Amphenol[®] Pyle[®] MIL-C-26500 Connectors

MS-101-3



Amphenol

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Sales Office Listing

If more information is needed concerning the connectors covered in this publication, or if there are special application needs, please contact:

Amphenol Corporation Amphenol Aerospace 40-60 Delaware Avenue Sidney, New York 13838-1395 Telephone: 607-563-5011 Fax: 607-563-5351 **Website: www.amphenol-aerospace.com**

Amphenol is a Certified ISO 9001 Manufacturer.

Amphenol[®] /Pyle[®] MIL-C-26500 Connectors - environmental connectors for military/aerospace applications

High quality and dependability are the earned reputations of the Amphenol[®]/Pyle[®] Series of connectors designed to meet the specification requirements of MIL-C-26500. Serving such diverse fields as avionics, missile systems, aircraft general-purpose applications, aircraft engines and firewalls, the Amphenol[®]/Pyle[®] MIL-C-26500 connector family meets the myriad of problems with innovative connector solutions.

Amphenol[®]/Pyle[®] MIL-C-26500 Connectors are medium sized connectors with a rugged design, lightweight construction and continuously dependable performance. This product family provides design features and options which are listed below in the order of the sections of this catalog.

- Aluminum Shells in threaded or bayonet coupling, proprietary (ZZY or ZZW), or supplied to military classes R and G
 - general purpose, environmentally resistant
 - square flange or single hole receptacles, and straight plug shell styles
 - ratchet lock plug style, which eliminates the need for safety wiring, and a mating threaded receptacle
 - black anodize non-conductive finish for class R and a conductive finish in class G that provides a minimum resistance path through the shell for grounding purposes
 - coupling nuts are hardcoat treated for added protection against wear
 - rear accessory threads accommodate standard MS27291 series cable supports or related accessory hardware
- Stainless Steel Shells in threaded or bayonet coupling, proprietary (ZZY or ZZW), or supplied to military class E
 - machined from 300 series stainless steel providing superior strength and wear characteristics
 - at elevated temperatures, 204°C (399°F), shells experience a less than 10% loss in yield strength
 - shell hardware resists corrosion for the life of the connector without the need of additional finishes
 - · same shell styles offered as in aluminum
 - a variety of stainless steel accessories are available
 - Amphenol special application connector, 48 Series* receptacle short skirt
 - low profile design for restricted installation requirements

• Wire splice connector

- space saving, single contact, wire splice module
- Firewall Capability Connectors meet the fireproof requirements of MIL-C-5015, Class K. Proprietary (FPK or FYL), or supplied to military Class K
 - also FPL threaded coupling, same as FPK but used on Lockheed Aircraft. and FP5K threaded coupling, qualified for General Electric
 - non-magnetic stainless steel shells designed for superior strength and elevated temperatures up to 460°F for extended periods
 - · same shell styles as stainless steel and aluminum versions
- Hermetically sealed MIL-C-26500 connectors, supplied to military class H are also available.
 - Seepage 26 for brief description
 - See page 4 for hermetic insert availability
 - Consult Amphenol, Sidney, NY for availability and ordering information.
- Contacts and Accessories for MIL-C-26500 connectors
 - MIL-C-39029 qualified contacts and special application contacts including thermocouple, printed circuit board and shielded/coaxial types
 - Boeing specification contacts
 - · Aluminum and stainless steel cable supports; aluminum dummy receptacles
 - · Contact crimping/ installation/removal tools for Amphenol 48 series and Pyle-National MIL-C-26500 series
- * For more information on other Amphenol[®]/Pyle[®] 48 Series products consult Amphenol, Sidney, NY.

MIL-C-26500 Connectors features

Amphenol®/Pyle® MIL-C-26500 Connectors are qualified to Military Specification MIL-C-26500, as well as numerous high performance customer specifications. As the chart below indicates, these connectors are available with aluminum or stainless steel shells – bayonet or threaded – and are qualified to meet the specifications of these MIL-C-26500 classes:

MIL-C-26500 Classes	Amphenol/ Pyle Series Classes	Hardware Description	Finish
Class R: (Environmental Resistant)	A	Aluminum Alloy	Anodize
Class G	М	Aluminum Alloy	Chromium
Class E	R	Stainless Steel	Passivated
Class K Firewall	Class K Firewall FPK/FYL		Passivated
Class H Hermetic	HC	CRS/Stainless Steel	Various

Crimp Contacts

Rear insertable, front releasable, crimp style contacts are machined from a copper alloy material, plated gold over nickel, and are qualified to specification MIL-C-39029. Contacts are crimp terminated outside the connector assembly and inserted into the appropriate cavity by means of a hand tool.

Socket contacts utilize a multi-tined construction and feature a "C" spring which grips the tines, and thus insures consistent and repetitive insertion/withdrawal forces. Contact tines are protected by a stainless steel shroud.

An optional pencil-clip thermocouple socket design is also offered. See page 27 for more information on thermocouple contacts.

Alternate Keying

All MIL-C-26500 Series Connectors with aluminum and stainless steel hardware, can be furnished with normal or any of five alternate key positions. (See page 4).

Each plug shell has a master key and four alternate keys. The position of the alternate keys in relation to the fixed master key determines the key identification. Inserts are bonded to the shell in relation to the master key, thus allowing positive protection against mismating when differing circuits exist side by side.

Connector Sealing

The insert design utilizes a combination of resilient and rigid insulators to offer a connector with total sealing capabilities.

Bonded interfaces between the resilient and rigid dielectric components eliminate air voids and thus protect the connector from potential degradation due to moisture and altitude conditions.

In Firewall Class K connectors the resilient insert forms the primary contact seal and is bonded to a molded ceramic rigid insert. The insert assembly is physically bonded and mechanically retained to the inside surface of the stainless steel shell, providing a voidless, monoblock configuration impervious to adverse environments.

A pressure seal at the connector interface is accomplished through the aid of a coupling device which compresses the front resilient insulations and thus offers a seal around each contact which prevents the passage of air or moisture through the contact cavity. Back resilient insulators are designed with a triple sealing grip at each wire hole to offer positive sealing and prevent wicking of moisture through the connector without the use of external clamping rings or adapters.

In addition, a dynamic "O" ring seal engages the front of the plug shell when connectors are mated and offers yet another barrier to moisture and containments.

Fluid/Temperature Resistance

The fluorosilicone compound elastomer, developed by Pyle-National, exceeds all specification requirements and provides excellent resistance to tear, compression set, fluids, and high temperatures.

Amphenol/Pyle's fluorosilicone compound offered in Class R, G, E and K is capable of reliability resisting MIL-H-5606 hydraulic fluid and MIL-L-9236 lubricating oil; as well as MIL-L-7808 and MIL-L-23699 lubricating oils, MIL-J-5624 (JP-5) jet fuel, glycol, and alkaline cleaning solutions of pH 10 or higher. Test methods are as defined in MIL-C-26500 specification. Alternate compounds have been developed by Pyle-National to solve unique user requirements not addressed by the specifications.

Connectors have the capability of resisting high ambient temperatures up to 200°C (392°F) for long periods of time, thus contributing to an extended connector life. Connectors will withstand a combined ambient and internal temperature due to thermal rise of current carrying capacity of 238°C (469°F).

Amphenol[®]/Pyle[®] Firewall, Class K, connectors have the inherent ability to resist high temperatures up to 460°F (total temperature) for extended periods of time and can resist short time exposures (20 minutes) to prevent passage of a direct 2000°F flame.

MIL-C-26500 specifications

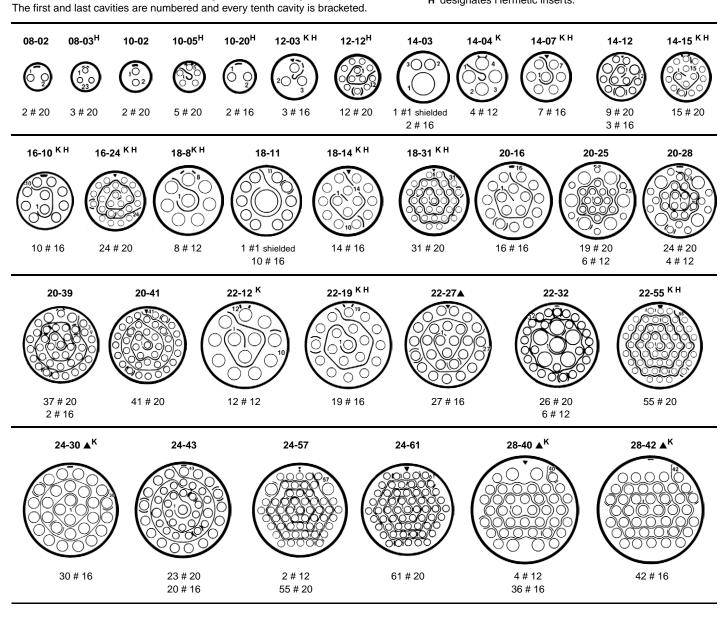
TEST REQUIREMENTS	MILITARY SPECIFICATIONS	PYLE CONNECTOR CAPABILITIES
Air Leakage (Classes E, G, R & K)	1 cu. inch per hr. max55°C (-67°F)	Comply
Altitude Immersion (Classes E, G, R & K)	Sea level 1 inch of mercury, 3 cycles (IR 5000 megohms hi-pot 1500 volts-submerged)	Comply
Contact Retention (Classes E, G, R & K)	Size 20 contact 20 lbs. min. Size 16 contact 25 lbs. min. Size 12 contact 30 lbs.min.	Exceeds specifications
Collet Retention	No requirement	Without damage to the collet or its retention means: Size 20 – 75 lbs. min. Size 16 – 140 lbs. min Size 12 – 160 lbs. min.
Contact Insertion Force (Classes E, G, R & K)	All size contacts 10 lbs. max.	Comply
Coupling Forces	Torque required to couple and uncouple mating plugs and receptacles is not to exceed the values listed:Shell size81012141618202224Torque inch lbs.91014172326313846	Comply
Fluid Resistance (Classes E, G, R & K)	20 hrs. immersion in MIL-H-5606 hydraulic fluid and MIL-L-9236 lubrication oil. Must meet hi-pot.	20 hrs. min., fully functional physically and electrically after immersion. No deteriora- tion of resilient material.
Ground Resistance (Class G)	.250 ohms backshell of plug to rear of receptacle flange.	Comply
High Potential (Classes E, G, R & K)	1500 VRMS mated & unmated at sea level 1000 VRMS mated to 110,000 ft. altitude	Exceed with ample margin of safety.
Insert Retention (Classes E, G, R & K)	75 psi. from either direction for 5 seconds.	Exceeds specifications.
Insulation Resistance (Classes E, G, R & K)	21°C (70°F), 5000 megohms between adjacent contacts and any contact and shell.	Exceeds specifications.
Low Temperature (Classes E, G, R & K)	-55°C (-67°F)	Comply
Magnetic Permeability (Classes E, G, R & K)	2 mu. maximum	Comply
Moisture Resistance (Classes E, G, R & K)	1000 megohms min. per mil-std. 202 method 106	Comply
Ozone Exposure (Classes E, G, R & K)	0.10 to .015% ozone exposure	Comply
Physical Shock (Classes E, G, R & K)	50 G's, 3 axis, per mil-std-202, method 213, test condition C, wired to monitor 1 microsecond discontinuity.	Comply
Sand & Dust Exposure (Classes E, G, R & K)	No requirement.	Meet MIL-E-5272 condition "B"
Temperature Life (Classes E, G, R & K)	Connector fully functional for 1000 hours at 200°C (392°F) ambi- ent internal temperature 238°C (460°F)	Comply
Thermal Shock (Mated) (Classes E, G, R & K)	Cycled five times from -55°C to 260°C, held for 30 minutes at each temperature and transferred to the other in 2 minutes or less, with no evidence of damage.	Comply
Vibration (Classes E, G, R & K)	MIL-Std. 202 method 204 condition "D" at R. T., -55°C (-67°F) and +200°C (+392°F).	Comply - monitored for a max. of 1 micro- second discontinuity.
Flame Resistance (Class K)	Performance requirements of Paragraph 4.5.18 Fireproof (Class K of MIL-C-5015D)	Exceeds specifications

MIL-C-26500 insert arrangements

Contact cavities are identified with a spiral guide line indicating cavity sequence.

Rear face of pin insert shown (socket insert opposite). Symmetrical about center line.

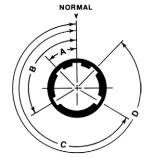
- ▲ designates Non-MS Configurations.
- K designates Firewall Class K inserts.
- H designates Hermetic inserts.



Alternate Keying

ALTERNATE POLARITY KEYWAY ARRANGEMENTS (Shell sizes 12, 14, 16, 18, 20, 22, 24, 28) View of front face of receptacle shell. Angles are counter-clockwise from "N" keyway. For plug shell, the key locations are clockwise when viewed from front of plug.

Position	For C	onnector	s Size 8 a	ind 10	For Connectors Size 12, 14, 16, 18, 20, 22, 24 and 28				
	Α	В	С	D	Α	В	С	D	
Normal	105°	140°	215°	265°	105°	140°	215°	265°	
6	102°	132°	248°	320°	18°	149°	192°	259°	
7	80°	118°	230°	312°	92°	152°	222°	342°	
8	35°	140°	205°	275°	84°	152°	204°	334°	
9	64°	155°	234°	304°	24°	135°	199°	240°	
Y or 10*	25°	115°	220°	270°	98°	152°	268°	338°	



Y is used for all Military part number callouts - aluminum/stainless steel and firewall; 10 is used for Amphenol/Pyle part number callouts - aluminum/stainless steel only. (See how to order pages 7, 8 and 21).

MIL-C-26500 aluminum/stainless steel, threaded/bayonet coupling

THREADED COUPLING

PYLE ZZY MS2426X()TXX

	ell Style Steel pictured)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
	_	General Purpose,	Aluminum	Military Class R or G	MS24264(R or G)XXTXX
	Square Flange Mounted	Environmental Resistant	Aluminum	Pyle A or M Series	ZZY-(A or M)X-17XX
	Receptacle	Superior Strength,		Military Class E	MS24264EXXTXX
	Threaded Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZY-RX-17XX
		General Purpose,		Military Class R or G	MS24265(R or G)XXTXX
16-Com	Single Hole (D-Hole) Mounted	Environmental Resistant	Aluminum	Pyle A or M Series	ZZY-(A or M)X-15XX
	Receptacle	Superior Strength,		Military Class E	MS24265EXXTXX
and a	Threaded Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZY-RX-15XX
		General Purpose,		Military Class R or G	MS24266(R or G)XXTXX
	Straight Plug	Environmental Resistant	Aluminum	Pyle A or M Series	ZZY-(A or M)X-10XX
	Threaded Coupling	Superior Strength,		Military Class E	MS24266EXXTXX
		Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZY-RX-10XX

BAYONET COUPLING PYLE ZZW MS2426X()BXX

	ll Style Steel pictured)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
and i		General Purpose,	Aluminum	Military Class R or G	MS24264(R or G)XXBXX
	Square Flange Mounted Receptacle	Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-17XX
		Superior Strength,		Military Class E	MS24264EXXTXX
	Bayonet Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZW-RX-17XX
Ser.		General Purpose,	Aluminum	Military Class R or G	MS24265(R or G)XXBXX
	Single Hole (D-Hole) Mounted	Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-15XX
	Receptacle	Superior Strength,		Military Class E	MS24265EXXTXX
are	Bayonet Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZW-RX-15XX
		General Purpose,	Aluminum	Military Class R or G	MS24266(R or G)XXBXX
	Straight Plug	Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-10XX
And a construction	Bayonet Coupling	Superior Strength,		Military Class E	MS24266EXXTXX
		Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZW-RX-10XX

NA designates not available * See how to order, page 7, for further description of hardware classes. ** See how to order, page 7, to complete part numbers.

MIL-C-26500 aluminum/stainless steel ratchet lock coupling

RATCHET LOCK PLUG

PYLE ZZY

Shell Style (Stainless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
Ratchet Lock Plug Non-Decoupling	Superior Strength, Corrosion Resistance up to 204°C (399°F) Employs ratchet feature in last 180° of rotation to eliminate need for safety-wiring	Stainless Steel only	Pyle R Series (Proprietary only)	ZZY-RX-12XX

* See how to order, page 7, for further description of hardware classes.
 ** See how to order, page 7, to complete part numbers.

RATCHET LOCK PLUG & MATING FLANGE MOUNTED, THREADED RECEPTACLE PYLE ZZY

ell Style steel pictured)	Basic Performance Level	Hardware Description*	Class*	Pyle Basic Part Number**
Ratchet Lock Plug Non-Decoupling	Designed to meet high vibration requirements beyond MIL-C-26500.	Aluminum	Pyle A Series	ZZY (A or F) X-12 (D, E or F) XX
		Stainless Steel	Pyle R Series	ZZY-RX-12 (D, E or F)XX
Square Flange Mounted Receptacle Threaded Coupling	Designed to meet high vibration requirements beyond MIL-C-26500.	Aluminum	Pyle A Series	ZZY (A or F) X-17(D, E or F) XX
		Stainless Steel	Pyle R Series	ZZY-RX-17 (D, E or F) XX

 * See how to order, page 8, for further description of hardware classes.
 ** See how to order, page 8, to complete part numbers. *

MIL-C-26500 – how to order

aluminum/stainless steel, threaded/bayonet/ratchet lock coupling

Sample ordering number:	MS24266	R	22	T	55	Р	e	6						
Shell Style							l						ternate Ke	
MS24264 – Square Flange Receptacle										6, 7,	8, 9, Y (N for norm	nal) See pa	age 4
MS24265 – Single Hole Mounting Receptacle MS24266 – Straight Plug													Contact	Τγρε
														n – F
Class													Socke	et – S
R – Aluminum, non-conductive (black anodize finish)												— Incor	t Arranger	mon
G – Aluminum, conductive (chromium finish)													e chart, pa	
E – Stainless steel, passivated												,	<i>/</i> / /	0
Shell Size				L								(Coupling [•]	Туре
8, 10, 12, 14, 16, 18, 20, 22, 24													Threade	
													Bayone	et – E
Sample ordering number: ZZY -	- A C – 10	22	2 – !	55	P 	06	ļ	D – Н 	XX					
Amphenol®/Pyle-National® Designatio Sample ordering number: ZZY - Shell Style) 22	2 – {	55	P	06	I	D – H)	XX		н.	ardware D Insert D	Deviation – Deviation – Contact Pla Gold Rhodiun	HXX AXX ating d – D m – T
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Sample ordering number: ZZY - Shell Style) 22	2 - {	55	P	06			[H	ardware D Insert D C	Deviation – Deviation – Contact Pla Gold Rhodiun	HXX AXX ating d – E m – 1 eying
Sample ordering number: ZZY - Shell Style		22	2 - 4	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C Mit for norm	Deviation – Deviation – Contact Pla Gold Rhodiun ternate Ke nal) See pa	HXX AXX ating d – E m – T eying age 4
Sample ordering number: ZZY - Shell Style		22	2 — {	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C Mit for norm	Deviation – Deviation – Contact Pla Gold Rhodiun ternate Ke nal) See pa Contact	HXX AXX ating d – E m – T eying age 4
Sample ordering number: ZZY - Shell Style		22	2 — {	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C Mit for norm	Deviation – Deviation – Contact Pla Gold Rhodiun ternate Ke nal) See pa Contact	HXX AXX d – E m – T eying age 4 Type n – F
Sample ordering number: ZZY - Shell Style		22	2 — {	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C C Alt it for norm	Deviation – Deviation – Contact Pla Gold Rhodiun ternate Ke hal) See pa Contact Pin Socke	HX) AX) ating d – [m – ⁻ eying age 4 Type n – F et – S
Sample ordering number: ZZY - Shell Style		2223	2 — 4	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C C Alt it for norm	Deviation – Deviation – Contact Pla Gold Rhodium ternate Ke hal) See pa Contact Pin Socke t Arranger	HXX AXX ating d – I m – ⁻ eying age Typo n – F men
Sample ordering number: ZZY - Shell Style) 222	2 -	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C C Alt it for norm	Deviation – Deviation – Contact Pla Gold Rhodiun ternate Ke hal) See pa Contact Pir Socke t Arranger e chart, pa	HXX AXX ating d – [m – ⁻ eying age Type n – I et – \$ men age
Sample ordering number: ZZY - Shell Style) 222	2 - {	55	P	06			06, 07,	, 08, 09	H.	ardware D Insert D C C Alt it for norm 	Deviation – Deviation – Contact Pla Gold Rhodium ternate Ke hal) See pa Contact Pin Socke t Arranger	HXX AXX ating d – [m – ⁻ eying age Typ n – I tot – S men age Siz

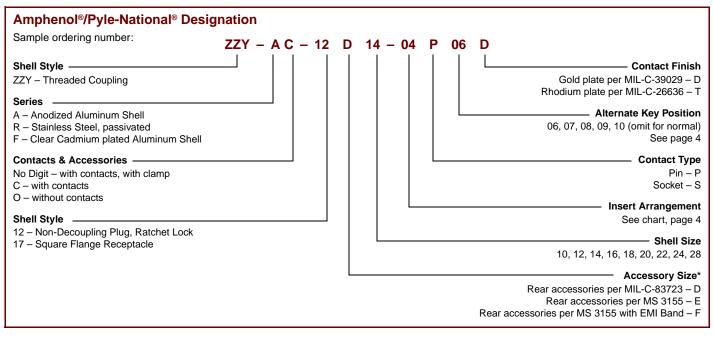
* Accessory threads for aluminum and stainless steel hardware differ, and care should be taken in selection of alternate accessory hardware that will conform to the threads noted in the dimensional tables within this catalog.

MIL-C-26500 – how to order aluminum/stainless steel, ratchet lock plug, mating flange receptacle

Amphenol[®]/Pyle[®] connectors are specifically designed to meet high vibration requirements above and beyond the specification requirements of MIL-C-26500. The plug connector features a unique non-decoupling device which offers a ratchet mechanism designed to engage as the threaded connectors approach a bottomed condition. Connector coupling assembly continues to ratchet for approximately 120 degrees until the mated connectors reach a complete metal-to-metal bottomed condition. The ratchet device maintains the connectors in a fully coupled condition, thus eliminating the need for safety wiring.

Additional features include:

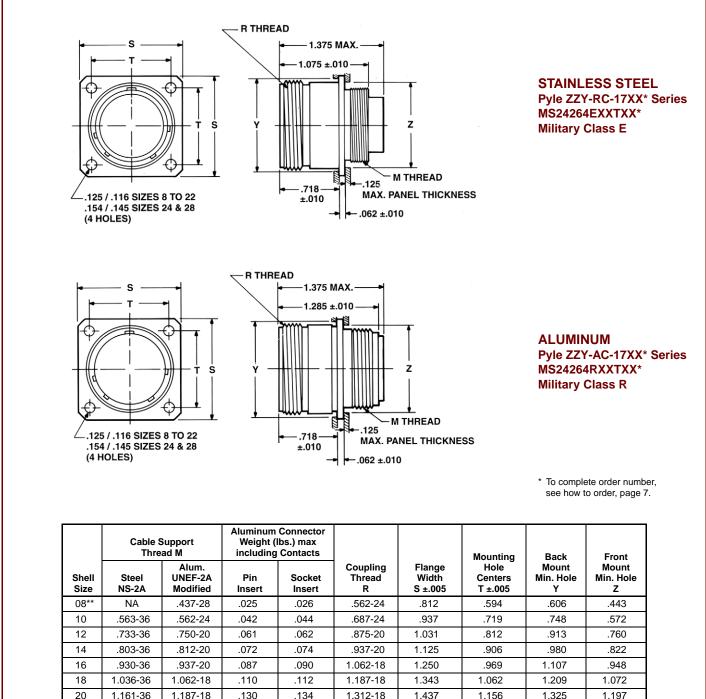
- Modified accessory thread to accommodate MIL-C-83723 backshell hardware.
- Rear accessory teeth are featured on both the plug and receptacle shell to assure non-rotation of accessory hardware
- Intermateable with all MIL-C-26500 threaded connectors of like insert arrangement and key position



Accessory threads for aluminum and stainless steel hardware differ, and care should be taken in selection of alternate accessory hardware that will conform to the threads noted in the dimensional tables within this catalog.

Flange Mounted Receptacle aluminum/stainless steel

threaded coupling



14	.003-30	.012-20	.072	.074	.937-20	1.125	.906	.900
16	.930-36	.937-20	.087	.090	1.062-18	1.250	.969	1.107
18	1.036-36	1.062-18	.110	.112	1.187-18	1.343	1.062	1.209
20	1.161-36	1.187-18	.130	.134	1.312-18	1.437	1.156	1.325
22	1.286-36	1.312-18	.152	.159	1.437-18	1.562	1.250	1.452
24	1.411-36	1.437-18	.181	.188	1.562-18	1.703	1.375	1.577
28†	1.661-36	NA	NA	NA	1.812-16	2.000	1.562	1.827
	nates not availa sions for refere		available in St	ainless Steel.	† Not availal	ble in Aluminum	l.	

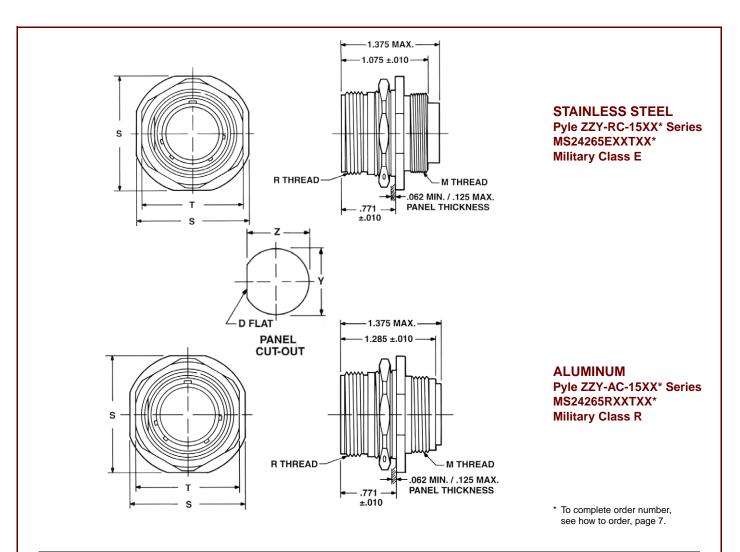
1.322

1.448

1.700

D-Hole Mounted Receptacle

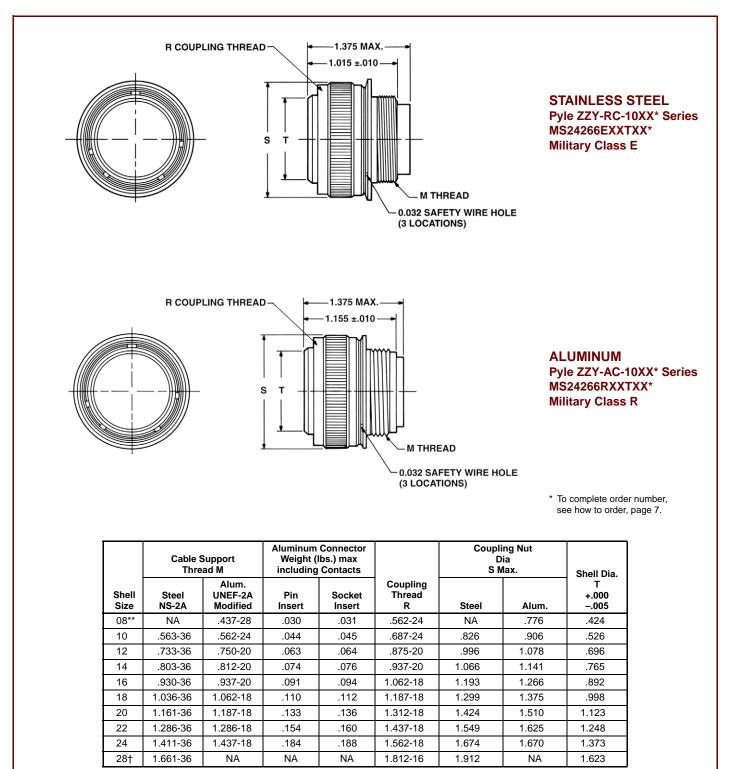
aluminum/stainless steel threaded coupling



		Support ad M	Weight (Connector lbs.) max Contacts			Lock N	ut Flats T			Rec. min.
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Coupling Thread R	Flange Width S ±.005	Steel	Alum.	Mounting Hole Dia. Y	Mounting Hole Flat Z	Torque Jam Nut Inch/Lbs.
08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	.563-36	.562-24	.049	.050	1.171-24	1.104	.937	.937	.760	.730	36
12**	NA	.750-20	.069	.070	.875-20	1.291	1.125	1.125	.947	.917	56
14	.803-36	.812-20	.087	.089	.937-20	1.391	1.062	1.187	1.010	.980	65
16	.930-36	.937-20	.104	.106	1.062-18	1.516	1.187	1.312	1.135	1.105	69
18	1.036-36	1.062-18	.131	.133	1.187-18	1.614	1.312	1.437	1.260	1.225	81
20	NA	NA	.152	.157	NA	NA	NA	NA	NA	NA	100
22	1.286-36	1.312-18	.181	.187	1.312-18	1.954	1.562	1.687	1.510	1.475	123
24	1.411-36	1.437-18	.208	.212	NA	NA	NA	NA	NA	NA	133
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel All dimensions for reference only.

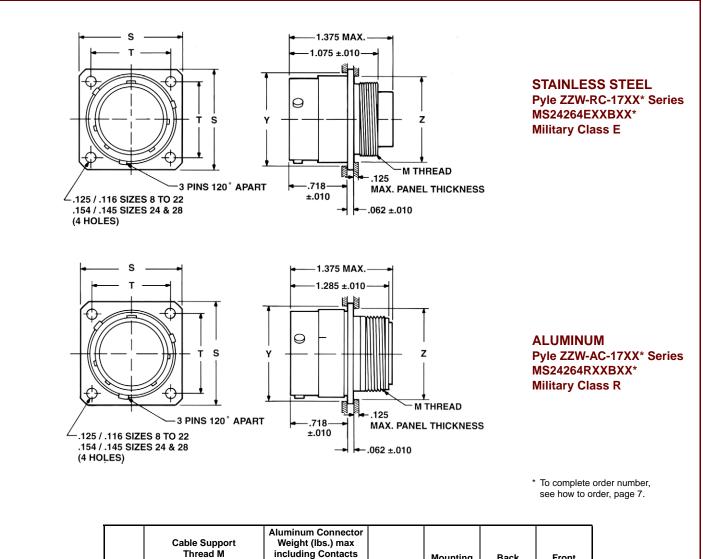
Straight Plug aluminum/stainless steel threaded coupling



NA designates not available. ** Not available in Stainless Steel. † Not available in Aluminum. All dimensions for reference only.

Flange Mounted Receptacle

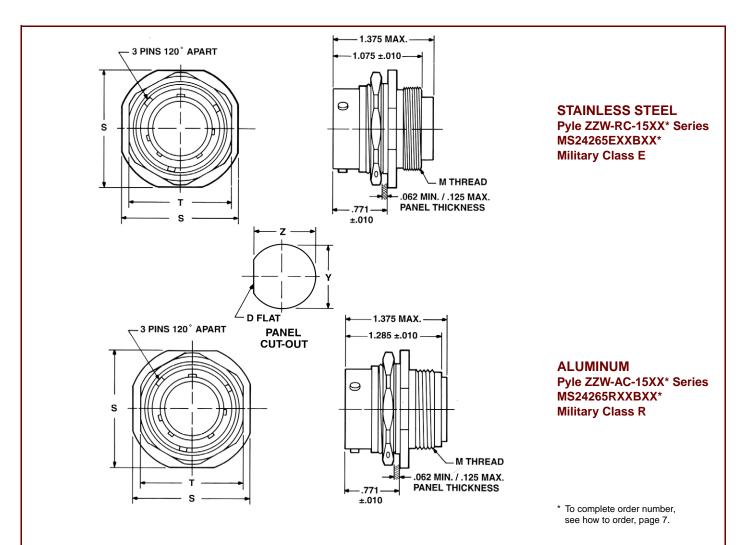
aluminum/stainless steel bayonet coupling



	Cable Support Thread M			lbs.) max Contacts		Mounting	Back	Front	
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Flange Width S ±.005	Hole Centers T ±.005	Mount Min. Hole Y	Mount Min. Hole Z	
08**	NA	.437-28	.025	.026	.812	.594	.606	.443	
10	.563-36	.562-24	.042	.044	.937	.719	.748	.572	
12	.733-36	.750-20	.061	.062	1.031	.812	.913	.760	
14	.803-36	.812-20	.072	.074	1.125	.906	.980	.822	
16	.930-36	.937-20	.087	.090	1.250	.969	1.107	.948	
18	1.036-36	1.062-18	.110	.112	1.343	1.062	1.209	1.072	
20	1.161-36	1.187-18	.130	.134	1.437	1.156	1.325	1.197	
22	1.286-36	1.312-18	.152	.159	1.562	1.250	1.452	1.322	
24**	NA	1.437-18	.181	.188	1.703	1.375	1.577	1.447	
28	NA	NA	NA	NA	NA	NA	NA	NA	

NA designates not available. ** Not available in Stainless Steel. All dimensions for reference only.

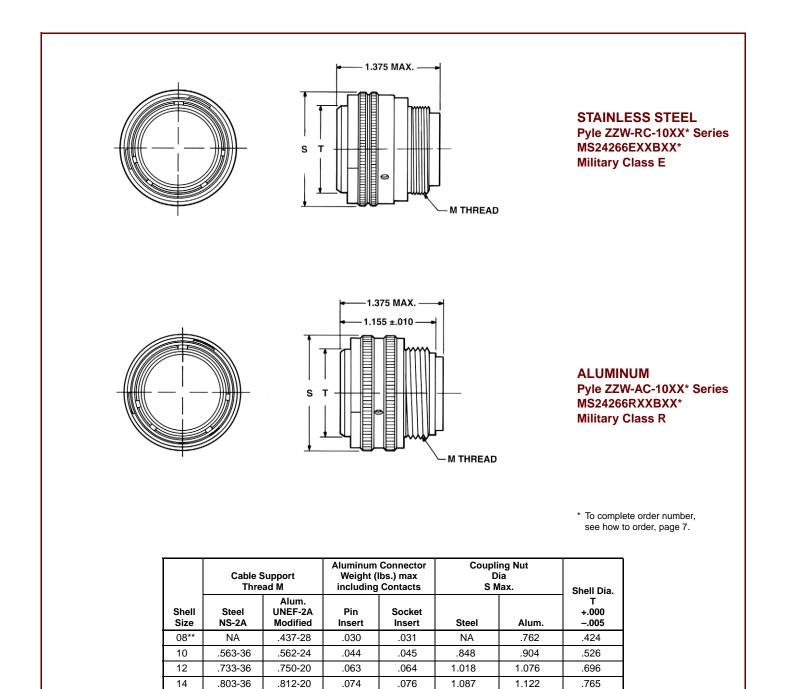
D-Hole Mounted Receptacle aluminum/stainless steel bayonet coupling



		Cable Support Thread M		Aluminum Connector Weight (Ibs.) max including Contacts		Lock Nut Flats T				Recom. min
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Flange Width S ±.005	Steel	Alum.	Mounting Hole Dia. Y	Mounting Hole Flat Z	Torque Jam Nut Lb inches
08**	NA	.437-28	.029	.030	.979	NA	.812	.635	.605	33
10	.563-36	.562-24	.049	.050	1.104	.937	.937	.760	.730	36
12**	NA	.750-20	.069	.070	1.291	1.125	1.125	.947	.917	56
14	.803-36	.812-20	.087	.089	1.391	1.062	1.187	1.010	.980	65
16	.930-36	.937-20	.104	.106	1.561	1.187	1.312	1.135	1.105	69
18	1.036-36	1.062-18	.131	.133	1.641	1.312	1.437	1.260	1.225	81
20	1.161-36	1.187-18	.152	.157	1.766	1.562	NA	1.385	1.350	100
22	1.286-36	1.312-18	.181	.187	1.954	1.585	1.687	1.510	1.475	123
24	1.411-36	1.437-18	.208	.212	2.079	1.687	1.812	1.635	1.600	133
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel. All dimensions for reference only.

Straight Plug aluminum/stainless steel bayonet coupling



NA ** Not available in Stainless Steel. NA designates not available. All dimensions for reference only.

.937-20

1.062-18

1.187-18

1.312-18

1.437-18

.091

.110

.133

.154

.184

NA

16

18

20

22

24

28

.930-36

1.036-36

1.161-36

1.286-36

1.411-36

NA

14

.094

.112

.136

.160

.188

NA

1.214

1.320

1.445

1.570

1.695

NA

1.264

1.373

1.503

1.623

1.752

NA

.892

.998

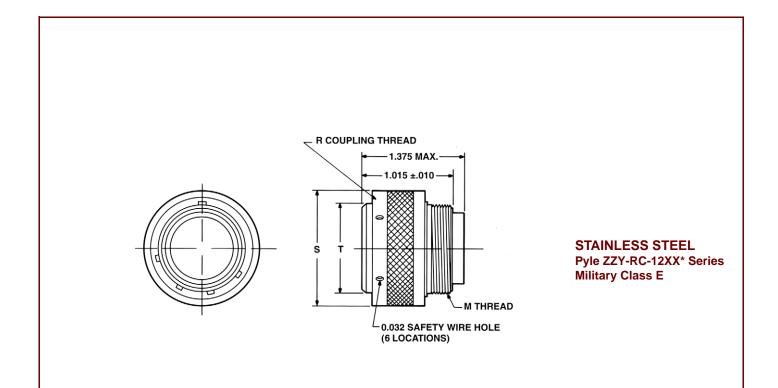
1.123

1.248

1.373

NA

Non-Decoupling, Ratchet Lock Plug stainless steel ratchet lock coupling



* To complete order number, see how to order, page 7.

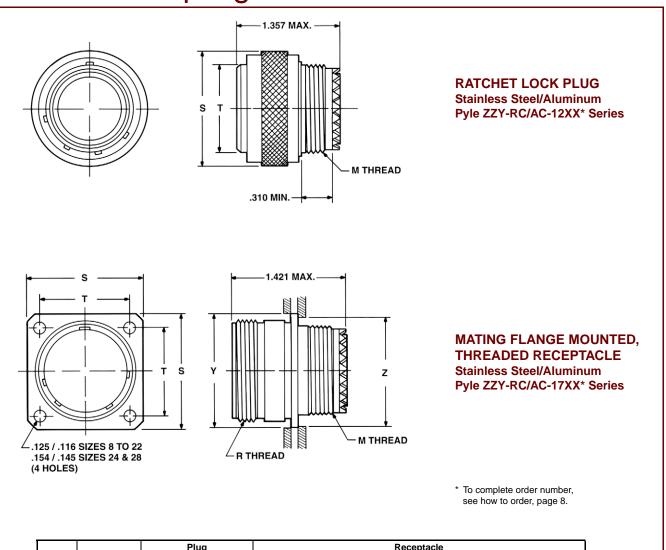
Shell Size	Cable Support Thread M	Coupling Thread R	Coupling Nut Dia S	Shell Dia. T
08	NA	NA	NA	NA
10	.563-36	.687-24	.931	.526
12	.733-36	.875-20	1.111	.696
14	.803-36	.937-20	1.175	.765
16	.930-36	.812-20	1.302	.892
18	1.036-36	.937-20	1.408	.998
20	NA	NA	NA	NA
22	1.286-36	1.437-18	1.658	1.248
24	1.411-36	1.562-18	1.783	1.373
28	1.661-36	1.812-16	2.038	1.623

NA designates not available.

All dimensions for reference only.

Ratchet Lock Plug and Mating Flange Receptacle

aluminum/stainless steel ratchet lock coupling



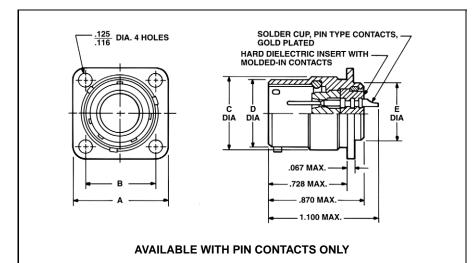
		PI	ug	Receptacle					
Shell Size	Cable Support Thread M	Coupling Nut Dia. S Max.	Shell Dia. T +.000 005	Coupling Thread R	Flange Width S ±.005	Mounting Hole Centers T ±.005	Back Mount Hole (min.) Y	Front Mount Hole (min.) Z	
08	NA	NA	NA	NA	NA	NA	NA	NA	
10	.6250-24	.945	.526	.6875-24	.937	.719	.706	.635	
12	.7500-20	1.165	.696	.8750-20	1.031	.812	.885	.760	
14	.8750-20	1.230	.765	.9375-20	1.125	.906	.947	.885	
16	1.0000-20	1.353	.892	1.0625-18	1.250	.969	1.072	1.010	
18	1.0625-18	1.468	.998	1.1875-18	1.343	1.062	1.197	1.072	
20	1.1875-18	1.607	1.123	1.3125-18	1.437	1.156	1.322	1.197	
22	1.3125-18	1.733	1.248	1.4375-18	1.562	1.250	1.447	1.322	
24	1.4375-18	1.858	1.373	1.5625-18	1.703	1.375	1.572	1.448	
28	1.7500-18	2.113	1.623	1.8120-16	2.000	1.562	1.822	1.760	

NA designates not available. All dimensions for reference only.

MIL-C-26500 – 48 Series receptacle short skirt

Receptacle Short Skirt – Aluminum – Bayonet Coupling

Shorter, lighter, and more economical than the standard MIL-C-26500 connector receptacles, the 48 Series receptacle short skirt comes in two versions: with standard flange and with reduced flange. Both versions are 1.100" long which is .275" shorter than the length of the standard MIL-C-26500 connector. They have molded epoxy fiberglass inserts and can operate continuously up to 125°C (257°F), but otherwise they offer the same environmental sealing, from the panel out, as standard MIL-C-26500 connectors. They have bayonet coupling and mate with standard MIL-C-26500 plugs. The hard dielectric inserts, with resilient face seal and molded-in gold plated solder cup pin contacts, are available in insert arrangements shown in the chart below.





Insert Arrange- ment	Amphenol Part Number*	A ±.005	B ±.005	C Max.	D +.000 005	E Max.
10-5	48-7115-XX	.937	.719	.696	.659	.562
12-3	48-7116-XX	1.031	.812	.875	.829	.750
12-12	48-7117-XX	1.031	.812	.875	.829	.750
14-4	48-7118-XX	1.125	.906	.935	.898	.812
14-7	48-7119-XX	1.125	.906	.935	.898	.812
14-15	48-7120-XX	1.125	.906	.935	.898	.812
16-24	48-7121-XX	1.250	.969	1.062	1.025	.938
18-8	48-7122-XX	1.343	1.062	1.187	1.131	1.062
18-14	48-7123-XX	1.343	1.062	1.187	1.131	1.062
18-31	48-7124-XX	1.343	1.062	1.187	1.131	1.062
20-25	48-7251-XX	1.437	1.156	1.312	1.256	1.182
20-28	48-7175-XX	1.437	1.156	1.312	1.256	1.182
22-12	48-7125-XX	1.562	1.250	1.437	1.381	1.312
22-19	48-7126-XX	1.562	1.250	1.437	1.381	1.312
22-55	48-7127-XX	1.562	1.250	1.437	1.381	1.312

Receptacle Short Skirt with Reduced Flange

Insert Arrange- ment	Amphenol Part Number*	A Max.	В ±.005	C Max.	D +.000 005	E Max.
10-5	48-7132-XX	.870	.647	.696	.659	.562
12-3	48-7133-XX	.996	.773	.875	.829	.750
12-12	48-7134-XX	.996	.773	.875	.829	.750

* To complete part number: Replace XX with alternate keying positions (omit for normal position). See page 4.

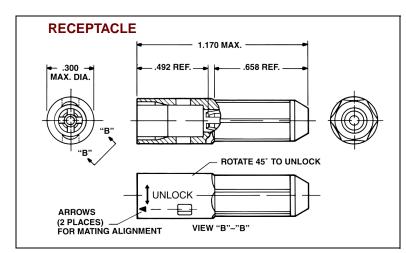
MIL-C-26500 – 48 Series wire splice connector

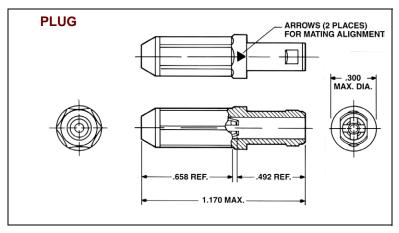
Special Application Wire Splice Connector

The Amphenol[®] 48 Series wire splice connector is a low cost, spacesaving connector design that can be used for various design applications. The push-mating/twist-pull-unmating feature provides a simple solution to many design requirements without sacrificing performance. This wire splice connector utilizes a metal retention clip for a single size 16 pin and socket contact.

Features and benefits include:

- Push-mating/twist-pull-unmating
- Uses standard M39029/31-229 pin and M39029/32-248 socket contacts
- · Incorporates environmental sealing grommet
- Metal collet retention
- Uses standard MIL-C-26500 contact removable tools
- · Low cost
- · Weight savings design
- Space savings design
- Color coded connector halves red or blue







Receptacle Wire Splice

Amphenol 48 Series Part Number	48 Series 10- Part art Number Number		Size 16 Contact Part Number	
48-7191	10-804342	Blue	Pin ZZL-4016-36LD	
48-7191-1	10-804342-1	Red	Socket ZZL-4116-36LD	

Plug Wire Splice							
Amphenol 48 Series Part Number	Amphenol 10- Part Number	Color	Size 16 Contact Part Number				
48-7190	10-804341	Blue	Pin ZZL-4016-36LD				
48-7190-1	10-804341-1	Red	Socket ZZL-4116-36LD				

MIL-C-26500 – Firewall Class K **Class K stainless steel** threaded coupling

THREADED COUPLING, FIREWALL

PYLE FPK, FPL, FP5K

MS2761X-KXXTXX

	ell Style inless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
	Square Flange Mounted	High performance. Environmentally sealed.	Class K	Military Class K	MS27613-KXXTXX
	Receptacle Threaded Coupling	Resists high temperatures up to 238°C (460°F).	Firewall Stainless Steel	Pyle FPK or FPL or FP5K Series	FPK-17() or FPL-17() or FP5K-17()
Ros	Mounted Environmentally sealed		Class K Firewall	Military Class K	MS27614-KXXTXX
	Receptacle Threaded Coupling	Resists high temperatures up to 238°C (460°F).	Stainless Steel	Pyle FPK or FPL or FP5K Series	FPK-19() or FPL-19() or FP5K-19()
	Straight Plug	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27615-KXXTXX
	Threaded Coupling Threaded Coupling Threaded Coupling		Stainless Steel	Pyle FPK or FPL	FPK-11() or FPL-11()
	Ratchet Locking Plug	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27615KXXSXX
	Threaded Coupling	Resists high temperatures up to 238°C (460°F).	Stainless Steel	Pyle FPK or FPL or FP5K Series	FPK-12() or FPL-12() or FP5K-12()

* See how to order, page 21, for further description of hardware classes.
 ** See how to order, page 21, to complete part numbers.

MIL-C-26500 – Firewall Class K **Class K stainless steel** bayonet coupling

BAYONET COUPLING, FIREWALL PYLE FYL MS2761X-KXXBXX

	II Style nless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
	Square Flange Mounted	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27613-KXXBXX
	Receptacle Bayonet Coupling	Resists high temperatures up to 238°C (460°F).		Pyle FYL Series	FYL-17()
11 Ca	Single Hole (D-Hole) Mounted	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27614-KXXBXX
ACS.	Receptacle Bayonet Coupling	Resists high temperatures up to 238°C (460°F).	Stainless Steel	Pyle FYL Series	FYL-19()
	Straight Plug	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27615-KXXBXX
	Bayonet Coupling	Resists high temperatures up to 238°C (460°F).	Stainless Steel	Pyle FYL Series	FYL-11()

* See how to order, page 21, for further description of hardware classes. ** See how to order, page 21, to complete part numbers.

MIL-C-26500 – Firewall, Class K how to order

Class K stainless steel, threaded/bayonet/ratchet lock coupling

Military Designation	
Sample ordering number: MS27613 K 14 T	7 P 6 – D
Shell Type	Cable Support Long (MS27658) – D Short (MS27657) – P Right Angle (MS27659) – J
Class K – Firewall – Stainless steel, passivated	(omit for no support)
Shell Size	6, 7, 8, 9, Y (omit for normal) See page 4
Coupling Type B – Bayonet	Contact Type
S – Ratchet Locking Thread T – Standard Threaded	Socket – S Insert Arrangement
	See chart, page 4
Amphenol [®] /Pyle-National [®] Designation	
Sample ordering number: FPK - 11 28 - 42 S	T 06 – D – WXX
Connector Type	Variations
FPK – Threaded Coupling, qualified to MIL-C-26500 and BACC63 Series	Insert – W Hardware – Y
FPL – Threaded Coupling, same as FPK, but used on Lockheed Aircraft	Standard for Plug Bayonet Hardware – Y19
FP5K – Threaded Coupling, qualified for General Electric	Cable Support
FYL – Bayonet Coupling, qualified to MIL-C-26500	Short – P Right Angle – J
Shell Type	(omit for no support) Alternate Keying
11 – Straight Plug 12 – Ratchet Locking Threaded Plug	06, 07, 08, 09, Y (omit for normal) See page 4
13 – Improved Non-Decoupling Plug 17 – Square Flange Receptacle	Contact Style No Contacts – E
19 – D-Hole Mounting Receptacle Shell Size	Rhodium – T Gold Contacts – D
12, 14, 16, 18, 22, 24, 28	Contact Type
Insert Arrangement	Pin – P
See chart, page 4	Socket –S
Boeing Company Designation	
Sample ordering number: BAC C 63X 14 -	– 07 P 6
Boeing Aircraft Company	Alternate Keying
Electrical Connector	6, 7, 8, 9, Y, (omit for normal) See page 4
Shell Type 63X – Plug, Threaded, Fire Barrier	Contact Type Pin – P
63Y – Receptacle, Threaded Fire Barrier 63AE – Plug, Threaded, for use with No. 20 Wire Fire Barrier	Socket – S
63AF – Receptacle, Flange Mount, Threaded, Fire Barrier, For use with No. 20 Wire Fire Barrier.	Insert Arrangement See chart, page 4
Note: AE & AF require W11 variation on Pyle Number.	Accessories

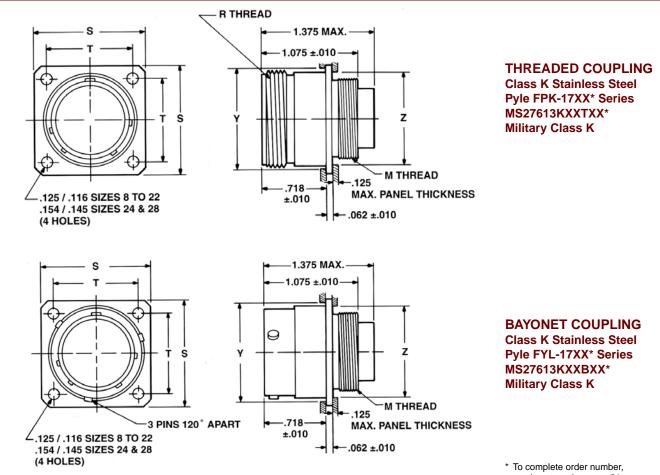
To order with D Cable Clamp, replace - with Letter C

– Shell Size

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

Firewall Class K Flange Mounted Receptacle

Class K stainless steel, threaded/bayonet coupling



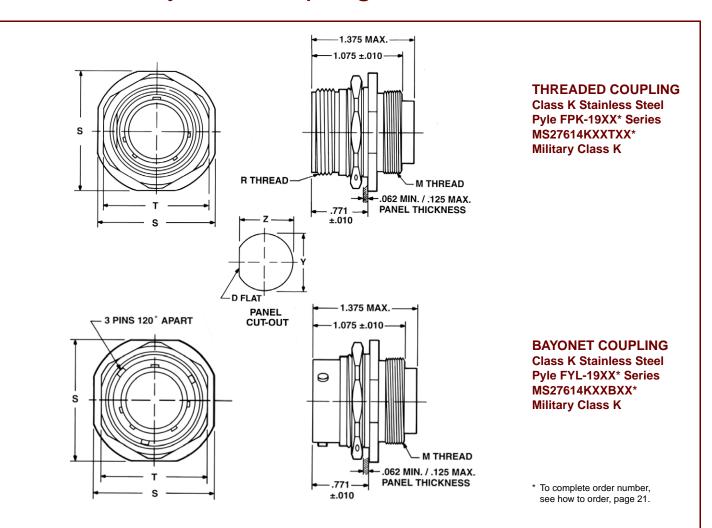
see how to order, page 21.

Shell Size	Cable Support Thread M	Coupling Thread R	Flange Width S ±.005	Mounting Hole Centers T ±.005	Back Mount Min. Hole Y	Front Mount Min. Hole Z
08	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA
12**	.733-36	.875-20	1.031	.812	.913	.760
14	.803-36	.937-20	1.125	.906	.980	.822
16	.930-36	1.062-18	1.250	.969	1.107	.948
18	1.036-36	1.187-18	1.343	1.062	1.209	1.072
20	NA	NA	NA	NA	NA	NA
22	1.286-36	1.437-18	1.562	1.250	1.452	1.322
24**	1.411-36	1.562-18	1.703	1.375	1.577	1.422
28**	1.661-36	1.812-16	2.000	1.562	1.827	1.700

designates not available Available in Threaded Coupling only. All dimensions for reference only.

Firewall Class K D-Hole Mounted Receptacle

Class K stainless steel, threaded/bayonet coupling

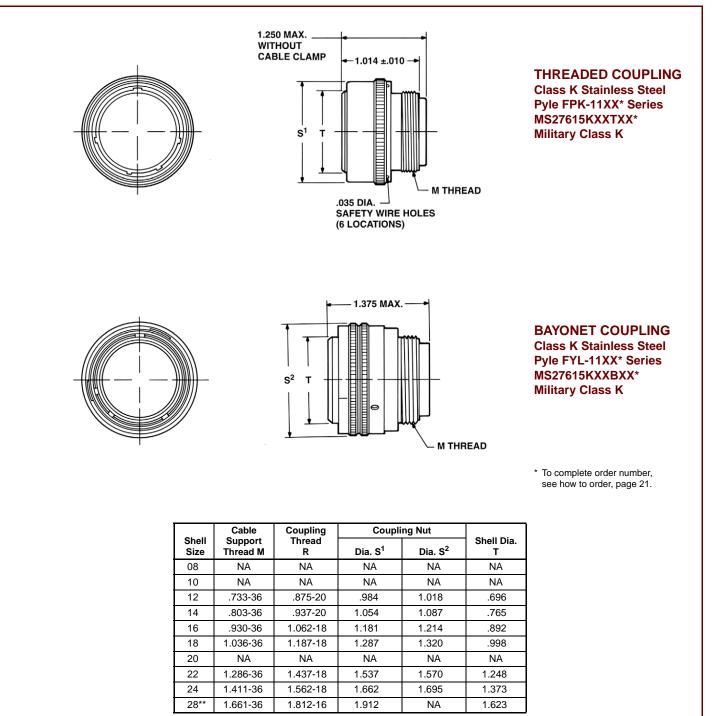


Shell Size	Cable Support Thread M	Coupling Thread R	Flange Width S	Lock Nut Flats T	Mounting Hole Dia. Y	Mounting Hole Flat Z	Recom. min. Torque Jam Nut
08	NA	NA	NA	NA	NA	NA	33
10	NA	NA	NA	NA	NA	NA	36
12**	.733-36	.875-20	1.291	1.215	.947	.917	56
14	.803-36	.937-20	1.391	1.062	1.010	.980	65
16	.930-36	1.062-18	1.516	1.187	1.135	1.105	69
18	1.036-36	1.187-18	1.614	1.312	1.260	1.225	81
20	NA	NA	NA	NA	NA	NA	100
22**	1.286-36	1.437-18	1.954	1.562	1.510	1.475	123
24	NA	NA	NA	NA	NA	NA	133
28	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Available in Threaded Coupling only. All dimensions for reference only.

Firewall Class K Straight Plug

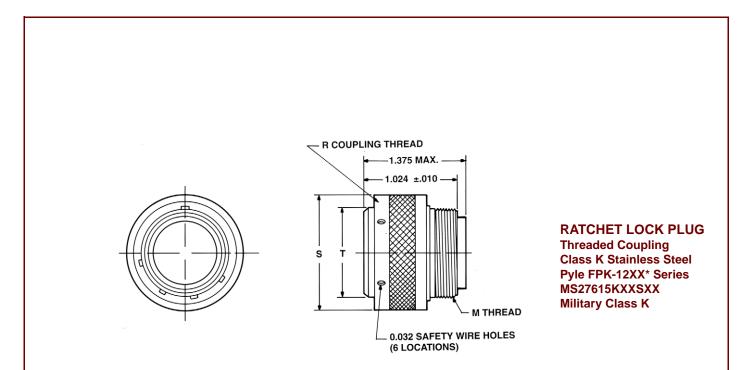
Class K stainless steel, threaded/bayonet coupling



NA designates not available. ** Available in Threaded Coupling only. All dimensions for reference only.

Firewall Class K Ratchet Lock Plug,

Class K stainless steel, threaded coupling



* To complete order number, see how to order, page 21.

Shell Size	Cable Support Thread M	Coupling Thread R	Coupling Nut Dia S	Shell Dia. T
08	NA	NA	NA	NA
10	.563-36	.687-24	.931	.526
12	.733-36	.875-20	1.111	.696
14	.803-36	.937-20	1.175	.765
16	.930-36	1.062-18	1.302	.892
18	1.036-36	1.187-18	1.408	.998
20	NA	NA	NA	NA
22	1.286-36	1.437-18	1.658	1.248
24	1.411-36	1.562-18	1.783	1.373
28	1.661-36	1.812-16	2.038	1.623

NA designates not available.

All dimensions for reference only.

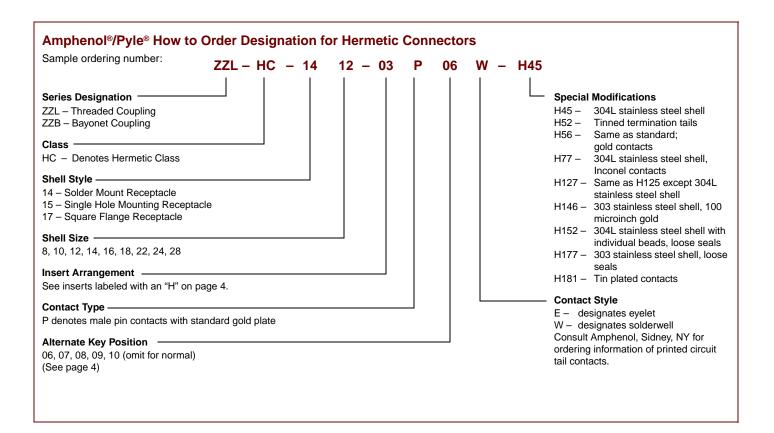
Hermetic MIL-C-26500 Connectors hermetically sealed

Amphenol[®]/Pyle[®] is an experienced supplier of highly reliable hermetic connectors for the aircraft industry. Amphenol's ZZL and ZZB series of hermetic receptacles are designed to the requirements of MIL-C-26500, and are available in tin-plated cold-rolled steel shells and gold-plated nickel-iron alloy contacts. Other material variations, including stainless steel, are available.

Hermetic receptacles are available in shell sizes 8, 10, 12, 14, 16, 18, 22, 24 and 28. The hermetic series is offered in a variety of receptacle shell styles, which include solder mount, square flange and "D" hole mount. These connectors can be ordered with either eyelet, solder-well or printed circuit tail pin contacts.

Consult Amphenol, Sidney, NY for more information on hermetic connectors, and for optional connector designs.





Contacts and Accessories for MIL-C-26500 cylindrical connectors

Crimp Contacts per MIL-C-39029 - Copper Alloy, Gold Plating

	PIN CONTACTS						
Contact Size	. MS Number		Amphenol/Pyle No.				
20	M39029/31	241	MS24254-20P	ZZL-4020-36LD*			
16	M39029/31	229	MS24254-16P	ZZL-4016-36LD*			
12	M39029/31	235	MS24254-12P	ZZL-4012-36LD*			

* Add – H139 for Boeing Marking for Pin/Socket, Standard Plating.

Add – H148 for Boeing Marking for Pin/Socket, Select Plate.

Amphenol®/Pyle® Special Application Contacts

Copper Alloy, Rhodium plated Contacts†						
Contact Size	Description	Description Amphenol/Pyle Pin No.				
20	Copper Alloy/ Rhodium plated	ZZL-4020-36LT	ZZL-4120-36LT			
16	Copper Alloy/ Rhodium plated	ZZL-4016-36LT	ZZL-4116-36LT			
12	Copper Alloy/ Rhodium plated	ZZL-4012-36LT	ZZL-4112-36LT			

SOCKET CONTACTS Contact Spec. Bin Amphenol/Pyle **MS Number** Size Number Code No. 20 M39029/32 260 MS24255-20S ZZL-4120-36LD* M39029/32 248 MS24255-16S ZZL-4116-36LD* 16 M39029/32 MS24255-12S ZZL-4112-36LD* 12 254

Thermocouple Contacts							
			Amphenol/Py	le Socket No.			
Contact	Material	Amphenol/Pyle	Pencil Clip	Split Tine	Color		
Size		Pin No.	Design*	Design**	Code		
20	Alumel	ZZL-4020-10R	ZZL-4120-10R	ZZY-4120-10R	Green		
	Chromel	ZZL-4020-10P	ZZL-4120-10P	ZZY-4120-10P	White		
	Constantan	ZZL-4020-10N	ZZL-4120-10N	ZZY-4120-10N	Yellow		
16	Alumel	ZZL-4016-10R	ZZL-4116-10R	ZZY-4116-10R	Green		
	Chromel	ZZL-4016-10P	ZZL-4116-10P	ZZY-4116-10P	White		
	Constantan	ZZL-4016-10N	ZZL-4116-10N	ZZY-4116-10N	Yellow		
12	Alumel	ZZL-4012-10R	ZZL-4112-10R	ZZY-4112-10P	Green		
	Chromel	ZZL-4012-10P	ZZL-4112-10P	ZZY-4112-10P	White		
	Constantan	ZZL-4012-10N	ZZL-4112-10N	ZZY-4112-10N	Yellow		

* Pencil clip socket design - see page 2 for description.

** Split tine socket with napkin ring design - see page 2 for description.

Printed Circuit Board/Wire-Wrap Contacts

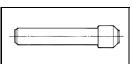
† Contacts qualified to Boeing BACC47CN/CP.

A variety of different designs are available; please consult Amphenol, Sidney, NY for more information.

Reel Contacts

2000 contacts per reel (gold or rhodium plated) are available. Consult Amphenol, Sidney, NY for more information.

Sealing Plugs

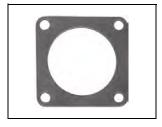


For sealing spare contact holes. Same sealing plug is used in both plug and receptacle.

Contact Size	Amphenol/Pyle No.	MS Number	Color Code
20	10-405996-20	MS-27488-20	Red
16	10-405996-16	MS-27488-16	Blue
12 & #1 Shielded	10-405996-12	MS-27488-12	Yellow
# 2 Shielded	10-405996-8	MS27187-4	White

Sealing Gaskets

For use with square flange mounted receptacles. Provide waterproofing and pressure sealing features.



Contact Size	Amphenol/ Pyle No.
08	ZZL-6508-10D
10	ZZL-6510-10D
12	ZZL-6512-10D
14	ZZL-6514-10D
16	ZZL-6516-10D
18	ZZL-6518-10D
20	ZZL-6520-10D
22	ZZL-6522-10D
24	NA

Cable Supports - Aluminum

Shielded/Coaxial Contacts for MIL-C-26500 cylindrical connectors

Drawing (See below and on	Shielded Contact Part No./	Cable \$	Cable Stripping Dim.*** +.0156 0000			enol Crimp Tools enter Contact)		Outer Ferrule Crimping	Cable Application
next page)	Contact Type	Α	В	С	Tool	Nest Bushing	Crimp Setting	Tool††	
Type 1	48-1226-02 Pin 48-1227-02 Socket 48-1227-50 Socket	.2189	.0781	.1094	294-268* 294-289**	294-1631	#3	294-529	#22 AWG per MIL-C-7078 Type II and MIL-C-27500-22 KING RG-174/U, -188/U
#1 Shielded	48-1227-50 SUCKET						#1	294-529	RG-161/U, -179/U, -179A/U, -187/U
	48-1226-57 Pin 48-1227-57 Socket	.2189	.0781	.1094	294-268* 294-289**	294-1631	#1	294-528	Raychem 9530A11
<i>Type 2</i> #1 Shielded	48-1226-51, -54 Pin 48-1227-51, -54, -56 Socket	.2189	.0313	.1563	294-268* 294-289**	294-1631	#1	294-528	RG-180/U, -180A/U, -180B/U, -195/U
<i>Type 3</i> #1 Shielded	48-1226-55 Pin 48-1227-55 Socket	.2344	.0313	.1563	294-268* 294-289**	294-1631	#1	294-529	RG-178/U, -178A/U, -178B/U, -196-U
<i>Type 4</i> #2 Shielded	48-2187-02 Pin 48-2188-02 Socket	.2189	.1094	.1406	294-126** 294-243** 294-1166**† 294-358** 294-268*	294-1014 Turret Head 294-1014 294-1015 299-1630	.030 - .040	294-528	#18, 20, 22 AWG per MIL-C-7078, Type II and MIL-C-27500-18, -20, -22 KING Extruded Jacket
	48-2187-50, -51 Pin 48-2188-50, -51, -53, -54 Socket	.2189	.1094	.1406	294-1166**† 294-358** 294-268*	294-1014 294-1015 294-1630	.030 .040 #3	294-528	RG-180/U, -180A/U, -180B/U, -195/U
<i>Type 5</i> #2 Shielded	48-2187-52 Pin 48-2188-52 Socket	.3125	.1094	.1406	294-358** 294-268*	294-1015 294-1630	.037 - .041	294-530	RG-59/U and 21-541

Conforms to MIL-C-22520/2 specification.
 MS3191 tools are inactive for new procurement, but can be used if available.

† Same as 294-126, less positioners. †† Including Hex Die Set

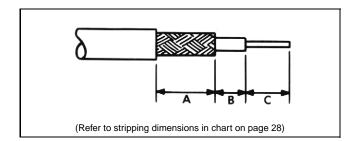
Type 1

*** Refer to	illustration on page 29.	
Shielde	ed Contact Assembly Procedure	SEALING CENTER PIN SOCKET BODY SLEEVE CONTACT ASSEMBLY OUTER CENTER SOCKET PIN BODY PERRULE CONTACT ASSEMBLY
Step 1	Slide sealing boot or sleeve and outer ferrule onto cable and strip cable as shown at right. After stripping, slide spacer over center conductor as shown for Type 2 and Type 3 . For Type 3 slide spacer under wire braid.	
Step 2	Insert stripped center conductor into contact until wire shows through inspection hole and dielectric (<i>Type 1, Type 4 and Type 5</i>) or spacer (<i>Type 2 and Type 3</i>) butts against contact. Fully seat contact in nest bushing of crimp tool and crimp in one full stroke. (Follow same crimping procedures except use nest bushing crimping tool from table above).	
Step 3	Slightly flair out ends of wire braid to facilitate insertion of inner ferrule of body assembly. Do not comb braid.	
Step 4	Install center contact in body assembly and slide inner ferrule underneath wire braid as shown. Push center contact until it is locked in place in the body assembly. Pull lightly on cable to make sure that contact is securely locked in place.	
Step 5	Slide outer ferrule over braid and up against body as shown. There should be no slack in the wire braid. Crimp the outer ferrule with proper tool from table above. Then for <i>Type 1, Type 3 and Type 5</i> slide sealing sleeve toward contact until sleeve touches outer ferrule.	
Step 6	Insert the assembled shielded contact into the connector in the same way as the standard contact using applicable insertion tool (see page 28). This completes assembly for <i>Type 1, Type 2, Type 3 and Type 5</i> .	
Step 7	To complete assembly for Type 4 , push sealing boot into connector grommet until O-ring riser of boot snaps into place and seals the assembly.	

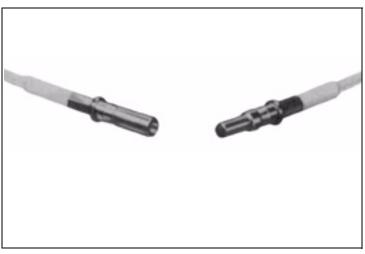
Shielded/Coaxial Contacts, cont. for MIL-C-26500 cylindrical connectors

Cable Stripping

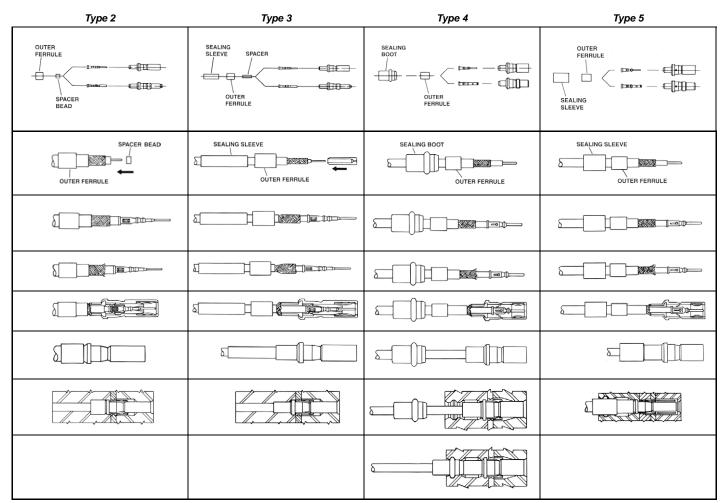
Strip cable jacket, braid and dielectric to the dimensions shown in the table on page 28. Make all cuts square and sharp, being careful not to nick braid, dielectric, or center conductor when cutting. If conductor ends fray, twist them to their normal lay.



Shielded Contact Assembly Procedure, cont.



Shielded Contacts after Crimping



Accessories - contact terminating tools for MIL-C-26500 cylindrical connectors

Contact Crimping Tools



Contact		g Tool with enters	Adjusta	ble Turret	Checking Gage for Crimping Tool			
Size	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.		
20								
16	TP-201354	M22520/1-01 (Class 1)	TP-201355	M22520/1-02 (Class 1)	TP-201356	M22520/3		
12		(0.000 1)		()				

Contact Insertion Tools



Contact		sertion Tool	Insertion Tool Re Tip & Pi	•	
Size	Amphenol/ Pyle No.	Mil. No.	Color Code	Amphenol/ Pyle No.	Mil. No.
20	ZZL-R-9510-A-20	MIL-I-81969/17-9	Red	ZZL-R-9531-A-20	-
16	ZZL-R-9510-16	MIL-I-81969/17-4	Blue	ZZL-R-9531-16	-
12	ZZL-R-9510-12	MIL-I-81969/17-5	Yellow	ZZL-R-9531-12	_

Contact Removal Tools



Contact	Re	moval Tool	Removal ⁻ Replaceme		
Size	Amphenol/ Pyle No.	Mil. No.	Color Code	Amphenol/ Pyle No.	Mil. No.
20	ZZL-R-9511-20	MS-24256-R-20	Red	ZZL-R-9557-20	_
16	ZZL-R-9511-16	MS-24256-R-16	Blue	ZZL-R-9557-16	-
12	ZZL-R-9511-12	MS-24256-R-12	Yellow	ZZL-R-9557-12	-

Contact Termination

Use table below to determine correct wire stripping length for your wire sizes. When stripping the wire, avoid nicking wires or damaging insulation, as it is a functional part of the sealing system.

Contact Size	Wire Size	Stripping Length
20	20 to 24	.170" – .201"
16	16 to 18	.207" – .238"
12	12 to 14	.207" – .238"

See pages 32 and 33 for assembly instructions for proper contact termination and contact insertion/removal.

Accessories - contact terminating tools for 48 Series MIL-C-26500 connectors

Crimping Tools for Shielded Contacts



Shielded Contact		rimping Contact	For Crimping Outer Ferrule			
Size	Decis Crime		Basic Crimp Tool (Hex dies included)	Hex Dimension		
# 1 Shielded	357-100	294-1631	294-529	.128 Hex		
# 2 Shielded	357-100	294-1630	294-528	.160 Hex		

Standard Crimping Tool for Power Contacts



Basic Cr	Use with	
Amphenol Part No.	Turret Head	
294-542 M22520/1-01		M22520/1-02

Contact Size	Color Code	Wire Size
20	Red	20–22–24
16	Blue	16–18–20
12	Yellow	12–14

Contact Insertion Tools



Contact Size	Amphenol Part No.	Military Part No.
20	294-88	MS2456A20
16	294-96	MS2456A16
#12, # 1 Shielded	294-72	MS2456A12
#2 Shielded	294-128	_

Contact Removal Tools



Contact Size	Amphenol Part No.	Military Part No.
20	294-89	MS2456R20
16	294-97	MS2456R16
#12, # 1 Shielded	294-73	MS2456R12
#2 Shielded	294-127	-

For more information on other tools available consult Amphenol, Sidney, NY. NOTE: Amphenol and Pyle tools are interchangeable.

Assembly Instructions for MIL-C-26500 Connectors

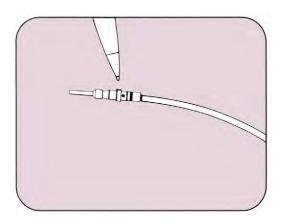
Contact Termination

Contacts should be crimped to the wire with MS Standard hand crimping tools or specification automatic crimping machines.

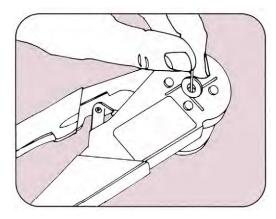
When stripping the wire avoid nicking wires or damaging the insulation as it is a functional part of the sealing system.

Contact Size	Wire Size	Stripping Length
20	20 to 24	.170" – .201"
16	16 to 18	.207" – .238"
12	12 to 14	.207" – .238"

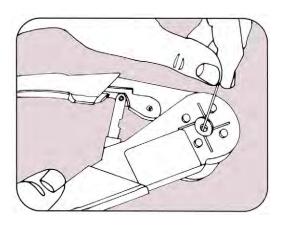
Follow steps 1 – 4, as shown below, for proper contact crimping:



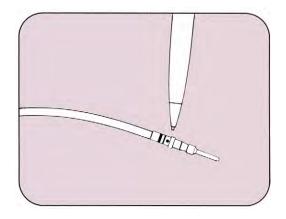
1. Insert stripped wire into contact pocket until it is visible through inspection hole.



3. Crimp in one full stroke. (The ratchet will not release jaws until tool has completed stroke).



2. Carefully seat contact in crimp tool positioner.

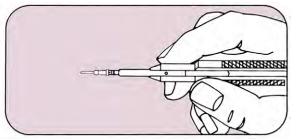


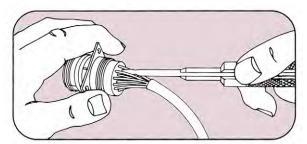
4. Inspect crimp for wire visibility through inspection hole.

Assembly Instructions for MIL-C-26500 Connectors, cont.

Contact Insertion into the Connector

The following steps are recommended for assembly.





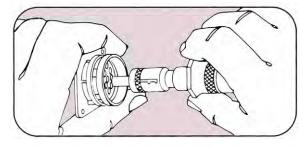
Contact Removal from the Connector

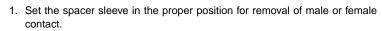
NOTE:

The Pyle Miniature Connector is designed with a unique sealing principle. Assembly of contacts into the connector must be made with reasonable care to avoid damage to the silicone rubber insert.

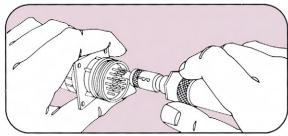
- 1. Lubricate wire cavities in back face of insert with a very thin film of DC-200 Silicone Oil or equal before inserting contacts.
- 2. Locate contact in insertion tool (as shown in illustration).
- 3. Align contact with hole in rear face of insert. The alignment of insertion tool with contact must be coaxial with the axis of the connector. When contact has entered rear seal portion of insert, maintain alignment of contact and tool parallel to, and in line with hole. Insert contact to full depth. Seating of the contact in the retention collet is audible. The contact insertion force is less than five pounds.
- 4. Extract insertion tool, keeping it aligned with hole.

A contact is removed from the connector insert with the extraction tool as follows:

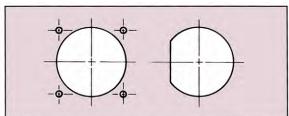




- 2. Place tool over the contact and insert into front face of cavity. The alignment of removal tool with contact must be coaxial with axis of connector.
- Exert a nominal force axially (from 5 to 10 lbs.) to release retention collet. Spacer sleeve will shoulder at front face of insulation when tool is inserted to proper depth.
- 4. Push extraction plunger to force the contact out of the rear of the insert.
- 5. Grasp contact or wire at rear face of insert and complete the extraction.
- 6. Remove extraction tool axially.
- 7. After using extraction tool the spacer sleeve should be set forward in last notch to protect the end of the plunger guide.



Panel Mounting



Two receptacle shell styles, flange mount and D-hole mount, are available for panel mounting. See the applicable drawings for mounting hole dimensions. The square flange receptacle, sizes 10 through 22, is fastened to the panel with four size #4-40 machine screws. The 24 and 28 size shells are fastened with #6-32 machine screws.

Accessories - cable supports for MIL-C-26500 cylindrical connectors

Cable Supports - Aluminum



Non-Conductive, Conductive, **Black Anodize Finish Chromium Finish** Thread Р Shell Δ R Х Size Max. ±.015 I.D. UNEF-2B Max. Amphenol/ Amphenol/ MS. No. MS No. ±.38 Dia. Pyle No. Pyle No. MS27291-13 ZZL-R-5308-A MS27291-701 ZZL-M-5308 .582 .935 .180 .4375-28 .785 08 MS27291-1 ZZL-R-5310-A MS27291-101 ZZL-M-5310 .731 .935 .270 .5625-24 .914 10 12 MS27291-2 ZZL-R-5312-A MS27291-201 ZZL-M-5312 .919 .935 .400 .7500-20 1.026 1.090 14 MS27291-3 ZZL-R-5314-A MS27291-301 ZZL-M-5314 .981 1.170 .460 .8125-20 16 MS27291-4 ZZL-R-5316-A MS27291-401 ZZL-M-5316 1.106 1.170 .610 .9375-20 1.250 MS27291-5 ZZL-R-5318-A ZZL-M-5318 1.231 1.170 1.358 18 MS27291-501 .690 1.0625-18 ZZL-R-5320-A ZZL-M-5320 1.356 1.170 1.496 20 MS27291-14 MS27291-801 .830 1.1875-18 22 MS27291-6 ZZL-R-5322-A MS27291-601 ZZL-M-5322 1.481 1.170 .940 1.3125-18 1.604 24 MS27291-15 ZZL-R-5324-A MS27291-901 ZZL-M-5324 1.606 1.170 1.040 1.4375-18 1.740

Cable clamps support cable or wire at the plug or receptacle and prevent twisting and pulling.

Cable Supports - Stainless Steel, Straight



She		Standard Straight Support (L = .781)						Long Straight Support				
Siz	e MS No.	Amphenol/ Pyle No.	A	MS No.	Amphenol/ Pyle No.	Α	Similar to MS No.	Amphenol/ Pyle No.	Α	L	Thread	
1(NA	NA	NA	NA	NA	NA	NA	FPL-R-5310L	NA	NA	.563-36	
12	NA	NA	NA	NA	NA	NA	MS27658-12	FPL-R-5312L	.435	1.070	.753-36	
14	MS27657-14	ZZL-R-5314	.230	MS27657-1	FPL-R-5314	.382	MS27658-14	FPL-R-5314L	.504	1.170	.803-36	
16	MS27657-16	ZZL-R-5316	.292	MS27657-2	FPL-R-5316	.462	MS27658-16	FPL-R-5316L	.686	1.270	.930-36	
18	MS27657-18	ZZL-R-5318	.392	MS27657-3	FPL-R-5318	.556	MS27658-18	FPL-R-5318L	.794	1.370	1.036-36	
20	NA	NA	NA	NA	NA	NA	NA	FPL-R-5320L	NA	NA	NA	
22	MS27657-22	ZZL-R-5322	.516	MS27657-4	FPL-R-5322	.608	MS27658-22	FPL-R-5322L	1.038	1.570	1.286-36	
24	NA	NA	NA	NA	NA	NA	MS27658-24	FPL-R-5324L	1.162	1.670	1.411-36	
28	NA	NA	NA	NA	NA	NA	MS27658-28	FPL-R-5328L	1.412	1.870	1.661-36	

Cable Supports - Stainless Steel, Right Angle



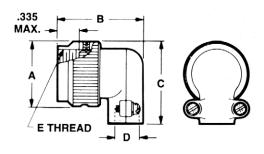
Shell		Cable Support, Right Angle									
Size	Similar to MS No.	Amphenol/Pyle No.	Α	L	Thread						
10	NA	FPL-R-5210	NA	NA	.563-36						
12	MS27659-12	FPL-R-5212	.435	1.298	.753-36						
14	MS27659-14	FPL-R-5214	.504	1.388	.803-36						
16	MS27659-16	FPL-R-5216	.686	1.523	.930-36						
18	MS27659-18	FPL-R-5218	.794	1.622	1.036-36						
22	MS27659-22	FPL-R-5222	1.038	1.878	1.286-36						
24	MS27659-24	FPL-R-5224	1.162	2.000	1.411-36						
28	MS27659-28	FPL-R-5228	1.412	2.250	1.661-36						

Accessories - cable supports, cont. for MIL-C-26500 cylindrical connectors

Additional right angle conduit adapters and cable support clamps are available which provide added protection for the cable or wiring. Closed back cable support clamps have a removable cover; while open back cable support clamps have a strap to protect the wires at the right angle bend.

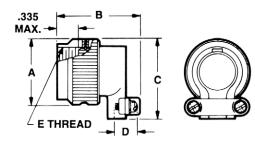


Cable Supports - Stainless Steel, Closed Right Angle



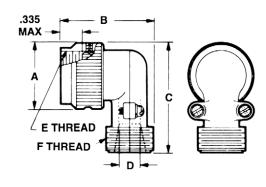
Shell	Cable Support - Closed Right Angle											
Size	MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B					
8	MS27558-1	48-2222-08100	.672	1.200	.938	.245	.4375-28					
10	MS27558-2	48-2222-10100	.797	1.320	1.049	.370	.5625-24					
12	MS27558-3	48-2222-12100	1.016	1.320	1.248	.370	.7500-20					
14	MS27558-4	48-2222-14100	1.110	1.487	1.330	.520	.8125-20					
16	MS27558-5	48-2222-16100	1.234	1.470	1.447	.520	.9375-20					
18	MS27558-6	48-2222-18100	1.360	1.588	1.577	.645	1.0625-18					
20	MS27558-7	48-2222-20100	1.485	1.759	1.698	.780	1.1875-18					
22	MS27558-8	48-2222-22100	1.610	1.759	1.820	.780	1.3125-18					
24	MS27558-9	48-2222-24100	1.735	2.027	1.945	1.065	1.4375-18					

Cable Supports - Stainless Steel, Open Right Angle



Shell	Cable Support - Open Right Angle										
Size	MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B				
8	MS27559-1	48-2222-08200	.672	1.173	.938	.201	.4375-28				
10	MS27559-2	48-2222-10200	.797	1.293	1.049	.328	.5625-24				
12	MS27559-3	48-2222-12200	1.016	1.293	1.248	.328	.7500-20				
14	MS27559-4	48-2222-14200	1.110	1.460	1.330	.452	.8125-20				
16	MS27559-5	48-2222-16200	1.234	1.443	1.447	.508	.9375-20				
18	MS27559-6	48-2222-18200	1.360	1.561	1.577	.571	1.0625-18				
20	MS27559-7	48-2222-20200	1.485	1.732	1.698	.748	1.1875-18				
22	MS27559-8	48-2222-22200	1.610	1.732	1.819	.748	1.3125-18				
24	MS27559-9	48-2222-24200	1.735	2.000	1.945	.996	1.4375-18				

Conduit Adapter- Stainless Steel, Right Angle



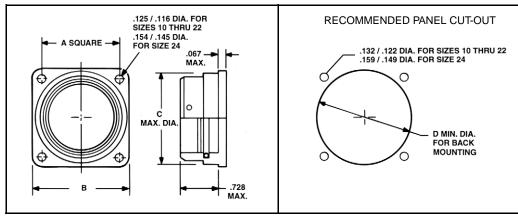
Shall	Conduit Adapter - Right Angle									
Size	Equivalent MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B	F Thread UNEF-2A		
8	MS27557-1	48-2222-08000	.672	1.300	1.403	.245	.4375-28	.6250-24		
10	MS27557-2	48-2222-10000	.797	1.420	1.514	.370	.5625-24	.7500-20		
12	MS27557-3	48-2222-12000	1.016	1.420	1.713	.370	.7500-20	.7500-20		
14	MS27557-4	48-2222-14000	1.110	1.575	1.795	.520	.8125-20	.8750-20		
16	MS27557-5	48-2222-16000	1.234	1.558	1.912	.520	.9375-20	.8750-20		
18	MS27557-6	48-2222-18000	1.360	1.675	2.042	.645	1.0625-18	1.0000-20		
20	MS27557-7	48-2222-20000	1.485	1.863	2.163	.780	1.1875-18	1.1875-18		
22	MS27557-8	48-2222-22000	1.610	1.863	2.285	.780	1.3125-18	1.1875-18		
24	MS27557-9	48-2222-24000	1.735	2.118	2.410	1.065	1.4375-18	1.4375-18		

Accessories - dummy receptacles for MIL-C-26500 cylindrical connectors

Dummy Receptacles - Aluminum - Threaded or Bayonet

Used as an anchoring place for disconnected plugs, dummy receptacles eliminate the problems involved in letting plugs swing freely. They also provide a limited air seal and prevent accumulation of foreign material on the face of the plug. Order by part numbers in chart below.

Threaded Style



Dimensional Data						Dimensional Data How to Order				
	Thread Cine	Α	в	C May	D Min.	Вау	onet	Thre	aded	
Size	Thread Size UNEF-2A	Square ±.005	в ±.005	C Max. Dia.	D Min. Dia.	Amphenol Part No.	Equivalent MS Part No.	Amphenol Part No.	Equivalent MS Part No.	
10	.6875-24	.719	.937	.696	.748	48-149-10000	MS27297-1	48-172-10000	MS27296-1	
12	.8750-20	.812	1.031	.875	.913	48-149-12000	MS27297-2	48-172-12000	MS27296-2	
14	.9375-20	.906	1.125	.935	.980	48-149-14000	MS27297-3	48-172-14000	MS27296-3	
16	1.0625-18	.969	1.250	1.062	1.107	48-149-16000	MS27297-4	48-172-16008	MS27296-4	
18	1.1875-18	1.062	1.343	1.187	1.209	48-149-18000	MS27297-5	48-172-18000	MS27296-5	
20	1.3125-18	1.156	1.437	1.312	1.337	48-149-20000	MS27297-8	48-172-20000	MS27296-8	
22	1.4375-18	1.250	1.562	1.437	1.452	48-149-22000	MS27297-6	48-172-22000	MS27296-6	
24	1.5625-18	1.375	1.703	1.562	1.577	48-149-24000	MS27297-9	48-172-24000	MS27296-9	

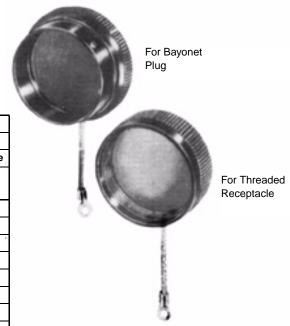
pictured

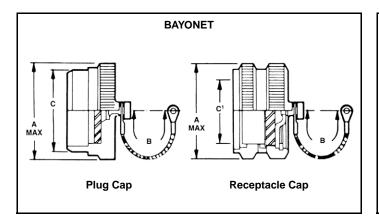
Accessories - protection caps for MIL-C-26500 cylindrical connectors

Protection Caps and Chains - Threaded or Bayonet

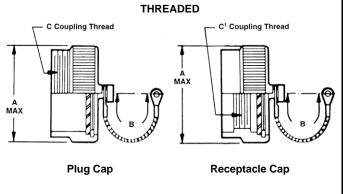
Protective metal caps provide an environmental seal for the connector face. They exclude dirt, dust, moisture and other foreign materials from the face of unmated plugs and receptacles. The caps have a woven steel strap so they can be easily attached near their point of use.

	Dimensional Data							
	A Max. Dia.	B ±.250 Chain Length	Bayonet Cap		Threaded Cap			
Size			Plug	Receptacle	Plug	Receptacle		
0126			c +.000 005	C ¹ +.005 000	C Thread UNEF-2A	C ¹ Thread UNEF-2B		
10	.906	3.00	.659	.662	.6875-24	.6875-24		
12	1.078	3.00	.829	.832	.8750-20	.8750-20		
14	1.141	5.00	.898	.901	.9375-20	.9375-20		
16	1.266	5.00	1.025	1.028	1.0625-18	1.0625-18		
18	1.375	5.00	1.131	1.134	1.1875-18	1.1875-18		
20	1.510	5.00	1.256	1.263	1.3125-18	1.3125-18		
22	1.625	5.00	1.381	1.384	1.4375-18	1.4375-18		
24	1.760	5.00	1.506	1.511	1.5625-18	1.5625-18		





How to Order Bayonet Cap & Chain							
Size	F	lug	Receptacle				
	Amphenol Part No.	Equivalent MS Part No.	Amphenol Part No.	Equivalent MS Part No.			
10	48-2144	MS27293-1	48-2150	MS27295-1			
12	48-2143	MS27293-2	48-2149	MS27295-2			
14	48-2142	MS27293-3	48-2148	MS27295-3			
16	48-2141	MS27293-4	48-2147	MS27295-4			
18	48-2140	MS27293-5	48-2146	MS27295-5			
20	48-2773	MS27293-8	48-2774	MS27295-8			
22	48-2139	MS27293-6	48-2145	MS27295-6			
24	48-2767	MS27293-9	48-2768	MS27295-9			



How to Order Threaded Cap & Chain							
Size	Р	lug	Receptacle				
	Amphenol Part No.	Equivalent MS Part No.	Amphenol Part No.	Equivalent MS Part No.			
10	48-2340-10	MS27292-1	48-2301-10	MS27294-1			
12	48-2340-12	MS27292-2	48-2301-12	MS27294-2			
14	48-2340-14	MS27292-3	48-2301-14	MS27294-3			
16	48-2340-16	MS27292-4	48-2301-16	MS27294-4			
18	48-2340-18	MS27292-5	48-2301-18	MS27294-5			
20	48-2340-20	MS27292-8	48-2301-20	MS27294-8			
22	48-2340-22	MS27292-6	48-2301-22	MS27294-6			
24	48-2340-24	MS27292-9	48-2301-24	MS27294-9			

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Amphenol:

<u>48-7190-1</u> <u>AR2A-583-30001200</u> <u>48-7190</u> <u>48-7191</u> <u>48-7191-1</u> <u>48-1226-2</u> <u>48-1226-55</u> <u>48-1227-2</u> <u>48-1227-3</u> <u>48-1227-50</u> <u>48-1227-55</u> <u>48-1227-57</u> <u>48-1292-02</u> <u>MS27559-9</u> <u>ZZY-FO-17E12-12PN</u> <u>MS24264R18B31SN</u> <u>MS27558-5</u> <u>ZZB-A-1522-55PD-H21</u> <u>ZZL-4016-10P</u> <u>10-804342</u> <u>10-804341</u> P-204540