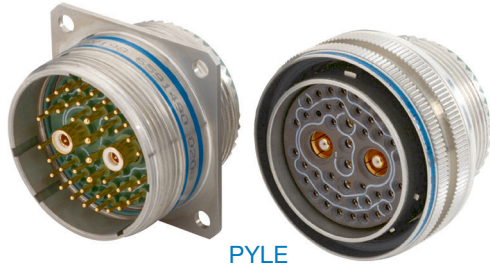


# MIL-DTL-83723, Series III

MATRIX AND PYLE MILITARY AND COMMERCIAL CONNECTORS



MATRIX  
MIL-DTL-83723



PYLE  
MIL-DTL-83723

# A



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# MIL-DTL-83723, Series III, Matrix®

## With a Wide Variety of Coupling Styles & Options

AMPHENOL AEROSPACE OFFERS THE MATRIX® PRODUCT LINE OF MIL-DTL-83723\*, SERIES III CONNECTORS.

### MIL-DTL-83723, SERIES III CONNECTORS WITH BAYONET COUPLING



M83723/71 & 72  
wall mounting  
receptacle



M83723/73 & 74  
jam nut  
receptacle



M83723/75 & 76  
straight plug

M83723/77 & 78  
straight plug,  
RFI grounding

- Quick positive coupling assured by 3 point bayonet coupling system; visual confirmation of complete coupling
- Five key/keyway design eliminates mismatching
- Shell sizes 8 – 24
- Intermateable with most MIL-DTL-26500 bayonet coupling connectors

### MIL-DTL-83723, SERIES III CONNECTORS WITH THREADED COUPLING



M83723/82 & 83  
wall mounting  
receptacle



M83723/84 &  
85 jam nut  
receptacle



M83723/86 & 87  
straight plug



M83723/91 & 92  
straight plug,  
RFI grounding



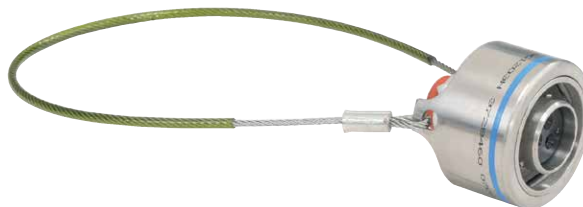
M83723/95 &  
96 straight plug,  
self-locking

- Threaded coupling offers greater resistance to decoupling with a visual full mating indicator band on the shell
- Shell sizes 8 – 28
- Intermateable with most MIL-DTL-26500 threaded coupling connectors

### MIL-DTL-83723, SERIES III CONNECTORS WITH QUICK DISCONNECT COUPLING

M83723/66 & 67 quick  
disconnect plug

M83723/68 & 69 quick  
disconnect plug with lanyard



- Push-Pull, quick disconnect coupling is available in a straight plug that can be ordered with or without a lanyard release mechanism

This series provides many choices within the range of a medium sized, environmentally resistant circular connector. With three coupling style choices - bayonet, threaded and quick-disconnect - the versatility of this family makes it increasingly popular for panel mount, box mount and line-to-line applications in aircraft. For general duty environmentally resistant requirements, this family of connectors provides a wide range of interconnection solutions.

### DESIGN CHARACTERISTICS

- Recommended operating voltage to 600 VAC (RMS) at sea level
- Complete environmental sealing includes individual contact seals and a silicone elastomer interfacial seal with raised barriers around each pin, a shell-to-shell seal and an insert-to-shell seal. Sealing over a wide range of wire diameters is assured by a triple-webbed grommet design
- Captive coupling nut prevents tampering, while a reduced coupling ring ramp allows easier mating
- Incorporates crimp rear release contacts in sizes 12, 16 and 20; contact arrangements accept 2 to 61 circuits
- Contacts conform to SAE AS39029\*\* and use standard qualified rear-release type plastic tools
- Insertion and removal of contacts from the rear of the connector assures no damage to the front that might affect the sealing characteristics
- Grommets are constructed of tear-resistant elastomer and experience no degradation when exposed to a broad range of fluids
- Closed entry socket side of the insert is designed with a lead-in chamfer and a hard face that will accept a pin contact bent within pre-established limits
- MS and Commercial versions available
- Alternate positioning available
- Aluminum shells with black anodized, cadmium or electroless nickel finish options; passivated stainless steel shells are also available

\*\*SAE AS39029 supersedes MIL-DTL-39029

\* MIL-DTL-83723 supersedes MIL-C-83723. Pyle-National Series of MIL-DTL-83723 is also offered by Amphenol.; see 83723 Pyle section of this catalog.

## Class Descriptions, Performance Specifications, Quick Reference Chart

### CLASS DESCRIPTIONS

Military MIL-DTL-83723, Series III	Commercial MB Series	Connector Style	Description
Class A	Class A	Bayonet, threaded or quick-disconnect	Aluminum shell, black non-conductive anodize finish, fluid resistant
Class R	Class R	Bayonet, threaded or quick-disconnect	Aluminum shell, electroless nickel finish, fluid resistant
Class G	Class G	Bayonet, threaded or quick-disconnect	Stainless steel shell, passivated, fluid resistant
Class W	Class W	Bayonet, threaded or quick-disconnect	Aluminum shell, cadmium olive drab finish, corrosion/fluid resistant

For Classes K, S and N see the Amphenol/Pyle high temperature versions of MIL-DTL-83723, Series III in the 83723 Pyle section of this catalog.

The following is a quick reference chart for use in determining either the military designation or the commercial Amphenol®/Matrix® designation number of MIL-DTL-83723 connectors. See also the how to order pages for complete part number breakdowns.

Connector Style	Military Designation	Commercial Designation	Contact Type
<b>BAYONET COUPLING</b>			
Square flange wall mount receptacle	M83723/71	MB30( )S	Socket
Square flange wall mount receptacle	M83723/72	MB30( )P	Pin
Single hole mount jam nut receptacle	M83723/73	MB34( )S	Socket
Single hole mount jam nut receptacle	M83723/74	MB34( )P	Pin
Standard straight plug	M83723/75	MB36( )S	Socket
Standard straight plug	M83723/76	MB36( )P	Pin
Straight plug with RFI grounding fingers	M83723/77	MB38( )S	Socket
Straight plug with RFI grounding fingers	M83723/78	MB38( )P	Pin
<b>THREADED COUPLING</b>			
Square flange wall mount receptacle	M83723/82	MT30( )S	Socket
Square flange wall mount receptacle	M83723/83	MT30( )P	Pin
Single hole mount jam nut receptacle	M83723/84	MT34( )S	Socket
Single hole mount jam nut receptacle	M83723/85	MT34( )P	Pin
Standard straight plug	M83723/86	MT36( )S	Socket
Standard straight plug	M83723/87	MT36( )P	Pin
Straight plug with RFI grounding fingers	M83723/91	MT38( )S	Socket
Straight plug with RFI grounding fingers	M83723/92	MT38( )P	Pin
Straight plug with self-locking clutch plate	M83723/95	MT37( )S	Socket
Straight plug with self-locking clutch plate	M83723/96	MT37( )P	Pin
<b>QUICK-DISCONNECT PUSH-PULL COUPLING</b>			
Straight plug without lanyard	M83723/66	MQ36( )P	Pin
Straight plug without lanyard	M83723/67	MQ36( )S	Socket
Straight plug with lanyard	M83723/68	MQ35( )P	Pin
Straight plug with lanyard	M83723/69	MQ35( )S	Socket

### PERFORMANCE SPECIFICATIONS

SERVICE RATINGS					
Service Rating	Recommended Operating AC Voltage at Sea Level	Test Voltage AC (RMS), 60 cps			
		Sea Level	50,000 ft.	70,000 ft.	110,000 ft.
I	600	1,500	500	375	200

Please note that the electrical data given is not an establishment of electrical safety factors. This is left entirely in the designer's hands as he can best determine which peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

### OPERATING TEMPERATURE RANGE

Classes A, G and R: -65°C (-85°F) to 200°C (392°F)  
Class W: -65°C to 175°C

### ENVIRONMENTAL SEAL

Wired, mated connectors with the specified accessory attached will meet the altitude immersion test specified in MIL-DTL-83723.

### DURABILITY

Minimum of 500 mating cycles.

### SHOCK AND VIBRATION REQUIREMENTS

Wired, mated connectors shall not be damaged, nor shall there be a current interruption longer than one microsecond when subjected to the following:

**SHOCK:** One shock in each of the three major axes, having a 100g peak for a six millisecond duration (half-sine pulse).

**VIBRATION:** Twelve hours of random vibration having a range of 10 to 2,000 Hz with a .06 inch double amplitude (10-55 Hz) and a 20g peak level (55-2,000 Hz).



# MIL-DTL-83723, Series III, Matrix®

## Insert Availability and Identification, Alternate Rotations

### INSERT ARRANGEMENTS

Shell Size/ Insert Arrangement	Service Rating	Total Contacts	Contact Size		
			12	16	20
0803	I	3			3
0898	I	3			3
1002	I	2			2
1005	I	5			5
1006	I	6			6
1020	I	2		2	
1203	I	3		3	
1212	I	12			12
1404	I	4	4		
1407	I	7		7	
1412	I	12		3	9
1415	I	15			15
1610	I	10		10	
1624	I	24			24
1808	I	8	8		
1814	I	14		14	
1831	I	31			31
2016	I	16		16	
2025	I	25	6		19
2028	I	28	4		24
2039	I	39		2	37
2041	I	41			41
2212	I	12	12		
2219	I	19		19	
2232	I	32	6		26
2239*	I	39		12	27
2255	I	55			55
2429†		29		29	
2430†		30		30	
2443	I	43		20	23
2457	I	57	2		55
2461	I	61			61
2841†		41		41	
2842†		42		42	

† Not an MS layout. Connectors with these insert arrangements should be ordered by commercial part number only.

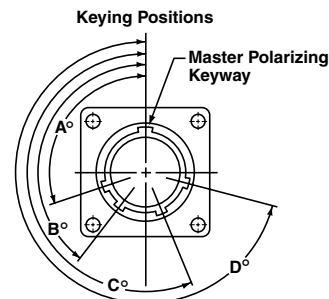
Shell size 28 is available in threaded coupling connectors only.

\* Consult Amphenol Aerospace for availability of arrangement 22-39.

See how to order for bayonet type connectors on page 7, how to order for threaded on page 10, and how to order for quick-disconnect type connectors on page 14. Insert arrangements are per MIL-STD-1554.

### ALTERNATE KEYING POSITIONS

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available as indicated in the chart below. The diagram shows the engaging view of a receptacle shell with keyways. Plug shells would be the opposite of this diagram. In the "alternate keying positions" (positions 6, 7, 8, 9 and Y), the minor keys/keyways are positioned with reference to master key/keyway as indicated in the keying position table.



Shown is Engaging Face View of Receptacle Shell with Keyways (Plug Shell Keys would be Opposite)

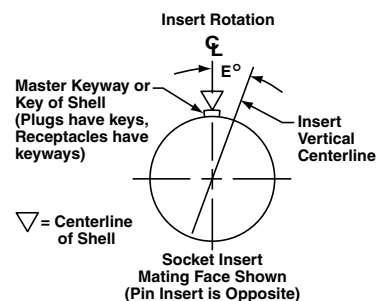
### ALTERNATE KEYING POSITIONS OF SHELL

Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
8 thru 24	N	105	140	215	265
	6	102	132	248	320
8 & 10	7	80	118	230	312
	8	35	140	205	275
	9	64	155	234	304
10 only	Y*	25	115	220	270
	6	18	149	192	259
12, 14, 16, 18, 20, 22, 24 and 28	7	92	152	222	342
	8	84	152	204	334
	9	24	135	199	240
	Y*	98	152	268	338

\* Position Y supersedes inactive positions 10 and Z designations. Ref. MIL-STD-1554.

### ALTERNATE ROTATIONS (ROTATION OF INSERT)

Alternate positioning is also available with the rotation of the insert. The diagram shows the pin insert mating face. The center-line of the shell in the normal insert position (position N) coincides with the center-line of the master key/keyway in the shell. In alternate rotations, (positions 1, 2, 3, 4 and 5), the insert rotates relative to the center-line of the key/keyway of the shell. See E° call out on diagram and the table. The socket insert is rotated clockwise, and the pin insert is rotated counter-clockwise.



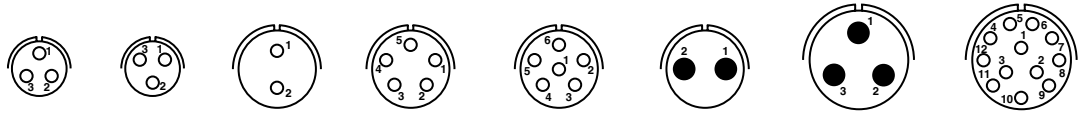
### ALTERNATE ROTATIONS OF INSERT

Shell Size	Polarizing Position	Insert Position E°
8 & 10	N	0
	1	10
	2	20
	3	30
	4	40
12, 14, 16, 18, 20, 22, 24 and 28	5	50
	N	0
	1	10
	2	20
	3	30
	4	40
	5	50

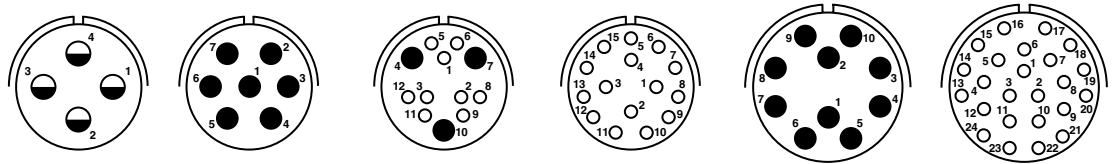
Note: Positions 1-5 are inactive for new designs per MIL-STD-1554.

## Insert Arrangements

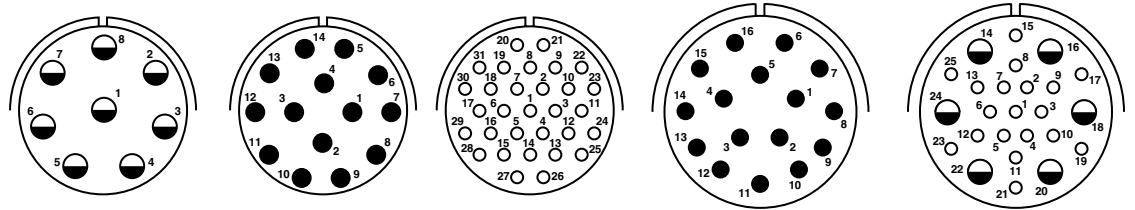
Front Face of Pin Insert or Rear Face of Socket Insert Illustrated



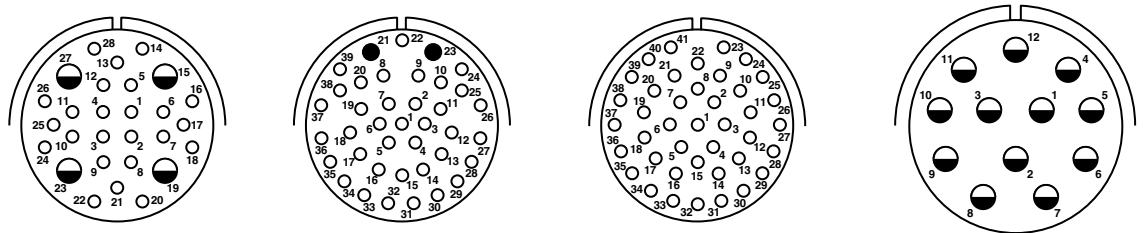
Insert Arrangement	0803	0898	1002	1005	1006	1020	1203	1212
Service Rating	I	I	I	I	I	I	I	I
Number of Contacts	3	3	2	5	6	2	3	12
Contact Size	20	20	20	20	20	16	16	20



Insert Arrangement	1404	1407	1412	1415	1610	1624	
Service Rating	I	I	I	I	I	I	
Number of Contacts	4	7	9	3	15	10	24
Contact Size	12	16	20	16	20	16	20



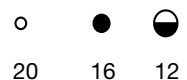
Insert Arrangement	1808	1814	1831	2016	2025	
Service Rating	I	I	I	I	I	
Number of Contacts	8	14	31	16	19	6
Contact Size	12	16	20	16	20	12



Insert Arrangement	2028	2039	2041	2212		
Service Rating	I	I	I	I		
Number of Contacts	24	4	37	2	41	12
Contact Size	20	12	20	16	20	12

NOTE: Connectors sold as mil-spec connectors will have mil-spec markings on the insert (a "snail-trail" designating the numerical path). Commercial versions will have insert markings as shown here.

CONTACT LEGEND



83723 III

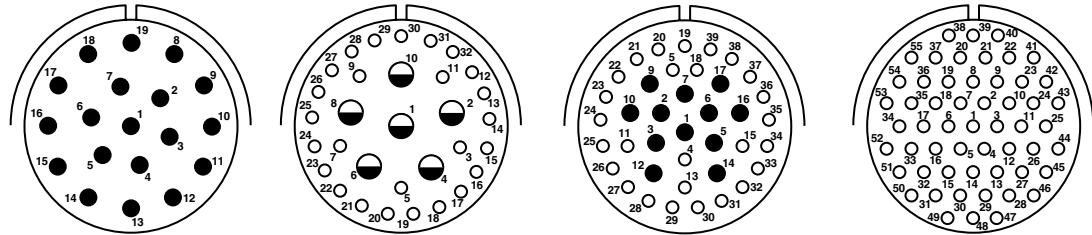
Matrix

A

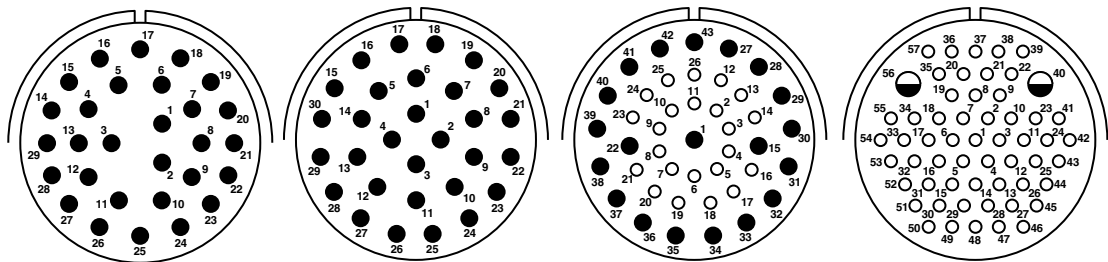
# MIL-DTL-83723, Series III, Matrix®

## Insert Arrangements

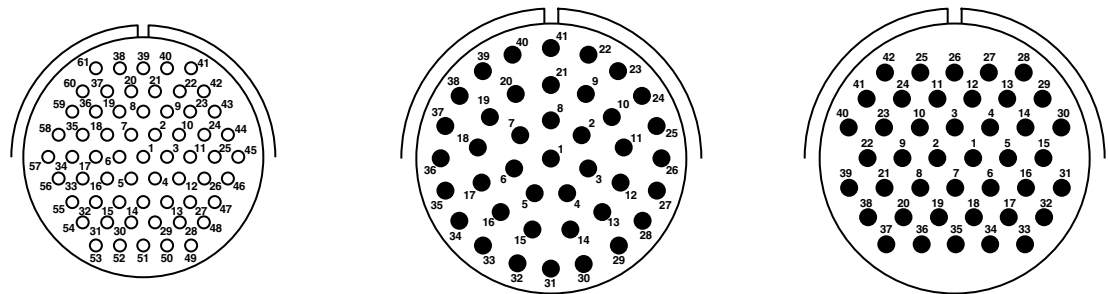
Front Face of Pin Insert or Rear Face of Socket Insert Illustrated



Insert Arrangement	2219	2232	2239*	2255
Service Rating	I	I	I	I
Number of Contacts	19	26 6	27 12	55
Contact Size	16	20 12	20 16	20



Insert Arrangement	2429†	2430†	2443	2457
Service Rating			I	I
Number of Contacts	29	30	23 20	55 2
Contact Size	16	16	20 16	20 12



Insert Arrangement	2461	2841†	2842†
Service Rating	I		
Number of Contacts	61	41	42
Contact Size	20	16	16

†Not a MS layout.

Connectors with these insert arrangements can be ordered by commercial part number only.

Shell size 28 is available in threaded coupling connectors only.

\* Consult Amphenol Aerospace for availability of arrangement 22-39.

See how to order for bayonet type connectors on page 7, how to order for threaded on page 10, and how to order for quick-disconnect type connectors on page 14.

NOTE: Connectors sold as mil-spec connectors will have mil-spec markings on the insert (a "snail-trail" designating the numerical path). Commercial versions will have insert markings as shown here.

CONTACT LEGEND



## How to Order – Bayonet Coupling Connectors

	1.	2.	3.	4.	5.
	Connector Type	Connector Style (Bayonet) and Contact Type	Service Class	Shell Size/ Insert Arrangement	Alternate Keying Position of Shell or Alternate Rotation of Insert
<b>MILITARY</b>	<b>M83723</b>	<b>/74</b>	<b>R</b>	<b>1203</b>	<b>7</b>

	1.	2.	3.	4.	5.	6.	7.
	Connector Type (Bayonet)	Connector Style	Service Class	Shell Size/ Insert Arrangement	Contact Type	Alternate Keying Position of Shell or Alternate Rotation of Insert	Modification Number
<b>COMMERCIAL</b>	<b>MB</b>	<b>34</b>	<b>R-</b>	<b>1203</b>	<b>P</b>	<b>7</b>	<b>XXX</b>

### M83723 1. MILITARY MIL-DTL-83723 SERIES III CONNECTORS

(Refer to military specification slash sheet number.) Bayonet coupling connectors are designated by numbers /71 -/78 as follows:

#### 2. CONNECTOR STYLE

<b>/71</b>	Wall mount receptacle with socket contacts
<b>/72</b>	Wall mount receptacle with pin contacts
<b>/73</b>	Jam nut receptacle with socket contacts
<b>/74</b>	Jam nut receptacle with pin contacts
<b>/75</b>	Standard straight plug with socket contacts
<b>/76</b>	Standard straight plug with pin contacts
<b>/77</b>	Straight plug with RFI grounding, socket contacts
<b>/78</b>	Straight plug with RFI grounding, pin contacts

#### 3. SERVICE CLASS

<b>A</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W</b>	Aluminum shell, olive drab cadmium plated, fluid resistant insert

Note: Consult Amphenol Aerospace for hermetic classes H and Y availability.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 4-6

First number represents Shell Size, second number is the Insert Arrangement.

#### 5. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 4 for descriptions.

**OR**

#### 5. ALTERNATE ROTATION OF INSERT

Use N for normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 4 for descriptions.

### MB 1. COMMERCIAL BAYONET COUPLING CONNECTORS

#### 2. CONNECTOR STYLE

<b>30</b>	Wall mount receptacle
<b>34</b>	Jam nut receptacle
<b>36</b>	Standard straight plug
<b>38</b>	Straight plug with RFI grounding fingers

#### 3. SERVICE CLASS

<b>A-</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R-</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G-</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W-</b>	Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert

Note: Consult Amphenol Aerospace for hermetic classes H and Y availability.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PAGE 4-6

First number represents Shell Size, second number is the Insert Arrangement.

#### 5. CONTACT TYPE

<b>P</b>	Pin contacts
<b>S</b>	Socket contacts

#### 6. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position). See page 4 for descriptions.

**OR**

#### 6. ALTERNATE ROTATION OF INSERT

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position). See page 4 for descriptions.

#### 7. MODIFICATION NUMBER

Consult Amphenol Aerospace for information.

For ordering information on accessories, such as protection caps and backshell hardware, contact Amphenol Aerospace.



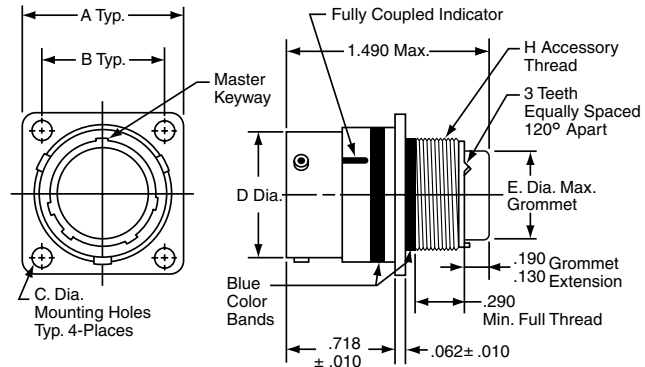
# Wall Mounting Receptacle with Bayonet Coupling

## Military (M83723/71 & /72), Commercial (MB30)

PART NUMBER BUILDER Page 7

**MILITARY**  
M83723/71 Socket  
M83723/72 Pin

Commercial **MB30**



Shell Size	A ±.005	B ±.005	C Dia. ±.005	D Dia.	E Dia.	H Accessory Thread Class 2A
8	.812	.594	.120	.536/.531	.305	.5000-20 UNF
10	.937	.719	.120	.659/.654	.405	.6250-24 UNEF
12	1.031	.812	.120	.829/.824	.531	.7500-20 UNEF
14	1.125	.906	.120	.898/.893	.665	.8750-20 UNEF
16	1.250	.969	.120	1.025/1.020	.790	1.0000-20 UNEF
18	1.343	1.062	.120	1.131/1.126	.869	1.0625-18 UNEF
20	1.437	1.156	.120	1.256/1.251	.994	1.1875-18 UNEF
22	1.562	1.250	.120	1.381/1.376	1.119	1.3125-18 UNEF
24	1.703	1.375	.149	1.506/1.501	1.244	1.4375-18 UNEF

All dimensions for reference only.

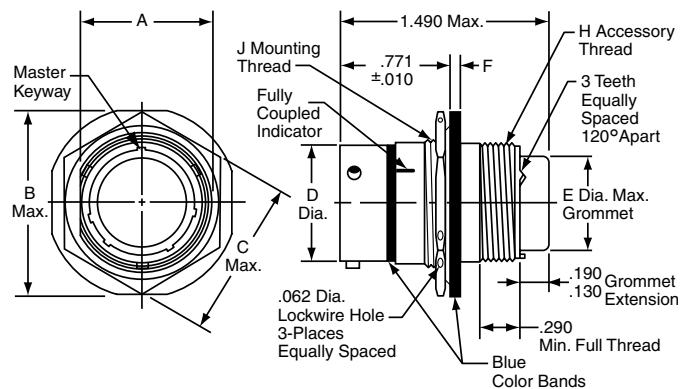
# Jam Nut Receptacle with Bayonet Coupling

## Military (M83723/73 & /74), Commercial (MB34)

PART NUMBER BUILDER Page 7

**MILITARY**  
M83723/73 Socket  
M83723/74 Pin

Commercial **MB34**



Shell Size	A	B Max.	C Max.	D Dia.	E Dia. Max.	F	H Accessory Thread Class 2A	J Mounting Thread Class 2A
8	.596/.590	.979	.829	.536/.531	.305	.137/.097	.5000-20 UNF	.6250-20 UN
10	.721/.715	1.104	.954	.659/.654	.405	.137/.097	.6250-24 UNEF	.7500-20 UNEF
12	.908/.902	1.291	1.142	.829/.824	.531	.113/.097	.7500-20 UNEF	.9375-20 UNEF
14	.971/.965	1.391	1.205	.898/.893	.665	.137/.097	.8750-20 UNEF	1.0000-20 UNEF
16	1.096/1.090	1.516	1.329	1.025/1.020	.790	.137/.097	1.0000-20 UNEF	1.1250-20 UN
18	1.220/1.214	1.641	1.455	1.131/1.126	.869	.137/.097	1.0625-18 UNEF	1.2500-18 UNEF
20	1.345/1.339	1.766	1.579	1.256/1.251	.994	.137/.097	1.1875-18 UNEF	1.3750-18 UNEF
22	1.470/1.464	1.954	1.705	1.381/1.376	1.119	.169/.128	1.3125-18 UNEF	1.5000-20 UNEF
24	1.595/1.589	2.079	1.829	1.506/1.501	1.244	.168/.128	1.4375-18 UNEF	1.6250-18 UNEF

All dimensions for reference only.

83723 III

Matrix

A

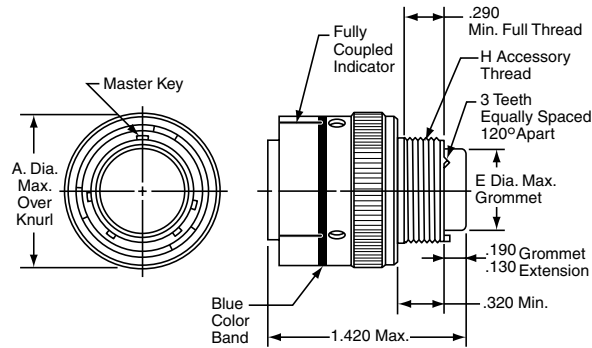
# Straight Plug with Bayonet Coupling

## Military (M83723/75 & /76), Commercial (MB36)

### PART NUMBER BUILDER Page 7

**MILITARY**  
**M83723/75 Socket**  
**M83723/76 Pin**

**Commercial** **MB36**



Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A
8	.776	.305	.5000-20 UNF
10	.906	.405	.6250-24 UNEF
12	1.078	.531	.7500-20 UNEF
14	1.141	.665	.8750-20 UNEF
16	1.266	.790	1.0000-20 UNEF
18	1.375	.869	1.0625-18 UNEF
20	1.510	.994	1.1875-18 UNEF
22	1.625	1.119	1.3125-18 UNEF
24	1.760	1.244	1.4375-18 UNEF

All dimensions for reference only.

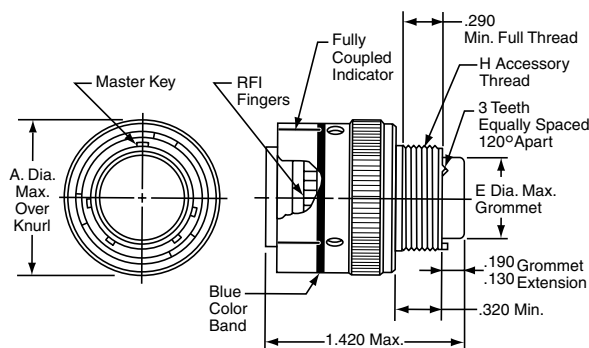
# Straight Plug, Bayonet Coupling (with RFI grounding fingers)

## Military (M83723/77 & /78), Commercial (MB38)

### PART NUMBER BUILDER Page 7

**MILITARY**  
**M83723/77 Socket**  
**M83723/78 Pin**

**Commercial** **MB38**



Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A
8	.776	.305	.5000-20 UNF
10	.906	.405	.6250-24 UNEF
12	1.078	.531	.7500-20 UNEF
14	1.141	.665	.8750-20 UNEF
16	1.266	.790	1.0000-20 UNEF
18	1.375	.869	1.0625-18 UNEF
20	1.510	.994	1.1875-18 UNEF
22	1.625	1.119	1.3125-18 UNEF
24	1.760	1.244	1.4375-18 UNEF

All dimensions for reference only.

83723 III

**Matrix**

**A**

# MIL-DTL-83723, Series III, Matrix®

## How to Order – Threaded Coupling Connectors

	1.	2.	3.	4.	5.
	Connector Type	Connector Style (Threaded) and Contact Type	Service Class	Shell Size/ Insert Arrangement	Alternate Keying Position of Shell or Alternate Rotation of Insert
<b>MILITARY</b>	<b>M83723</b>	<b>/84</b>	<b>R</b>	<b>0803</b>	<b>N</b>

	1.	2.	3.	4.	5.	6.	7.
	Connector Type (Threaded)	Connector Style	Service Class	Shell Size/ Insert Arrangement	Contact Type	Alternate Keying Position of Shell or Alternate Rotation of Insert	Modification Number
<b>COMMERCIAL</b>	<b>MT</b>	<b>34</b>	<b>R-</b>	<b>0803</b>	<b>P</b>	<b>7</b>	<b>XXX</b>

**M83723**

### 1. MILITARY MIL-DTL-83723 SERIES III CONNECTORS

(Refer to military specification slash sheet number).

#### 2. CONNECTOR STYLE

<b>/82</b>	Wall mount receptacle with socket contacts
<b>/83</b>	Wall mount receptacle with pin contacts
<b>/84</b>	Jam nut receptacle with socket contacts
<b>/85</b>	Jam nut receptacle with pin contacts
<b>/86</b>	Standard straight plug with socket contacts
<b>/87</b>	Standard straight plug with pin contacts
<b>/91</b>	Straight plug with RFI grounding, socket contacts
<b>/92</b>	Straight plug with RFI grounding, pin contacts
<b>/95</b>	Straight plug with self-locking clutch plate, socket contacts
<b>/96</b>	Straight plug with self-locking clutch plate, pin contacts

#### 3. SERVICE CLASS

<b>A</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W</b>	Aluminum shell, olive drab cadmium plated, fluid resistant insert

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 4-6

First number represents Shell Size, second number is the Insert Arrangement. (Note that shell size 28 is not an MS connector, and should be ordered by commercial number.)

#### 5. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 4 for descriptions.

**OR**

#### 5. ALTERNATE ROTATION OF INSERT

Use N for Normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 4 for descriptions.

For ordering information on accessories, such as protection caps and backshell hardware, contact Amphenol Aerospace.

**MT**

### 1. COMMERCIAL THREADED COUPLING CONNECTORS

#### 2. CONNECTOR STYLE

<b>30</b>	Wall mount receptacle
<b>34</b>	Jam nut receptacle
<b>36</b>	Standard straight plug
<b>38</b>	Straight plug with RFI grounding fingers
<b>37</b>	Straight plug with self-locking clutch plate

#### 3. SERVICE CLASS

<b>A-</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R-</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G-</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W-</b>	Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 4-6

First number represents Shell Size, second number is the Insert Arrangement.

#### 5. CONTACT TYPE

<b>P</b>	Pin contacts
<b>S</b>	Socket contacts

#### 6. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position). See page 4 for descriptions.

**OR**

#### 6. ALTERNATE ROTATION OF INSERT

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position). See page 4 for descriptions.

#### 7. MODIFICATION NUMBER

Consult Amphenol Aerospace for information.

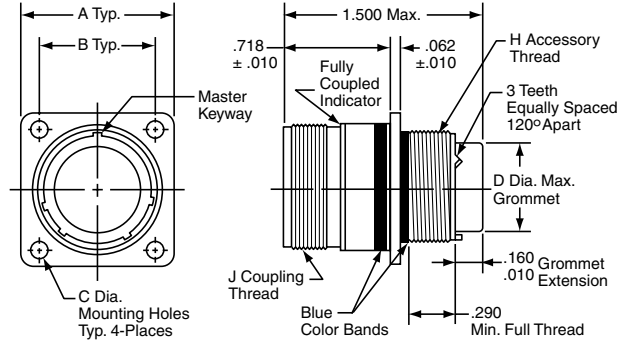
# Wall Mounting Receptacle with Threaded Coupling

## Military (M83723/82 & /83), Commercial (MT30)

PART NUMBER BUILDER Page 10

**MILITARY**  
M83723/82 Socket  
M83723/83 Pin

Commercial **MT30**



Shell Size	A ±.005	B ±.005	C Dia.	D Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2A
8	.812	.594	.125/.116	.305	.5000-20 UNEF	.5625-24 UNEF
10	.937	.719	.125/.116	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.031	.812	.125/.116	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.125	.906	.125/.116	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.250	.969	.125/.116	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	1.343	1.062	.125/.116	.869	1.0625-18 UNEF	1.1875-18 UNEF
20	1.437	1.156	.125/.116	.994	1.1875-18 UNEF	1.3125-18 UNEF
22	1.562	1.250	.125/.116	1.119	1.3125-18 UNEF	1.4375-18 UNEF
24	1.703	1.375	.154/.145	1.244	1.4375-18 UNEF	1.5625-18 UNEF
28*	2.000	1.562	.154/.145	1.465	1.7500-18 UNS	1.8125-16 UN

\* Shell size 28 is not a MS connector; order by commercial part number.

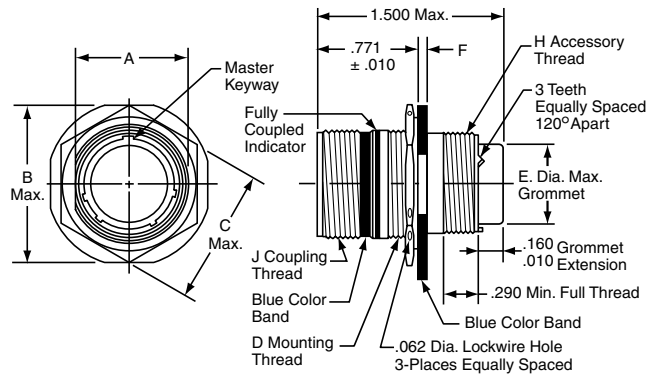
All dimensions for reference only.

## Jam Nut Receptacle with Threaded Coupling Military (M83723/84 & /85), Commercial (MT34)

PART NUMBER BUILDER Page 10

**MILITARY**  
M83723/84 Socket  
M83723/85 Pin

Commercial **MT34**



Shell Size	A ±.003	B Max.	C Max.	D Mounting Thread	E Dia. Max.	F	H Accessory Thread Class 2A	J Coupling Thread Class 2A
8	.593	.980	.828	.6250-20 UN	.305	.137/.097	.5000-20 UNEF	.5625-24 UNEF
10	.718	1.104	.953	.7500-20 UNEF	.405	.137/.097	.6250-24 UNEF	.6875-24 UNEF
12	.905	1.291	1.140	.9375-20 UNEF	.531	.137/.097	.7500-20 UNEF	.8750-20 UNEF
14	.968	1.391	1.250	1.0000-20 UNEF	.665	.137/.097	.8750-20 UNEF	.9375-20 UNEF
16	1.093	1.516	1.329	1.1250-18 UNEF	.790	.137/.097	1.0000-20 UNEF	1.0625-18 UNEF
18	1.217	1.641	1.455	1.2500-18 UNEF	.869	.137/.097	1.0625-18 UNEF	1.1875-18 UNEF
20	1.342	1.766	1.642	1.3750-18 UNEF	.994	.137/.097	1.1875-18 UNEF	1.3125-18 UNEF
22	1.467	1.954	1.705	1.5000-18 UNEF	1.119	.148/.128	1.3125-18 UNEF	1.4375-18 UNEF
24	1.592	2.079	1.892	1.6250-18 UNEF	1.244	.148/.128	1.4375-18 UNEF	1.5625-18 UNEF
28*	1.840	2.330	2.145	1.8750-20 UN	1.465	.148/.128	1.7500-18 UNS	1.8125-16 UN

\* Shell size 28 is not a MS connector; order by commercial part number.

All dimensions for reference only.

83723 III

Matrix

A

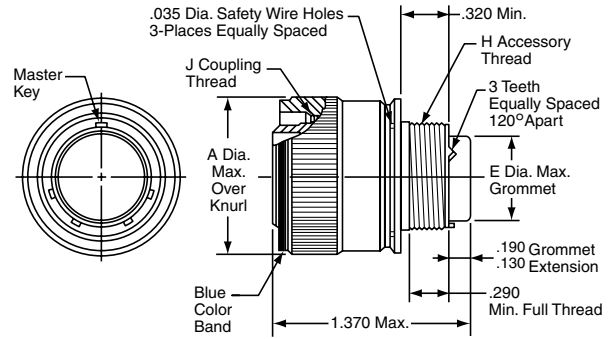
# Straight Plug with Threaded Coupling

## Military (M83723/86 & /87), Commercial (MT36)

PART NUMBER BUILDER Page 10

**MILITARY**  
M83723/86 Socket  
M83723/87 Pin

Commercial **MT36**



Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.756	.305	.5000-20 UNF	.5625-24 UNEF
10	.906	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.078	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.141	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.266	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	1.375	.869	1.0625-18 UNEF	1.1875-18 UNEF
20	1.510	.994	1.1875-18 UNEF	1.3125-18 UNEF
22	1.625	1.119	1.3125-18 UNEF	1.4375-18 UNEF
24	1.760	1.244	1.4375-18 UNEF	1.5625-18 UNEF
28*	2.050	1.465	1.7500-18 UNS	1.8125-18 UN

\* Shell size 28 is not a MS connector; order by commercial part number. All dimensions for reference only.

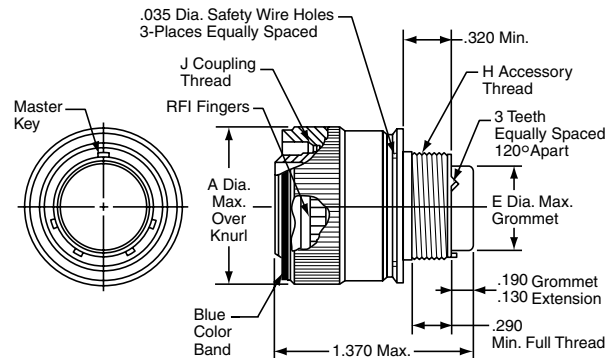
# Straight Plug, Threaded Coupling (With RFI Grounding Fingers)

## Military (M83723/91 & /92), Commercial (MT38)

PART NUMBER BUILDER Page 10

**MILITARY**  
M83723/91 Socket  
M83723/92 Pin

Commercial **MT38**



Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.756	.305	.5000-20 UNF	.5625-24 UNEF
10	.906	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.078	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.141	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.266	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	1.375	.869	1.0625-18 UNEF	1.1875-18 UNEF
20	1.510	.994	1.1875-18 UNEF	1.3125-18 UNEF
22	1.625	1.119	1.3125-18 UNEF	1.4375-18 UNEF
24	1.760	1.244	1.4375-18 UNEF	1.5625-18 UNEF
28*	2.050	1.465	1.7500-18 UNS	1.8125-18 UN

\* Shell size 28 is not a MS connector; order by commercial part number. All dimensions for reference only.

83723 III

Matrix

A



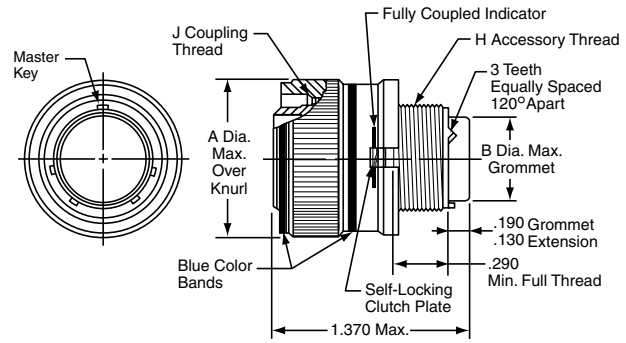
# Straight Plug with Threaded Coupling (Self-Locking)

## Military (M83723/95 & /96), Commercial (MT 37)

PART NUMBER BUILDER Page 10

**MILITARY**  
M83723/95 Socket  
M83723/96 Pin

Commercial **MT37**



Shell Size	A Dia. Max.	B Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.832	.305	.5000-20 UNEF	.5625-24 UNEF
10	.959	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.097	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.236	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.360	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	1.428	.869	1.0625-18 UNEF	1.1875-18 UNEF
20	1.586	.994	1.1875-18 UNEF	1.3125-18 UNEF
22	1.703	1.119	1.3125-18 UNEF	1.4375-18 UNEF
24	1.846	1.244	1.4375-18 UNEF	1.5625-18 UNEF
28*	2.165	1.465	1.7500-18 UNS	1.8125-18 UN

\* Shell size 28 is not a MS connector; order by commercial part number.

All dimensions for reference only.

83723 III

Matrix

A

# MIL-DTL-83723, Series III, Matrix®

## How to Order – Quick-Disconnect Coupling Connectors

	1.	2.	3.	4.	5.
	Connector Type	Connector Style (Quick-Disconnect) and Contact Type	Service Class	Shell Size/Insert Arrangement	Alternate Keying Position of Shell or Alternate Rotation of Insert
<b>MILITARY</b>	<b>M83723</b>	<b>/66</b>	<b>R</b>	<b>0803</b>	<b>N</b>

	1.	2.	3.	4.	5.	6.	7.
	Connector Type (Quick-Disconnect)	Connector Style	Service Class	Shell Size/Insert Arrangement	Contact Type	Alternate Keying Position of Shell or Alternate Rotation of Insert	Modification Number
<b>COMMERCIAL</b>	<b>MQ</b>	<b>35</b>	<b>R</b>	<b>0803</b>	<b>P</b>	<b>7</b>	<b>XXX</b>

**M83723**

### 1. MILITARY MIL-DTL-83723 SERIES III CONNECTORS

(Refer to military specification slash sheet number).

#### 2. CONNECTOR STYLE

<b>/66</b>	Straight Plug without Lanyard, Pin Contacts
<b>/67</b>	Straight Plug without Lanyard, Socket Contacts
<b>/68</b>	Straight Plug with Lanyard, Pin Contacts
<b>/69</b>	Straight Plug with Lanyard, Socket Contacts

#### 3. SERVICE CLASS

<b>A</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W</b>	Aluminum shell, olive drab cadmium plated, fluid resistant insert

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PAGE 4-6

Shell Size & Insert Arrangements are together in one chart. First number represents Shell Size, second number is the Insert Arrangement. (Note that shell size 28 is not an MS connector, and should be ordered by commercial number.)

#### 5. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 4 for descriptions.

**OR**

#### 5. ALTERNATE ROTATION OF INSERT

Use N for Normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 4 for descriptions.

**MQ**

### 1. COMMERCIAL QUICK-DISCONNECT COUPLING CONNECTORS

#### 2. CONNECTOR STYLE

<b>35</b>	Straight Plug with Lanyard
<b>36</b>	Straight Plug without Lanyard
<b>38</b>	Straight Plug with Lanyard, RFI grounding fingers (No Mil-Spec equivalent)

#### 3. SERVICE CLASS

<b>A-</b>	Aluminum shell, black non-conductive anodize finish, fluid resistant insert
<b>R-</b>	Aluminum shell, electroless nickel finish, fluid resistant insert
<b>G-</b>	Stainless steel shell, passivated, fluid resistant insert
<b>W-</b>	Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

#### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PAGE 4-6

Shell Size & Insert Arrangements are together in one chart. First number represents Shell Size, second number is the Insert Arrangement.

#### 5. CONTACT TYPE

<b>P</b>	Pin Contacts
<b>S</b>	Socket Contacts

#### 6. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position) See page 4 for descriptions.

**OR**

#### 6. ALTERNATE ROTATION OF INSERT

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position). See page 4 for descriptions.

#### 7. MODIFICATION NUMBER

Consult Amphenol Aerospace for information.

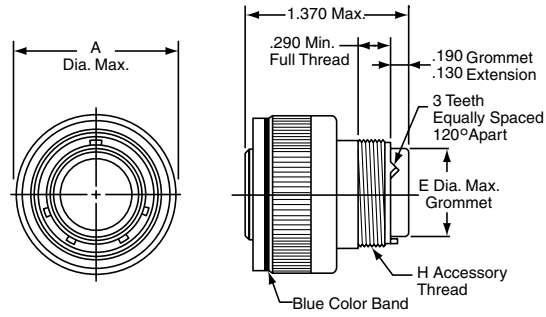
# Quick-Disconnect Plug

## Military (M83723/66 & /67), Commercial (MQ36)

PART NUMBER BUILDER Page 14

**MILITARY**  
M83723/67 Socket  
M83723/66 Pin

Commercial MQ36



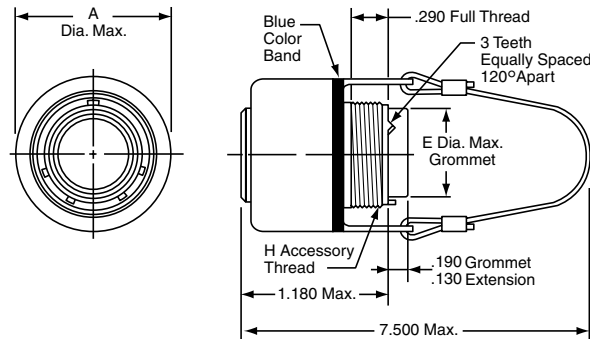
# Quick-Disconnect Plug with Lanyard

## Military (M83723/68 & /69), Commercial (MQ35, MQ38)

PART NUMBER BUILDER Page 14

**MILITARY**  
M83723/69 Socket  
M83723/68 Pin

Commercial MQ35  
MQ38



## Adapter for Mating Quick-Disconnect Plugs with Receptacles

Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A
8	1.095	.305	.5000-20 UNF
10	1.240	.405	.6250-24 UNEF
12	1.432	.531	.7500-20 UNEF
14	1.490	.665	.8750-20 UNEF
16	1.711	.790	1.0000-20 UNEF
18	1.815	.869	1.0625-18 UNEF
20	1.962	.994	1.1875-18 UNEF
22	2.070	1.119	1.3125-18 UNEF
24	2.195	1.244	1.4375-18 UNEF

### RECEPTACLE ADAPTER

Required to mate the quick-disconnect plug with receptacle. Not furnished with the quick-disconnect plug; must be ordered separately.

Note: Use Locktite Material on the threads for a permanent installation to the shell.

#### How to Order Adapter by Commercial Part Number 2500-007-0X XX

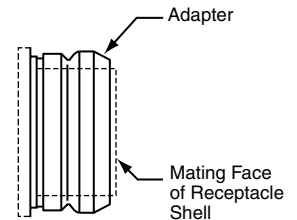
Finish | Shell Size

- 00 designates aluminum, electroless nickel, Class R
- 01 designates aluminum, hard anodize, Class A
- 03 designates aluminum, cadmium plate, Class W
- 02 designates stainless steel, Class G

#### How to Order Adapter by Military Part Number M83723/70 X XX

Finish | Shell Size

- R designates aluminum, electroless nickel, Class R
- A designates aluminum, hard anodize, Class A
- W designates aluminum, cadmium plate, Class W
- G designates stainless steel, Class G



# MIL-DTL-83723, Series III, Matrix®

## Contact Information, Sealing Plugs, Crimping, and Insertion/Removal Tools

### MIL-DTL-83723, SERIES III CRIMP CONTACTS

Contact Size	Wire Range		Socket Contacts	Pin Contacts
	AWG	mm <sup>2</sup>	Military Part Number	Military Part Number
20	24-20	0.2-0.6	M39029/5-115	M39029/4-110
16	20-16	0.5-1.4	M39029/5-116	M39029/4-111
12	14-12	2-3	M39029/5-118	M39029/4-113

### CONTACT CURRENT RATING AND RETENTION

Contact Size*	Current Rating		Contact Retention	
	Amperes Max.	Voltage Drop Millivolts	Axial Load	
			lb.	N
20	7.5	35	20	89.0
16	13.0	25	25	111.2
12	23.0	25	30	133.4

\* Organize individual circuits to maintain heat rise within operating temperature requirements.

### SEALING PLUGS

Contact Size	Sealing Plugs	
	Military Part Number	Amphenol/Matrix Part Number
20	MS27488-20	3400-043-0020
16	MS27488-16	3400-043-0016
12	MS27488-12	3400-043-0012

### CRIMPING TOOLS

Contact Size	Wire Range		Finished Wire Dia. Range		Crimping Tool Part Number	Turret or Positioner Part Number
	AWG	mm <sup>2</sup>	Inch	mm		
20	24-20	0.2-0.6	.040-.083	1.02-2.11	M22520/1-01 or M22520/2-01	M22520/1-02 or M22520/2-02
16	20-16	0.5-1.4	.053-.103	1.34-2.62	M22520/1-01	M22520/1-02
12	14-12	2-3	.097-.158	2.46-4.01	M22520/1-01	M22520/1-02

### INSERTION/REMOVAL TOOL

Contact Size	Color Code	Military Part Number	Amphenol/Matrix Part Number
20	Red/White	M81969/14-11	6500-001-0020
16	Blue/White	M81969/14-03	6500-001-0016
12	Yellow/White	M81969/14-04	6500-001-0012

Note: Each connector is furnished with contacts. One spare for inserts requiring 1 to 26 of each contact, two spares for inserts with more than 26 contacts, and a minimum of one sealing plug up to 10% of the number of contacts.

### BACKSHELLS

For Backshells information please visit Amphenol PCD at [www.amphenolpcd.com/products/backshells](http://www.amphenolpcd.com/products/backshells).

# B



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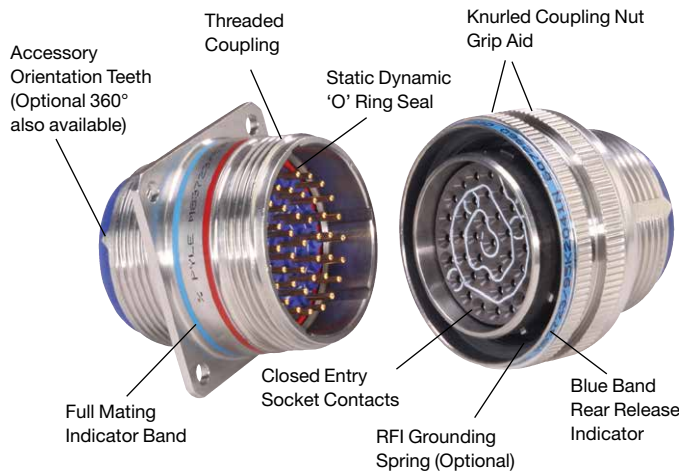


# MIL-DTL-83723, Series III, Pyle®

## Threaded or Bayonet, High Temp. Stainless Steel

AMPHENOL AEROSPACE OFFERS THE PYLE® PRODUCT LINE OF MIL-DTL-83723\*, SERIES III CONNECTORS.

### DESIGN FEATURES (THREADED STYLE SHOWN)



The Amphenol MIL-DTL-83723, Series III family of connectors includes styles from Pyle National. These have proven technology for severe environments and are widely used in commercial and military aerospace markets. Amphenol/Pyle 83723 connectors incorporate many advantageous features, such as a unique threaded coupling mechanism that provides greater resistance to decoupling. This coupling mechanism eliminates the need for safety wiring and tends to couple during vibration - thus offering the user added assurance and a margin of safety.

Amphenol/Pyle 83723 Series III high temperature styles are capable of operation at 260° C/500°F. A 100% scoop-proof version of the high temperature connector is also available under specification ESC11/Pyle HTK Series. In addition, this connector series incorporates a unique sealing grommet that is capable of sealing on standard diameter wire as well as Kapton wire of reduced diameter.

The Pyle 83723 family provides connectors in environmental, firewall and hermetic classes that exceed the most stringent specification requirements.

### SERVICE RATINGS

Service Rating	Recommended Operating AC Voltage at Sea Level	Test Voltage AC (RMS), 60 cps			
		Sea Level	50,000 ft.	70,000 ft.	110,000 ft.
I	600	1,500	500	375	200

Please note that the electrical data given is not an establishment of electrical safety factors. This is left entirely in the designer's hands as he can best determine which peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

### MIL-DTL-83723, SERIES III CONNECTORS ARE AVAILABLE IN A WIDE VARIETY OF STYLES:

#### THREADED STYLE CONNECTORS

- Stainless steel shells\*\* provide corrosion resistance
- Metal-to-metal bottoming
- Unique sealing grommet accepts a wide range of wire diameters
- Patented non-decoupling device in plugs - a self-locking clutch plate that provides greater resistance to decoupling than coupling during vibration

#### BAYONET STYLE CONNECTORS

- Same quality features of the threaded style, but with 3 point bayonet coupling - quick turn to lock, visual confirmation of complete coupling

#### HIGH TEMPERATURE STYLE CONNECTORS

- High temperature connector materials and contacts provide operation to 200°C and Firewall capability to 260°C
- Improved metal-to-metal bottoming design
- Unique sealing grommet accepts a wide range of wire diameters
- Improved 360° accessory orientation teeth provide greater performance under vibration
- Patented non-decoupling device (torque differential)
- Improved shell-to-shell conductivity with optional RFI grounding fingers
- Styles available that meet several European specifications, General Electric and Rolls Royce specifications
- Special Shell Geometry Styles available

#### HERMETIC STYLE CONNECTORS

- Hermetic styles are available in threaded receptacles with solderwell or flat eyelet termination. PC Tail Designs are available on request.
- Designed for environmental moisture sealing with fused compression glass sealed inserts
- High temperature hermetics 200°C and 260°C Firewall



Pyle Connectors with PC Tail and Standoff

\* MIL-DTL-83723 supersedes MIL-C-83723.

\*\* The Amphenol Pyle 83723 family is offered in stainless steel shell classes. See the Amphenol Matrix 83723 family for aluminum shell classes in the preceding section of this catalog.

# MIL-DTL-83723, Series III, Pyle®

## Manufacturer's Specifications



The Amphenol/Pyle® Product line of MIL-DTL-83723\*, Series III Connectors was developed for the higher operating temperatures inherent in today's high performance aircraft and aircraft engines.



**ESC11  
Engine Connector**

### THESE CONNECTORS MEET THE PERFORMANCE REQUIREMENTS OF THE FOLLOWING MANUFACTURER'S SPECIFICATIONS:

- Boeing BACC63CM/CN\* Firewall
- European: ASD† EN2997
- General Electric: M50TF3564
- Rolls Royce/SBAC: ESC10 and ESC11

### MIL-DTL-83723, SERIES III CONNECTOR PERFORMANCE CHARACTERISTICS

Operating Temperature Data	Std: -85°F (-65°C) to 392°F (200°C) Class K types meet fireproof test per MIL-DTL-83723 2000°F (1093°C) High Temperature Series: Operates at 500°F (260°C)
Altitude	Sea Level to 110,000 feet
Voltage Breakdown Rating	Service Rating I Sea Level .....1,500      50,000 ft. ....500 70,000 ft. .... 375      110,000 ft. .... 200
Contact Rating	Size 20 contacts ... 7.5 amperes max. Size 16 contacts ... 13.0 amperes max. Size 12 contacts ... 23 amperes max.
Contact Retention Strength	Exceeds MIL-DTL-83723 requirements
Connector Durability	500 cycles per MIL-DTL-83723 for threaded coupling; 500 cycles per General Electric M50TF2321 for non-decoupling styles
Humidity	To 98% relative humidity, including condensation
Exposure	Freezing rain
Non-Decoupling	Exceeds requirements of MIL-DTL-83723/95 and 96.
Vibration	Meets MIL-DTL-83723 of 41.7G's for 16 hours.; Boeing BACC63CM/CN for 36 hours General Electric vibration spec. M50TF2321 and M50TF2238 for 36 hours, which includes: <b>Temp. Extremes      G Level      Time Length</b> Room Temp. .... 60 G's ..... 12 hrs. (4 hrs. each axis) -65°F ±5°F ..... 60 G's ..... 12 hrs. (4 hrs. each axis) 350°F ±5°F ..... 60 G's ..... 12 hrs. (4 hrs. each axis)

### HERMETIC CONNECTOR PERFORMANCE CHARACTERISTICS

Thermal Shock	No damage detrimental to the operation of the connector occurs when subjected to 10 cycles of thermal shock from 0°C to 90°C and back to 0°C.
Physical Shock (Mated)	300 G's
Moisture Resistance (Mated)	500 Megohms
Insulation Resistance, High Temp. (Mated)	500 Megohms
Corrosion (Unmated)	Complies with MIL-DTL-83723 Req.
Temperature Life	Fully functional for 1000 hours at 200°C (392°F) ambient. Internal temperature 238°C (460°F).
Air Leakage (Unmated)	Less than .01 micron per cubic feet per hour on application of 15 PDS pressure differential across the connector.
Altitude Immersion (Mated)	After 3 cycles immersed in salt water with pressure reduced to 1 in. Hg (75,000 ft. altitude) for 30 minutes and returned to atmosphere pressure. While connectors submerged insulation resistance should remain 1000 megohms minimum and support 1500 volts RMS applied without flash-over or breakdown.
High Potential Voltage Altitude (Unmated)	When tested in accordance with MIL-STD-202, Method 301, no flash-over or breakdown under simulated altitude conditions as shown: <b>Altitude/Service Rating I</b> 50,000 ..... 500 AC-RMS 70,000 ..... 375 AC-RMS 110,000 ..... 200 AC-RMS

# MIL-DTL-83723, Series III, Pyle®

## Sq. Flange Receptacle, Threaded - Quick Reference

### MIL-DTL-83723, SERIES III SQUARE FLANGE RECEPTACLE, THREADED COUPLING

Military: **M83723/82** with Sockets, Classes G, K

Military: **M83723/83** with Pins, Classes G, K

Commercial: **BT( )-17**  
With 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-17**  
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

**BJ8-17**  
Same as BJ-17 except with Scoop-proof recessed pins

**BN-17**  
Same as BJ-17 except Electro-deposited Nickel Base

**BN8-17**  
Same as BN-17 except with Scoop-proof recessed pins

**BNK-17**  
Same as BN except Stainless Steel Firewall

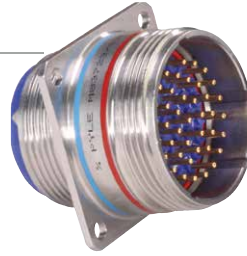
Special with Boeing Designation: **BACC63CN\*\***  
With 'O' ring seal, Stainless Steel Firewall, with Boeing approved contacts, Shell modifications with 360° teeth per MS3155

Comm. Special per Boeing Co. Spec.: **BSK-17**  
Stainless Steel Firewall with 'O' ring seal, qualified to Boeing, Y126 Variation - with Boeing approved contacts

Commercial ASD Designation: **EN2997 ( )0**  
Meets ASD specifications  
200°C temp. (Classes K, S, Y),  
260°C high temp. (Classes KE, SE, YE)

Comm.- Meet Several European Stds: **BT( )-17**  
With 'O' ring seal, Classes G, K  
Variations for Euro market specifications

**BJ( )-17**  
With Static Dynamic Seal, Classes G, K  
Variations for Euro market specifications



**SQUARE FLANGE RECEPTACLE THREADED**

### SERVICE CLASSES\* MILITARY AND COMMERCIAL

<b>G</b>	Stainless steel, 200°C
<b>K</b>	Stainless steel, 200°C Firewall capability
<b>S</b>	Stainless steel, 200°C firewall capability, grounding spring
<b>P</b>	Stainless steel, 200°C, hermetic with eyelet contacts
<b>Y</b>	Stainless steel, 200°C, hermetic with solderwell contacts
<b>KE</b>	Stainless steel, high temp. (260°C) firewall capability
<b>SE</b>	Stainless steel, high temp. (260°C) firewall capability, grounding spring
<b>YE</b>	Stainless steel, high temp. (260°C) firewall capability, hermetic with solderwell contacts

\* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.



### SQUARE FLANGE RECEPTACLE, THREADED, PER EUROPEAN STDS.

(Green Insert - High Temp 260°C;  
Blue insert - 200°C)

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: **ESC10 ( )0**  
260°C Firewall (Classes KE, SE, YE),  
360° accessory teeth per MS3155

**ESC11 ( )0**  
260°C Firewall (Classes KE, SE, YE),  
Scoop-proof recessed pins,  
360° accessory teeth per MS3155

ESC10 & ESC11 also available in Hermetic square flange receptacles - See Hermetic quick ref. page 369.

ESC11 with Scoop-Proof (Recessed pins): **HTK-17**  
Standard ESC11, Class K Firewall, Scoop-proof, Variations for Euro market specifications

**HNK-17**  
Nickel finish, Class K Firewall Mating recept. has 'O' ring seal, Scoop-proof, Variations for Euro market specs

**HSK-17**  
Same as HTK, except this is a special designator for Boeing Co.

\*\* BACC63CN supersedes BACC63BT.  
See how to order pages 29-36 for complete part numbers.

Bayonet style square flange receptacles are shown on page 40.

# MIL-DTL-83723, Series III, Pyle®

## Jam Nut Receptacle, Threaded - Quick Reference

### MIL-DTL-83723, SERIES III JAM NUT (D-HOLE MOUNT) RECEPTACLE, THREADED COUPLING

Military: **M83723/84** with Sockets, Classes G, K

Military: **M83723/85** with Pins, Classes G, K

Commercial: **BT( )-19**  
With 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-19**  
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

**BJ8-19**  
Same as BJ-17 except with Scoop-proof recessed pins

**BN-19**  
Same as BJ-17 except Electro-deposited Nickel Base

**BN8-19**  
Same as BN-17 except with Scoop-proof recessed pins

**BNK-19**  
Same as BN except Stainless Steel Firewall

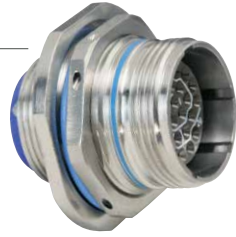
Commercial ASD Designation: **EN2997 ( )7**  
Meets ASD specifications  
200°C temp. (Classes K, S, Y),  
260°C high temp. (Classes KE, SE, YE)

**NFL 54143 ( )7**

Comm. - Meet Several European Stds: **BT( )-19**  
With 'O' ring seal, Classes G, K  
Variations for Euro market specifications

**BJ( )-19**  
With Static Dynamic Seal, Classes G, K  
Variations for Euro market specifications

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: ESC10 & ESC11 jam nut receptacles are available in Hermetic only - See Hermetic quick ref. pages 24 & 25.



**JAM NUT (D-HOLE MOUNT) RECEPTACLE, THREADED**

### SERVICE CLASSES\* MILITARY AND COMMERCIAL

<b>G</b>	Stainless steel, 200°C
<b>K</b>	Stainless steel, 200°C firewall capability
<b>S</b>	Stainless steel, 200°C firewall capability, Grounding Spring
<b>P</b>	Stainless steel, 200°C, hermetic with eyelet contacts
<b>Y</b>	Stainless steel, 200°C, hermetic with solderwell contacts
<b>KE</b>	Stainless steel, high temp. (260°C) firewall capability
<b>SE</b>	Stainless steel, high temp. (260°C) firewall capability, grounding spring
<b>YE</b>	Stainless steel, high temp. (260°C) firewall capability, hermetic with solderwell contacts

\* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

No Boeing Designated Jam nut receptacle.  
See how to order pages 29-36 for complete part numbers.

Bayonet style jam nut receptacles are shown on page 41.

# MIL-DTL-83723, Series III, Pyle®

## Plugs, Threaded - Quick Reference

### MIL-DTL-83723, SERIES III STANDARD STRAIGHT PLUG, THREADED COUPLING

Military: **M83723/86** with Sockets, Classes G, K  
 Military: **M83723/87** with Pins, Classes G, K  
 Commercial: **BT( )11**  
 Mating recept. has 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-11**  
 With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

**BJ8-11**  
 Same as BJ-17 except with Scoop-proof recessed pins

**BN-11**  
 Same as BJ-17 except Electro-deposited Nickel Base

**BN8-11**  
 Same as BN-17 except with Scoop-proof recessed pins

**BNK-11**  
 Same as BN except Stainless Steel Firewall



**STANDARD STRAIGHT PLUG, THREADED**

No Boeing straight plug designations. No ASD or other European/ESC10 or ESC11 straight plug designations. See page 42 for Bayonet style straight plug style.

### MIL-DTL-83723, SERIES III NON-DECOUPLING PLUG (UNIQUE SELF-LOCKING CLUTCH PLATE), THREADED COUPLING

Military: **M83723/95** with Sockets, Classes G, K  
**M83723/96** with Pins, Classes G, K  
**M83723/97** with EMI Grounding spring, with Pins  
**M83723/97** with EMI Grounding spring, with

Sockets  
 Commercial: **BT( )12**  
 Mating recept. has 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-12**  
 With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall  
**BJ8-12**  
 Same as BJ-17 except with Scoop-proof recessed pins  
**BN-12**  
 Same as BJ-17 except Electro-deposited Nickel Base  
**BN8-12**  
 Same as BN-17 except with Scoop-proof recessed pins  
**BNK-12**  
 Same as BN except Stainless Steel Firewall

Special with Boeing Designation: **BACC63CM\*\***  
 Mating recept. has 'O' ring seal, Stainless Steel Firewall, with Boeing approved contacts, Shell modifications with 360° teeth per MS3155

Comm. Special per Boeing Co. Spec.: **BSK-12**  
 Stainless Steel Firewall qual. to Boeing, Y126 Variation - with Boeing approved contacts

\*\* BACC63CM supersedes BACC63BR.  
 See how to order pages 29-36 for complete part numbers.  
 No Bayonet style Non-Decoupling plug available.

### SERVICE CLASSES\* MILITARY AND COMMERCIAL

<b>G</b>	Stainless steel, 200°C
<b>K</b>	Stainless steel, 200°C firewall capability
<b>S</b>	Stainless steel, 200°C firewall capability, grounding spring
<b>KE</b>	Stainless steel, high temp. (260°C) firewall capability
<b>SE</b>	Stainless steel, high temp. (260°C) firewall capability, grounding spring

\* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.



### NON-DECOUPLING PLUG, THREADED

Left - Green Insert - High Temp 260°C and 360° Accessory Teeth;  
 Right - Blue insert - 200°C and 3 Accessory Teeth

Commercial ASD Designation: **EN2997 ( )6**  
 Meets ASD specifications  
 200°C temp. (Classes K, S),  
 260°C high temp. (Classes KE, SE)

Comm.- Meet Several European Stds: **BT( )-12**  
 Mating recept. has 'O' ring seal, Classes G, K  
 Variations for Euro market specifications  
**BJ( )-12**  
 With Static Dynamic Seal, Classes G, K  
 Variations for Euro market specifications

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: **ESC10 ( )6**  
 260°C Firewall (Classes KE, SE),  
 360° accessory teeth per MS3155  
**ESC11 ( )6**  
 260°C Firewall (Classes KE, SE),  
 Scoop-proof, 360° accessory teeth per MS3155

ESC11 with Scoop-Proof (Recessed pins): **HTK-12**  
 Standard ESC11, Class K Firewall,  
 Scoop-proof, Variations for Euro market specs  
**HNK-12**  
 Nickel finish, Class K Firewall  
 Mating recept. has Static Dynamic seal,  
 Scoop-proof, Variations for Euro market specs  
**HSK-12**  
 Same as HTK, except this is a special designator for Boeing Co.

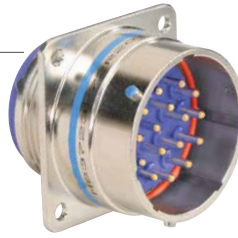


# MIL-DTL-83723, Series III, Pyle®

## Bayonet Plugs & Receptacles - Quick Reference

### MIL-DTL-83723, SERIES III SQUARE FLANGE RECEPTACLE, BAYONET COUPLING

Military: **M83723/71** with Sockets, Classes G, K  
 Military: **M83723/72** with Pins, Classes G, K  
 Commercial: **BY( )17**  
 With 'O' ring seal, Classes G, K



**SQUARE FLANGE RECEPTACLE WITH BAYONET COUPLING**

### SERVICE CLASSES\* MILITARY AND COMMERCIAL

<b>G</b>	Stainless steel, 200°C
<b>K</b>	Stainless steel, 200°C firewall capability

\* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

### MIL-DTL-83723, SERIES III JAM NUT (D-HOLE MOUNT) RECEPTACLE, BAYONET COUPLING

Military: **M83723/73** with Sockets, Classes G, K  
 Military: **M83723/74** with Pins, Classes G, K  
 Commercial: **BY( )19**  
 With 'O' ring seal, Classes G, K



**JAM NUT (D-HOLE MOUNT) RECEPTACLE WITH BAYONET COUPLING**

### MIL-DTL-83723, SERIES III STRAIGHT PLUG, BAYONET COUPLING

Military: **M83723/75** with Sockets, Classes G, K  
 Military: **M83723/76** with Pins, Classes G, K  
 Commercial: **BY( )10**  
 With 'O' ring seal, Classes G, K



**STRAIGHT PLUG WITH BAYONET COUPLING**

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. See how to order page 29. They are not included in Boeing, GE, ASD and other European specified connectors. Shell size 28 is not available in Bayonet coupling connectors.

# MIL-DTL-83723, Series III, Pyle®

## Hermetic Receptacles - Quick Reference

### MIL-DTL-83723, SERIES III HERMETIC SQUARE FLANGE RECEPTACLE, THREADED COUPLING



**HERMETIC  
SQUARE FLANGE  
RECEPTACLE,  
THREADED**

- Military: **M83723/88Y**  
Stainless Steel, Class Y,  
Solderwell contacts
- Military: **M83723/88P**  
Stainless Steel, Class P,  
Eyelet contacts
- Commercial: **BTY-17**  
Stainless Steel, 'O' ring Seal,  
Solderwell or Eyelet contacts,  
200°C or 260°C
- BFY-17**  
Stainless Steel, Static Dynamic  
Seal, Solderwell or Eyelet contacts,  
200°C or 260°C
- BNY-17**  
Stainless Steel, Static Dynamic  
Seal, Electro-deposited Nickel, Solderwell or Eyelet contacts,  
200°C or 260°C
- Commercial  
ASD Designation: **EN2997Y0 / YE0**  
Meets ASD Specifications, Stainless Steel,  
Class Y (200°C) / Class YE (260°C), Solderwell contacts
- Commercial - Meet  
Society of British  
Aerospace Co./Rolls  
Royce Standards: **ESC10YE2**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts
- ESC11YE2**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts,  
Scoop-proof Recessed pins
- PCB Tails available upon request

### SERVICE CLASSES HERMETIC MILITARY AND COMMERCIAL

<b>Y</b>	Stainless Steel, 200°C, hermetic with solderwell contacts
<b>P</b>	Stainless steel, 200°C, hermetic with eyelet contacts
<b>YE</b>	Stainless steel, high temp. (260°C) firewall capability, hermetic with solderwell contacts

### MIL-DTL-83723, SERIES III HERMETIC JAM NUT RECEPTACLE, THREADED COUPLING



**HERMETIC  
JAM NUT  
RECEPTACLE,  
THREADED**

- Military: **M83723/89Y**  
Stainless Steel, Class Y, Solderwell contacts
- Military: **M83723/89P**  
Stainless Steel, Class Y, Eyelet contacts
- Commercial: **BTY-19**  
Stainless Steel, 'O' ring Seal, Solderwell or Eyelet contacts, 200°C or 260°C
- BFY-19**  
Stainless Steel, Static Dynamic Seal, Solderwell or Eyelet contacts, 200°C or 260°C
- BNY-19**  
Stainless Steel, Static Dynamic Seal, Electro-deposited Nickel, Solderwell or  
Eyelet contacts, 200°C or 260°C
- Commercial  
ASD Designation: **EN2997Y7 / YE7**  
Meets ASD Specifications, Stainless Steel,  
Class Y (200°C) / Class YE (260°C), Solderwell contacts
- Commercial - Meet  
Society of British  
Aerospace Co./Rolls  
Royce Standards: **ESC10YE3**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts
- ESC11YE3**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts,  
Scoop-proof Recessed pins
- PCB Tails available upon request

Commercial BTY, BFY and BNY meet European specifications and General Electric spec. GEM50TF3564, Classes A & B.

Shell sizes 20, 24 and 28, consult Amphenol Aerospace for availability.

Hermetic style receptacles are not included in Boeing designations.

# MIL-DTL-83723, Series III, Pyle®

## Hermetic Receptacles, cont. - Quick Reference

### MIL-DTL-83723, SERIES III HERMETIC SOLDER MOUNT/WELD MOUNT RECEPTACLE, THREADED COUPLING

- Military: **M83723/90Y**  
Stainless Steel, Class Y,  
Solderwell contacts
- Military: **M83723/90P**  
Stainless Steel, Class P,  
Eyelet contacts
- Commercial: **BTY-14**  
Stainless Steel, 'O' ring Seal,  
Solderwell or Eyelet contacts,  
200°C or 260°C
- BFY-14**  
Stainless Steel, Static Dynamic  
Seal, Solderwell or Eyelet contacts,  
200°C or 260°C
- BNY-14**  
Stainless Steel, Static Dynamic  
Seal, Electro-deposited Nickel,  
Solderwell or Eyelet contacts,  
200°C or 260°C
- Commercial  
ASD Designation: **EN2997Y1 / YE1**  
Meets ASD Specifications, Stainless Steel,  
Class Y (200°C) / Class YE (260°C), Solderwell contacts
- Commercial - Meet  
Society of British  
Aerospace Co./Rolls  
Royce Standards: **ESC10YE1**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts
- ESC11YE1**  
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts,  
Scoop-proof Recessed pins
- PCB Tails available upon request



**HERMETIC  
SOLDER MOUNT/WELD  
MOUNT RECEPTACLE,  
THREADED**

### SERVICE CLASSES HERMETIC MILITARY AND COMMERCIAL

<b>Y</b>	Stainless steel, 200°C, hermetic with solderwell contacts
<b>P</b>	Stainless steel, 200°C, hermetic with eyelet contacts
<b>YE</b>	Stainless steel, high temp. (260°C) firewall capability, hermetic with solderwell contacts

Commercial BTY, BFY and BNY meet European specifications and General Electric spec. GEM50TF3564, Classes A & B.

Shell sizes 20, 24 and 28, consult Amphenol Aerospace for availability.  
Hermetic style receptacles are not included in Boeing designations.

# MIL-DTL-83723, Series III, Pyle®

## Insert Availability and Identification, Alternate Keying Positions

### INSERT ARRANGEMENTS

Shell Size/ Insert Arrangement	Service Rating	Total Contacts	Contact Size			
			8	12	16	20
08-03	I	3				3
08-98	I	3				3
10-02**	I	2				2
10-05	I	5				5
10-06	I	6				6
10-20	I	2			2	
12-03***	I	3			3	
12-12	I	12				12
14-04***	I	4		4		
14-07***	I	7			7	
14-12	I	12			3	9
14-15	I	15				15
16-10***	I	10			10	
16-24	I	24				24
18-08	I	8		8		
18-14***	I	14			14	
18-31	I	31				31
20-16***	I	16			16	
20-25	I	25		6		19
20-28**	I	28		4		24
20-39	I	39			2	37
20-41	I	41				41
22-12**	I	12		12		
22-19***	I	19			19	
22-27	I	27			27	
22-32**	I	32		6		26
22-39**	I	39			12	27
22-55	I	55				55
24-19†	I	19		19		
24-30†***	I	30			30	
24-43**	I	43			20	23
24-46†	I	46	2 Twinax		4	40
24-57	I	57		2		55
24-61	I	61				61
28-41†	I	41			41	
28-42†***	I	42			42	
28-91†*	I	91				91

† Not an MS layout.

\* Special - consult Amphenol for availability.

\*\* Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol Aerospace for availability.

\*\*\* Boeing Qualified Arrangements (See Boeing How to Order page 31)

24-19 is a special ground plane insert with purchased size 12 Coax contacts; consult Amphenol for information.

24-46 is a special insert that accommodates size 8 twinax contacts with ground spring.

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol for information.

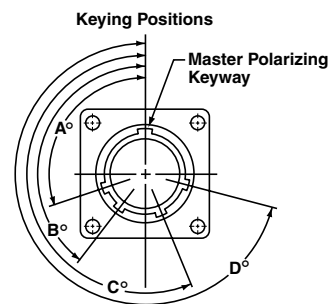
Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

Size 28 not available in Bayonet style.

### ALTERNATE KEYING POSITIONS (ROTATION OF KEY/KEYWAY OF SHELL)

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available as indicated in the chart below. The diagram shows the engaging view of a receptacle shell with keyways. The insert is rotated counter-clockwise relative to the center-line. Plug shells would be the opposite of this diagram.

In the "Normal insert position" (position N), the insert center line coincides with the center-line of the master key/keyway of the shell. In the "alternate keying positions" (positions 6, 7, 8, 9 and Y), the minor keys/keyways are positioned with reference to master key/keyway as indicated in the keying position table.



Shown is Engaging Face View of Receptacle Shell with Keyways (Plug Shell Keys would be Opposite)

### ALTERNATE KEYING POSITIONS OF SHELL

Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
8 thru 24	N	105	140	215	265
	6	102	132	248	320
8 & 10	7	80	118	230	312
	8	35	140	205	275
10 only	9	64	155	234	304
	Y††	25	115	220	270
12, 14, 16, 18, 20, 22, 24 and 28	6	18	149	192	259
	7	92	152	222	342
	8	84	152	204	334
	9	24	135	199	240
	Y††	98	152	268	338

### ESC 11 (HTK SERIES) ONLY

Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
14 thru 24	N	95	145	220	255
	6	101	168	211	342
	7	18	138	208	268
	8	26	156	208	276
	9	120	161	225	336

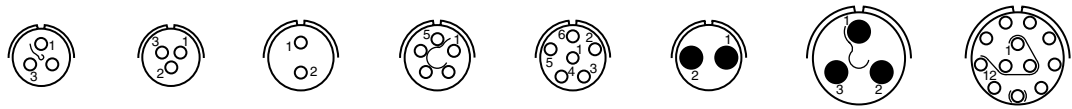
†† Position Y supersedes inactive positions 10 and Z designations. Ref. MIL-STD-1554.

For ordering Pyle 83723 accessories, contact Amphenol Aerospace.

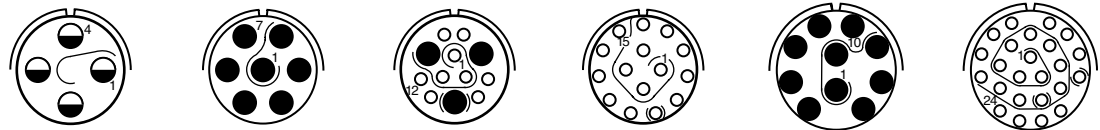
For ordering information on Backshells, see Backshell section of this catalog, family J.

## Insert Arrangements

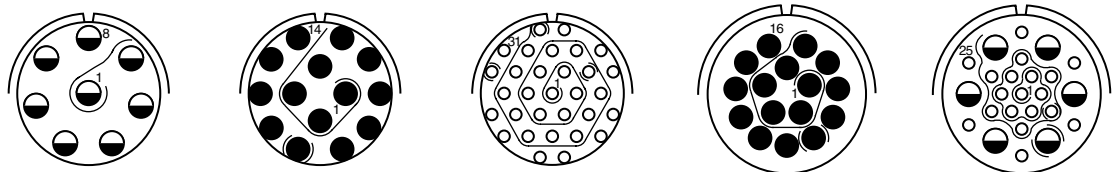
Front face of pin insert or rear face of socket insert illustrated



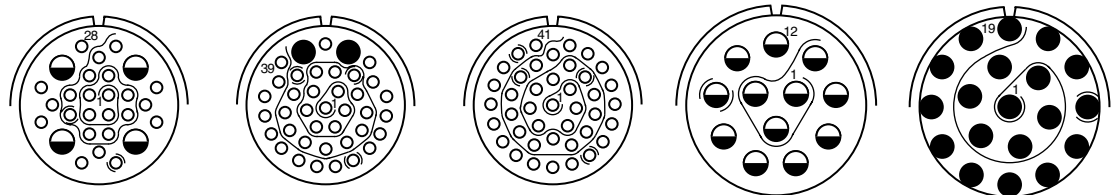
Insert Arrangement	08-03	08-98	10-02**	10-05	10-06	10-20	12-03***	12-12
Service Rating	I	I	I	I	I	I	I	I
Number of Contacts	3	3	2	5	6	2	3	12
Contact Size	20	20	20	20	20	16	16	20



Insert Arrangement	14-04***	14-07***	14-12**	14-15	16-10***	16-24
Service Rating	I	I	I	I	I	I
Number of Contacts	4	7	9	3	15	24
Contact Size	12	16	20	16	20	20



Insert Arrangement	18-08	18-14***	18-31	20-16***	20-25	
Service Rating	I	I	I	I	I	
Number of Contacts	8	14	31	16	19	6
Contact Size	12	16	20	16	20	12



Insert Arrangement	20-28**	20-39	20-41	22-12**	22-19***		
Service Rating	I	I	I	I	I		
Number of Contacts	24	4	37	2	41	12	19
Contact Size	20	12	20	16	20	12	16

† Not an MS layout.

\* Special - consult Amphenol Aerospace for availability.

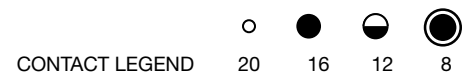
\*\* Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol Aerospace for availability.

\*\*\* Boeing Qualified Arrangements (See Boeing How to Order page 31)

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol Aerospace for information.

Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

Size 28 not available in Bayonet style.



83723 III

Pyle

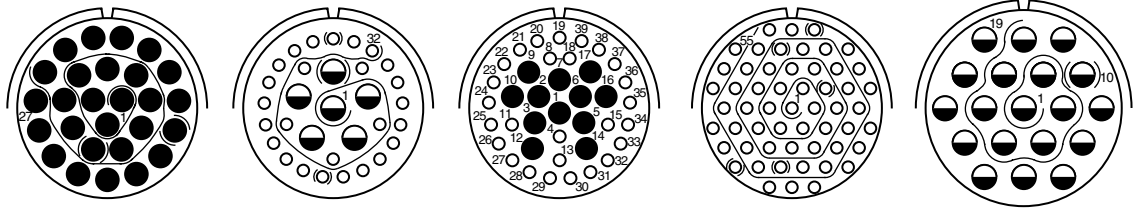
B



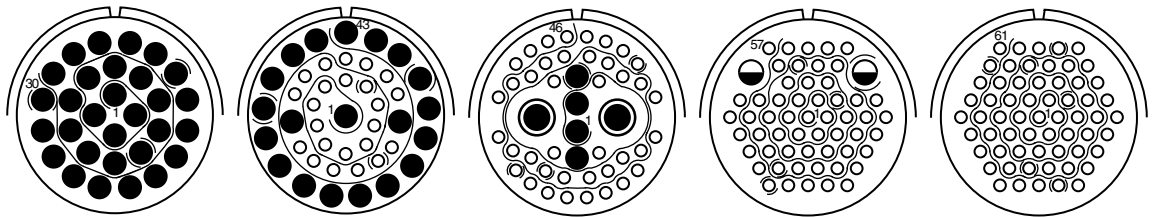
# MIL-DTL-83723, Series III, Pyle®

## Insert Arrangements

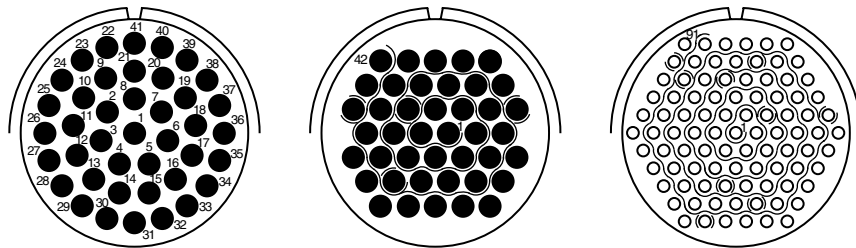
Front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	22-27	22-32**		22-39**		22-55	24-19†
Service Rating	I	I		I		I	I
Number of Contacts	27	26	6	27	12	55	19
Contact Size	16	20	12	20	16	20	12



Insert Arrangement	24-30†***	24-43**		24-46†		24-57	24-61
Service Rating	I	I		I		I	I
Number of Contacts	30	23	20	40	4	2	61
Contact Size	16	20	16	20	16	8 Twinax	20



Insert Arrangement	28-41†	28-42†***	28-91†*
Service Rating	I	I	I
Number of Contacts	41	42	91
Contact Size	16	16	20

† Not an MS layout.

\* Special - consult Amphenol Aerospace for availability.

\*\* Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol for availability.

\*\*\* Boeing Qualified Arrangements (See Boeing How to Order page 31)

24-19 is a special ground plane insert with purchased size 12 Coax contacts; consult Amphenol Aerospace for information.

24-46 is a special insert that accommodates size 8 twinax contacts with ground spring.

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol Aerospace for information.

Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

Size 28 not available in Bayonet style.



CONTACT LEGEND

20 16 12 8

## How to Order – Military or Commercial Designation

	1.	2.	3.	4.	5.
	Connector Type	Connector Style and Contact Type (Crimp)	Service Class	Shell Size/ Insert Arrangement	Alternate Keying Position of Shell
<b>MILITARY</b>	<b>M83723</b>	<b>/82</b>	<b>G</b>	<b>16-24</b>	<b>6</b>

	1.	2.	3.	4.	5.	6.	7.	8.
	Connector Style	Service Class	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variations
<b>COMMERCIAL</b>	<b>BT</b>	<b>G</b>	<b>-17</b>	<b>16-24</b>	<b>S</b>	<b>D</b>	<b>06</b>	<b>XXX</b>

### 1. MILITARY CONNECTOR TYPE

**M83723** Designates MIL-DTL-83723 Series III Connectors

(Refer to military specification slash sheet number).  
(How to Order Hermetic Styles is provided on page 36).

### 2. CONNECTOR STYLE

<b>/82</b>	Threaded, square flange receptacle, with sockets
<b>/83</b>	Threaded, square flange receptacle, with pins
<b>/84</b>	Threaded, jam nut (D-hole mount) recept., with sockets
<b>/85</b>	Threaded, jam nut (D-hole mount) recept., with pins
<b>/86</b>	Threaded, straight plug, with sockets
<b>/87</b>	Threaded, straight plug, with pins
<b>/95</b>	Threaded, non-decoupling plug, with sockets
<b>/96</b>	Threaded, non-decoupling plug, with pins
<b>/97</b>	Threaded, non-decoupling plug, with EMI grounding spring, with sockets
<b>/98</b>	Threaded, non-decoupling plug, with EMI grounding spring, with pins

### 3. SERVICE CLASS

<b>G</b>	Stainless steel
<b>K</b>	Stainless steel firewall

Note: See Matrix 83723 styles for aluminum classes A, R and W.

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

(except size 28 is not available in Bayonet Style)  
First number represents Shell Size, second number is the Insert Arrangement

### 5. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 26 for descriptions.

### 1. COMMERCIAL CONNECTOR/ M83723 SERIES II

<b>BT</b>	Threaded with 'O' ring seal in receptacle
<b>BY</b>	Bayonet with 'O' ring seal in receptacle

(How to Order Hermetic Styles is provided on page 36).

### 2. SERVICE CLASS

<b>G</b>	Stainless steel
<b>K</b>	Stainless steel firewall

Note: See Matrix 83723 styles for aluminum classes A, R and W.

### 3. SHELL STYLE

<b>-10</b>	Straight plug, bayonet coupling only
<b>-11</b>	Straight plug, threaded coupling only
<b>-12</b>	Non-decoupling plug, threaded coupling only
<b>-12F</b>	Modification 360° accessory teeth per MS3155, EMI grounding spring on plug only. For /97 & /98 only.
<b>-17</b>	Square flange receptacle
<b>-19</b>	Jam nut (D-hole mount) receptacle

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

(except size 28 is not available in Bayonet Style)  
First number represents Shell Size, second number is the Insert Arrangement.

### 5. CONTACT TYPE (CRIMP)

<b>P</b>	Pin contacts
<b>S</b>	Socket contacts

### 6. ALTERNATE CONTACT FINISH/ WITHOUT CONTACTS

<b>D</b>	Gold per SAE AS39029*
<b>E</b>	Without contacts

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 8. VARIATIONS

Consult Amphenol Aerospace for information.

\*Supersedes MIL-C-39029

# MIL-DTL-83723, Series III, Pyle®

## How to Order – Pyle Commercial - Designed to Meet General Electric Specifications

	1.	2.	3.	4.	5.	6.	7.	8.
	Connector Type	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variations
<b>PYLE COMMERCIAL DESIGNED TO MEET G. E. SPECIFICATIONS</b>	<b>BJ</b>	<b>-17</b>	<b>E</b>	<b>16-24</b>	<b>S</b>	<b>D</b>	<b>06</b>	<b>XXXX</b>

### 1. COMMERCIAL CONNECTORS DESIGNED TO GENERAL ELECTRIC SPECIFICATIONS

<b>BJ</b>	Threaded, stainless steel, static/dynamic seal in receptacle
<b>BJ8</b>	Threaded, stainless steel, scoop proof recessed pins, static/dynamic seal in receptacle
<b>BN</b>	Electro-deposited nickel plating, threaded, stainless steel, static/dynamic seal in receptacle
<b>BN8</b>	Electro-deposited nickel plating, threaded, stainless steel, scoop proof recessed pins, static/dynamic seal in receptacle
<b>BNK</b>	Stainless steel firewall, electro-deposited nickel plating, threaded, stainless steel, static/dynamic seal in receptacle

### 3. SHELL MODIFICATION

<b>E</b>	360° accessory teeth per MS3155 Plug and receptacle
<b>F</b>	360° accessory teeth per MS3155, EMI grounding spring on Plug only
<b>G</b>	3 accessory teeth, EMI grounding spring on plug only

### 5. CONTACT TYPE (CRIMP)

<b>P</b>	Pin contacts
<b>K</b>	#20 Pins with #18 crimpwell
<b>S</b>	Socket contacts
<b>L</b>	#20 Sockets with #18 crimpwell

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 2. SHELL STYLE

<b>-10</b>	Bayonet plug
<b>-11</b>	Threaded straight plug
<b>-12</b>	Threaded non-decoupling plug
<b>-17</b>	Square flange receptacle
<b>-19</b>	Jam nut (d-hole mount) receptacle

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

First number represents Shell Size, second number is the Insert Arrangement.

### 6. ALTERNATE CONTACT FINISH OR WITHOUT CONTACTS

<b>D</b>	Gold per SAE AS39029*
<b>E</b>	Without contacts

### 8. VARIATION FOR GENERAL ELECTRIC

<b>Y176</b>	260°C per G.E. M50TF3564, Class B, No accessory teeth
<b>Y185</b>	Older style with 200°C capability - european market (Superseded by Y163)
<b>Y186</b>	260°C capability per G. E. M50TF3564 Class B**
<b>Y188</b>	200°C capability per G. E. M50TF3564 Class A**

Another variation available with molding groove for potting - consult Amphenol Aerospace for ordering information.

\* Supersedes MIL-C-39029

\*\* Also see Hermetic styles that meet G.E. specification M50TF3564, Classes A & B on page 36.

## How to Order – Boeing Designation (BACC63CM/CN\*) or Pyle Commercial Equivalent

	1.	2.	3.	4.	5.	6.	7.	8.
	Connector Type	Shell Style	Boeing Spec. Qualified Shell Size	Shell Modification (Accessory Teeth)	Boeing Spec. Qualified Insert Arrangement	Contact Style	Alternate Keying Position of Shell	Without Contacts Option
<b>BOEING CO. DESIGNATION</b>	<b>BACC63</b>	<b>CM</b>	<b>18</b>	<b>B</b>	<b>14</b>	<b>P</b>	<b>8</b>	<b>A</b>

	1.	3.	4.	5.	6.	7.	8.	
	Connector Type	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variation
<b>PYLE COMMERCIAL EQUIV. TO BOEING BACC63CM/CN</b>	<b>BSK</b>	<b>-12</b>	<b>E</b>	<b>18-14</b>	<b>P</b>	<b>D</b>	<b>08</b>	<b>XXX</b>

### 1. BOEING BACC63 FIREWALL CONNECTORS

<b>BACC63</b>	Boeing Designation BACC63CM/CN** Firewall Connectors
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(Refer to military specification slash sheet number.)

\*\* BACC63CM/CN supersedes BACC63BR/BT

### 2. SHELL STYLE

<b>CM</b>	Threaded, non-decoupling plug stainless steel firewall
<b>CN</b>	Threaded, square flange receptacle, stainless steel firewall

### 3. BOEING SPECIFICATION QUALIFIED SHELL SIZE

12, 14, 16, 18, 20, 22, 24, 28

### 4. SHELL MODIFICATION

<b>-</b>	Accessory teeth per MIL-DTL-83723, series III (normally 3 teeth)
<b>B</b>	360° accessory teeth per MS3155 plug and receptacle
<b>D</b>	360° accessory teeth per MS3155, EMI grounding spring on plug only

### 5. BOEING SPECIFICATION QUALIFIED INSERT ARRANGEMENT FROM CHART ON PG. 26

12-03, 14-04, 14-07, 16-10, 18-14, 20-16, 22-19, 24-30, 28-42 (these incorporate Boeing approved contacts)

### 6. CONTACT TYPE (CRIMP)

<b>P</b>	Pin contacts, gold plate per SAE AS39029*
<b>S</b>	Socket contacts, gold plate per SAE AS39029*

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 26 for descriptions.

### 8. CONTACTS OPTION

<b>A</b>	With contacts and sealing plugs.
<b>No Code</b>	Without contacts and sealing plugs.

\*Supersedes MIL-C-39029

### 1. COMMERCIAL TYPE TO BOEING BACC63

<b>BSK</b>	Threaded with 'O' ring seal in receptacle
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### 2. SHELL STYLE

<b>-12</b>	Threaded, non-decoupling plug stainless steel firewall
<b>-17</b>	Threaded, square flange receptacle, stainless steel firewall

### 3. SHELL MODIFICATION

<b>E</b>	360° accessory teeth per MS3155 plug and receptacle
<b>F</b>	360° accessory teeth per MS3155, EMI grounding Spring on plug only

No designation needed for shells with accessory teeth per MIL-DTL-83723, Series III (normally 3 teeth).

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

Shell Sizes 12, 14, 18, 20, 24, 28 are available. Shell size and insert arrangement are written together. First number represents Shell Size, second number is the Insert Arrangement.

### 5. CONTACT TYPE (CRIMP)

<b>P</b>	Pin contacts
<b>S</b>	Socket contacts

### 6. ALTERNATE CONTACT FINISH OR WITHOUT CONTACTS

<b>D</b>	Gold per SAE AS39029*
<b>E</b>	Without contacts and sealing plugs

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Omit for N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 8. VARIATION

<b>Y126</b>	Contact Marking per MIL-DTL-83723/33 & /34 (Required with BACC63CM/CN Series)
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# MIL-DTL-83723, Series III, Pyle®

## How to Order – ASD Designation

	1.	2.	3.	4.	5.	6.
	Connector Type	Service Class	Shell Style	Shell Size/Insert Arrangement	Contact Style	Alternate Keying Position of Shell
<b>ASD DESIGNATION</b>	<b>EN2997</b>	<b>KE</b>	<b>6</b>	<b>16-24</b>	<b>F</b>	<b>6</b>

### 1. ASD DESIGNATED/EUROPE

<b>EN2997</b>	ASD Designated/Europe an Standards Connector Type
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Note: ASD supersedes AECMA Designation

### 3. SHELL STYLE

<b>0</b>	Threaded, Square Flange Receptacle
<b>1</b>	Threaded, Solder Mount receptacle, Hermetic only
<b>6</b>	Threaded non-decoupling plug
<b>7</b>	Threaded Jam Nut (D-Hole Mount) Receptacle

### 5. SELECT A CONTACT TYPE (CRIMP)

<b>M</b>	Standard Pin Contacts
<b>C</b>	#20 Pins with #18 crimpwell
<b>A</b>	Pin Insert less Contacts
<b>F</b>	Standard Socket Contacts
<b>D</b>	#20 Sockets with #18 crimpwell
<b>B</b>	Socket Insert less Contacts

### 2. SERVICE CLASS-STANDARD TEMPERATURE

<b>K</b>	Threaded, stainless steel, 200°C
<b>S</b>	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 200°C
<b>Y*</b>	Stainless Steel Hermetic with Solderwell Contacts, 200°C

### 2. SERVICE CLASS-HIGH TEMPERATURE CLASS

<b>KE</b>	Threaded, Stainless Steel Firewall, 260°C
<b>SE</b>	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 260°C
<b>YE*</b>	Stainless Steel Hermetic with Solderwell Contacts, 260°C

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

First number represents Shell Size, second number is the Insert Arrangement.

### 6. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 26 for descriptions.

\*Amphenol is no longer QPL supplier for EN2997Y, EN2997YE and ESC10YE we are able to provide commercial equivalent please contact Amphenol Aerospace for more information

## How to Order – Pyle Commercial Equivalents to ASD Designation/European Standards

	1.	2.	3.	4.	5.	6.	7.	8.	9.
	Connector Type	Service Class	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Pos. of Shell	Variations
<b>COMMERCIAL MEET ASD &amp; EUROPEAN STDS.</b>	<b>BT</b>	<b>G</b>	<b>-12</b>	<b>E</b>	<b>18-14</b>	<b>P</b>	<b>D</b>	<b>08</b>	<b>XXX</b>

### 1. CONNECTOR TYPE

<b>BT</b>	Threaded with 'O' ring seal in receptacle
<b>BJ</b>	Threaded, Stainless Steel, Static/Dynamic Seal in receptacle

### 2. SERVICE CLASS

<b>G</b>	Stainless steel
<b>K</b>	Stainless steel Firewall

### 3. SHELL STYLE

<b>-12</b>	Threaded, Non-Decoupling Plug
<b>-17</b>	Threaded, Square Flange Receptacle
<b>-19</b>	Threaded, Jam Nut (D-Hole Mount) Receptacle

### 4. SHELL MODIFICATION

<b>E</b>	360° Accessory Teeth per MS3155 Plug and Receptacle
<b>F</b>	360° Accessory Teeth per MS3155, EMI Grounding Spring on Plug only

No designation needed for shells with accessory teeth per MIL-DTL-83723, Series III (normally 3 teeth).

### 5. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

First number represents Shell Size, second number is the Insert Arrangement.

### 6. CONTACT TYPE (CRIMP)

<b>P</b>	Pin Contacts
<b>S</b>	Socket Contacts

### 7. ALT CONTACT FINISH OR WITHOUT CONTACTS

<b>D</b>	Gold per SAE AS39029*
<b>E</b>	Without contacts

### 8. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 9. VARIATIONS

<b>Y144</b>	260°C Capability (Euro Market)
<b>Y163</b>	200°C Capability (Euro Market)
<b>Y175</b>	Older designation superseded by Y144

\*Supersedes MIL-C-39029



# MIL-DTL-83723, Series III, Pyle®

## How to Order – ESC10/11 for SBAC and Rolls Royce Standards

	1.	2.	3.	4.	5.	6.	7.
	Connector Type	Service Class	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Alternate Keying Position of Shell	Variations
<b>MEETS SOCIETY OF BRITISH AEROSPACE CO./ ROLLS ROYCE STANDARDS</b>	<b>ESC10</b>	<b>KE</b>	<b>0</b>	<b>16-24</b>	<b>S</b>	<b>6</b>	<b>X</b>

### 1. CONNECTOR TYPE

<b>ESC10</b>	Threaded, Basic High Temperature Connector, 260°C Firewall
<b>ESC11</b>	Threaded, High Temperature Connector (260°C Firewall) with 100% Scoop-Proof Recessed Pins

### 2. SERVICE CLASS

<b>KE</b>	Threaded, Stainless Steel Firewall, 260°C
<b>SE</b>	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 260°C
<b>YE*</b>	Threaded, Stainless Steel Hermetic with Solderwell Contacts, 260°C

\*Amphenol is no longer QPL supplier for EN2997Y, EN2997YE and ESC10YE we are able to provide commercial equivalent please contact Amphenol Aerospace for more information

### 3. SHELL STYLE

<b>0</b>	Threaded, Square Flange Receptacle with 360° Accessory Teeth per MS3155
<b>1</b>	Threaded, Hermetic Solder Mount Receptacle
<b>2</b>	Threaded, Hermetic Square Flange Receptacle
<b>3</b>	Threaded, Hermetic Jam Nut (D-Hole Mount) Receptacle
<b>6</b>	Threaded, Non-Decoupling Plug with 360° Accessory Teeth per MS3155

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

First number represents Shell Size, second number is the Insert Arrangement.

### 5. CONTACT TYPE (CRIMP)

<b>P</b>	Pin Contacts
<b>S</b>	Socket Contacts

All connectors are supplied without contacts except Shell Styles 1, 2 and 3

### 6. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 26 for descriptions.

### 7. VARIATIONS

<b>O (Alpha)</b>	Basic Connector, no Variations
<b>A</b>	Lockwire Holes on Plug

## How to Order – Pyle Commercial Equivalent to ESC11 European Specifications – Scoop-Proof only

	1.	2.	3.	4.	5.	6.	7.	8.
	Connector Type	Shell Style	EMI or Without EMI	Shell Size/ Insert Arrangement	Contact Type	Contact Finish	Alternate Keying Position of Shell t	Temperature Rating / Mod Code
<b>COMMERCIAL</b>	<b>HTK</b>	<b>12</b>	<b>F</b>	<b>16-24</b>	<b>S</b>	<b>D</b>	<b>06</b>	<b>XXX</b>

### 1. COMMERCIAL EQUIVALENT TO ESC11 EUROPEAN

<b>HTK</b>	Threaded, Basic ESC-11, Class K (Choice of temperature rating 260° or 200° is in the Variations for this part number).
<b>HNK</b>	Same as HTK except Electroless Nickel Plated
<b>HSK</b>	Same as HTK, except this is a special designator for Boeing Company

### 3. EMI OR WITHOUT EMI

<b>F or Blank</b>	EMI
<b>E</b>	No EMI

### 5. CONTACT TYPE (CRIMP)

<b>P</b>	Pin Contacts
<b>S</b>	Socket Contacts

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 2. SHELL STYLE

<b>-12</b>	Threaded Non-Decoupling Plug with 100% Scoop-Proof Recessed Pins
<b>-17</b>	Square Flange Receptacle with 100% Scoop-Proof Recessed Pins

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

Shell Sizes 12, 14, 18, 20, 24, 28 are available. Shell size and insert arrangement are written together. First number represents Shell Size, second number is the Insert Arrangement.

### 6. CONTACT FINISH OR WITHOUT CONTACT

<b>D</b>	Gold per AS39029*
----------	-------------------

Special High Temperature Contacts are another option - consult Amphenol Aerospace for ordering information.

### 8. TEMPERATURE RATING / MOD CODE

<b>Y144</b>	260°C
<b>Y163</b>	200°C

\*Supersedes MIL-C-39029

\*Lockwire hole options available consult Amphenol for more information

# MIL-DTL-83723, Series III, Pyle®

## How to Order – Hermetic, Military or Pyle Commercial

	1.	2.	3.	4.	5.
	Connector Type	Connector Style and Contact Type (Crimp)	Service Class	Shell Size/Insert Arrangement	Alternate Keying Position of Shell
<b>MILITARY HERMETIC</b>	<b>M83723</b>	<b>/88</b>	<b>y</b>	<b>16-24</b>	<b>6</b>

	1.	2.	3.	4.	5.	6.	7.	8.
	Connector Style	Shell Style	Shell Size/Insert Arrangement	Contact Type	Contact Style	Alternate Contact Finish	Alternate Keying Position of Shell	Variations
<b>COMMERCIAL HERMETIC</b>	<b>BTY</b>	<b>-17</b>	<b>16-24</b>	<b>S</b>	<b>1</b>	<b>D</b>	<b>06</b>	<b>XXXX</b>

### 1. MILITARY CONNECTOR TYPE

<b>M83723</b>	Designates MIL-DTL-83723 Series III Connectors
---------------	--

### 2. MILITARY HERMETIC CONNECTOR STYLE

<b>/88</b>	Hermetic, Threaded Square Flange Receptacle
<b>/89</b>	Hermetic, Threaded Jam Nut (D-Hole Mount) Receptacle
<b>/90</b>	Hermetic, Threaded Solder Mounted Receptacle

(Refer to military specification slash sheet number.)

### 3. SERVICE CLASS

<b>Y</b>	Hermetic, Stainless Steel, 200°C, with Solderwell Contacts
<b>H</b>	Hermetic, Tin Plated Carbon Steel, 150° C

For availability of a Plated Steel Shell, consult Amphenol Aerospace.

### 4. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

(Except sizes 24 and 28 are not available in Hermetic Styles.) First number represents Shell Size, second number is the Insert Arrangement

### 5. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 26 for descriptions.

### 1. COMMERCIAL HERMETIC CONNECTOR STYLE

<b>BTY</b>	Hermetic, Threaded, Stainless Steel, with 'O' ring seal
<b>BFY</b>	Hermetic, Threaded, Stainless Steel, Static/Dynamic Seal
<b>BNY</b>	Hermetic, Threaded, Stainless Steel, Electro-deposited Nickel plated, with Static/Dynamic Seal

### 2. SHELL STYLE

<b>-17</b>	Square Flange Receptacle
<b>-19</b>	Jam Nut (D-Hole Mount) Receptacle
<b>-14</b>	Solder Mounted Receptacle

### 3. SHELL SIZE & INSERT ARRANGEMENT FROM CHART ON PG. 26

(Except sizes 24 and 28 are not available in Hermetic Styles). First number represents Shell Size, second number is the Insert Arrangement

### 4. CONTACT TYPE (CRIMP)

<b>P</b>	Pin Contacts
----------	--------------

### 5. CONTACT STYLE

<b>1</b>	Solderwell Contacts (Mil-Spec Type)
<b>4</b>	Eyelet Contacts

### 6. ALTERNATE CONTACT FINISH

<b>D</b>	.000050 (per MIL-DTL-83723, III) Gold
<b>V</b>	.000100 Gold

### 7. ALTERNATE KEYING POSITION - ROTATION OF MASTER KEY/KEYWAY OF SHELL

Omit for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 26 for descriptions.

### 8. VARIATIONS

<b>Y144</b>	260°C Capability (Euro Market)
<b>Y163</b>	200°C Capability (Euro Market)
<b>Y186</b>	260°C Capability per G.E. M50TF3564, Class B
<b>Y188</b>	200°C Capability per G.E. M50TF3564, Class A

# Square Flange Receptacle, Threaded Coupling

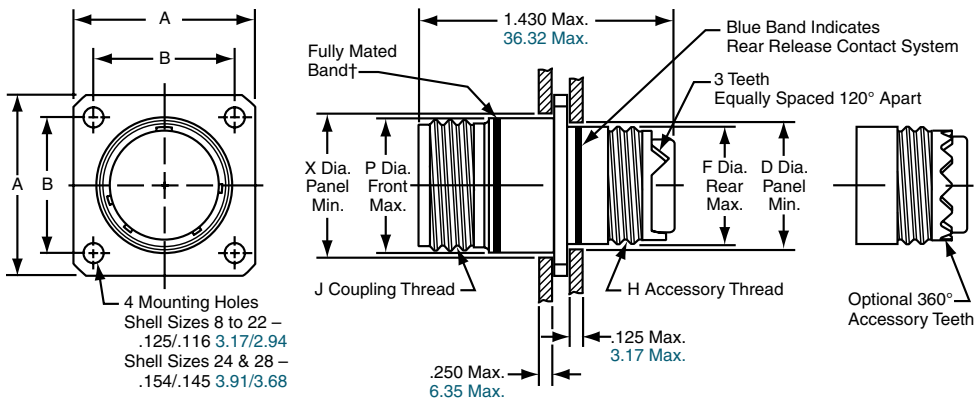


**Military (M83723/82, /83), Commercial (BT( )-1, BJ, BJ8, BN, BN8, BNK-17, BACC63CN, BSK-17, EN2997( )0, BT( ), BJ( )-17, ESC10( )0, ESC11( )0 HTK, HNK, HSK-17)**

**QUICK REFERENCE Page**  
**PART NUMBER BUILDER Page 42-46**

**MILITARY**  
**M83723/86**  
**M83723/87**

**Commercial**  
**BT( )-17**  
**BJ, BJ8, BN, BN8**  
**BNK-17**  
**BACC63CN**  
**BSK-17**  
**EN2997( )0**  
**BT( ), BJ( )-17**  
**ESC10( )0**  
**ESC11( )0**  
**HTK, HNK, HSK-17**



† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2A	P Dia. Front Max.	X Dia. Panel Min.
8	.812	.594	.510	.500	.5000-20 UNF	.5625-24 UNF	.562	.620
10	.937	.719	.635	.625	.6250-24 UNEF	.6875-24 UNEF	.696	.748
12	1.031	.812	.760	.750	.7500-20 UNEF	.8750-20 UNEF	.875	.913
14	1.125	.906	.885	.875	.8750-20 UNEF	.9375-20 UNEF	.936	.980
16	1.250	.969	1.010	1.000	1.0000-20 UNEF	1.0625-18 UNEF	1.062	1.107
18	1.343	1.062	1.072	1.062	1.0625-18 UNEF	1.1875-18 UNEF	1.187	1.209
20	1.437	1.156	1.192	1.187	1.1875-18 UNEF	1.3125-18 UNEF	1.312	1.337
22	1.562	1.250	1.322	1.312	1.3125-18 UNEF	1.4375-18 UNEF	1.437	1.452
24	1.703	1.375	1.447	1.437	1.4375-18 UNEF	1.5625-18 UNEF	1.562	1.577
28	1.953	1.562	1.760	1.750	1.7500-18 UNEF	1.8125-16 UNEF	1.812	1.827

Millimeters

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.09	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
20	36.50	29.36	30.28	30.15	33.32	33.96
22	39.67	31.75	33.58	33.32	36.50	36.88
24	43.26	34.93	36.75	36.50	39.67	40.06
28	49.61	39.67	44.70	44.45	46.02	46.41

Shell sizes 8 and 10 are not available in Boeing BACC63 styles and commercial ESC11 styles. Bayonet style square flange receptacles are shown on page 40. Hermetic threaded style square flange receptacles are shown on page 43. All dimensions for reference only.

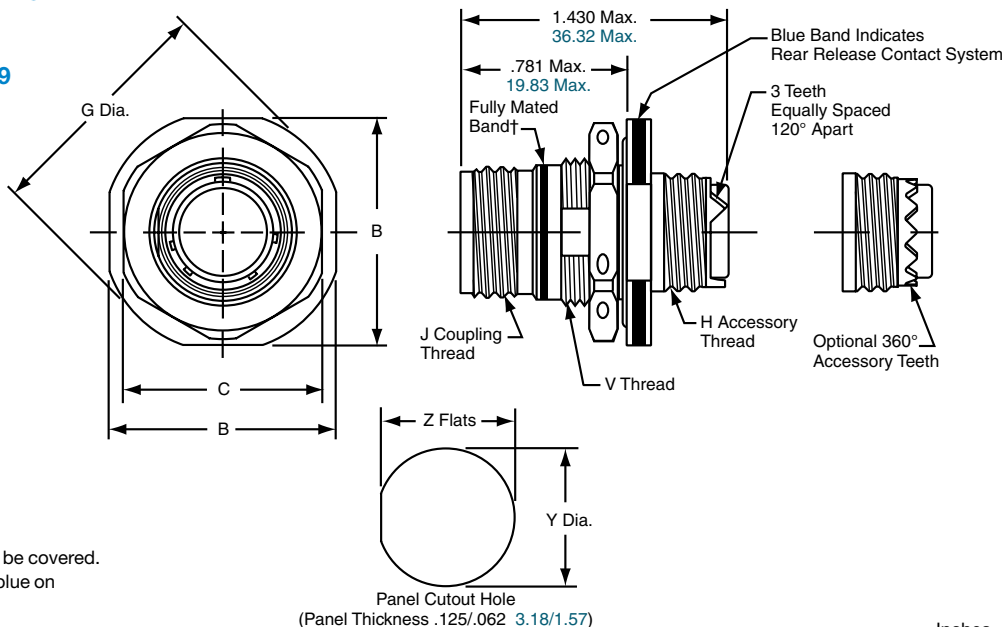
# Jam Nut (D-Hole Mount) Recpt, Threaded Coupling

Military (M83723/84 & /85), Commercial (BT()-19, BJ, BJ8, BN, BN8, BNK-19, EN2997()7, BT(), BJ()-19)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

**MILITARY**  
M83723/84  
M83723/87

**Commercial**  
BT( )-19  
BJ, BJ8, BN, BN8  
BNK-19  
EN2997( )7  
BT( ), BJ( )-19



† When fully mated with plug, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

(Panel Thickness .125/.062 3.18/1.57)

Inches

Shell Size	B Max.	C Hex Max.	G Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2A	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
8	.979	.828	1.068	.5000-20 UNF	.5625-24 UNF	.6250-20 UNEF	.635	.605
10	1.104	.953	1.192	.6250-24 UNEF	.6875-24 UNEF	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.7500-20 UNEF	.8750-20 UNEF	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.8750-20 UNEF	.9375-20 UNEF	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0000-20 UNEF	1.0625-18 UNEF	1.1250-18 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.0625-18 UNEF	1.1875-18 UNEF	1.2500-18 UNEF	1.260	1.225
20	1.766	1.574	1.860	1.1875-18 UNEF	1.3125-18 UNEF	1.3750-18 UNEF	1.385	1.350
22	1.954	1.705	2.068	1.3125-18 UNEF	1.4375-18 UNEF	1.5000-18 UNEF	1.510	1.475
24	2.074	1.830	2.160	1.4375-18 UNEF	1.5625-18 UNEF	1.6250-18 UNEF	1.635	1.600
28	2.329	2.080	-	1.7500-18 UNEF	1.8125-16 UNEF	1.8750-20 UNEF	1.885	1.850

Millimeters

Shell Size	B Max.	C Hex Max.	G Dia. Max.	Y Dia. ±.13	Z Flats ±.13
8	24.87	21.03	27.13	16.13	15.37
10	28.04	24.21	30.28	19.30	18.54
12	32.79	28.96	35.05	24.05	23.29
14	35.33	30.61	38.23	25.65	24.89
16	38.51	33.76	41.40	28.83	28.07
18	41.68	36.96	44.60	32.00	31.12
20	44.86	39.98	47.24	35.18	34.29
22	49.63	43.31	52.53	38.35	37.47
24	52.68	46.48	80.26	41.53	40.64
28	59.16	52.83	-	47.88	46.99

No Boeing Designated jam nut receptacles.

Bayonet style jam nut receptacles shown on page 40.

Hermetic threaded style jam nut receptacles shown on page 43.

All dimensions for reference only.

83723 III

Pyle

B

# Straight Plug and Non-Decoupling Plug, Threaded Coupling

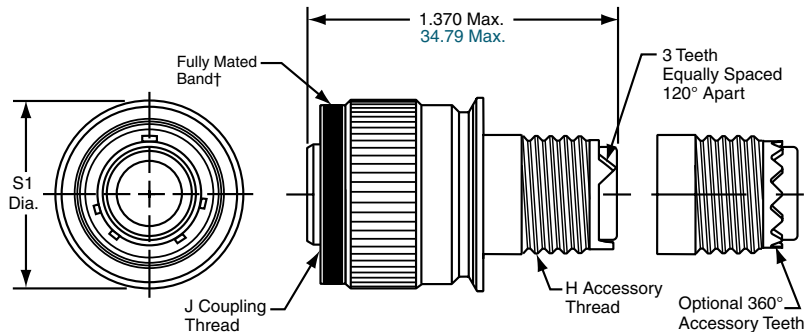
Military (M83723/86, /87, /95, /96, /97, /98), Commercial (See below)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

MILITARY  
M83723/86  
M83723/87

Commercial  
BY( )-11  
BJ, BJ8  
BN, BN8, BNK-11

## STRAIGHT PLUG

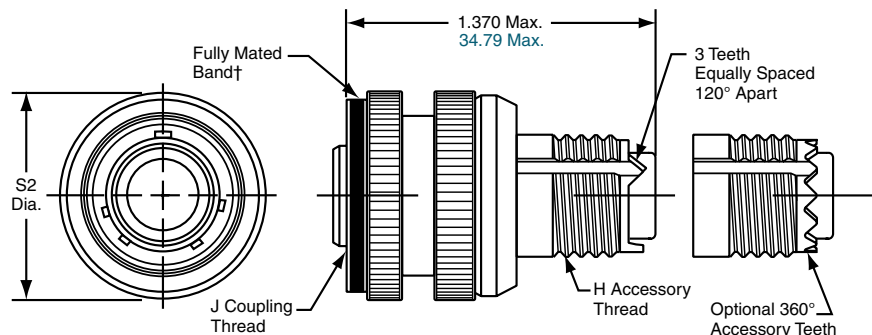


QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

MILITARY  
M83723/95  
M83723/96  
M83723/97  
M83723/98

Commercial  
BT( )-12  
BJ, BJ8, BN, BN8  
BNK-12  
BACC63CM  
BSK-12  
EN2997( )6  
BT( ), BJ( )-12  
ESC10( )6  
ESC11( )6  
HTK/HNK/HSK-12

## NON-DECOUPLING PLUG



† When fully mated with receptacle, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Shell Size	H Accessory Thread Class 2A	J Coupling Thread Class 2A	S1 Dia. Max.	S2 Dia. Max.
8	.5000-20 UNF	.5625-24 UNF	.776	.832
10	.6250-24 UNEF	.6875-24 UNEF	.906	.958
12	.7500-20 UNEF	.8750-20 UNEF	1.078	1.090
14	.8750-20 UNEF	.9375-20 UNEF	1.141	1.203
16	1.0000-20 UNEF	1.0625-18 UNEF	1.266	1.326
18	1.0625-18 UNEF	1.1875-18 UNEF	1.375	1.432
20	1.1875-18 UNEF	1.3125-18 UNEF	1.500	1.557
22	1.3125-18 UNEF	1.4375-18 UNEF	1.625	1.682
24	1.4375-18 UNEF	1.5625-18 UNEF	1.750	1.817
28	1.7500-18 UNEF	1.8125-16 UNEF	2.000	2.122

Inches

Shell Size	S1 Dia. Max.	S2 Dia. Max.
8	19.71	21.13
10	23.01	24.33
12	27.38	27.68
14	28.98	30.55
16	32.15	33.68
18	34.92	36.37
20	38.10	39.54
22	41.27	42.72
24	44.45	46.15
28	50.80	53.89

Millimeters

All dimensions for reference only.

Shell sizes 8 and 10 are not available in Boeing BACC63 styles and commercial ESC11 styles.  
Boeing designations are in non-decoupling plugs only; not in straight plug designations.  
ASD and European/ESC10 or ESC11 are in non-decoupling plugs only; not in straight plug designations.  
Bayonet style straight plugs shown on page 42. Bayonet style non-decoupling plugs are not available.



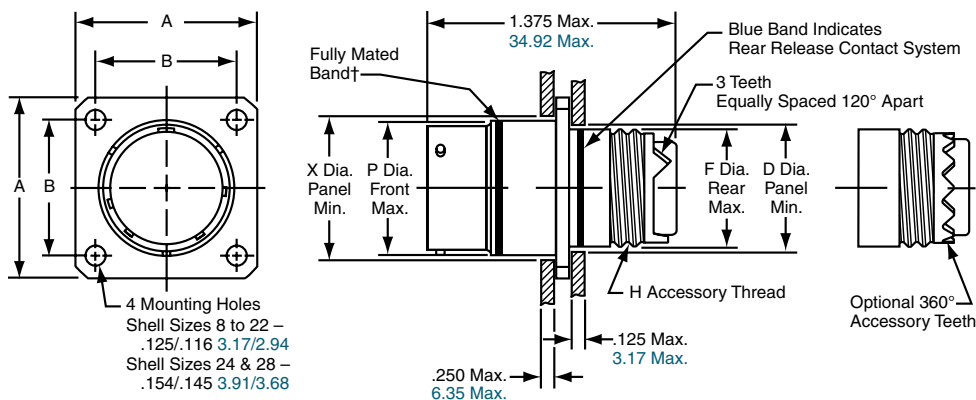
# Square Flange Receptacle, Bayonet Coupling

## Military (M83723/71 & 72), Commercial (BY( )-17)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

MILITARY  
M83723/71  
M83723/72

Commercial  
BY( )-17



† When fully mated with plug, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	H Accessory Thread Class 2A	P Dia. Front Max.	X Dia. Panel Min.
8	.812	.594	.510	.500	.5000-20 UNF	.562	.620
10	.937	.719	.635	.625	.6250-24 UNEF	.696	.748
12	1.031	.812	.760	.750	.7500-20 UNEF	.875	.913
14	1.125	.906	.885	.875	.8750-20 UNEF	.936	.980
16	1.250	.969	1.010	1.000	1.0000-20 UNEF	1.062	1.107
18	1.343	1.062	1.072	1.062	1.0625-18 UNEF	1.187	1.209
20	1.437	1.156	1.192	1.187	1.1875-18 UNEF	1.312	1.337
22	1.562	1.250	1.322	1.312	1.3125-18 UNEF	1.437	1.452
24	1.703	1.375	1.447	1.437	1.4375-18 UNEF	1.562	1.577

Millimeters

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.04	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
20	36.50	29.36	30.28	30.15	33.32	33.96
22	39.67	31.75	33.58	33.32	36.50	36.88
24	43.26	34.93	36.75	36.50	39.67	40.06

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors. Shell size 28 is not available in Bayonet coupling connectors. All dimensions for reference only.

83723 III

Pyle

B

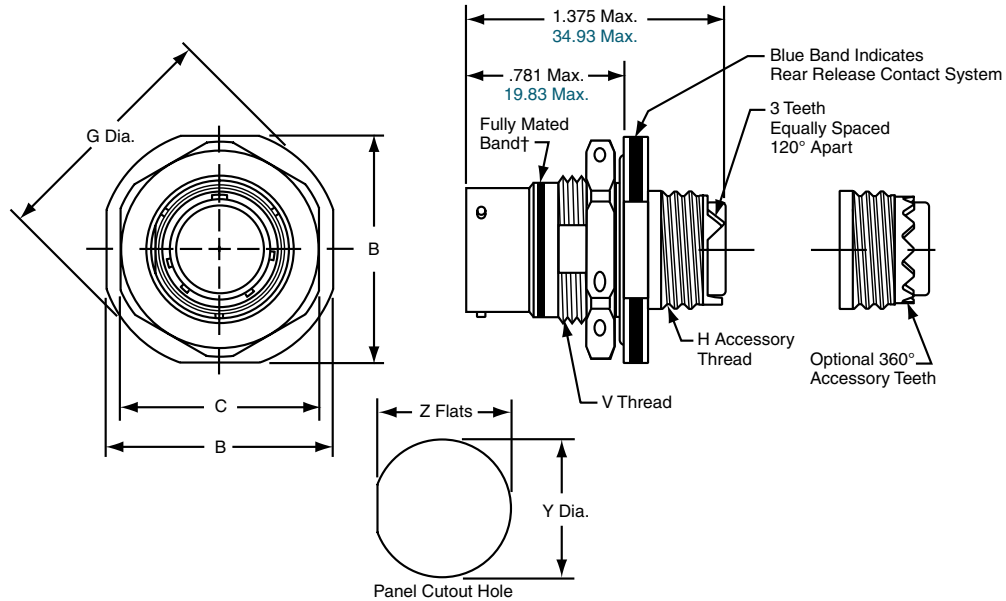
# Jam Nut (D-Hole Mount) Receptacle, Bayonet Coupling

## Military (M83723/73 & 74) Commercial (BY( )-19)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

**MILITARY**  
M83723/73  
M83723/74

**Commercial** BY( )-19



† When fully mated with plug, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

(Panel Thickness .125/.062 3.18/1.57)

Inches

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	H Accessory Thread Class 2A	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
8	.979	.828	1.068	.5000-20 UNF	.6250-20 UNEF	.635	.605
10	1.104	.953	1.192	.6250-24 UNEF	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.7500-20 UNEF	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.8750-20 UNEF	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0000-20 UNEF	1.1250-20 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.0625-18 UNEF	1.2500-18 UNEF	1.260	1.225
20	1.766	1.574	1.860	1.1875-18 UNEF	1.3750-18 UNEF	1.385	1.350
22	1.954	1.705	2.068	1.3125-18 UNEF	1.5000-18 UNEF	1.510	1.475
24	2.074	1.830	2.160	1.4375-18 UNEF	1.6250-18 UNEF	1.635	1.600

Millimeters

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	Y Dia. ±.13	Z Flats ±.13
8	24.87	21.03	27.13	16.13	15.37
10	28.04	24.21	30.28	19.30	18.54
12	32.79	28.96	35.05	24.05	23.29
14	35.33	30.61	38.23	25.65	24.89
16	38.51	33.76	41.40	28.83	28.07
18	41.68	36.96	44.60	32.00	31.12
20	44.86	39.98	47.24	35.18	34.29
22	49.63	43.31	52.53	38.35	37.47
24	52.68	46.48	80.26	41.53	40.64

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors. Shell size 28 is not available in Bayonet coupling connectors. All dimensions for reference only.

83723 III

Pyle

B

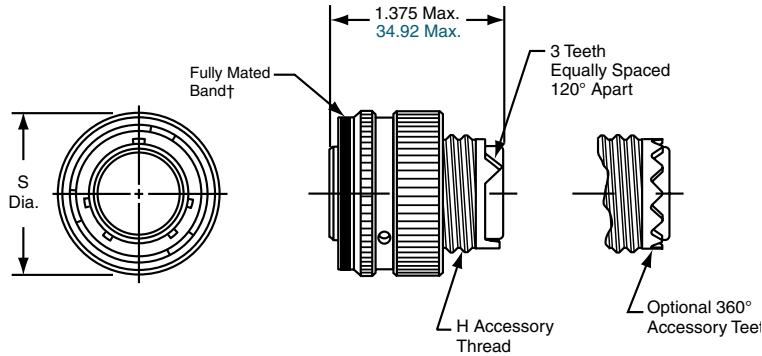
# Straight Plug, Bayonet Coupling

## Military (M83723/75 & /76), Commercial (BY( )-10)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

MILITARY  
M83723/75  
M83723/76

Commercial  
BY( )-10



† When fully mated with receptacle, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Inches			Millimeters	
Shell Size	H Accessory Thread Class 2A	S Dia. Max.	Shell Size	S Dia. Max.
8	.5000-20 UNF	.765	8	19.43
10	.6250-24 UNEF	.906	10	23.01
12	.7500-20 UNEF	1.078	12	27.38
14	.8750-20 UNEF	1.125	14	28.57
16	1.0000-20 UNEF	1.266	16	32.15
18	1.0625-18 UNEF	1.375	18	34.92
20	1.1875-18 UNEF	1.505	20	38.22
22	1.3125-18 UNEF	1.625	22	41.27
24	1.4375-18 UNEF	1.755	24	44.57

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors. Shell size 28 is not available in Bayonet coupling connectors. All dimensions for reference only.

83723 III

Pyle

B

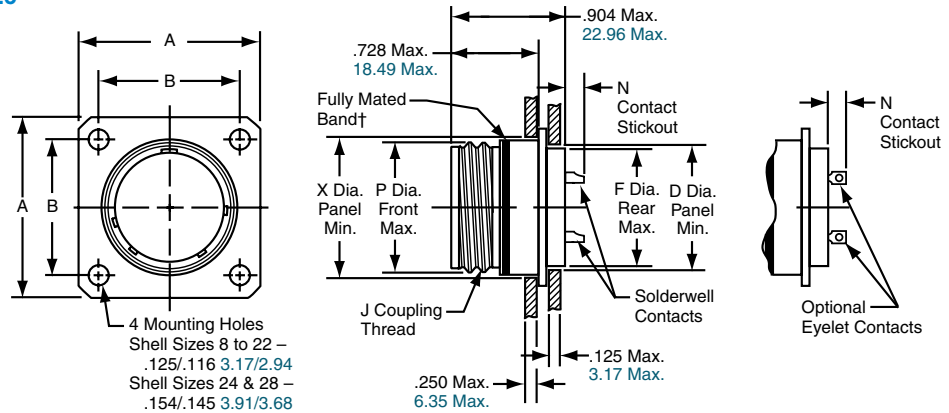
# Hermetic Square Flange Mount Receptacle, Threaded Coupling

**Military (MS83723/88), Commercial (BTY, BFY, BNY, EN2997, ESC10, ESC11)**

**QUICK REFERENCE Page**  
**PART NUMBER BUILDER Page 42-46**

**MILITARY**  
**M83723/88Y**  
**M83723/88P**

**Commercial**  
**BTY/BFY/BNY-17**  
**EN2997Y0 / YE0**  
**ESC10YE2**  
**ESC11YE2**



† When fully mated with plug, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.010	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	J Coupling Thread Class 2A	N Contact Stickout		P Dia. Front Max.	X Dia. Panel Min.
						Size 20 Contacts	Size 12 & 16 Contacts		
8	.812	.594	.510	.500	.5625-24 UNF	.194 / .134	.224 / .164	.562	.572
10	.937	.719	.635	.625	.6875-24 UNEF	.194 / .134	.224 / .164	.696	.706
12	1.031	.812	.760	.750	.8750-20 UNEF	.194 / .134	.224 / .164	.875	.885
14	1.125	.906	.885	.875	.9375-20 UNEF	.194 / .134	.224 / .164	.936	.946
16	1.250	.969	1.010	1.000	1.0625-18 UNEF	.194 / .134	.224 / .164	1.062	1.072
18	1.343	1.062	1.072	1.062	1.1875-18 UNEF	.194 / .134	.224 / .164	1.187	1.197
22	1.562	1.250	1.322	1.312	1.4375-18 UNEF	.194 / .134	.224 / .164	1.437	1.447

Millimeters

Shell Size	A ±.25	B ±.13	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.09	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
22	39.67	31.75	33.58	33.32	36.50	36.88

Hermetic style receptacles are not included in Boeing designations.  
Commercial hermetics meet some European and GE specifications.  
Hermetic styles are threaded coupling only.  
Shell sizes 20, 24 and 28, consult Amphenol for availability.  
All dimensions for reference only.

83723 III  
Pyle  
B

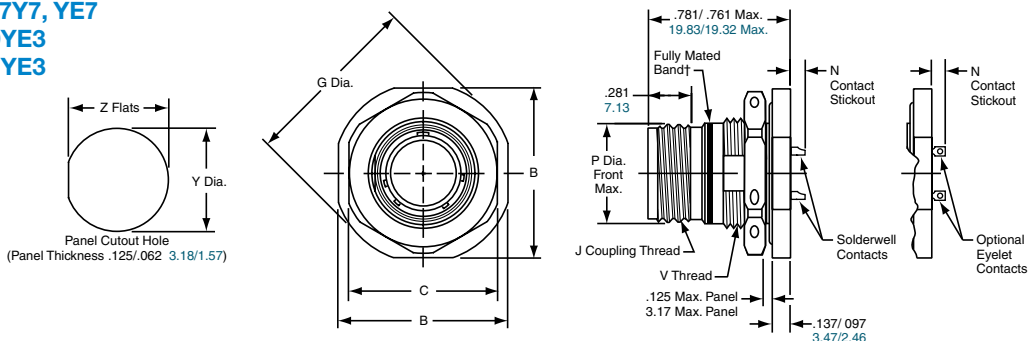
# Hermetic Jam Nut (D-Hole Mount) Receptacle, Threaded Coupling

Military (MS83723/89), Commercial (BTY, BFY, BNY, EN2997, ESC10, ESC11)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

**MILITARY**  
M83723/89Y  
M83723/89P

**Commercial**  
BTY, BFY, BNY-19  
EN2997Y7, YE7  
ESC10YE3  
ESC11YE3



† When fully mated with plug, this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	J Coupling Thread Class 2A	N Contact Stickout		P Dia. Front Max.	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
					Size 20 Contacts	Size 12 & 16 Contacts				
8	.980	.828	1.068	.5625-24 UNF	.180 / .120	.210 / .150	.562	.6250-20 UNF	.635	.605
10	1.104	.953	1.192	.6875-24 UNEF	.180 / .120	.210 / .150	.696	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.8750-20 UNEF	.180 / .120	.210 / .150	.875	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.9375-20 UNEF	.180 / .120	.210 / .150	.936	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0625-18 UNEF	.180 / .120	.210 / .150	1.062	1.1250-18 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.1875-18 UNEF	.180 / .120	.210 / .150	1.187	1.2500-18 UNEF	1.260	1.225
22	1.954	1.705	2.068	1.4375-18 UNEF	.180 / .120	.210 / .150	1.437	1.5000-18 UNEF	1.510	1.475

Millimeters

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	N Contact Stickout		P Dia. Front Max.	Y Dia. ±.13	Z Flats ±.13
				Size 20 Contacts	Size 12 & 16 Contacts			
8	24.89	21.03	27.13	4.57 / 3.05	5.33 / 3.81	14.27	16.13	15.37
10	28.04	24.21	30.28	4.57 / 3.05	5.33 / 3.81	17.68	19.30	18.54
12	32.79	28.96	35.05	4.57 / 3.05	5.33 / 3.81	22.23	24.05	23.29
14	35.33	30.61	38.23	4.57 / 3.05	5.33 / 3.81	23.77	25.65	24.89
16	38.51	33.76	41.40	4.57 / 3.05	5.33 / 3.81	26.97	28.83	28.07
18	41.68	36.96	44.60	4.57 / 3.05	5.33 / 3.81	30.15	32.00	31.12
22	49.63	43.31	52.53	4.57 / 3.05	5.33 / 3.81	36.47	38.35	37.47

Hermetic style receptacles are not included in Boeing designations.  
Commercial hermetics meet some European and GE specifications.  
Hermetic styles are threaded coupling only.  
Shell sizes 20, 24 and 28, consult Amphenol for availability.  
All dimensions for reference only.

# Hermetic Solder/Weld Mount Receptacle, Threaded Coupling

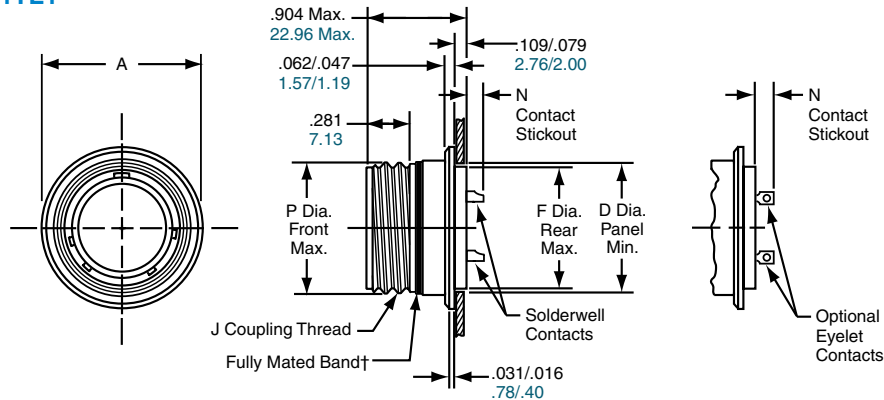
## Military (M83723/90), Commercial (BTY, BFY, BNY, EN2997, ESC10, ESC11)

QUICK REFERENCE Page  
PART NUMBER BUILDER Page 42-46

**MILITARY**  
M83723/90Y  
M83723/90P

Commercial

**BTY/BFY/BNY-14**  
**EN2997Y1 / YE1**  
**ESC10YE1**  
**ESC11YE1**



† When fully mated with plug this band will be covered.  
(Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A Dia. ±.010	D Dia. Panel Min.	F Dia. Rear Max.	J Coupling Thread Class 2A	N Contact Stickout		P Dia. Front Max.
					Size 20 Contacts	Size 12 & 16 Contacts	
8	.713	.510	.500	.5625-24 UNF	.194 / .134	.224 / .164	.562
10	.840	.572	.562	.6875-24 UNEF	.194 / .134	.224 / .164	.696
12	1.045	.760	.750	.8750-20 UNEF	.194 / .134	.224 / .164	.875
14	1.090	.822	.812	.9375-20 UNEF	.194 / .134	.224 / .164	.936
16	1.210	.947	.937	1.0625-18 UNEF	.194 / .134	.224 / .164	1.062
18	1.340	1.072	1.062	1.1875-18 UNEF	.194 / .134	.224 / .164	1.187
22	1.562	1.322	1.312	1.4375-18 UNEF	.194 / .134	.224 / .164	1.437

Millimeters

Shell Size	A Dia. ±.25	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.
8	18.11	12.95	12.70	14.27
10	21.34	14.53	14.27	17.68
12	26.54	19.30	19.05	22.23
14	27.69	20.88	20.62	23.77
16	30.73	24.05	23.80	26.97
18	34.04	27.23	26.97	30.15
22	39.67	33.58	33.32	36.50

Hermetic style receptacles are not included in Boeing designations.  
Commercial hermetics meet some European and GE specifications.  
Hermetic styles are threaded coupling only.  
Shell sizes 20, 24 and 28, consult Amphenol for availability.  
All dimensions for reference only.

83723 III

Pyle

B

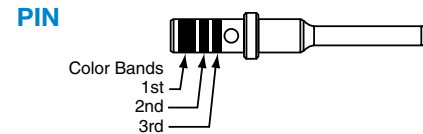


# MIL-DTL-83723, Series III, Pyle®

## Contact Information, Sealing Plugs, Tools

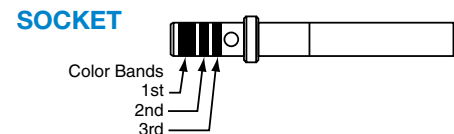
### STANDARD CRIMP CONTACTS - PIN PART NUMBERS / COLOR BANDS

Contact Size	Pin MS Spec Number	Pin Pyle Part Number	Pin Color Bands		
			1st Band	2nd Band	3rd Band
20	M39029/4-110	BA-4020-36LD	Brown	Brown	Black
16	M39029/4-111	BA-4016-36LD	Brown	Brown	Brown
12	M39029/4-113	BA-4012-36LD	Brown	Brown	Orange



### STANDARD CRIMP CONTACTS - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Socket MS Spec Number	Socket Pyle Part Number	Socket Color Bands		
			1st Band	2nd Band	3rd Band
20	M39029/5-115	BA-4120-36LD	Brown	Brown	Green
16	M39029/5-116	BA-4116-36LD	Brown	Brown	Blue
12	M39029/5-118	BA-4112-36LD	Brown	Brown	Gray



Sockets feature 4 tine construction with supporting spring bands.

### STANDARD CRIMP CONTACT RATING

Contact Size	Test Current Standard	Crimp Well Data			
		Well Diameter		Min. Well Depth	
		Inches	Millimeters	Inches	Millimeters
20	7.5	.049	1.25	.157	3.99
16	13.0	.067	1.70	.250	6.35
12	23.0	.100	2.54	.250	6.35

### STANDARD SEALING PLUGS

Contact Size	Sealing Plug MS Number	Sealing Plug Pyle Number	Color
20	MS27488-20	BA-4020-59P	Red
16	MS27488-16	BA-4016-59P	Blue
12	MS27488-12	BA-4012-59P	Yellow

### TOOLS

Contact Size	Crimp Tool		Adjustable Turret		Checking Gauge for M22520/1-01 Crimping Tool		Insertion/Removal Tool		
	MS Number	Pyle Number	MS Number	Pyle Number	MS Number	Pyle Number	MS Number	Pyle Number	Amphenol Number*
20							M81969/14-11	TP-201343-20-BA	10-538988-201
16	M22520/1-01	TP-201354	M22520/1-02	TP-201355	M22520/3	TP-201356	M81969/14-03	TP-201343-16-BA	10-538988-016
12							M81969/14-04	TP-201343-12-BA	10-538988-012

\* Amphenol part number for insertion/removal tool supersedes Pyle number

### BACKSHELLS

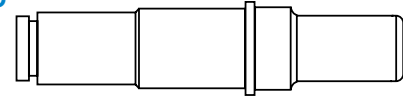
For Backshells information please visit Amphenol PCD at [www.amphenolpcd.com/products/backshells](http://www.amphenolpcd.com/products/backshells).

## Shielded Contacts, Thermocouple Contacts, Wire Sealing Information

### SHIELDED CONCENTRIC TWINAX CONTACTS

Contact Size	Cable Accommodation	Concentric Twinax Pin
#8 Twinax	M17/176-00002	BA-46T08-LD
#8 Twinax	PAN 6421 or JN1060ZB002	BA-46TA08-LD

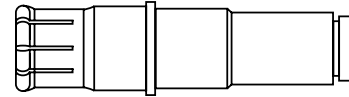
#### CONCENTRIC TWINAX PIN



Non-MS part; no color bands.

Contact Size	Cable Accommodation	Concentric Twinax Socket
#8 Twinax	M17/176-00002	BA-47T08-LD
#8 Twinax	PAN 6421 or JN1060ZB002	BA-47TA08-LD

#### CONCENTRIC TWINAX SOCKET



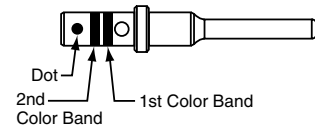
Non-MS part; no color bands.

Concentric Twinax contacts are designed for protection from magnetic and electrostatic interference including nuclear electromagnetic pulse. Consult Amphenol for other size twinax and coax contacts available for use in MIL-DTL-83723, Series III Pyle connectors.

### THERMOCOUPLE - PIN PART NUMBERS / COLOR BANDS

Contact Size	Material	Thermocouple Pin Pyle Part Number	Thermocouple Pin Color Bands			
			Color ID Dot	Trademark or Metal Stamping		1st Band
				Trademark	Metal Stamping	
20	Chromel	BT-4020-10P	White	Red	P	Red
20	Alumel	BT-4020-10R	Green	Red	R	Red
16	Chromel	BT-4016-10P	White	Blue	P	Blue
16	Alumel	BT-4016-10R	Green	Blue	R	Blue

#### THERMOCOUPLE PIN

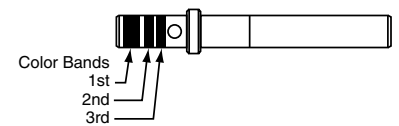


2nd color band consist of Trademark color and metal stamping of part number.

### THERMOCOUPLE - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Material	Thermocouple Socket Pyle Part Number	Reference Thermocouple Socket MS Part Number	Thermocouple Socket Color Bands		
				1st Band	2nd Band	3rd Band
20	Chromel	BT-4120-10P	-	Brown	Yellow	Brown
20	Alumel	BT-4120-10R	-	Brown	Yellow	Black
16	Chromel	BT-4116-10P	Ref M39029/10-522	Green	Red	Red
16	Alumel	BT-4116-10R	Ref M39029/10-521	Green	Red	Brown

#### THERMOCOUPLE SOCKET



### STANDARD & HIGH TEMPERATURE CRIMP CONTACTS WIRE SEALING DIAMETERS / STRIPPING LENGTHS

Contact Size	Wire Size (AWG)	Finished Wire Outside				Stripping Lengths			
		Minimum		Maximum		Minimum		Maximum	
		Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
20	24, 22, 20	.033	.84	.083	2.11	.140	3.56	.202	5.13
16	20, 18, 16	.047	1.19	.106	2.69	.218	5.54	.280	7.11
12	14, 12	.075	1.91	.157	3.99	.218	5.54	.280	7.11

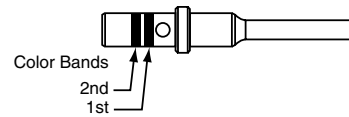
# MIL-DTL-83723, Series III, Pyle®

## Contact Information - European Specs

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS STANDARD CRIMP - PIN PART NUMBERS / COLOR BANDS

Contact Size	Pin Pyle Part Number	Pin Color Bands		
		1st Band	2nd Band	Dot
20	BA-4020-36LD-Y165	Red	Red	-
20/18*	BA-402018-36LD-Y165	Red	Violet	-
16	BA-4016-36LD-Y165	Blue	Blue	-
12	BA-4012-36LD-Y165	Yellow	Yellow	-

### STANDARD PIN EUROPEAN SPEC

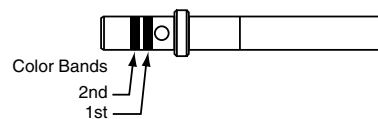


First band color is for contact size  
2nd band color is for AWG wire size

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS STANDARD CRIMP - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Socket Pyle Part Number	Socket Color Bands		
		1st Band	2nd Band	Dot
20	BA-4120-36LD-Y165	Red	Red	-
20/18*	BA-412018-36LD-Y165	Red	Violet	-
16	BA-4116-36LD-Y165	Blue	Blue	-
12	BA-4112-36LD-Y165	Yellow	Yellow	-

### STANDARD SOCKET EUROPEAN SPEC

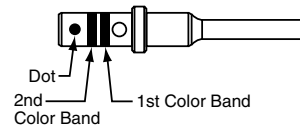


First band color is for contact size  
2nd band color is for AWG wire size

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS HIGH TEMPERATURE - PIN PART NUMBERS / COLOR BANDS

Contact Size	Pin Pyle Part Number	Pin ESC30 Part Number	Pin Color Bands		
			1st Band	2nd Band	Dot
20	BA-4020-50LD	ESC30-P20BC	Red	Red	White
20/18*	BA-402018-50LD	-	Red	Violet	White
16	BA-4016-50LD	ESC30-P16BC	Blue	Blue	White
12	BA-4012-50LD	ESC30-P12BC	Yellow	Yellow	White

### HIGH TEMPERATURE PIN EUROPEAN SPEC

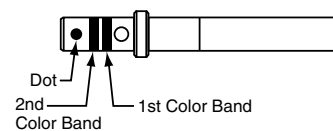


First band color is for contact size  
2nd band color is for AWG wire size  
Dot identifies High Temperature or Thermocouple contacts

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS HIGH TEMPERATURE - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Socket Pyle Part Number	Socket ESC30 Part Number	Socket Color Bands		
			1st Band	2nd Band	Dot
20	BA-4120-50LD	ESC30-S20BC	Red	Red	White
20/18*	BA-412018-50LD	-	Red	Violet	White
16	BA-4116-50LD	ESC30-S16BC	Blue	Blue	White
12	BA-4112-50LD	ESC30-S12BC	Yellow	Yellow	White

### HIGH TEMPERATURE SOCKET EUROPEAN SPEC



First band color is for contact size  
2nd band color is for AWG wire size  
Dot identifies High Temperature or Thermocouple contacts

\* #20 contacts with #18 crimpwell

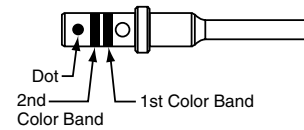
83723 III

Pyle

B

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS THERMOCOUPLE - PIN PART NUMBERS / COLOR BANDS

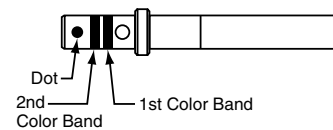
Contact Size	Material	Pin Pyle Part Number	Pin ESC30 Part Number	Pin Color Bands		
				1st Band	2nd Band	Dot
20	Chromel	BT-4020-10P-Y165	ESC30-P20NC	Red	Red	Yellow
20	Alumel	BT-4020-10R-Y165	ESC30-P20NA	Red	Red	Black
20/18*	Chromel	BT-402018-10P-Y165	–	Red	Violet	Yellow
20/18*	Alumel	BT-402018-10R-Y165	–	Red	Violet	Black
16	Chromel	BT-4016-10P-Y165	ESC30-P16NC	Blue	Blue	Yellow
16	Alumel	BT-4016-10R-Y165	ESC30-P16NA	Blue	Blue	Black



First band color is for contact size  
2nd band color is for AWG wire size  
Dot identifies High Temperature or Thermocouple contacts

### CONTACTS THAT MEET EUROPEAN SPECIFICATIONS THERMOCOUPLE - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Material	Socket Pyle Part Number	Socket ESC30 Part Number	Socket Color Bands		
				1st Band	2nd Band	Dot
20	Chromel	BT-4120-10P-Y165	ESC30-S20NC	Red	Red	Yellow
20	Alumel	BT-4120-10R-Y165	ESC30-S20NA	Red	Red	Black
20/18*	Chromel	BT-412018-10P-Y165	–	Red	Violet	Yellow
20/18*	Alumel	BT-412018-10R-Y165	–	Red	Violet	Black
16	Chromel	BT-4116-10P-Y165	ESC30-S16NC	Blue	Blue	Yellow
16	Alumel	BT-4116-10R-Y165	ESC30-S16NA	Blue	Blue	Black



First band color is for contact size  
2nd band color is for AWG wire size  
Dot identifies High Temperature or Thermocouple contacts

### HIGH TEMPERATURE SEALING PLUGS

Contact Size	Sealing Plug Pyle Number	Color
20	BT-4020-60P	Red
16	BT-4016-60P	Blue
12	BT-4012-60P	Yellow