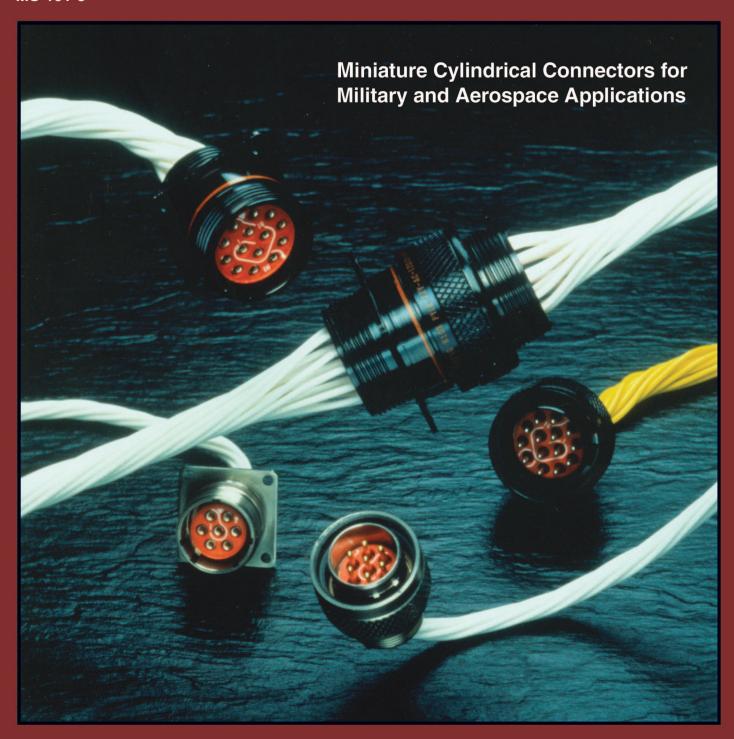
# Amphenol® Pyle® MIL-C-26500 Connectors

MS-101-3



**Amphenol** 

### **Table of Contents**

Amphenol®/Pyle® MIL-C-26500 Miniature Cylindrical Connectors Product Overview	. 2
Aluminum/Stainless Steel MIL-C-26500 Connectors  Product Listing	7,8 10 11 12 13 14
Amphenol 48 Series MIL-C-26500 Connectors  Receptacle Short Skirt	
Firewall. Class K MIL-C-26500 Connectors  Product Listing	21 22 23 24
Hermetic MIL-C-26500 Connectors  General Information	26
Contacts and Accessories for MIL-C-26500 Connectors  Crimp Contacts, Special Application Contacts, Sealing Plugs, Sealing Gaskets Shielded/Coaxial Contacts Contact Termination Tools Contact Termination Tools (48 Series) Assembly Instructions (Contact Termination/Insertion/Removal) 32, Cable Supports Dummy Receptacles Protection Caps	30 31 33 35 36
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<sup>®</sup> /Pyle<sup>®</sup> 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

<sup>\*</sup> For more information on other Amphenol<sup>®</sup>/Pyle<sup>®</sup> 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)	Α	Aluminum Alloy	Anodize
Class G	М	Aluminum Alloy	Chromium
Class E	R	Stainless Steel	Passivated
Class K Firewall	FPK/FYL	Stainless Steel	Passivated
Class H Hermetic	НС	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 size  8 10 12 14 16 18 20 22 24  Torque inch lbs. 9 10 14 17 23 26 31 38 46	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 deterioration 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) ambient 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 microsecond discontinuity.
Flame Resistance (Class K)	Performance requirements of Paragraph 4.5.18 Fireproof (Class K of MIL-C-5015D)	Exceeds specifications

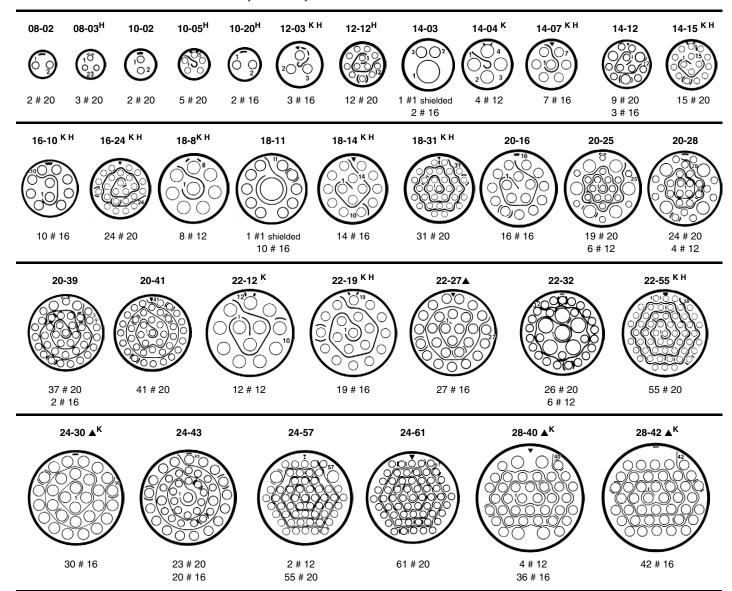
### MIL-C-26500

### insert arrangements

Contact cavities are identified with a spiral guide line indicating cavity sequence. The first and last cavities are numbered and every tenth cavity is bracketed.

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.

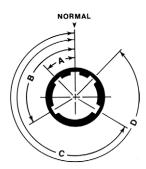


### **Alternate Keying**

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	ınd 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
	Single Hole (D-Hole) Mounted Receptacle	General Purpose,	Aluminum	Military Class R or G	MS24265(R or G)XXTXX
		Environmental Resistant	Aluminum	Pyle A or M Series	ZZY-(A or M)X-15XX
		Superior Strength,		Military Class E	MS24265EXXTXX
	Threaded Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZY-RX-15XX
		General Purpose,	Aluminum	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

	ell Style Steel pictured)	Basic Hardware Performance Level Description*		Class*	Basic Part Number**
		General Purpose,	Aluminum	Military Class R or G	MS24264(R or G)XXBXX
	Square Flange Mounted	Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-17XX
	Receptacle	Superior Strength,		Military Class E	MS24264EXXTXX
	Bayonet Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZW-RX-17XX
	Single Hole (D-Hole) Mounted	General Purpose,		Military Class R or G	MS24265(R or G)XXBXX
		Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-15XX
	Receptacle	Superior Strength,		Military Class E	MS24265EXXTXX
OF S	Bayonet Coupling	Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Pyle R Series	ZZW-RX-15XX
		General Purpose,	Alumainum	Military Class R or G	MS24266(R or G)XXBXX
100 mm	Straight Plug	Environmental Resistant	Aluminum	Pyle A or M Series	ZZW-(A or M)X-10XX
diameter (	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

<sup>\*</sup> 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.

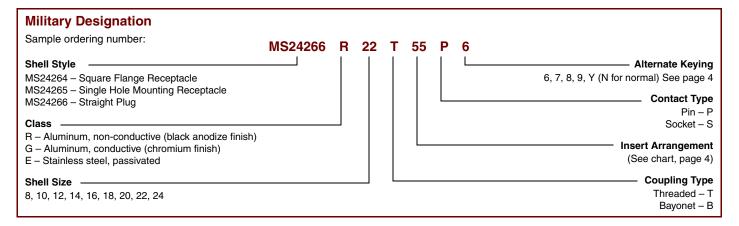
### RATCHET LOCK PLUG & MATING FLANGE MOUNTED, THREADED RECEPTACLE **PYLE ZZY**

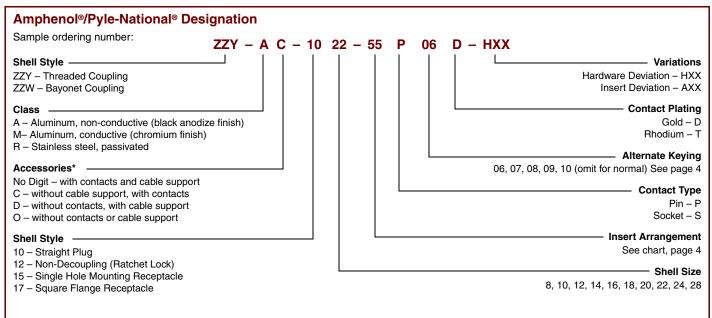
Shell Style (Stainless steel pictured)		Basic Performance Level	Hardware Description*	Class*	Pyle Basic Part Number**	
	Ratchet Lock Plug Non-Decoupling  Designed to meet high vibration requirements beyond MIL-C-2650		Aluminum	Pyle A Series	ZZY (A or F) X-12 (D, E or F) XX	
			Stainless Steel	Pyle R 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	

<sup>\*</sup> 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





<sup>\*</sup> 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.

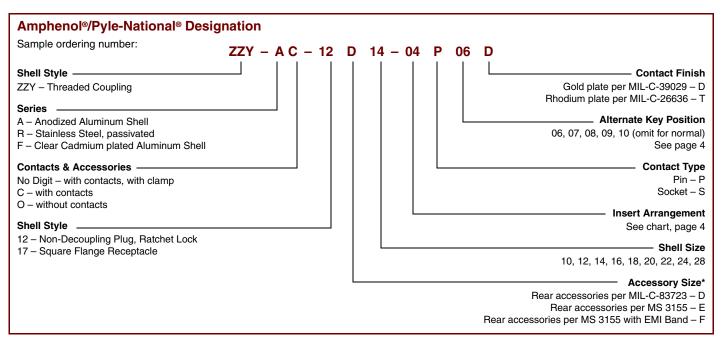
### MIL-C-26500 - how to order

# 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:

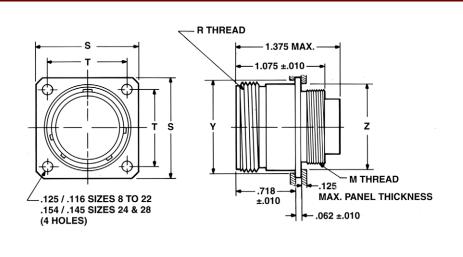
- Modified accessory thread to accommodate MIL-C-83723 backshell hardware.
- Rear accessory teeth are featured on both the plug and receptacle shell to assure non-rotation of accessory hardware
- Intermateable with all MIL-C-26500 threaded connectors of like insert arrangement and key position



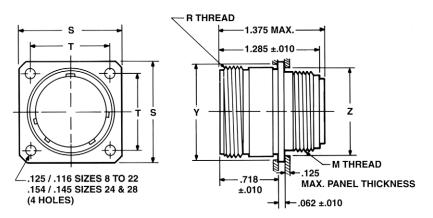
<sup>\*</sup> Accessory threads for aluminum and stainless steel hardware differ, and care should be taken in selection of alternate accessory hardware that will conform to the threads noted in the dimensional tables within this catalog.

# Flange Mounted Receptacle

# aluminum/stainless steel threaded coupling



STAINLESS STEEL
Pyle ZZY-RC-17XX\* Series
MS24264EXXTXX\*
Military Class E



ALUMINUM
Pyle ZZY-AC-17XX\* Series
MS24264RXXTXX\*
Military Class R

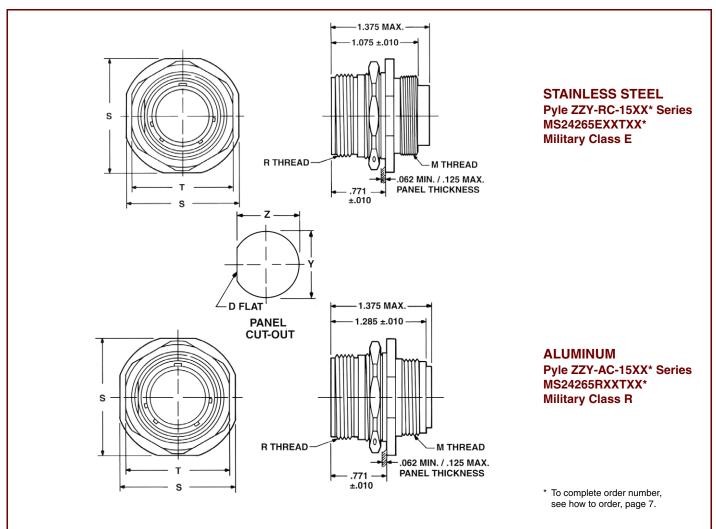
\* To complete order number, see how to order, page 7.

		Support ad M	Weight (	Connector lbs.) max Contacts			Mounting	Back	Front
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Coupling Thread R	Flange Width S ±.005	Hole Centers T ±.005	Mount Min. Hole Y	Mount Min. Hole Z
08**	NA	.437-28	.025	.026	.562-24	.812	.594	.606	.443
10	.563-36	.562-24	.042	.044	.687-24	.937	.719	.748	.572
12	.733-36	.750-20	.061	.062	.875-20	1.031	.812	.913	.760
14	.803-36	.812-20	.072	.074	.937-20	1.125	.906	.980	.822
16	.930-36	.937-20	.087	.090	1.062-18	1.250	.969	1.107	.948
18	1.036-36	1.062-18	.110	.112	1.187-18	1.343	1.062	1.209	1.072
20	1.161-36	1.187-18	.130	.134	1.312-18	1.437	1.156	1.325	1.197
22	1.286-36	1.312-18	.152	.159	1.437-18	1.562	1.250	1.452	1.322
24	1.411-36	1.437-18	.181	.188	1.562-18	1.703	1.375	1.577	1.448
28†	1.661-36	NA	NA	NA	1.812-16	2.000	1.562	1.827	1.700

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

# **D-Hole Mounted Receptacle**

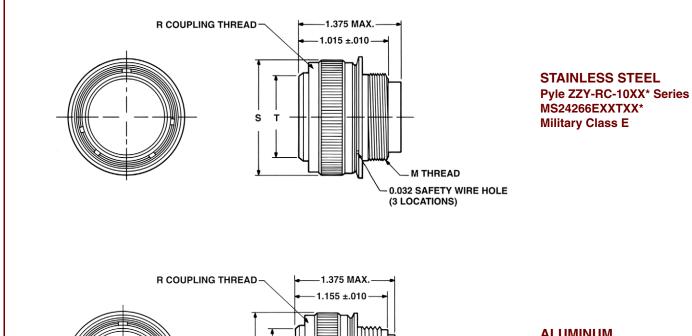
# aluminum/stainless steel threaded coupling



	Cable Support Thread M		Aluminum Connector Weight (lbs.) max including Contacts		Lock Nut Flats		Lock Nut Flats T		Lock Nut Flats				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		

# **Straight Plug**

# aluminum/stainless steel threaded coupling



ALUMINUM
Pyle ZZY-AC-10XX\* Series
MS24266RXXTXX\*
Military Class R

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

		Cable Support Weight (lbs.) max Thread M including Contacts		lbs.) max		Coupli D S N	Shell Dia.	
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Coupling Thread R	Steel	Alum.	+.000 005
08**	NA	.437-28	.030	.031	.562-24	NA	.776	.424
10	.563-36	.562-24	.044	.045	.687-24	.826	.906	.526
12	.733-36	.750-20	.063	.064	.875-20	.996	1.078	.696
14	.803-36	.812-20	.074	.076	.937-20	1.066	1.141	.765
16	.930-36	.937-20	.091	.094	1.062-18	1.193	1.266	.892
18	1.036-36	1.062-18	.110	.112	1.187-18	1.299	1.375	.998
20	1.161-36	1.187-18	.133	.136	1.312-18	1.424	1.510	1.123
22	1.286-36	1.286-18	.154	.160	1.437-18	1.549	1.625	1.248
24	1.411-36	1.437-18	.184	.188	1.562-18	1.674	1.670	1.373
28†	1.661-36	NA	NA	NA	1.812-16	1.912	NA	1.623

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

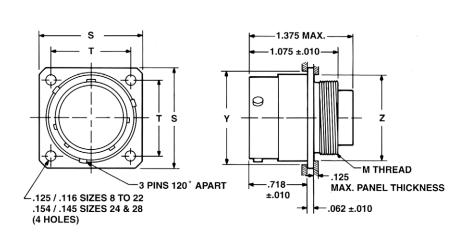
† Not available in Aluminum.

M THREAD

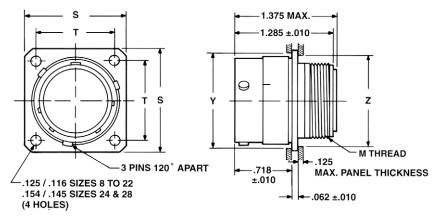
-0.032 SAFETY WIRE HOLE (3 LOCATIONS)

# Flange Mounted Receptacle

# aluminum/stainless steel bayonet coupling



STAINLESS STEEL
Pyle ZZW-RC-17XX\* Series
MS24264EXXBXX\*
Military Class E



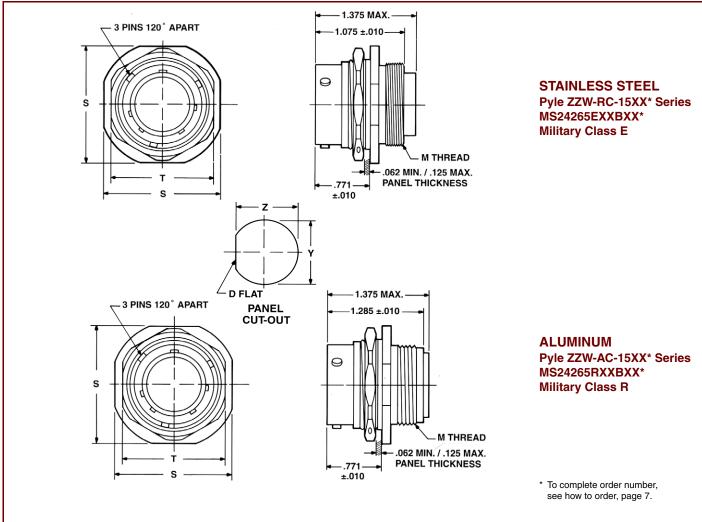
ALUMINUM
Pyle ZZW-AC-17XX\* Series
MS24264RXXBXX\*
Military Class R

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

		Support ad M	Aluminum Connector Weight (lbs.) max including 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	

# **D-Hole Mounted Receptacle**

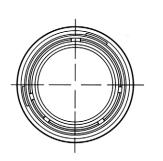
# aluminum/stainless steel bayonet coupling

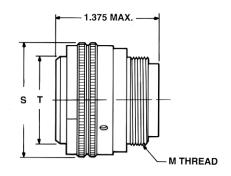


		Support ad M	Weight (	Connector lbs.) max Contacts		Lock Nut Flats T				Recom. min.
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Flange Width S ±.005	Steel	Alum.	Mounting Hole Dia. Y	Mounting Hole Flat Z	Torque Jam Nut Lb inches
08**	NA	.437-28	.029	.030	.979	NA	.812	.635	.605	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

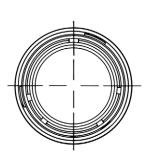
# **Straight Plug**

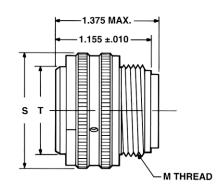
# aluminum/stainless steel bayonet coupling





STAINLESS STEEL
Pyle ZZW-RC-10XX\* Series
MS24266EXXBXX\*
Military Class E





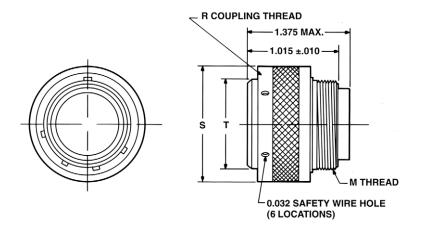
ALUMINUM
Pyle ZZW-AC-10XX\* Series
MS24266RXXBXX\*
Military Class R

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

	Cable Support Thread M		Weight (	Connector lbs.) max Contacts	· D	ng Nut ia lax.	Shell Dia.
Shell Size	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Steel	Alum.	T +.000 005
08**	NA	.437-28	.030	.031	NA	.762	.424
10	.563-36	.562-24	.044	.045	.848	.904	.526
12	.733-36	.750-20	.063	.064	1.018	1.076	.696
14	.803-36	.812-20	.074	.076	1.087	1.122	.765
16	.930-36	.937-20	.091	.094	1.214	1.264	.892
18	1.036-36	1.062-18	.110	.112	1.320	1.373	.998
20	1.161-36	1.187-18	.133	.136	1.445	1.503	1.123
22	1.286-36	1.312-18	.154	.160	1.570	1.623	1.248
24	1.411-36	1.437-18	.184	.188	1.695	1.752	1.373
28	NA	NA	NA	NA	NA	NA	NA

# Non-Decoupling, Ratchet Lock Plug

# stainless steel ratchet lock coupling



STAINLESS STEEL Pyle ZZY-RC-12XX\* Series Military Class E

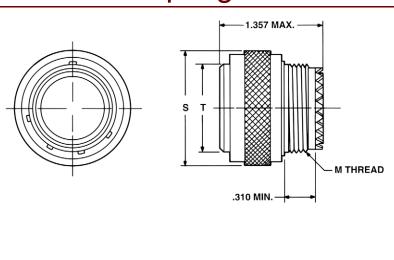
\* To complete order number, see how to order, page 7.

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

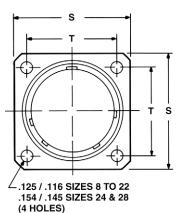
NA designates not available. All dimensions for reference only.

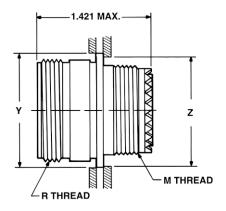
# Ratchet Lock Plug and Mating Flange Receptacle

aluminum/stainless steel ratchet lock coupling



RATCHET LOCK PLUG Stainless Steel/Aluminum Pyle ZZY-RC/AC-12XX\* Series





MATING FLANGE MOUNTED, THREADED RECEPTACLE Stainless Steel/Aluminum Pyle ZZY-RC/AC-17XX\* Series

\* To complete order number, see how to order, page 8.

		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

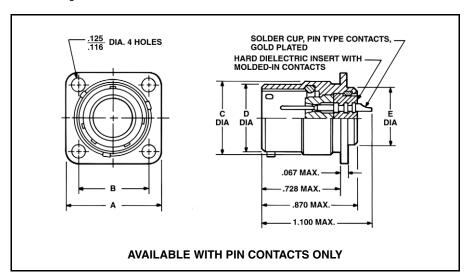
NA designates not available. All dimensions for reference only.

### 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.





#### **Receptacle Short Skirt with Standard Flange**

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.	B ±.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

<sup>\*</sup> 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, space-saving 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:

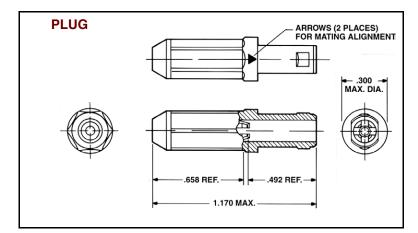
- Push-mating/twist-pull-unmating
- Uses standard M39029/31-229 pin and M39029/32-248 socket contacts
- Incorporates environmental sealing grommet
- Metal collet retention
- Uses standard MIL-C-26500 contact removable tools
- Low cost
- · Weight savings design
- Space savings design
- Color coded connector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



# RECEPTACLE 1.170 MAX. .492 REF. .658 REF. ROTATE 45' TO UNLOCK ARROWS (2 PLACES) FOR MATING ALIGNMENT VIEW "B"-"B"

#### **Receptacle Wire Splice**

Amphenol 48 Series Part Number	Amphenol 10- Part Number	Color	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 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-KXXTXX
Receptacle Threaded Coupling  Resists high temperatures up to 238°C (460°F).		Stainless Steel	Pyle FPK or FPL or FP5K Series	FPK-17( ) or FPL-17( ) or FP5K-17( )
Single Hole (D-Hole) Mounted	High performance. 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	Resists high temperatures up to 238°C (460°F).	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( )

 $<sup>^{\</sup>star}$   $\,$  See how to order, page 21, for further description of hardware classes.

<sup>\*\*</sup> See how to order, page 21, to complete part numbers.

# MIL-C-26500 - Firewall Class K

# Class K stainless steel bayonet coupling

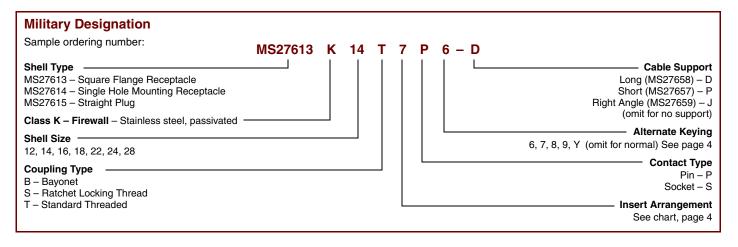
### **BAYONET COUPLING, FIREWALL PYLE FYL** MS2761X-KXXBXX

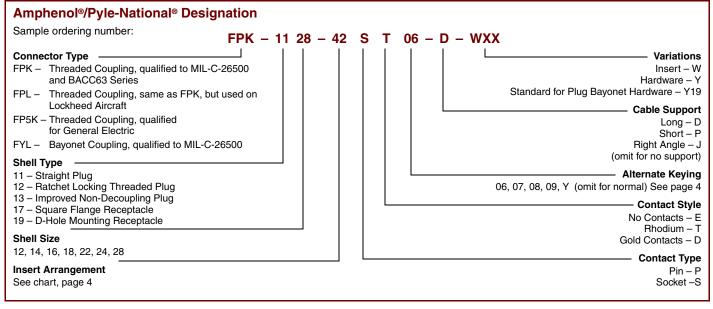
ill Style nless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
Square Flange Mounted	High performance. Environmentally sealed.	Class K Firewall	Military Class K	MS27613-KXXBXX
Receptacle Bayonet Coupling	Resists high temperatures up to 238°C (460°F).	sists high temperatures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

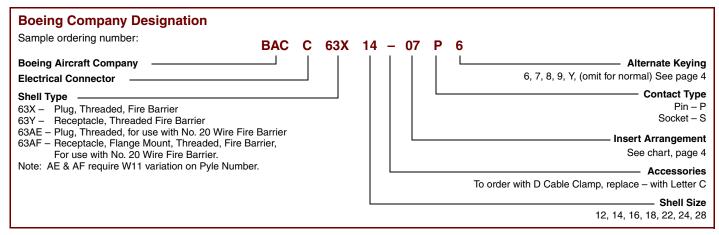
See how to order, page 21, for further description of hardware classes.
 See how to order, page 21, to complete part numbers.

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

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

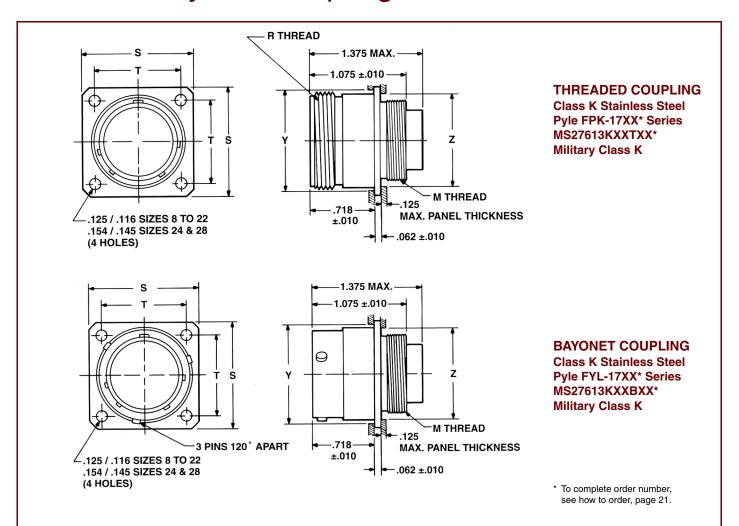






# Firewall Class K Flange Mounted Receptacle

Class K stainless steel, threaded/bayonet coupling

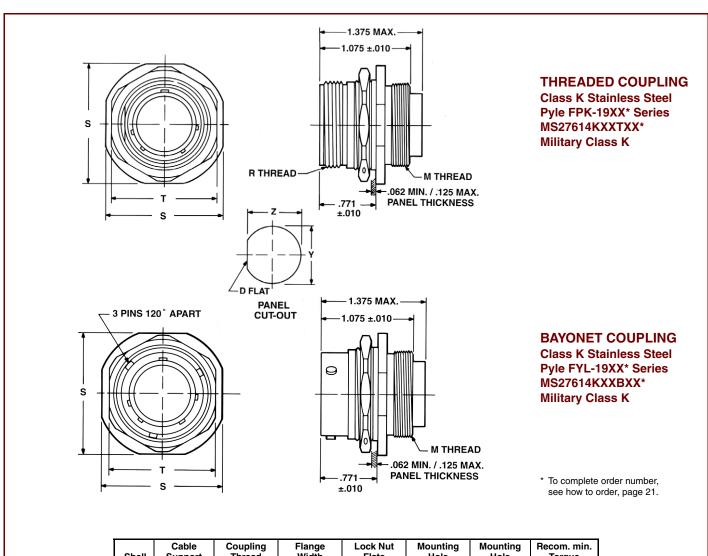


Shell Size	Cable Support Thread M	Coupling Thread R	Flange Width S ±.005	Mounting Hole Centers T ±.005	Back Mount Min. Hole Y	Front Mount Min. Hole Z
80	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA
12**	.733-36	.875-20	1.031	.812	.913	.760
14	.803-36	.937-20	1.125	.906	.980	.822
16	.930-36	1.062-18	1.250	.969	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

NA 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

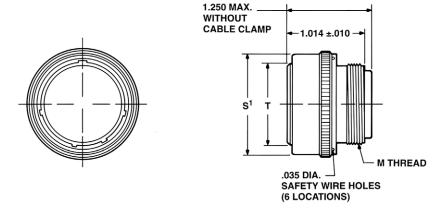


Shell Size	Cable Support Thread M	Coupling Thread R	Flange Width S	Lock Nut Flats T	Mounting Hole Dia. Y	Mounting Hole Flat Z	Recom. min. Torque Jam Nut
08	NA	NA	NA	NA	NA	NA	33
10	NA	NA	NA	NA	NA	NA	36
12**	.733-36	.875-20	1.291	1.215	.947	.917	56
14	.803-36	.937-20	1.391	1.062	1.010	.980	65
16	.930-36	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

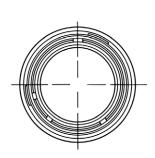
NA designates not available.  $\,\,^{\star\star}$  Available in Threaded Coupling only. All dimensions for reference only.

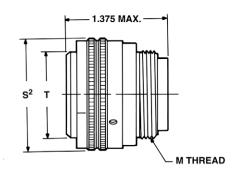
# Firewall Class K Straight Plug

Class K stainless steel, threaded/bayonet coupling



THREADED COUPLING Class K Stainless Steel Pyle FPK-11XX\* Series MS27615KXXTXX\* Military Class K





BAYONET COUPLING Class K Stainless Steel Pyle FYL-11XX\* Series MS27615KXXBXX\* Military Class K

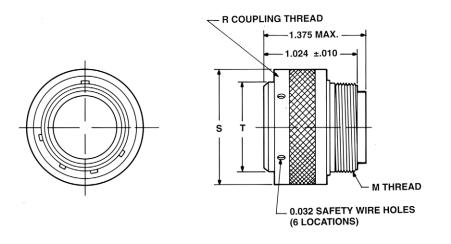
\* To complete order number, see how to order, page 21.

	Cable	Coupling	Coupli		
Shell Size	Support Thread M	Thread R	Dia. S <sup>1</sup>	Dia. S <sup>2</sup>	Shell Dia. T
08	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA
12	.733-36	.875-20	.984	1.018	.696
14	.803-36	.937-20	1.054	1.087	.765
16	.930-36	1.062-18	1.181	1.214	.892
18	1.036-36	1.187-18	1.287	1.320	.998
20	NA	NA	NA	NA	NA
22	1.286-36	1.437-18	1.537	1.570	1.248
24	1.411-36	1.562-18	1.662	1.695	1.373
28**	1.661-36	1.812-16	1.912	NA	1.623

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



RATCHET LOCK PLUG Threaded Coupling Class K Stainless Steel Pyle FPK-12XX\* Series MS27615KXXSXX Military Class K

\* 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**

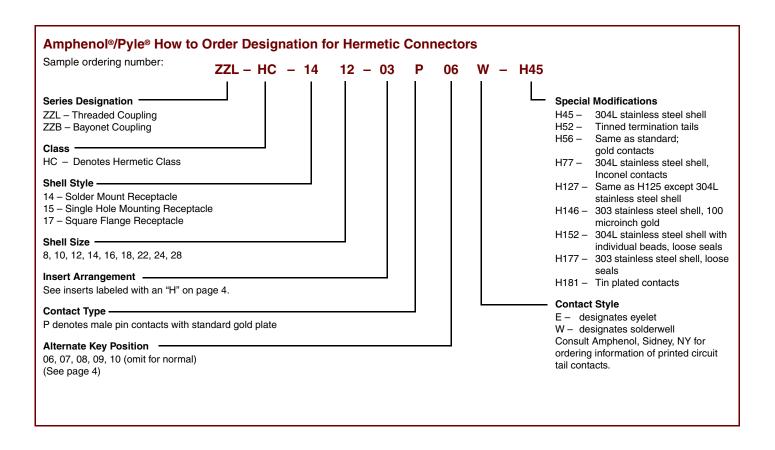
### hermetically sealed

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, solderwell 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	Spec. 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*				

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

### Amphenol®/Pyle® Special Application Contacts

Copper Alloy, Rhodium plated Contacts†								
Contact Size	Description	Amphenol/Pyle Pin No.	Amphenol/Pyle Socket 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					

<sup>†</sup> Contacts qualified to Boeing BACC47CN/CP.

	Thermocouple Contacts									
			Amphenol/Pyle 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					

<sup>\*</sup> Pencil clip socket design - see page 2 for description.

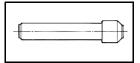
### **Printed Circuit Board/Wire-Wrap Contacts**

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**

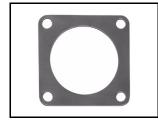


For sealing spare contact holes. Same sealing plug is used in both plug and receptacle.

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

<sup>\*</sup> Add – H139 for Boeing Marking for Pin/Socket, Standard Plating. Add – H148 for Boeing Marking for Pin/Socket, Select Plate.

<sup>\*\*</sup> Split tine socket with napkin ring design - see page 2 for description.

# **Shielded/Coaxial Contacts**

# for MIL-C-26500 cylindrical connectors

Drawing (See below and on	Shielded Contact Part No./	Cable S	Stripping +.0156 0000	Dim.***		enol Crimp Toolenter Contact)	s	Outer Ferrule Crimping	Cable Application	
next page)	Contact Type	A	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	40-1227-30 SOCKET							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	
Type 2 #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	
Type 3 #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	
<b>Type 4</b> #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	
Type 5 #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.

\*\*\* Refer to illustration on page 29.

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

#### Type 1

CENTER PIN CONTACT

CENTER SOCKET

SOCKET BODY ASSEMBLY **d** 

PIN BODY ASSEMBLY

SEALING SLEEVE

### **Shielded Contact Assembly Procedure**

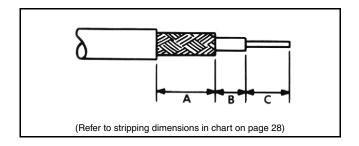
Step 1	Slide sealing boot or sleeve and outer ferrule onto cable and strip cable as shown at right.  After stripping, slide spacer over center conductor as shown for <i>Type 2</i> and <i>Type 3</i> .  For <i>Type 3</i> slide spacer under wire braid.	SEALING SLEEVE OUTER FERRULE
Step 2	Insert stripped center conductor into contact until wire shows through inspection hole and dielectric ( <i>Type 1</i> , <i>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</i> , <i>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 <i>Type 4</i> , push sealing boot into connector grommet until O-ring riser of boot snaps into place and seals the assembly.	

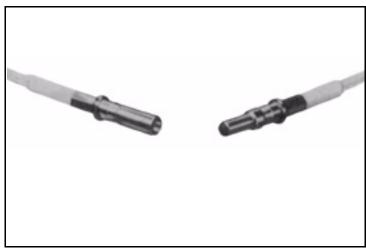
### Shielded/Coaxial Contacts, cont.

# for MIL-C-26500 cylindrical connectors

### **Cable Stripping**

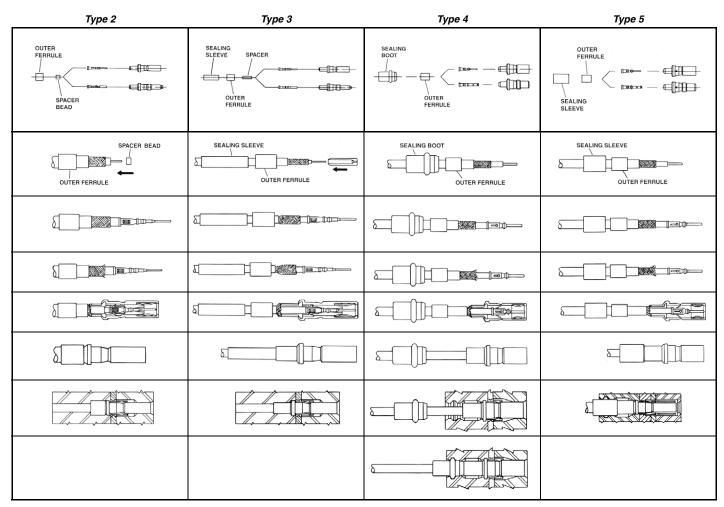
Strip cable jacket, braid and dielectric to the dimensions shown in the table on page 28. Make all cuts square and sharp, being careful not to nick braid, dielectric, or center conductor when cutting. If conductor ends fray, twist them to their normal lay.





**Shielded Contacts after Crimping** 

### **Shielded Contact Assembly Procedure, cont.**



# Accessories - contact terminating tools

# for MIL-C-26500 cylindrical connectors

### **Contact Crimping Tools**



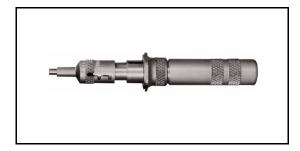
Contact	•	g Tool with enters	Adjusta	ble Turret	Checking Gage for Crimping Tool	
Size	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.
20						
16	TP-201354	M22520/1-01 (Class 1)	TP-201355	M22520/1-02 (Class 1)	TP-201356	M22520/3
12		(3.3.33 1)		(3.3.55 1)		

#### **Contact Insertion Tools**



Contact	Ins	sertion Tool	Insertion Tool Replacement Tip & Pin		
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	1
12	ZZL-R-9510-12	MIL-I-81969/17-5	Yellow	ZZL-R-9531-12	-

### **Contact Removal Tools**



Contact		moval Tool	Removal Tool Replacement Tip		
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	ı
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		rimping	For Crimping		
Contact		Contact	Outer Ferrule		
Size	Basic Crimp	Contact	Basic Crimp Tool	Hex	
	Tool	Positioner	(Hex dies included)	Dimension	
# 1 Shielded	357-100	294-1631	294-529	.128 Hex	
# 2 Shielded	337-100	294-1630	294-528	.160 Hex	

### **Standard Crimping Tool for Power Contacts**



Basic Cr	Use with	
Amphenol Part No. Military 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.

# Assembly Instructions for MIL-C-26500 Connectors

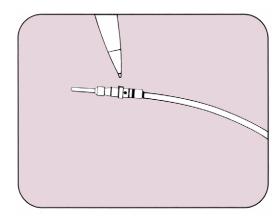
### **Contact Termination**

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

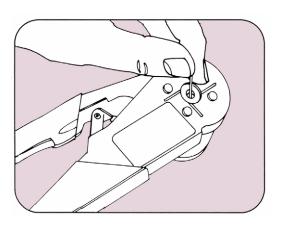
When stripping the wire avoid nicking wires or damaging the insulation as it is a functional part of the sealing system.

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

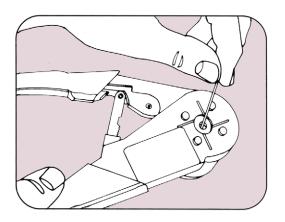
Follow steps 1 - 4, as shown below, for proper contact crimping:



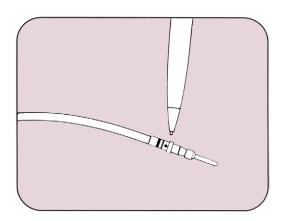
1. Insert stripped wire into contact pocket until it is visible through inspection hole.



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.

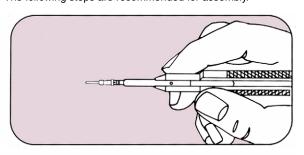


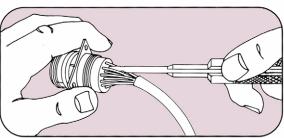
4. Inspect crimp for wire visibility through inspection hole.

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

#### **Contact Insertion into the Connector**

The following steps are recommended for assembly.





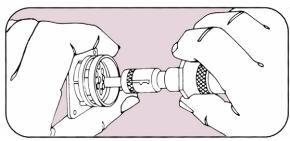
#### NOTE:

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.

- 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.

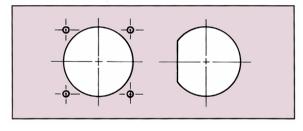
#### **Contact Removal from the Connector**

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



- Set the spacer sleeve in the proper position for removal of male or female contact.
- 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.
- After using extraction tool the spacer sleeve should be set forward in last notch to protect the end of the plunger guide.

### **Panel Mounting**

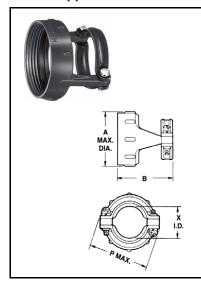


Two receptacle shell styles, flange mount and D-hole mount, are available for panel mounting. See the applicable drawings for mounting hole dimensions. The square flange receptacle, sizes 10 through 22, is fastened to the panel with four size #4-40 machine screws. The 24 and 28 size shells are fastened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

# **Accessories - cable supports**

# for MIL-C-26500 cylindrical connectors

### **Cable Supports - Aluminum**



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

Shell	Non-Conductive, Black Anodize Finish		Condu Chromiur	Α	В	х	Thread	Р	
Size	MS. No. Amphenol/ Pyle No.		MS No.	Amphenol/ Pyle No.	Max. Dia.	±.015	I.D. ±.38	UNEF-2B	Max.
08	MS27291-13	ZZL-R-5308-A	MS27291-701	ZZL-M-5308	.582	.935	.180	.4375-28	.785
10	MS27291-1	ZZL-R-5310-A	MS27291-101	ZZL-M-5310	.731	.935	.270	.5625-24	.914
12	MS27291-2	ZZL-R-5312-A	MS27291-201	ZZL-M-5312	.919	.935	.400	.7500-20	1.026
14	MS27291-3	ZZL-R-5314-A	MS27291-301	ZZL-M-5314	.981	1.170	.460	.8125-20	1.090
16	MS27291-4	ZZL-R-5316-A	MS27291-401	ZZL-M-5316	1.106	1.170	.610	.9375-20	1.250
18	MS27291-5	ZZL-R-5318-A	MS27291-501	ZZL-M-5318	1.231	1.170	.690	1.0625-18	1.358
20	MS27291-14	ZZL-R-5320-A	MS27291-801	ZZL-M-5320	1.356	1.170	.830	1.1875-18	1.496
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 Supports - Stainless Steel, Straight



Shell	Standard Straight Support (L = .781)					Long Straight Support					
Size	MS No.	Amphenol/ Pyle No.	A	MS No.	Amphenol/ Pyle No.	Α	Similar to MS No.	Amphenol/ Pyle No.	А	L	Thread
10	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			

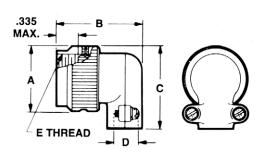
### Accessories - cable supports, cont.

# 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.

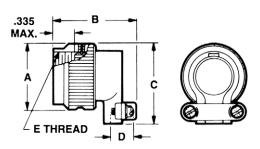


### Cable Supports - Stainless Steel, Closed Right Angle



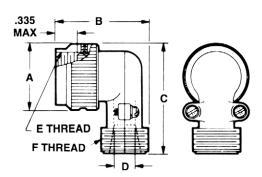
Shell	Cable Support - Closed Right Angle									
Size	MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B			
8	MS27558-1	48-2222-08100	.672	1.200	.938	.245	.4375-28			
10	MS27558-2	48-2222-10100	.797	1.320	1.049	.370	.5625-24			
12	MS27558-3	48-2222-12100	1.016	1.320	1.248	.370	.7500-20			
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 - Size	Cable Support - Open Right Angle									
	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



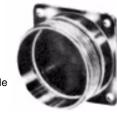
Shell Size	Conduit Adapter - Right Angle								
	Equivalent MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B	F Thread UNEF-2A	
8	MS27557-1	48-2222-08000	.672	1.300	1.403	.245	.4375-28	.6250-24	
10	MS27557-2	48-2222-10000	.797	1.420	1.514	.370	.5625-24	.7500-20	
12	MS27557-3	48-2222-12000	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**

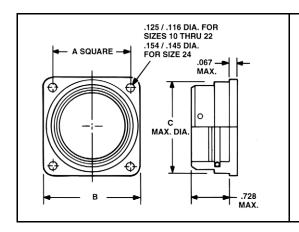
# for MIL-C-26500 cylindrical connectors

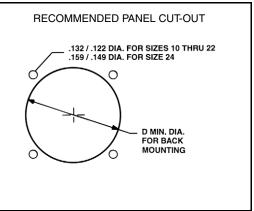
### **Dummy Receptacles - Aluminum - Threaded or Bayonet**

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.









	Dimensional Data					How to Order				
Size	Thursd Oiss	Α	В	0.14	D Min. Dia.	Bayonet		Threaded		
	Thread Size UNEF-2A	Square ±.005	±.005	C Max. 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	

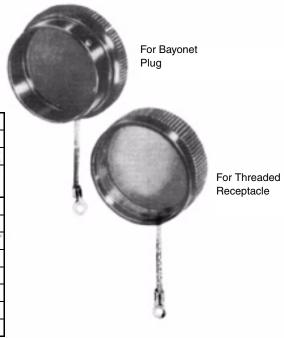
# **Accessories - protection caps**

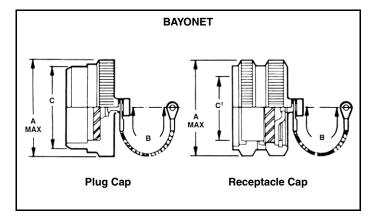
# for MIL-C-26500 cylindrical connectors

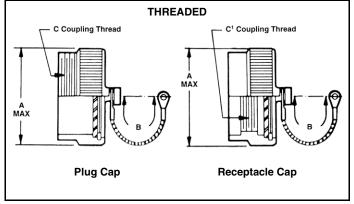
### **Protection Caps and Chains - Threaded or Bayonet**

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	Bayon	et Cap	Threaded Cap					
Size			Plug	Receptacle	Plug	Receptacle				
OIZC			c +.000 005	C <sup>1</sup> +.005 000	C Thread UNEF-2A	C <sup>1</sup> 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									
	F	Plug	Receptacle						
Size	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									
	P	lug	Receptacle						
Size	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					

### **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Circular MIL Spec Contacts category:

Click to view products by Amphenol manufacturer:

Other Similar products are found below:

006-0984-20 006-1186-20 601101N004 CT0E20-22SS CT1N20-23SS CT2-36-10PCAU CT6F36-10PCA152 M39029/106-616 M39029/18-179 M39029/30-222 M39029/31-235 M39029/48-318 M39029/73-397 M39029/9-133 M39029/9-134 M5000-054-0020L M5100-057-2162 809-023 809-111 811393-000 850-014 FRCIR01-20-4S-F80-VO 900062-6-8L 97-45-1418P-5(920) 97-45-1418S-4 97-45-1622P-5 97-45-1622S-4(920) 97-45-1622S-5 97-55-1622S-5 D-602-0104CS076 D-602-0106CS076 AIC12-10P AIC12-12SG AIC12-14P AIC16-16PG AIC16-2024SG AIC16S-16PG AIC8-12P AIC8-12S AIC8-8SG AIC8-8SRAD 1495044-1 BA-4016-50LD 162GB-149-20000-05 BACC47CP2T BACC47DP4 BACC47GC1A BACC47GN1 173-900245-91 CA02R28-12PA152F80