12.32	17.00
07	11.10	13.90	18.50
08	12.70	15.50	20.10
09	14.27	17.07	21.70
10	15.88	18.68	23.30
11	17.47	20.27	24.90
12	19.05	21.85	26.50
13	20.62	23.42	28.10
14	22.23	25.03	29.70
15	23.82	26.62	31.30
16	25.40	28.20	32.90
17	27.00	29.80	34.50
18	28.60	31.40	36.10
19	30.20	33.00	37.70
20	31.80	34.60	39.30
21	33.38	36.18	40.90
22	35.00	37.80	42.50
23	36.58	39.38	44.10
24	38.10	40.90	45.70

Parts List

Assembly No' ABAC 03-**-*-	Item 1 (Accessory Nut) 514-2-	Item 2 (90⁰ Adaptor) 514-2-	Item 3 (0 Ring)	Item 4 (Circlip)
09	18740-*-00	18750-*-**	M0400093	05-08-272-00-CH
11	18741-*-00	18751-*-**	M0400094	05-10-272-000-CH
13	18742-*-00	18752-*-**	M0400095	SB-MSE-92-0-CH
15	18743-*-00	18753-*-**	121B-18-CRASR-AC	05-14-272-000-CH
17	18744-*-00	18754-*-**	M0400096	SB-MSE-92-2-CH
19	18745-*-00	18755-*-**	M0400097	SB-MSE-92-3-CH
21	18746-*-00	18756-*-**	M0400098	121B-18-IC-CH
23	18747-*-01	18757-*-**	M0400099	121B-20-IC-CH
25	18748-*-00	18758-*-**	M0400100	SB-MSE-92-6-CH

Assembly: ABAC.03. ## . # . ##

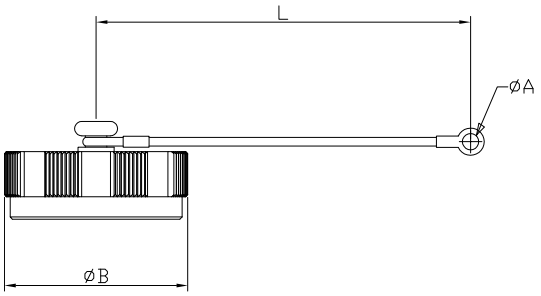
Accessory size

Cable entry size

Plating code

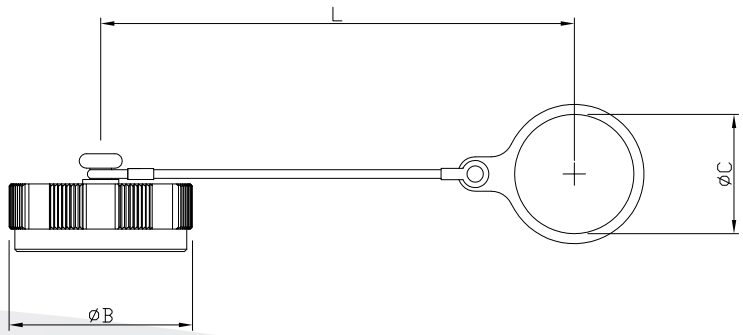
MIL-DTL-38999

Fixed Protective Caps
Style: ABAC 33-*-**-R/N
Part Number: D38999 33-*-**-R/N



Shell Size	AB Part No.	A Ø min.	B Ø max.	L + 12.7 - 6.35	38999 Part No.
09	ABAC / 33 # 09 R	3.90	22.86	127	D38999 / 33 # 09 R
11	ABAC / 33 # 11 R	3.90	27.96	127	D38999 / 33 # 11 R
13	ABAC / 33 # 13 R	3.90	30.48	127	D38999 / 33 # 13 R
15	ABAC / 33 # 15 R	3.90	31.75	127	D38999 / 33 # 15 R
17	ABAC / 33 # 17 R	3.90	36.83	127	D38999 / 33 # 17 R
19	ABAC / 33 # 19 R	3.90	38.10	127	D38999 / 33 # 19 R
21	ABAC / 33 # 21 R	3.90	41.91	127	D38999 / 33 # 21 R
23	ABAC / 33 # 23 R	3.90	44.45	127	D38999 / 33 # 23 R
25	ABAC / 33 # 25 R	3.90	48.26	127	D38999 / 33 # 25 R

Note: replace # with desired plating finish.

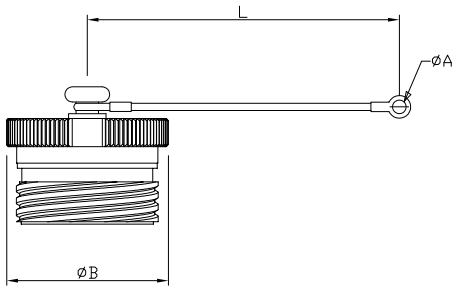


Shell Size	AB Part No.	C Ø min.	B Ø max.	L + 12.7 - 6.35	38999 Part No.
09	ABAC / 33 # 09 N	17.64	22.86	127	D38999 / 33 # 09 N
11	ABAC / 33 # 11 N	21.97	27.96	127	D38999 / 33 # 11 N
13	ABAC / 33 # 13 N	25.12	30.48	127	D38999 / 33 # 13 N
15	ABAC / 33 # 15 N	29.92	31.75	127	D38999 / 33 # 15 N
17	ABAC / 33 # 17 N	32.00	36.83	127	D38999 / 33 # 17 N
19	ABAC / 33 # 19 N	36.27	38.10	127	D38999 / 33 # 19 N
21	ABAC / 33 # 21 N	38.25	41.91	127	D38999 / 33 # 21 N
23	ABAC / 33 # 23 N	42.62	44.45	127	D38999 / 33 # 23 N
25	ABAC / 33 # 25 N	44.45	48.26	127	D38999 / 33 # 25 N

Note: replace # with desired plating finish.

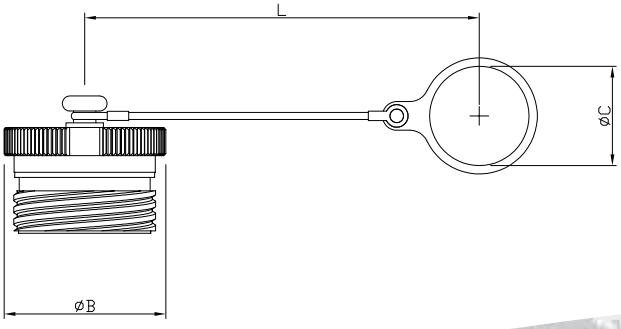
MIL-DTL-38999

Free Protective Caps
Style: ABAC 32-*-**-R/N
Part Number: D38999 32-*-**-R/N



Shell Size	AB Part No.	A Ø min.	B Ø max.	L + 12.7 - 6.35	38999 Part No.
09	ABAC / 32 # 09 R	3.90	22.86	127	D38999 / 32 # 09 R
11	ABAC / 32 # 11 R	3.90	27.96	127	D38999 / 32 # 11 R
13	ABAC / 32 # 13 R	3.90	30.48	127	D38999 / 32 # 13 R
15	ABAC / 32 # 15 R	3.90	31.75	127	D38999 / 32 # 15 R
17	ABAC / 32 # 17 R	3.90	36.83	127	D38999 / 32 # 17 R
19	ABAC / 32 # 19 R	3.90	38.10	127	D38999 / 32 # 19 R
21	ABAC / 32 # 21 R	3.90	41.91	127	D38999 / 32 # 21 R
23	ABAC / 32 # 23 R	3.90	44.45	127	D38999 / 32 # 23 R
25	ABAC / 32 # 25 R	3.90	48.26	127	D38999 / 32 # 25 R

Note: replace # with desired plating finish.

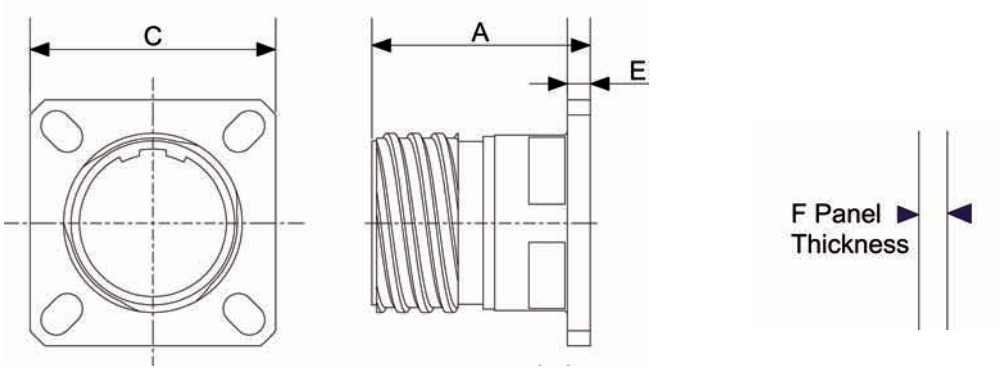


Shell Size	AB Part No.	C Ø min.	B Ø max.	L + 12,7 - 6,35	38999 Part No.
09	ABAC / 32 # 09 N	17,64	22,86	127	D38999 / 32 # 09 N
11	ABAC / 32 # 11 N	21,97	27,96	127	D38999 / 32 # 11 N
13	ABAC / 32 # 13 N	25,12	30,48	127	D38999 / 32 # 13 N
15	ABAC / 32 # 15 N	29,92	31,75	127	D38999 / 32 # 15 N
17	ABAC / 32 # 17 N	32,00	36,83	127	D38999 / 32 # 17 N
19	ABAC / 32 # 19 N	36,27	38,10	127	D38999 / 32 # 19 N
21	ABAC / 32 # 21 N	38,25	41,91	127	D38999 / 32 # 21 N
23	ABAC / 32 # 23 N	42,62	44,45	127	D38999 / 32 # 23 N
25	ABAC / 32 # 25 N	44,45	48,26	127	D38999 / 32 # 25 N

Note: replace # with desired plating finish.

MIL-DTL-38999

Stowage Receptacle
Style: ABAC 22-**-*
Part Number: D38999 22-*-*



Shell Size	A max.	C +/- 0.3	E +/- max. 0.3	F	AB Part No.	38999 Part No.
09	24.2	23.8	2.5	5.94	ABAC 22 09 #	D38999 22 A #
11	24.2	26.2	2.5	5.94	ABAC 22 11 #	D38999 22 B #
13	24.2	28.6	2.5	5.94	ABAC 22 13 #	D38999 22 C #
15	24.2	31.0	2.5	5.94	ABAC 22 15 #	D38999 22 D #
17	24.2	33.3	2.5	5.94	ABAC 22 17 #	D38999 22 E #
19	24.2	36.5	2.5	5.94	ABAC 22 19 #	D38999 22 F #
21	24.1	39.7	3.2	5.18	ABAC 22 21 #	D38999 22 G #
23	24.1	42.90	3.2	5.18	ABAC 22 23 #	D38999 22 H #
25	24.1	46.0	3.2	5.18	ABAC 22 25 #	D38999 22 J #

Note: replace # with desired plating finish.

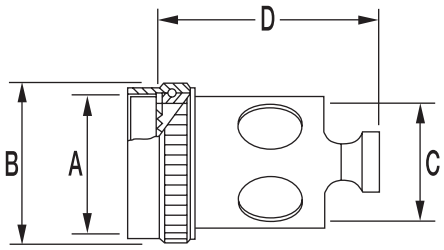
NCE SCREEN WRAP ADAPTORS

Backshell Part Number Explanations

		SW X	XX	X	XX	XX	XX	XX
Adaptor Series:	SW1: Mil-DTL-38999 I & II SW3: Mil-C-26482 II SW4: Mil-DTL-38999 III SW8: Mil-C-26482 I							
Shell Size:	Refer to Dimensions							
Adaptor Style:	T: Cable Tie C: Cable Clamp B: Lipped Boot S: Screen Trap							
Plating:	02: Cadium Olive Drab 03: Electroless Nickel 00: Unplated 04: Black Anodised							
Braid Type:	TC: Tinned Copper NC: Nickel Plated Copper							
Step Down:	Shell size of reduced cable entry required. (Refer to table). Omit if not required							
Heatshrink Boot:	SB: Straight RB: 90⁰							

SCREEN WRAP ADAPTORS

Cable Tie (to include Spin Coupling Nut)
Style: T



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

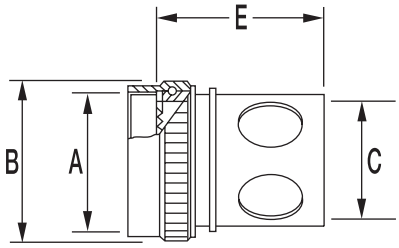
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN WRAP ADAPTORS

Lip Boot (to include Spin Coupling Nut)
Style: B



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

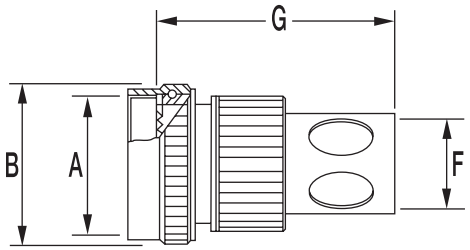
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN WRAP ADAPTORS

Screen Trap (to include Spin Coupling Nut)
Style: S



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

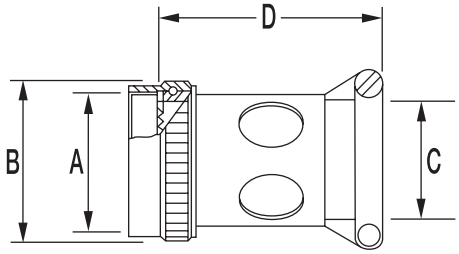
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN WRAP ADAPTORS

Cable Clamp (to include Spin Coupling Nut)
Style: C



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

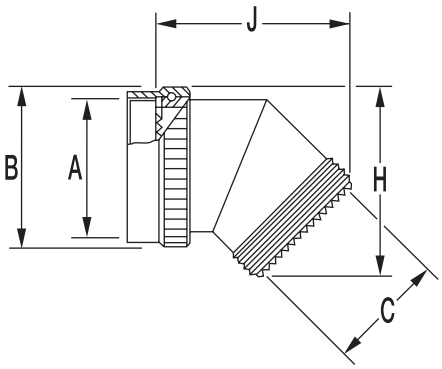
NCE SCREEN WRAP ADAPTORS Angled Accessories

Backshell Part Number Explanations

		NCB X	X	XX	XX	012
Adaptor Series:	NCB1: Mil-DTL-38999 I & II					
	NCB3: Mil-C-26482 II					
	NCB4: Mil-DTL-38999 III					
	NCB8: Mil-C-26482 I					
Angle:	F: 45^0					
	R: 90^0					
Shell Size:	Refer to Dimensions					
Plating:	02: Cadium Olive Drab					
	03: Electroless Nickel					
	00: Unplated					
	04: Black Anodised					
MOD Code:	012: Special Adaptor for use with Screen Wrap parts only					

SCREEN WRAP ADAPTORS

45⁰ Angled Accessory (to include Spin Coupling Nut)
Style: F



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

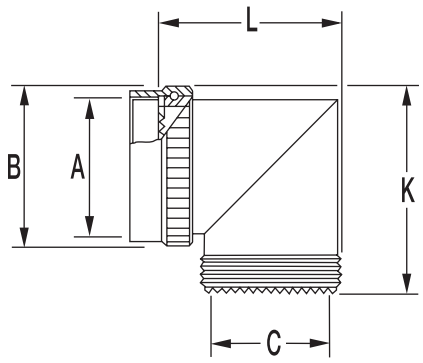
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN WRAP ADAPTORS

90⁰ Angled Accessory (to include Spin Coupling Nut)
Style: R



Fits Shell Size		ØB max.	ØC max.	ØE max.	ØF max.	ØG max.	D	H	L max.	J	K
MIL-C-26482 I & II, MIL-DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Length	Cable Entry	Length	Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Lenght
8	9	17.78	8.53	33.02	5.00	41.40	44.45	23.16	19.69	25.20	23.37
10	11	21.59	11.76	33.02	7.92	41.40	44.45	25.53	22.28	26.29	25.63
12	13	24.13	14.68	33.02	11.00	41.40	44.45	28.91	25.86	29.54	31.12
14	15	28.58	17.86	33.02	12.70	46.86	44.45	33.43	28.24	32.54	35.88
16	17	31.75	21.03	33.02	13.97	49.40	44.45	37.72	31.12	35.18	38.74
18	19	32.26	23.72	33.02	17.91	50.67	44.45	39.24	35.61	37.24	41.53
20	21	38.10	26.90	33.02	20.57	46.86	44.45	45.36	38.48	44.17	44.45
22	23	40.64	30.07	33.02	23.75	46.86	44.45	48.77	41.33	48..82	48.26
24	25	41.91	33.25	33.02	26.42	46.86	44.45	48.82	46.74	49.17	50.17

Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

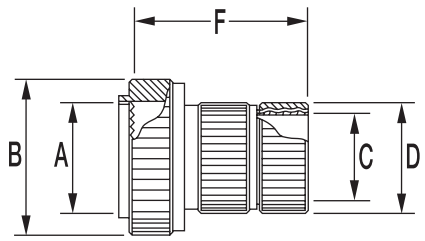
NCE SCREEN TRAP ADAPTORS for Circular Connectors

Backshell Part Number Explanations

		NCB X	X	XX	XX	ST/XX	LP	XX	XX
Adaptor Series:	NCB1: Mil-DTL-38999 I & II NCB3: Mil-C-26482 II NCB4: Mil-DTL-38999 III BCB8: Mil-C-26482 I								
Cable Entry Angle:	S: Straight F: 45⁰ R: 90⁰								
Shell Size:	Refer to Dimensions								
Plating:	02: Cadium Olive Drab 03: Electroless Nickel 05: Zinc Cobalt 06: Passivated (Stainless Steel)								
Screen Trap	To Terminate Screening								
Step Down	Shell size of reduced cable entry required. Omit if not required.								
Low Profile	LP: Only LP available Straight Cable entry. Omit if not Required.								
Material:	01: Aluminium Bronze 02: Stainless Steel Leave blank for Aluminium								
Heatshrink Boot:	SB: Straight Boot RB: 90⁰ Boot Omit if not required								

SCREEN TRAP ADAPTORS for Circular Connectors

Straight Adaptor (to include Spin Coupling Nut)
Style: S



Fits Shell Size		ØB max.	ØC	ØD max.	E max.	F	G	H	J	K
MIL-C-26482 I & II, MIL -C-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Screen Trap™ Nut	Low Profile Lenght	Straight Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Length
8	9	17.78	5.72	14.27	25.40	32.18	38.10	21.06	33.02	36.25
10	11	21.59	8.89	15.88	25.40	32.18	44.20	23.16	36.32	38.79
12	13	24.13	11.94	20.32	28.45	32.18	44.20	27.18	41.66	47.68
14	15	28.58	13.72	22.23	28.45	37.57	49.53	29.01	45.72	55.04
16	17	31.75	14.99	25.12	28.45	37.57	47.24	32.13	47.24	57.58
18	19	32.26	18.67	26.97	34.29	37.57	53.34	34.39	52.07	58.85
20	21	38.10	21.59	31.75	34.29	37.57	53.34	38.48	55.88	60.12
22	23	34.29	24.77	34.93	34.29	37.57	56.90	42.21	56.90	62.03
24	25	38.10	27.43	38.10	34.29	37.57	57.15	43.05	60.96	66.47

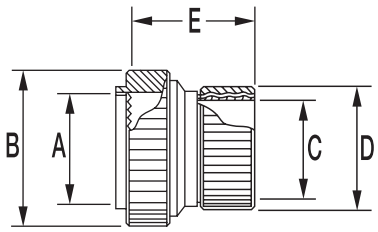
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN TRAP ADAPTORS for Circular Connectors

Straight Low Profile Adaptor (to include Spin Coupling Nut)
Style: S (Suffix LP)



Fits Shell Size		ØB max.	ØC	ØD max.	E max.	F	G	H	J	K
MIL-C-26482 I & II, MIL -C-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Screen Trap™ Nut	Low Profile Lenght	Straight Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Length
8	9	17.78	5.72	14.27	25.40	32.18	38.10	21.06	33.02	36.25
10	11	21.59	8.89	15.88	25.40	32.18	44.20	23.16	36.32	38.79
12	13	24.13	11.94	20.32	28.45	32.18	44.20	27.18	41.66	47.68
14	15	28.58	13.72	22.23	28.45	37.57	49.53	29.01	45.72	55.04
16	17	31.75	14.99	25.12	28.45	37.57	47.24	32.13	47.24	57.58
18	19	32.26	18.67	26.97	34.29	37.57	53.34	34.39	52.07	58.85
20	21	38.10	21.59	31.75	34.29	37.57	53.34	38.48	55.88	60.12
22	23	34.29	24.77	34.93	34.29	37.57	56.90	42.21	56.90	62.03
24	25	38.10	27.43	38.10	34.29	37.57	57.15	43.05	60.96	66.47

Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

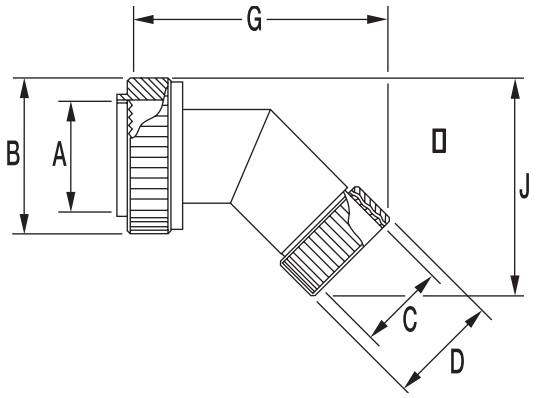
Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN TRAP ADAPTORS for Circular Connectors

45⁰ Angled Accessory (to include Spin Coupling Nut)

Style: F



Fits Shell Size		ØB max.	ØC	ØD max.	E max.	F	G	H	J	K
MIL-C-26482 I & II, MIL -DTL-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Screen Trap™ Nut	Low Profile Lenght	Straight Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Length
8	9	17.78	5.72	14.27	25.40	32.18	38.10	21.06	33.02	36.25
10	11	21.59	8.89	15.88	25.40	32.18	44.20	23.16	36.32	38.79
12	13	24.13	11.94	20.32	28.45	32.18	44.20	27.18	41.66	47.68
14	15	28.58	13.72	22.23	28.45	37.57	49.53	29.01	45.72	55.04
16	17	31.75	14.99	25.12	28.45	37.57	47.24	32.13	47.24	57.58
18	19	32.26	18.67	26.97	34.29	37.57	53.34	34.39	52.07	58.85
20	21	38.10	21.59	31.75	34.29	37.57	53.34	38.48	55.88	60.12
22	23	34.29	24.77	34.93	34.29	37.57	56.90	42.21	56.90	62.03
24	25	38.10	27.43	38.10	34.29	37.57	57.15	43.05	60.96	66.47

Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

SCREEN TRAP ADAPTORS for Circular Connectors

90⁰ Angled Accessory (to include Spin Coupling Nut)

Style: R

Fits Shell Size		ØB max.	ØC	ØD max.	E max.	F	G	H	J	K
MIL-C-26482 I & II, MIL -C-38999 II	MIL-DTL-38999 I & III	Spin Coupling Nut	Cable Entry	Screen Trap™ Nut	Low Profile Lenght	Straight Length	45⁰ Length	90⁰ Length	45⁰ Length	90⁰ Length
8	9	17.78	5.72	14.27	25.40	32.18	38.10	21.06	33.02	36.25
10	11	21.59	8.89	15.88	25.40	32.18	44.20	23.16	36.32	38.79
12	13	24.13	11.94	20.32	28.45	32.18	44.20	27.18	41.66	47.68
14	15	28.58	13.72	22.23	28.45	37.57	49.53	29.01	45.72	55.04
16	17	31.75	14.99	25.12	28.45	37.57	47.24	32.13	47.24	57.58
18	19	32.26	18.67	26.97	34.29	37.57	53.34	34.39	52.07	58.85
20	21	38.10	21.59	31.75	34.29	37.57	53.34	38.48	55.88	60.12
22	23	34.29	24.77	34.93	34.29	37.57	56.90	42.21	56.90	62.03
24	25	38.10	27.43	38.10	34.29	37.57	57.15	43.05	60.96	66.47

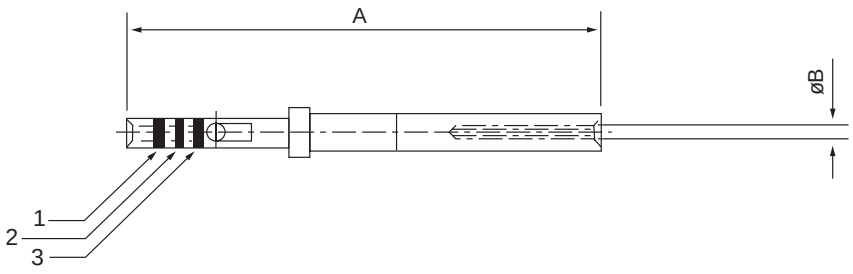
Note.
Smaller cable entry sizes than those shown are available. Please consult factory for details.

Spin Coupling Nuts

Adaptor Series	Shell Sizes	8/9	10/11	12/13	14/15	16/17	18/19	20/21	22/23	24/25
NCB 1	Thread Class 2B	7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 3		1/2" x 20 UNEF	5/8" x 20 UNEF	3/4" x 20 UNEF	7/8" x 20 UNEF	1" x 20 UNEF	1 1/8" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF
NCB 4		12mm x 1	15mm x 1	18mm x 1	22mm x 1	25mm x 1	28mm x 1	31mm x 1	34mm x 1	37mm x 1
NCB 8		7/16" x 28 UNEF	9/16" x 24 UNEF	11/16" x 24 UNEF	13/16" x 20 UNEF	15/16" x 20 UNEF	1 1/16" x 18 UNEF	1 3/16" x 18 UNEF	1 5/16" x 18 UNEF	1 7/16" x 18 UNEF

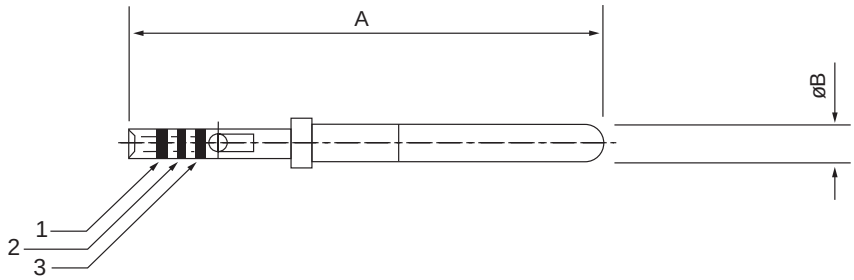
MIL-DTL-38999
contacts

socket



Size		Colour Code			A max.	B Ø max.	Mass max. g	AB Part No.	MIL-DTL-Part No.
Contact	Barrel	1	2	3					
22D	22D	Orange	Yellow	Grey	21.72	0.787	0.26	523/4/18241/000	M 39029/58-348
20	20	Orange	Green	Brown	21.72	1.054	0.45	523/4/18242/000	M 39029/56-351
16	16	Orange	Green	Red	21.72	1.625	0.85	523/4/18243/000	M 39029/58-352
12	12	Orange	Green	Orange	21.72	2.425	1.80	523/4/18244/000	M 39029/56-353

pin

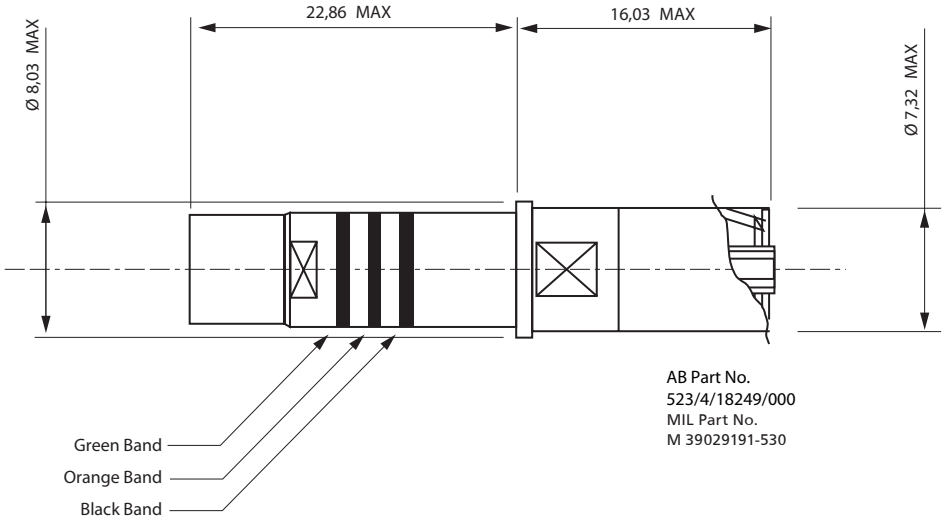


Size		Colour Code			A max.	B Ø		Mass max. g	AB Part No.	MIL-DTL-Part No.
Contact	Barrel	1	2	3		max.	min.			
22D	22D	Orange	Blue	Black	13.49	0.774	0.749	0.08	523/4/18219/000	M 39029/58-360
20	20	Orange	Blue	Orange	13.49	1.040	0.991	0.14	523/4/18225/000	M 39029/58-363
16	16	Orange	Blue	Yellow	13.49	1.613	1.562	0.33	523/4/18227/000	M 39029/58-364
12	12	Orange	Blue	Green	13.49	2.410	2.360	0.68	523/4/18229/000	M 39029/58-365

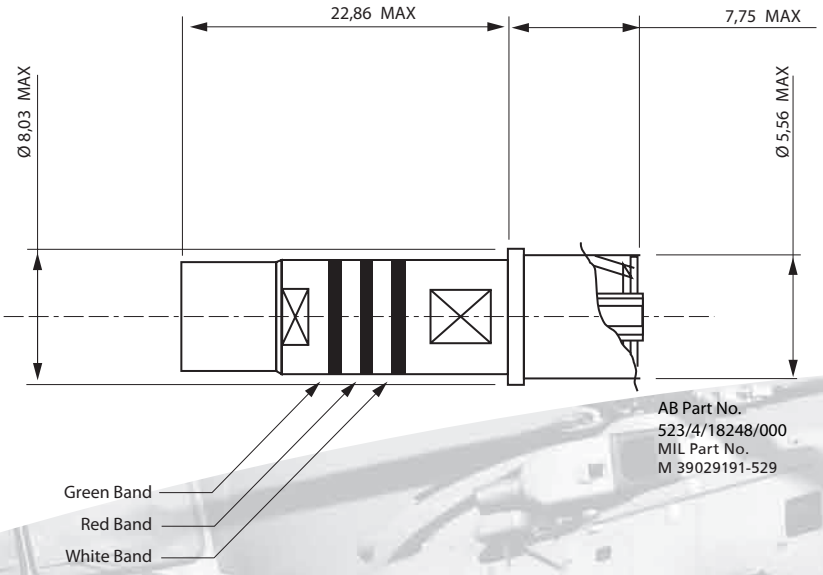
Contact Size	Wire Size (AWG)	Finished Wire Outside Dimensions			
		minimum		maximum	
		inches	mm	inches	mm
22D	28. 26. 24. 22	.030	.076	.054	1.37
20	24, 22, 20	.040	1.02	.083	2.11
16	20, 18, 16	.065	1.65	.109	2.77
12	14, 12	.097	2.46	1.42	3.61

MIL-DTL-38999
twinax contacts - size 8

socket

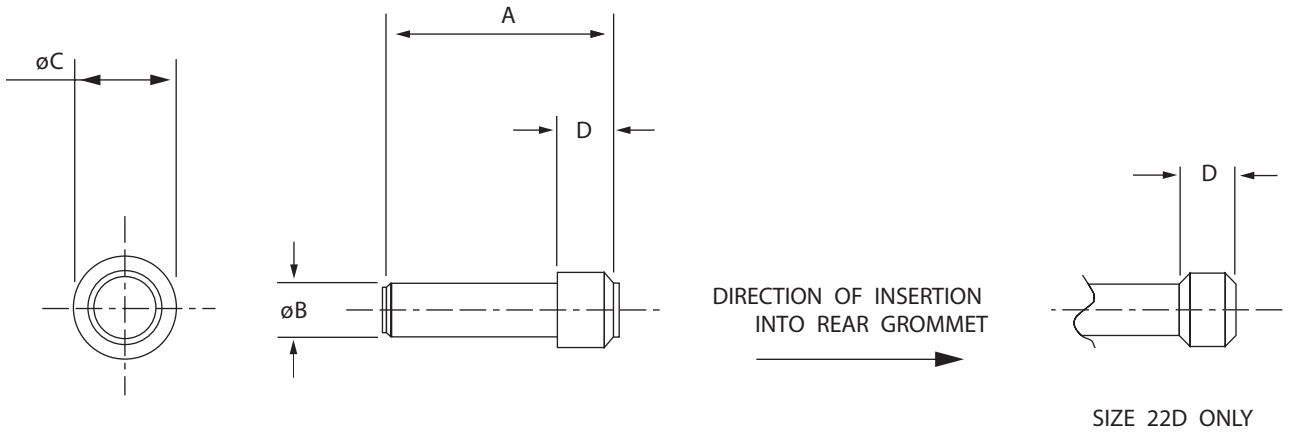


pin



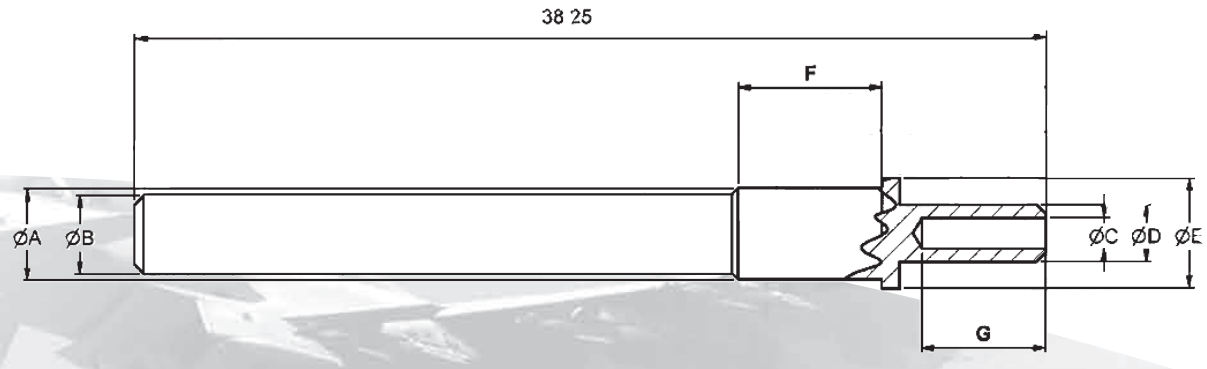
MIL-DTL-38999
grommet filler plugs

Dimensions for sizes 22D, 20, 16 & 12



Size	Colour Code	A		B Ø		C Ø		D		Mass max. g	MS No./Size	Catalogue No.
		max.	min.	max.	min.	max.	min.	max.	min.			
22D	Black	12.70	11.13	1.14	0.89	1.72	1.48	1.32	1.06	0.30	MS27488-22	523/2/18230/004
20	Red	14.83	13.83	1.65	1.15	2.54	2.16	4.19	2.80	0.60	MS27488-20	523/2/18230/003
16	Blue	14.83	13.83	2.36	1.85	3.50	2.25	4.19	2.80	0.80	MS27488-16	523/2/18230/002
12	Yellow	14.83	13.83	3.32	2.82	4.47	4.21	4.19	2.80	1.10	MS27488-12	523/2/18230/001

Dimensions for size 8 only (Grommet filler & Dummy contact)



Size	Colour Code	A Ø	B Ø	C Ø	D Ø	E Ø	F	G	MS No./Size	Catalogue No.
8	Green	7.01+NIL -0.08	3.94+NIL -0.5	3.84 3.58	5.51 5.56	7.95 8.03	21.34 20.57	6.55+0.5 -NIL	M85049/80-8	523/2/18260/001

MIL-DTL-38999
insertion & extraction

The 38999 insertion and extraction tools have been designed for ease of use for operation and dependability. When harnesses are regularly produced using 38999 connectors these tools are highly recommended to replace the temporary tools provided with the connector. The wire gripping feature provides for extraction, without damage to either contact, wire or the sealing features. The metal tips provide the proper balance between the hardness necessary for long usage and the resiliency needed to prevent tip breakage under constant use.

Contact Size	Contact Part No.	Insertion Tool Part No.	Extraction Tool Part No.
22D	523/4/18219/000 523/4/18241/000	558/I/05267/000	558/I/05254/002
20	523/4/18225/000 523/I/18242/000	558/I/05253/000	558/I/05254/000
16	523/4/18227/000 523/4/18243/000	558/I/05251/000	558/I/5252/000
12	523/4/18229/000 523/4/18244/000	558/I/05251/001	558/I/05252/001
8	523/4/18248/000 523/4/18249/000	558/1/05307/001	558/1/05308/001

Crimping Tools

Tools conforming to MIL-C-22520 can be used to crimp 38999 connector contacts.

Recommendation for the various contact types and sizes are as follows:
The following crimp tools are all available from the approved MIL. Spec. tool manufacturers.

Crimping Tool	Positioner or Turret Die	Contact Type / Size
M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07	22D, Pins
M22520/2-01 M22520/7-01	M22520/2-07 M22520/7-05	22D, Socket
M22520/1-01 M22520/2-01 M22520/7-01	M22520/1-04 M22520/2-10 M22520/7-08	20 Pin, 20 Socket
M22520/1-01 M22520/7-01	M22520/1-04 M22520/7-04	16 Pin, 16 Socket
M22520/1-01	M22520/1-04	12 Pin, 12 Socket

Size 8 Twinax Crimping Tool:

Crimping Tool	Positioner or Turret Die	Contact Type / Size
M22520/2-01	K709	Inner Contact
M22520/5-01	Y631	Intermediate Contact & Outer Contact

MIL-DTL-38999
contact insertion

Tool Description

AB Connectors Insertion tools (Fig. 1) are designed to install pin and socket contacts into the MIL-DTL-38999 contact retention system. Positive retention of contacts is accomplished by allowing the locking tabs of the contact retaining spring to engage behind the contact shoulder.

Preparation for Insertion

1. Remove grommet nut or outlet from the connector and place over the wires to be installed.

2. Insert the crimped contact / wire assembly between the tool tips, making sure that contact shoulder is butted against tips.

Insertion Procedure

3. Align contact and tool with the selected hole in the connector as nearly perpendicular to the grommet face as possible (Fig. 2).

4. Carefully push the contact into the rubber grommet hole and hard dielectric insert body until the contact shoulder stops against the insert. The contact retaining spring will then be felt or heard locking into place (Fig. 3).

CAUTION: Do not squeeze the plastic tool handles while the tool tips are inside the connector, Spreading, angling, or rotating the tips can damage them and the connector.

5. Withdraw the tool completely from the connector by sliding it back along the wire insulation. Remove tool and apply a gentle pull on the wire to confirm that the contact is properly locked into place.

6. Install all other wired contacts in the same manner. Unused holes must be filled with an unwired contact followed by a sealing plug.

7. Reassemble grommet nut or outlet.

Fig. 1

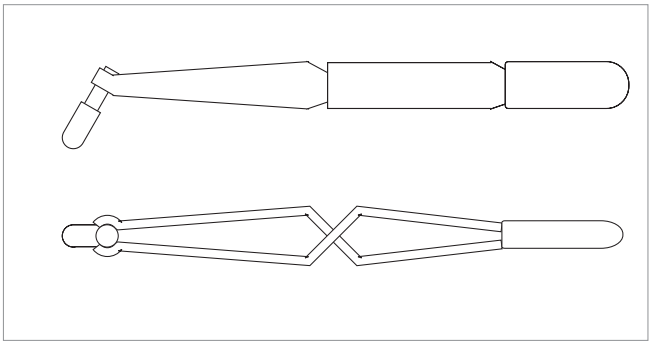


Fig. 2

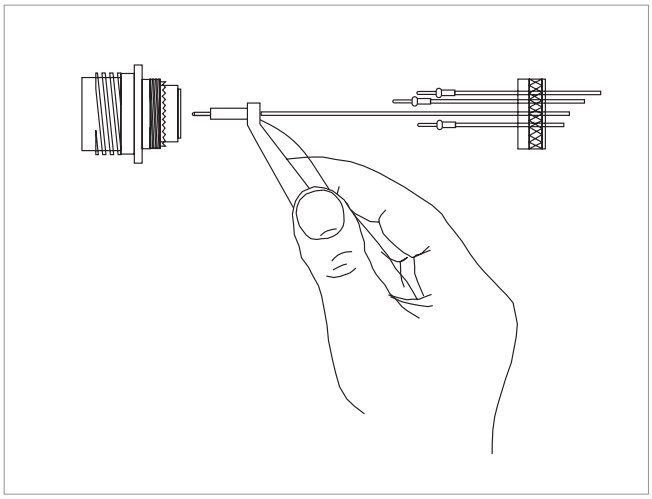
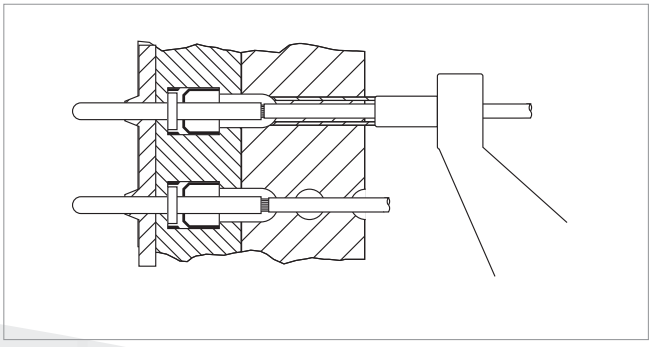


Fig. 3



MIL-DTL-38999
contact extraction

Tool Description

AB Connectors Extraction tools (Fig. 1a) are designed to extract pin and socket contacts from the MIL-DTL-38999 contact retention system. Extraction of contacts is accomplished by releasing the locking tabs of the contact retaining spring.

Preparation for Extraction

1. Disassemble grommet nut or outlet from the connector, allowing it to hang on the wire bundle.

2. Insert the wire of the contact to be extracted between the tool tips (Fig 2a)

Extraction Procedure

3. Slide the tool tips down the wire insulation into the rubber sealing grommet and hard dielectric insert body until they stop against the contact shoulder (Fig. 3a). If tips catch on the wire barrel and will not enter to full depth, remove tool completely and open and close handles to realign tips.

CAUTION: Do not squeeze the plastic tool handles while the tool tips are inside the connector. Spreading, angling, or rotating the tips can damage them and the connector.

4. With the tool tips firmly butted against the contact shoulder, grip the wire insulation against the serrated tool surface without permitting any slack, and exert a light pull on the tool and wire to extract the contact (Fig. 4a). Do not increase pull if contact does not slide out easily - tool tips were not butted properly and excessive tension will damage the contact retaining spring. Remove tool completely and repeat extraction procedure.

5. If wired contact is not replaced, fill unused holes with an unwired contact followed by a sealing plug.

6. Reassemble grommet nut or outlet.

Fig. 1a

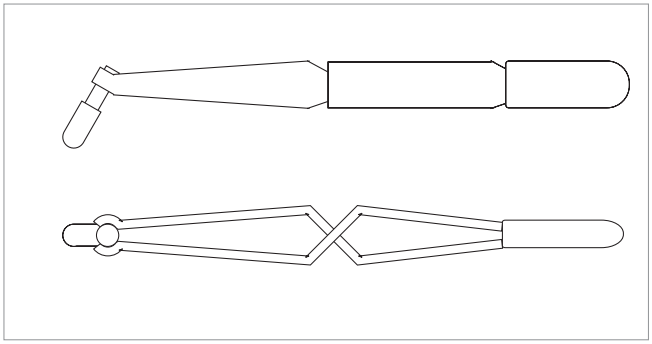


Fig. 2a

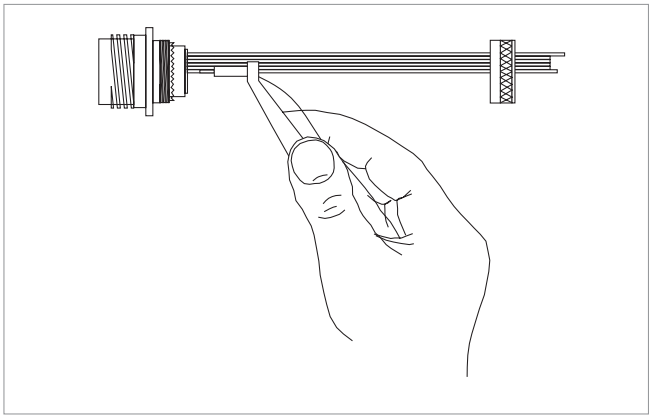


Fig. 3a

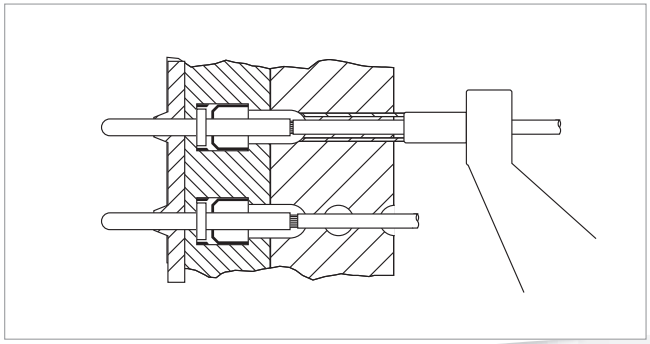
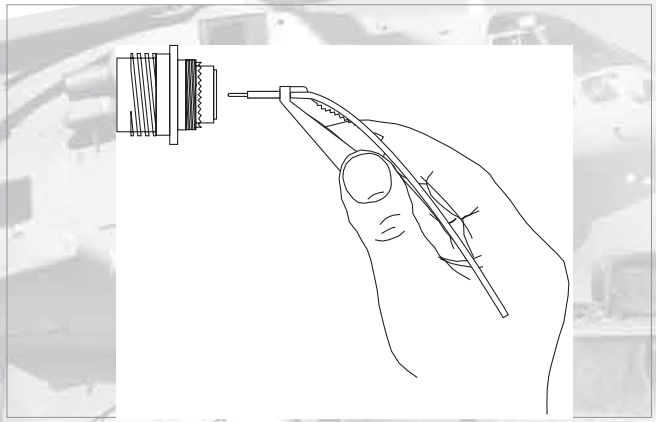


Fig. 4a



MIL-DTL-38999
safety information

This information is to be used in conjunction with the Product Catalogue and Product Specification. Products may be safely used in the applications for which they have been designed and within the specified ratings and environments. If products are exposed to conditions outside the performance ratings or specified environments they may constitute a hazard. In particular it should be noted that:-

1. Material Content of Products.

Circular Connectors generally use metalwork parts made of copper, copper alloy, aluminium alloy, aluminium-bronze, phosphor-bronze or steel, which, dependant on the particular application, may be passivated and protected with cadmium or zinc plate – in conjunction with chromated or anodised surface finishes. The insulating materials can be either natural or synthetic rubber, together with plastic or glass filled plastic moulded parts. Contact materials vary with product type but are usually made of copper, copper alloy, nickel, phosphor-bronze, alumel, chromel or steel.

2. Electric Shock, Burns and Fire.

Hazard can occur if the product is used outside the specified parameters or if the product is damaged, wrongly wired or poorly assembled, or poorly integrated into larger equipment, or contaminated with conductive fluids. Live circuit terminations must be protected and live circuits never broken by demating products.

Hotspots may be created when resistance is increased due to damage or incorrect integration particularly soldering, crimping or loose terminations. Overheating can cause breakdown of insulation, electric shot, burns or, ultimately, fire. In the event of fire noxious and/or toxic fumes may be released and, in these circumstances, any fire involving the product should be dealt with by personnel properly equipped.

Connector products with exposed terminators or contacts should not be used on the current supply side of a circuit with exposed contacts on an unmated product. Before making a circuit live, the product and wiring should be checked to ensure that there is no damage and no electrically conducting debris present. Circuit resistance checks should also be conducted before making the circuit live. Always ensure that the correct tools, (specified by AB Connectors Ltd.) are employed for crimping and assembly and that connectors are assembled and wired by properly trained personnel.

3. Disposal of Products.

Products should not be burnt.

4. Use Transport and Storage of Products.

Care must be exercised to avoid damage to any part of the products during transporting, storage or use. The products, as manufactured, are free of sharp edges. Abnormal transit or storage conditions and abuse during installation can give rise to damage. Products should not be used in a damaged condition. Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion. Your attention is specifically drawn to the need of proper storage of products containing cadmium and you are advised to see the Guidance Note from the Health and Safety Executive on Cadmium - Health and Safety Precautions.

Safety Rules

1. Ensure all conductor wires are capable of withstanding the electrical and environmental conditions of the application.
2. Always use the correct assembly tools for cables, contacts and connectors.
3. Make circuit resistance checks before making a circuit live.
4. Always protect live circuits and never demate a live connector.
5. Never use a damaged connector.
6. Never burn discarded connectors or cable.
7. IF IN DOUBT, ASK.

N. B. Additional information on the products and the materials used in them may be obtained from the Sales Department of AB Connectors Ltd.

Shelf life for rubber components

AB Connectors incorporate a number of rubber components within their connectors. Most rubbers change in physical properties during storage e.g. excessive hardening, softening, cracking or other surface degradation. These changes may be the result of particular factors or a combination of factors such as light, heat, humidity, oils or solvents.

With a few simple precautions the shelf life may be considerably lengthened.

The storage temperature should be between +5 and +25 degrees C. Direct contact with sources of heat such as boilers, radiators and direct sunlight should be avoided. It is advisable to cover any windows of storage rooms with a red or orange coating or screen. The relative humidity in the storeroom should be below 70%. Very moist or very dry conditions should be avoided. Condensation should not occur.

If the above recommendations are adhered to, then AB Connectors would warrant a shelf life of four years for its products.

N. B. The company reserves the right and may change or vary specification without prior written notice.

Notes:

Global Presence

The world's demand for electronics is increasing as new technologies, with a higher dependence on complex components, are being adopted by a broader customer base. This growth provides TT electronics an assured future as we focus on efforts to deliver excellence in customer service and quality products to these markets. From our strong UK base, the company has achieved truly global reach. We have established technical and manufacturing facilities in strategic countries maintaining the successful formula of close liaison with our customers in all major overseas markets.

In addition, through strategic relationships with Original Equipment Manufacturers around the world, we are now in the enviable position where we gain double benefit - from growth in their markets and from the increase in the electronic content of end products.

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TT electronics

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