

cannon

MKJ Warrior Series  
Connectors Catalog



ITT

# ITT Cannon MKJ Series QUALIFIED to US Nett Warrior

Per NWPAN-WP spec document produced by Product Manager Ground Soldier Systems, System Engineering Integrated Product Team

ITT Cannon's MKJ Warrior Series offers a reliable interconnect solution that enables critical communication, navigation and USB data/power for modern soldier applications. Derived from Cannon's robust MKJ Connector Family, the MKJ Warrior Series provides a robust breakaway coupling system, per the US Nett Warrior specification is qualified to US Nett Warrior and European GOSSRA / NATO STANAG 4695 standards.



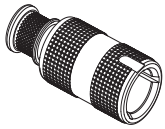
## Features & Benefits

- Qualified to Nett Warrior, GOSSRA and NATO STANAG 4695 Standards.
- Robust push-pull breakaway coupling.
- "First-Mate-Last-Break" contact for hot-swap USB requirement.
- Black-Zinc Nickel finish with selective electroless nickel plating for enhanced shell-to-shell and shell-to-braid conductivity.
- Contact Types: Rear Crimp, Solder Cup, PC Mount.
- Contacts: Standard (5-amp) or High-Power (8+ amp), 2,000 minimum mating cycle durability.
- 6- or 7-pin layouts available.

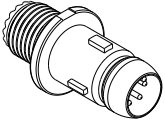
## Applications



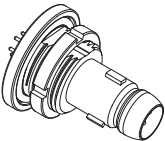
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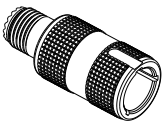
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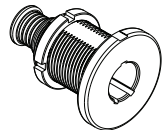
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First Mate Last Break (FMLB) Contacts



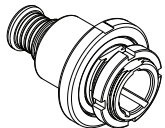
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First Mate Last Break (FMLB) Contacts



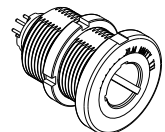
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Breakaway Coupling | Banded and Accessory Thread



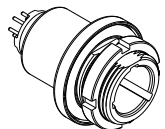
- Jam Nut Receptacle | Front Mount \_\_\_\_\_ **Page 10**  
Banded and Accessory Thread



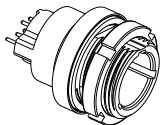
- Jam Nut Receptacle | Rear Mount \_\_\_\_\_ **Page 11**  
Banded and Accessory Thread



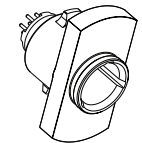
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PC Tail and Solder Cup



- Jam Nut Receptacle | Rear Mount PCB \_\_\_\_\_ **Page 13**  
PC Tail and Solder Cup



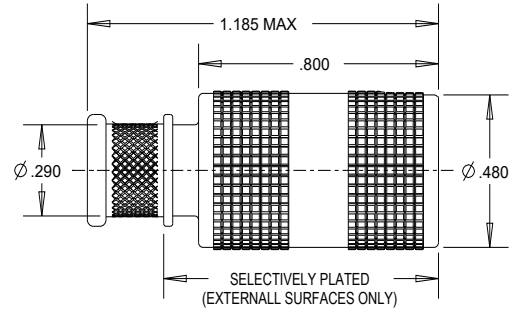
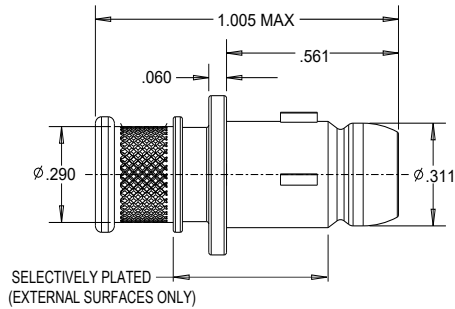
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# Nett Warrior Qualified ITT Cannon Part Numbers

MKJ Warrior Series Qualified to Nett Warrior per NWPAN-WP spec document produced by Product Manager Ground Soldier Systems, System Engineering Integrated Product Team.



**In-line Plug banded with Crimp Contacts  
Breakaway Coupling - Selectively Plated**

**In-line Receptacle banded with Crimp Contacts  
Breakaway Coupling - Selectively Plated**

In-line Plug ITT Cannon Part number	Equivalent Part Numbers
MKJ4A6Z6-6PC-K140	NSN: 5935-01-659-5575 8070-1676-06ZNU6-6PY 2226910-1

In-line Receptacle ITT Cannon Part Number	Equivalent Part Numbers
MKJ4A1Z6-6SC-K140	NSN: 5935-01-659-4090 8070-1675-01ZNU6-6SY 2226920-1

## ITT Cannon Qualification Test Sequence

Test Method	Description	Test Group				
		1	2	3	4	5
4.1	Visual Inspection	P	P	P	P	P
4.7	Basic Functional Test	P	P	P	P	P
4.2	Electrical Continuity	P	P	P	P	P
4.5	Breakaway Force	P				
4.8	Altitude		P			
4.9	High Temperature			P		
4.7	Basic Functional Test			P		
4.10	Low Temperature			P		
4.11	Solar Radiation					P
4.7	Basic Functional Test					P
4.12	Humidity				P	
4.7	Basic Functional Test				P	
4.13	Snow and Ice					P
4.7	Basic Functional Test					P
4.14	Salt Atmosphere	P				
4.7	Basic Functional Test	P				
4.16	Vibration		P			
4.7	Basic Functional Test		P			
4.15	Shock		P			
4.7	Basic Functional Test		P			
4.17	Sand and Dust					P
4.18	Rain and Water			P		
4.7	Basic Functional Test			P		P
4.6	Strength (Cable Retention)				P	
4.7	Basic Functional Test				P	

P= Pass



Dimensions shown in inches  
Specifications and dimensions subject to change

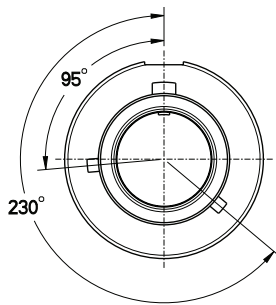
# Contact Arrangements

## Face View of Pin Insulators (Socket layouts reversed)

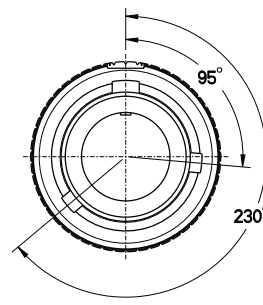
Layout		Pin	Socket
Layout	6-6		
Contact QTY	6		
Contact Size	23		
Layout	6-7		
Contact QTY	7		
Contact Size	23		

Note: High Power 8+ Amp contacts are in cavities 1, 2 and 3.

## Clocking



Plug Key Clocking

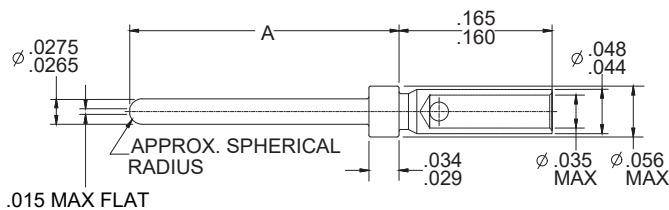


Receptacle Key Clocking

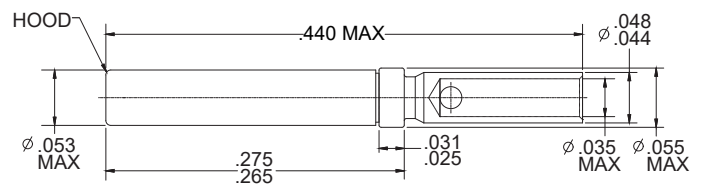
## Contacts

Type	Gender	Size	Part Number	Dim "A"	Contact Area Plating	Wire Size
Crimp	Pin	23	030-9649-000	.283 - .289	50 Micro Inches Gold over Nickel	#22-28 AWG Wire
Crimp	Pin FMLB*	23	030-9649-011	.323 - .327	50 Micro Inches Gold over Nickel	#22-28 AWG Wire
Crimp	Pin	23	030-9649-100	.283 - .289	50 Micro Inches Gold over Nickel	#26-30 AWG Wire
Crimp	Socket	23	031-9750-040	N/A	50 Micro Inches Gold over Nickel	#22-28 AWG Wire

Non-removable solder cup and PC tail contacts are supplied with the connectors.  
 Crimp contacts are supplied with the connector, but not installed. Bulk crimp contacts can be ordered separately.  
 \*First-Mate-Last-Break crimp contact.



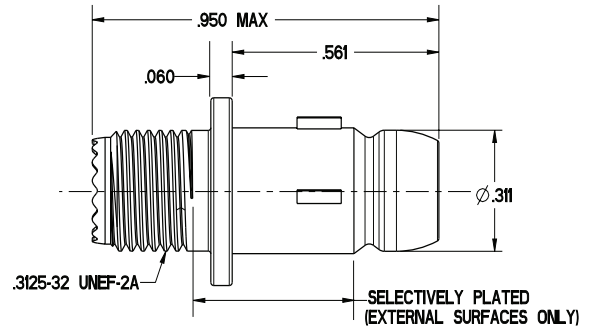
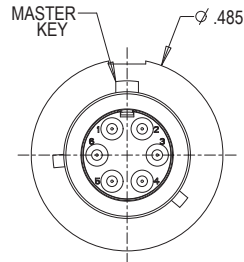
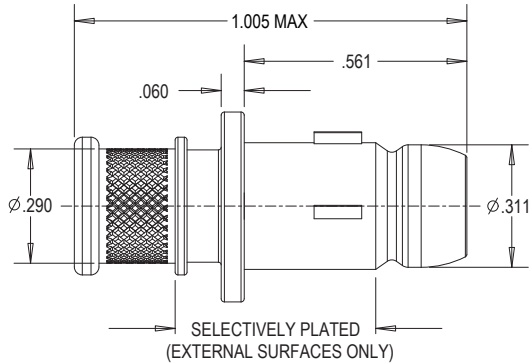
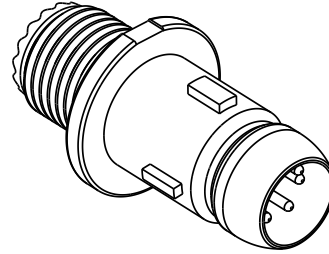
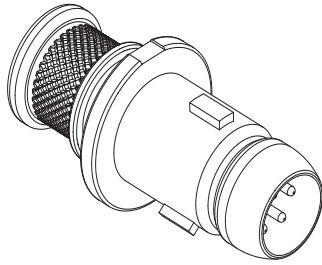
Pin: 030-9649-000/-011/-100



Socket: 031-9750-040 with Stainless Steel Hood

Dimensions shown in inches  
 Specifications and dimensions subject to change

# MKJ Warrior Series In-Line Plug



In-line Plug Banded with Crimp Contacts  
Breakaway Coupling

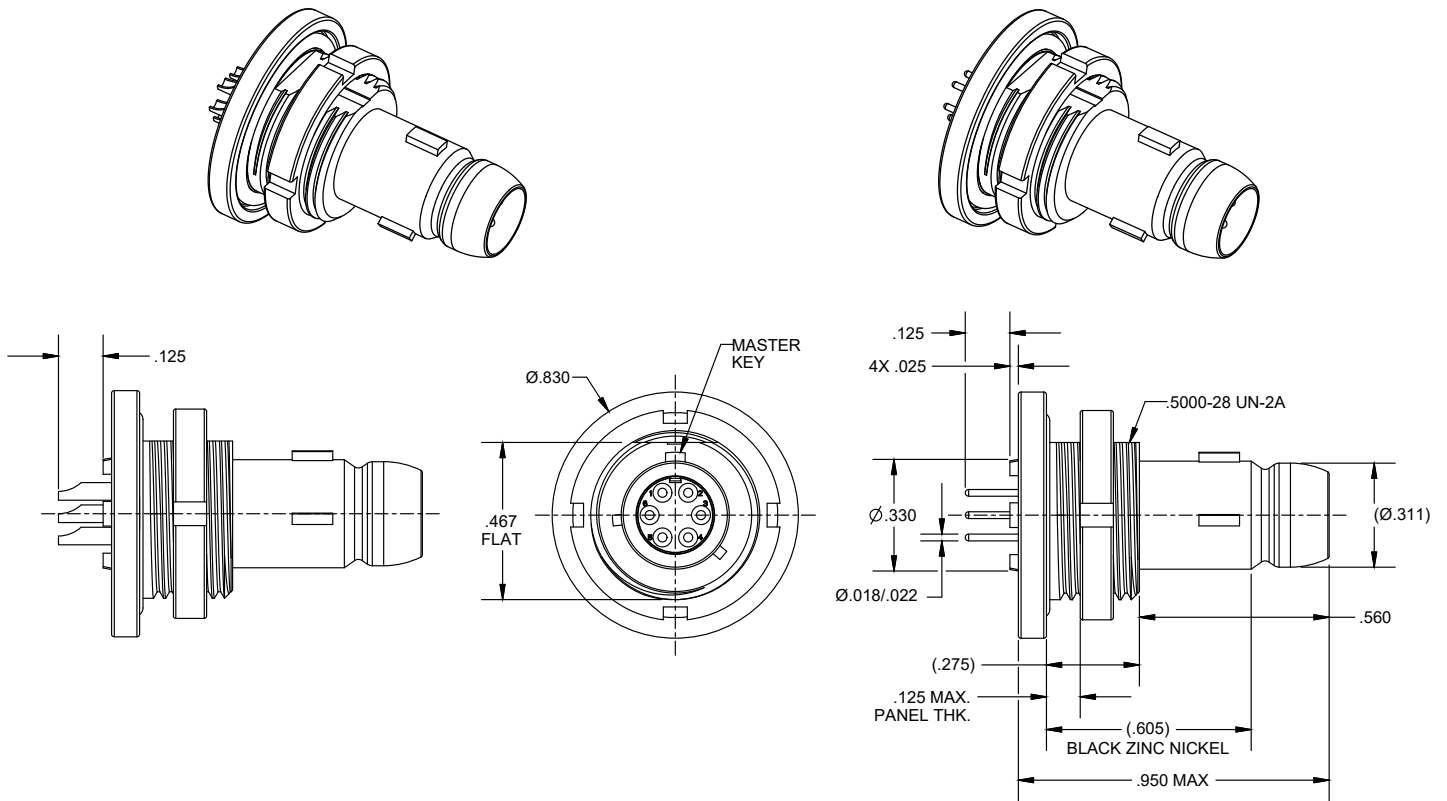
In-line Plug Accessory Thread with Crimp Contacts  
Breakaway Coupling

## In-Line Plug Part Numbers

Termination	Type	6 Contact Part Number	7 Contact Part Number	Plating
Crimp	Banded	MKJ4A6Z6-6PC-F261	MKJ4A6Z6-7PC-F261	Black Zinc Nickel
Solder	Banded	MKJ4A6Z6-6EC-F261	MKJ4A6Z6-7EC-F261	
Crimp	Banded	MKJ4A6Z6-6PC-K140	MKJ4A6Z6-7PC-K140	Selectively Plated Black Zinc Nickel
Solder	Banded	MKJ4A6Z6-6EC-K140	MKJ4A6Z6-7EC-K140	
Crimp	Accessory Thread	MKJ4B6Z6-6PC-F261	MKJ4B6Z6-7PC-F261	Black Zinc Nickel
Solder	Accessory Thread	MKJ4B6Z6-6EC-F261	MKJ4B6Z6-7EC-F261	
Crimp	Accessory Thread	MKJ4B6Z6-6PC-K140	MKJ4B6Z6-7PC-K140	Selectively Plated Black Zinc Nickel
Solder	Accessory Thread	MKJ4B6Z6-6EC-K140	MKJ4B6Z6-7EC-K140	

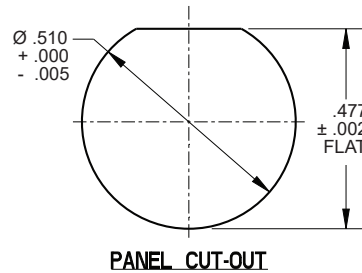
7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

# MKJ Warrior Jam Nut Plug - Rear Mount PCB



Jam Nut Plug Rear Mount - Solder Cup

Jam Nut Plug Rear Mount - PC Tail

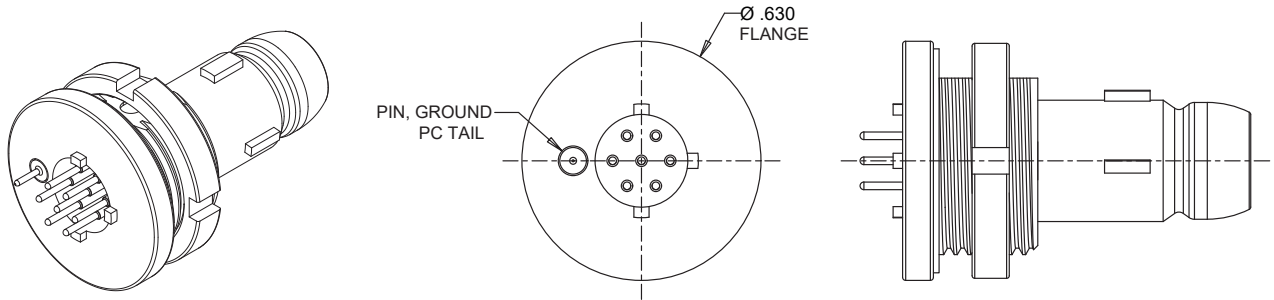


## Jam Nut Plug Rear Mount Part Numbers

Termination	Type	6 Contact Part Number	7 Contact Part Number	Plating
PC Tail	Rear Mount	MKJ4C9Z6-6GC-K140	MKJ4C9Z6-7GC-K140	Selectively Plated Black Zinc Nickel
PC Tail	Rear Mount	MKJ4C9Z6-6GC-F261	MKJ4C9Z6-7GC-F261	Black Zinc Nickel
Solder Cup	Rear Mount	MKJ4C9Z6-6EC-K140	MKJ4C9Z6-7EC-K140	Selectively Plated Black Zinc Nickel
Solder Cup	Rear Mount	MKJ4C9Z6-6EC-F261	MKJ4C9Z6-7EC-F261	Black Zinc Nickel

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# MKJ Warrior Jam Nut Plug - Rear Mount PC Tail with Ground Pin

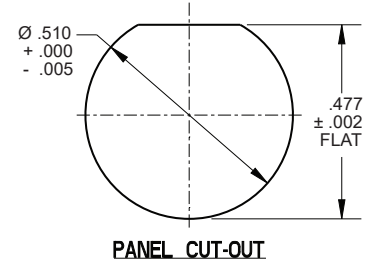


Reduced flange Jam Nut Plug with optional Ground Pin.

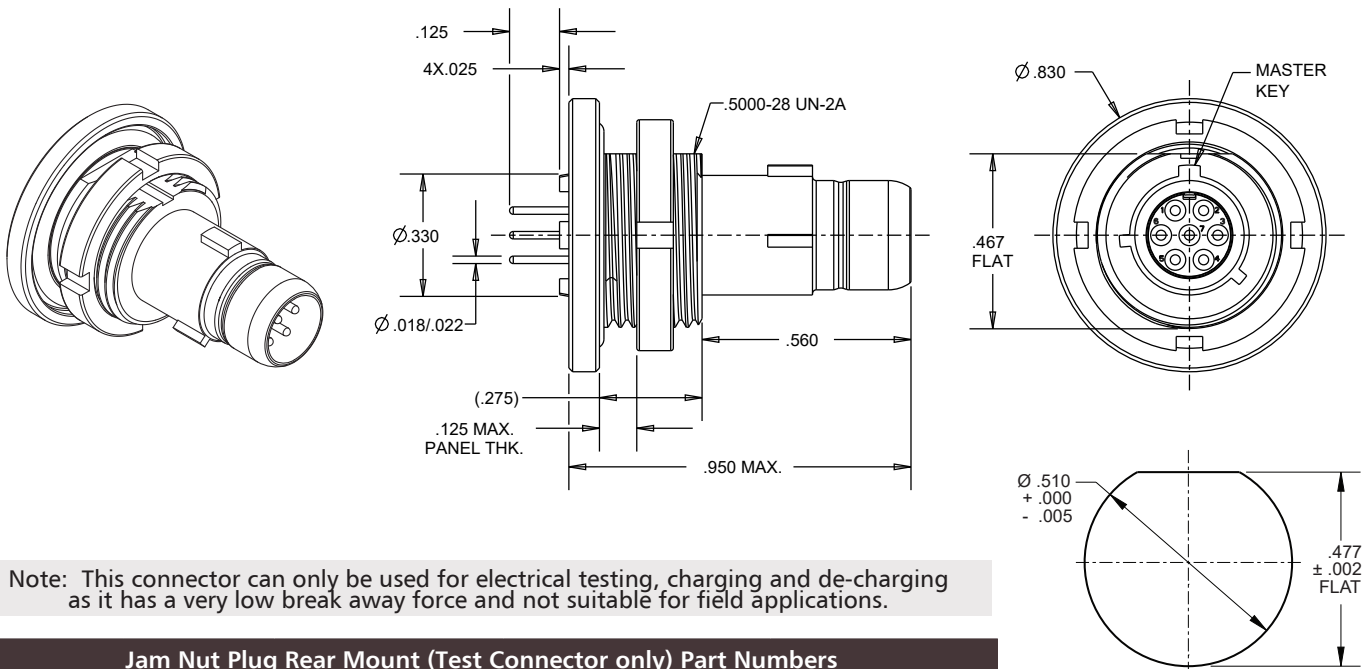
Jam Nut Plug Rear Mount Part Numbers

Termination	Type	6 Contact PN	7 Contact PN	Plating
PC Tail	Rear Mount	*	MKJ4C9-155900-145	Electroless Nickel*

\*Consult factory for 6 part number availability and for additional plating options.



# MKJ Warrior Jam Nut Plug - Rear Mount PC Tail with Low Breakaway Force (Test Connector only)



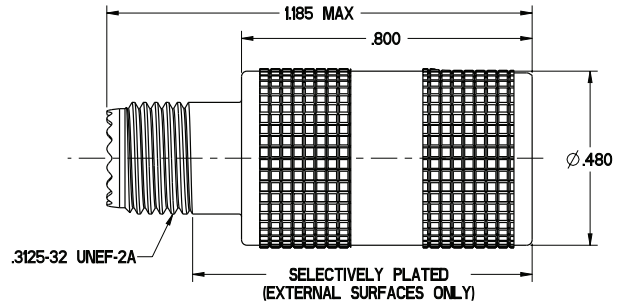
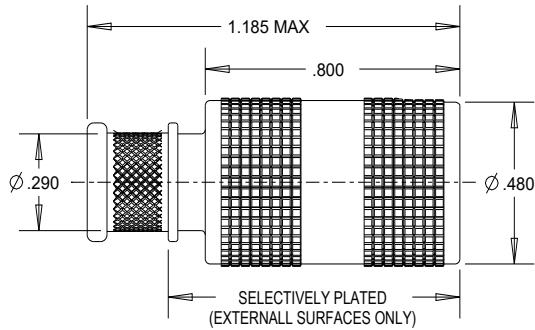
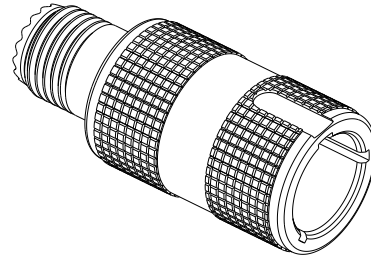
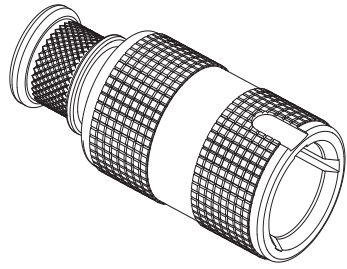
Note: This connector can only be used for electrical testing, charging and de-charging as it has a very low break away force and not suitable for field applications.

Jam Nut Plug Rear Mount (Test Connector only) Part Numbers

Termination	Type	6 Contact PN	7 Contact PN	Plating
PC Tail	Rear Mount	*	MKJ4C9-155900-131	Electroless Nickel*

\*Consult factory for 6 part number availability and for additional plating options.

# MKJ Warrior Series In-Line Receptacle



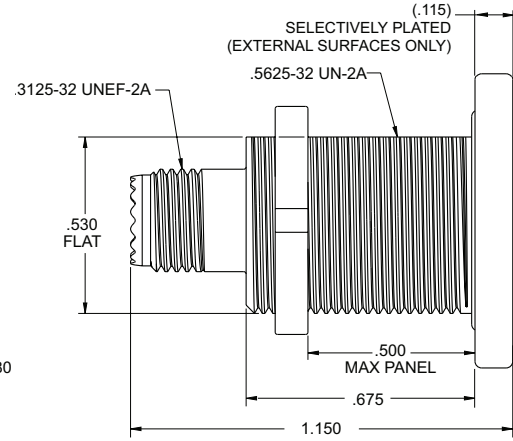
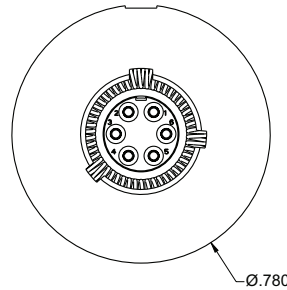
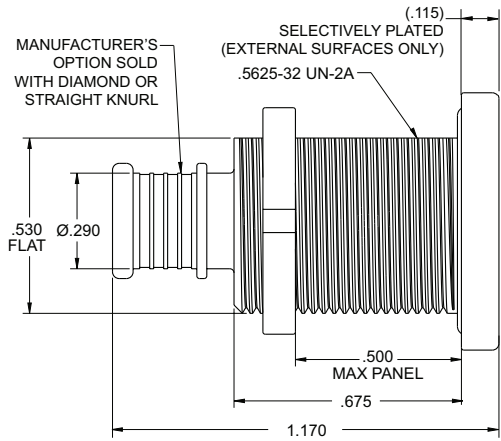
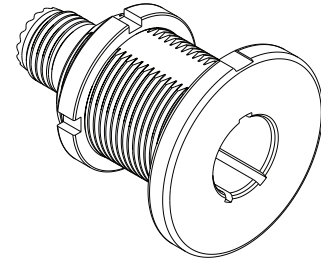
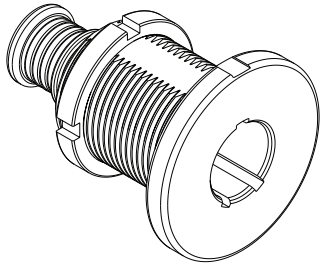
In-line Receptacle, Banded with Crimp Contacts Breakaway Coupling

In-line Receptacle, Accessory Thread Crimp Contacts Breakaway Coupling

In-Line Receptacle Part Numbers					
Termination	Type	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
Crimp	Banded	MKJ4A1Z6-6SC-F261	MKJ4A1Z6-7SC-F261	MKJ4A1Z6-7SC-F305	Black Zinc Nickel
Solder	Banded	MKJ4A1Z6-6FC-F261	MKJ4A1Z6-7FC-F261	MKJ4A1Z6-7FC-F305	
Crimp	Banded	MKJ4A1Z6-6SC-K140	MKJ4A1Z6-7SC-K140	MKJ4A1Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Banded	MKJ4A1Z6-6FC-K140	MKJ4A1Z6-7FC-K140	MKJ4A1Z6-7FC-K144	
Crimp	Accessory Thread	MKJ4B1Z6-6SC-F261	MKJ4B1Z6-7SC-F261	MKJ4B1Z6-7SC-F305	Black Zinc Nickel
Solder	Accessory Thread	MKJ4B1Z6-6FC-F261	MKJ4B1Z6-7FC-F261	MKJ4B1Z6-7FC-F305	
Crimp	Accessory Thread	MKJ4B1Z6-6SC-K140	MKJ4B1Z6-7SC-K140	MKJ4B1Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Accessory Thread	MKJ4B1Z6-6FC-K140	MKJ4B1Z6-7FC-K140	MKJ4B1Z6-7FC-K144	

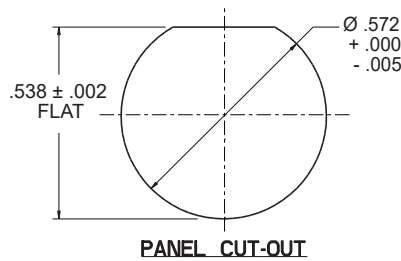
7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

# MKJ Warrior Series Jam Nut Receptacle - Front Mount



Jam Nut Receptacle Front Mount - Banded

Jam Nut Receptacle Front Mount - Accessory Thread

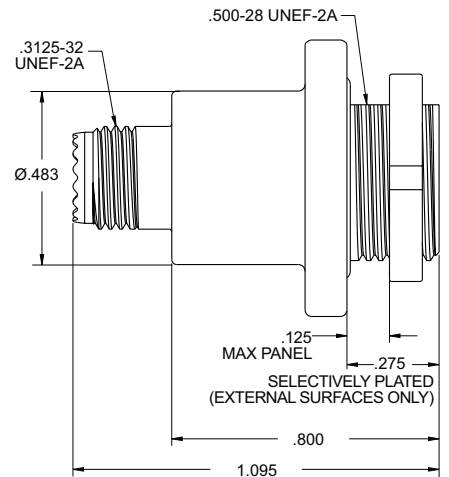
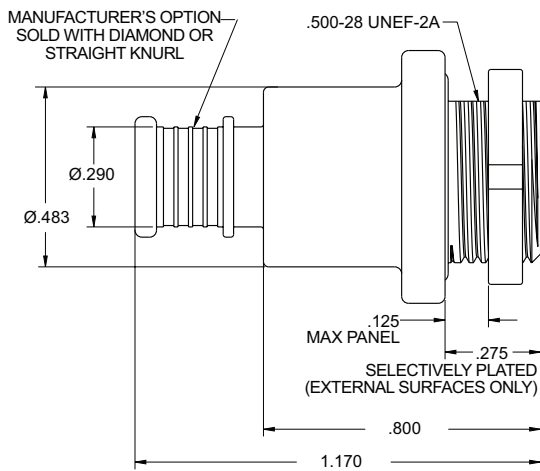
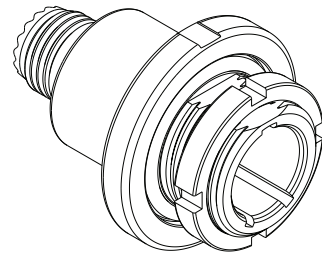
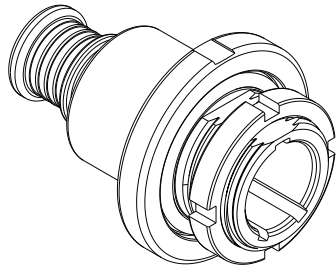


## Jam Nut Receptacle Front Mount Part Numbers

Termination	Type	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
Crimp	Banded	MKJ4A8Z6-6SC-F261	MKJ4A8Z6-7SC-F261	MKJ4A8Z6-7SC-F305	Black Zinc Nickel
Solder	Banded	MKJ4A8Z6-6FC-F261	MKJ4A8Z6-7FC-F261	MKJ4A8Z6-7FC-F305	
Crimp	Banded	MKJ4A8Z6-6SC-K140	MKJ4A8Z6-7SC-K140	MKJ4A8Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Banded	MKJ4A8Z6-6FC-K140	MKJ4A8Z6-7FC-K140	MKJ4A8Z6-7FC-K144	
Crimp	Accessory Thread	MKJ4B8Z6-6SC-F261	MKJ4B8Z6-7SC-F261	MKJ4B8Z6-7SC-F305	Black Zinc Nickel
Solder	Accessory Thread	MKJ4B8Z6-6FC-F261	MKJ4B8Z6-7FC-F261	MKJ4B8Z6-7FC-F305	
Crimp	Accessory Thread	MKJ4B8Z6-6SC-K140	MKJ4B8Z6-7SC-K140	MKJ4B8Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Accessory Thread	MKJ4B8Z6-6FC-K140	MKJ4B8Z6-7FC-K140	MKJ4B8Z6-7FC-K144	

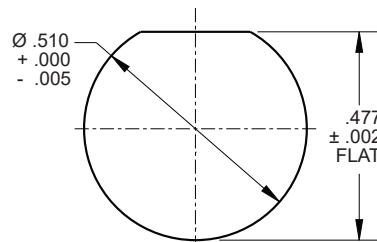
7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

# MKJ Warrior Series Jam Nut Receptacle - Rear Mount



Jam Nut Receptacle Rear Mount - Banded

Jam Nut Receptacle Rear Mount - Accessory Thread



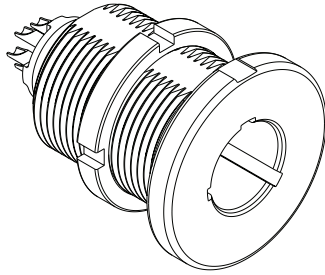
PANEL CUT-OUT

## Jam Nut Receptacle Rear Mount Part Numbers

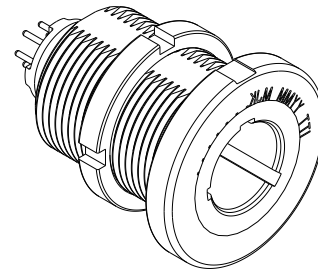
Termination	Type	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
Crimp	Banded	MKJ4A7Z6-6SC-F261	MKJ4A7Z6-7SC-F261	MKJ4A7Z6-7SC-F305	Black Zinc Nickel
Solder	Banded	MKJ4A7Z6-6FC-F261	MKJ4A7Z6-7FC-F261	MKJ4A7Z6-7FC-F305	
Crimp	Banded	MKJ4A7Z6-6SC-K140	MKJ4A7Z6-7SC-K140	MKJ4A7Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Banded	MKJ4A7Z6-6FC-K140	MKJ4A7Z6-7FC-K140	MKJ4A7Z6-7FC-K144	
Crimp	Accessory Thread	MKJ4B7Z6-6SC-F261	MKJ4B7Z6-7SC-F261	MKJ4B7Z6-7SC-F305	Black Zinc Nickel
Solder	Accessory Thread	MKJ4B7Z6-6FC-F261	MKJ4B7Z6-7FC-F261	MKJ4B7Z6-7FC-F305	
Crimp	Accessory Thread	MKJ4B7Z6-6SC-K140	MKJ4B7Z6-7SC-K140	MKJ4B7Z6-7SC-K144	Selectively Plated Black Zinc Nickel
Solder	Accessory Thread	MKJ4B7Z6-6FC-K140	MKJ4B7Z6-7FC-K140	MKJ4B7Z6-7FC-K144	

7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

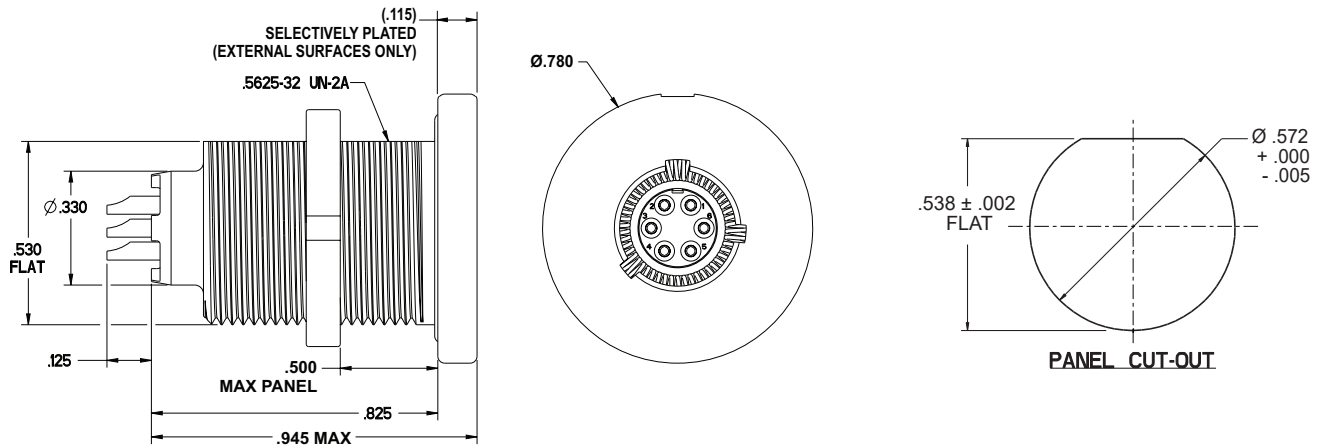
# MKJ Warrior Series Jam Nut Receptacle - Front Mount PCB



Jam Nut Receptacle Front Mount - Solder Cup



Jam Nut Receptacle Front Mount - PC Tail\*



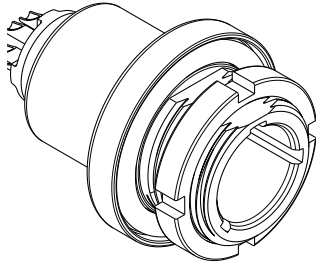
Jam Nut Receptacle Front Mount - Solder Cup

## Jam Nut Receptacle Front Mount Part Numbers

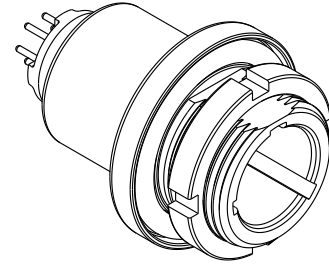
Termination	Mounting	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
PC-Tail	Front Mount	MKJ4C8Z6-6HC-F261	MKJ4C8Z6-7HC-F261	MKJ4C8Z6-7HC-F305	Black Zinc Nickel
PC-Tail	Front Mount	MKJ4C8Z6-6HC-K140	MKJ4C8Z6-7HC-K140	MKJ4C8Z6-7HC-K144	Selectively Plated Black Zinc Nickel
Solder Cup	Front Mount	MKJ4C8Z6-6FC-F261	MKJ4C8Z6-7FC-F261	MKJ4C8Z6-7FC-F305	Black Zinc Nickel
Solder Cup	Front Mount	MKJ4C8Z6-6FC-K140	MKJ4C8Z6-7FC-K140	MKJ4C8Z6-7FC-K144	Selectively Plated Black Zinc Nickel

\*PC-Tail contacts extend .125 beyond shell, rear. Consult factory for additional configurations. 7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

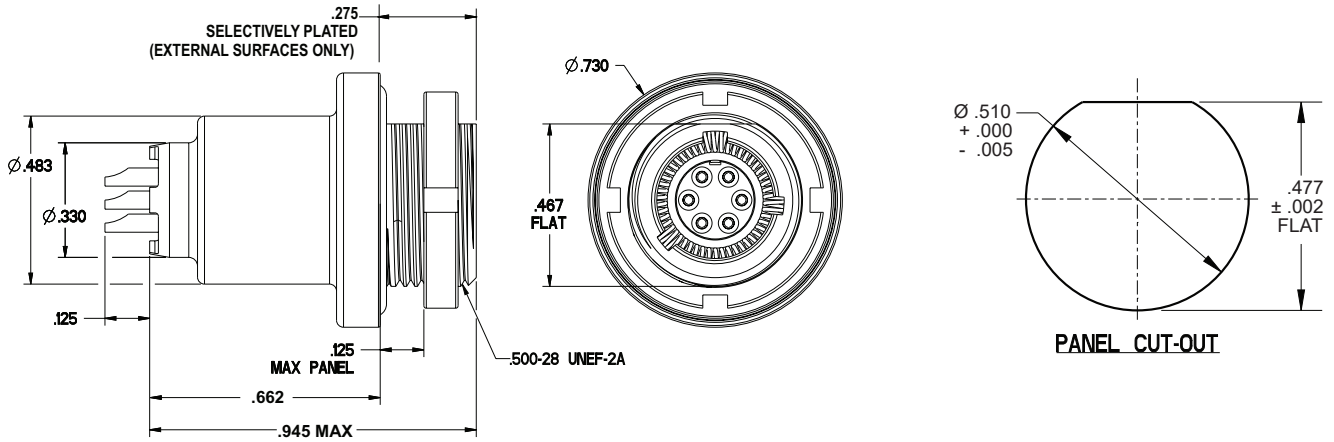
# MKJ Warrior Series Jam Nut Receptacle - Rear Mount PCB



Jam Nut Receptacle Rear Mount - Solder Cup



Jam Nut Receptacle Rear Mount - PC Tail\*

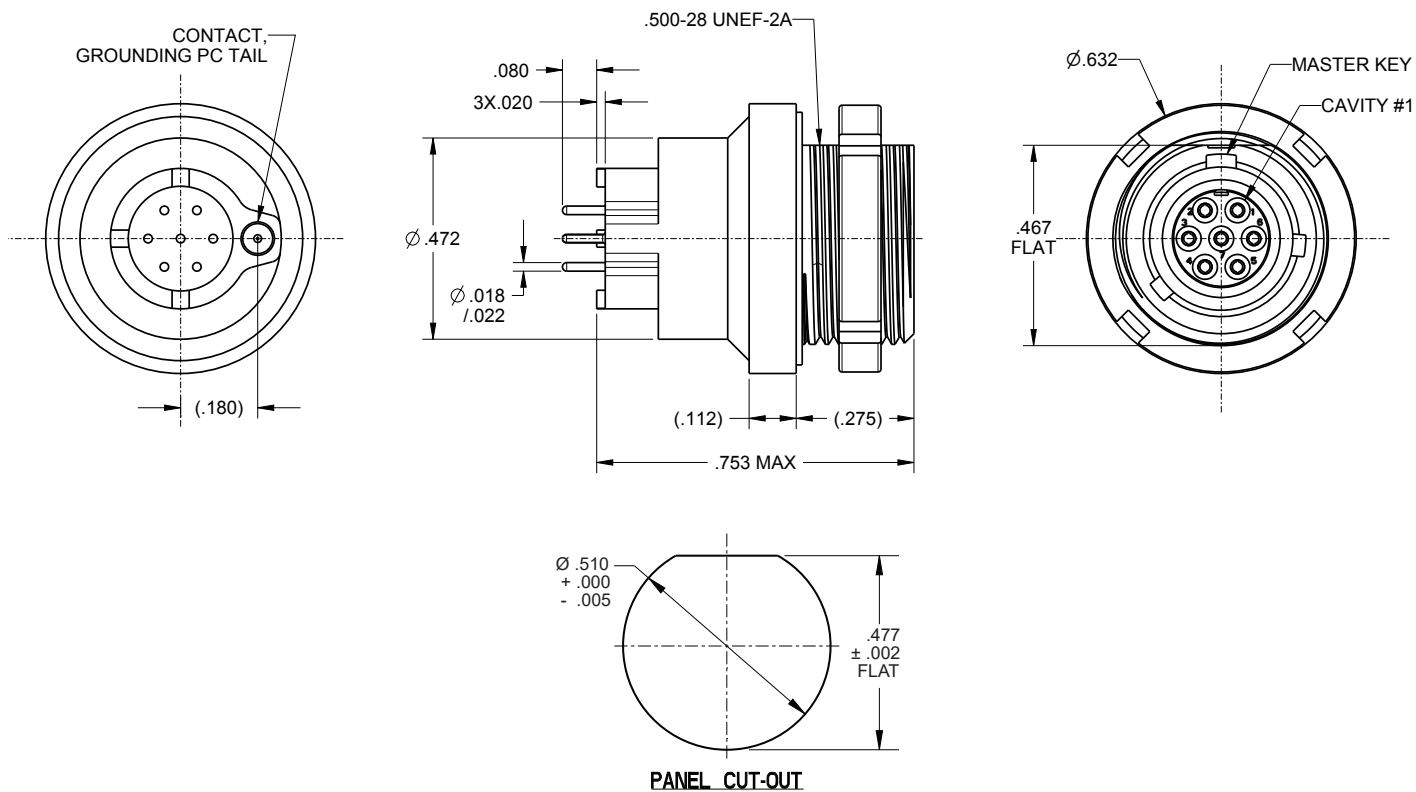
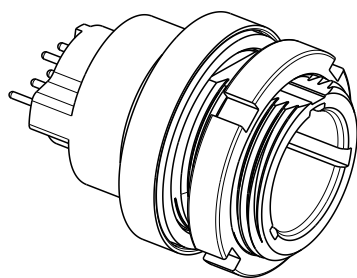


Jam Nut Receptacle Rear Mount - Solder Cup

Jam Nut Receptacle Rear Mount Part Numbers					
Termination	Mounting	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
PC-Tail	Rear Mount	MKJ4C7Z6-6HC-F261	MKJ4C7Z6-7HC-F261	MKJ4C7Z6-7HC-F305	Black Zinc Nickel
PC-Tail	Rear Mount	MKJ4C7Z6-6HC-K140	MKJ4C7Z6-7HC-K140	MKJ4C7Z6-7HC-K144	Selectively Plated Black Zinc Nickel
Solder Cup	Rear Mount	MKJ4C7Z6-6FC-F261	MKJ4C7Z6-7FC-F261	MKJ4C7Z6-7FC-F305	Black Zinc Nickel
Solder Cup	Rear Mount	MKJ4C7Z6-6FC-K140	MKJ4C7Z6-7FC-K140	MKJ4C7Z6-7FC-K144	Selectively Plated Black Zinc Nickel

\*PC-Tail contacts extend .125 beyond shell, rear. Consult factory for additional configurations.  
7-way connectors are not part of the GOSSRA and NATO STANAG 4695 Standards, therefore not currently listed on specification.

# MKJ Warrior Series Low Profile Jam Nut Receptacle - Rear Mount PCB - PC Tail

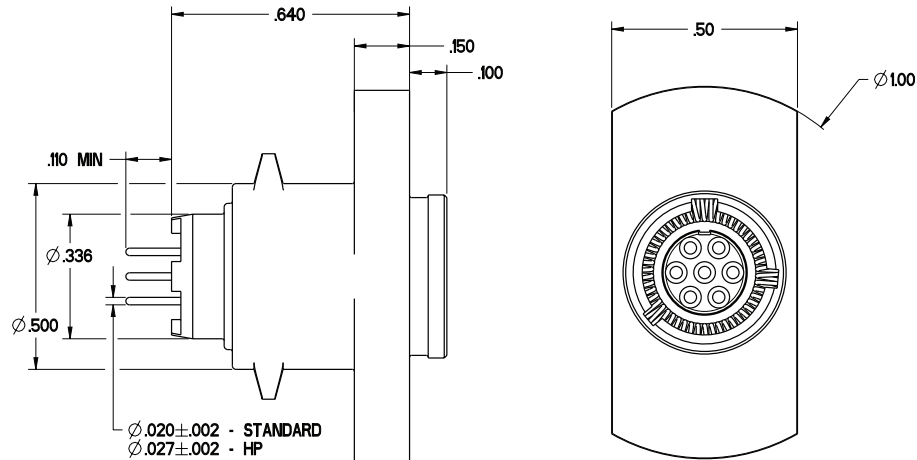
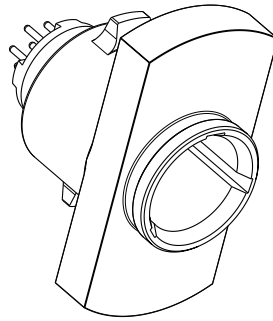


## Low Profile Jam Nut Receptacle Rear Mount Part Numbers

Termination	Mounting	6 Contact Part Number	7 Contact Part Number	Plating
PC Tail	Rear Mount	*	MKJ4C7-155900-144	Electroless Nickel

\*Consult factory for 6 contact part number availability.

# MKJ Warrior Series Flange Mount Battery Receptacle



Flange Mount Battery Receptacle Part Numbers					
Termination	Type	6 Contact Part Number	7 Contact Part Number	High-Power 7 Contact Part Number	Plating
PC Tail	Flange	MKJ4C2-155900-70	MKJ4C2-155900-14	Consult factory for various CWB High-Power connector part numbers	Black Zinc Nickel

For custom flange, alternate plating and grounded pin options, please contact the factory.

# MKJ Warrior Series - Accessories

## Crimp Tooling



Contact Crimp Tool - 995-0002-293



Locator Standard - 995-0002-297  
 Locator for FMLB Pin - 995-0002-304  
 Locator for High Current Socket - 995-0002-307

## Additional Tooling

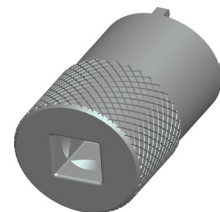
Tooling Type	Part Number
Insertion/Extraction Tool	980-1020-000
Hand Banding Tool	995-0002-298
Hand Banding Tool	995-0002-306
1/8" Bands (100 pk)	995-0002-299



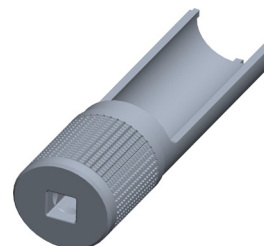
Hand Banding Tool - 995-0002-298  
 1/8" Bands - 995-0002-299



Hand Banding Tool - 995-0002-306



Spanner (Rear Mount) - 317-2187-011



Spanner (Front Mount) - 317-2187-031

# MKJ Warrior Series - Accessories

## Disposable Dust Caps



Disposable Dust Cover for Receptacle  
980-9500-321



Disposable Dust Cover for Plug  
980-9500-402

## Rubber Dust Caps



Rubber Dust Cap for Receptacle



Rubber Dust Cap for Plug

## Rubber Dust Caps - Part Number Configurator

1 - Product	2 - Cap Gender	3 - Material and Finish Class	4 - Attachment Style	5 - ITT Shell Size	6 - Termination Code	7 - Attachment Length (in)
MKJDC4	P	R	G	6	01	4

1 - Product		6 - Termination Code (Ring Inner Diameter)		7 - Attachment Length in inches	
MKJDC4	MKJ4 Breakaway / Quick Disconnect Coupling	External Lug Attachment		Leave blank for Attachment Style N	
<b>2 - Cap Gender</b>		K	Slipknot	4	4 inches
P	Cap for Plug Connector	01	0.126" ID	5	5 inches
R	Cap for Receptacle Connector	02	0.145" ID	6	6 inches
<b>3 - Material and Finish Class</b>		04	0.188" ID	9	9 inches (Slipknot)
R	Rubber / No Finish	06	0.197" ID		
<b>4 - Attachment Style</b>		Banded or Rear Connector Attachment			
G	Nylon Rope, Black	20	0.315" ID		
N	No Attachment	24	0.385" ID		
<b>5 - ITT Shell Style</b>		28	0.445" ID		
6		Jam Nut Attachment			
		32	0.510" ID, Jam Nut Rear Mount Receptacle/Plug		

Dimensions shown in inches  
Specifications and dimensions subject to change

# Specifications

<b>Contact Engagement and Separation</b>	Per SAE AS39029, Table 9 for applicable values
<b>Contact Retention</b>	Size 23 Contacts – 6 lbs; Minimum axial load force shall not displace contacts more than .012 inches
<b>Breakaway Force</b>	10 +/- 3 lbs of tension before breaking connection
<b>Mechanical Shock</b>	300g, Peak, 3ms, 1/2-sine shock pulse. No electrical discontinuity > 1μs Random Vibration No electrical discontinuity > 1μs, 37g Peak Sinusoidal Vibration No electrical discontinuity > 1μs, 30g Peak
<b>Random Vibration</b>	No electrical discontinuity > 1μs, 37g Peak
<b>Sinusoidal Vibration</b>	No electrical discontinuity > 1μs, 30g Peak
<b>Reflectance</b>	Exposed Portions of connectors shall not expose shiny, reflective surfaces
<b>Color</b>	Exposed portions of connector shall be black
<b>Chemical Safety</b>	Materials shall not create a toxic health hazard
<b>Marking</b>	Each connector shall include clearly readable part number manufacturer information
<b>Durability</b>	2000 Mating cycles
<b>Wire Accommodation</b>	#22 - #28 AWG
<b>Materials</b>	Shells - Aluminum Alloy with Selective Plating or all Black Zinc Nickel.
	Insulators - Thermoplastic
	Seals - Fluorosilicone
	Contacts - Copper Alloy with gold over nickel plating

# Environmental Specifications

<b>Temperature</b>	Operating -55°C to +150°C / Non-Operating +200°C
<b>Humidity</b>	Operate w/100% humidity
<b>Snow and Ice</b>	Connector shall operation in snow and ice
<b>Salt Atmosphere</b>	Connector shall operate in and when stored in a salt fog atmosphere without protective covers - 48 hrs
<b>Solar Radiation</b>	Connector shall not be damaged by extended exposure to sunlight
<b>Mud, Sand &amp; Dirt</b>	The connector shall function when exposed to mud, sand and dirt
<b>Rain and Water</b>	The connector shall remain functional during driving rain
<b>Sand &amp; Dust</b>	The connector shall not suffer greater than cosmetic deterioration due to blowing sand and dust
<b>Water Immersion</b>	1 meter for 1 hour (mated) Water block sealed 1 x 10 <sup>-4</sup> cc/seconds @ 1 atm for all solder cup and PC tail version
<b>Fluid immersion</b>	"Unmated connectors immersed in various fuels and oils shall have no damage detrimental to the operation of the connector components"
<b>Fungus</b>	Connector materials shall be fungus inert
<b>Altitude Immersion</b>	40,000 ft, no evidence of moisture or damage that is detrimental to the operation of the connector components Shall meet DWV.

# Electrical Specifications

<b>Current Rating</b>	5 Amps Max Standard Contact / 8+ Amps Max High Power Contact (in development)
<b>DWV, At Sea Level</b>	500 VAC RMS
<b>Insulation Resistance</b>	> 5,000 MΩ with 500 VDC
<b>Low Level Contact Resistance</b>	Per SAE AS39029, Table 4 for applicable values
<b>Contact Resistance</b>	8 mΩ Maximum mV, maximum
<b>Max Voltage Drop</b>	Less than 85 mV with contacts in the mated position and an applied load of 3amps at 16VDC
<b>Altitude</b>	Sea level to 32,000 feet
<b>EMI/EMC</b>	The connector shall be sufficient to assure full functionality on the date and power connectors when exposed to conditions of 50 Volts/meter across a span of 2-10,000 MHz.
<b>Shell to shell</b>	<0.05 Ohms

## Additional Test Standards

- EIA-364-03 Altitude Immersion
- EIA-364-06 Contact Resistance
- EIA-364-09 Durability
- EIA-364-10 Fluid Immersion
- EIA-364-13 Mating & Un-mating Forces
- EIA-364-18 Visual and Mechanical Inspection
- EIA-364-20 Dielectric Withstanding Voltage, DWV, Sea Level
- EIA-364-21 Insulation Resistance
- EIA-364-23 Low Level Contact Resistance
- EIA-364-26, Cond. B Salt Spray
- EIA-364-27, Cond. D, Table I Mechanical Shock
- EIA-364-28, Cond. V Random Vibration
- EIA-364-29 Contact Retention
- EIA-364-31, Method IV Humidity
- EIA-364-32 Temperature Cycling (Thermal Shock)
- EIA-364-32, Cond. IV Thermal Shock
- EIA-364-35 Insert Retention
- EIA-364-37, Method A Contact Engagement and Separation
- EIA-364-70, Method 1 Current Capacity
- EIA-364-83 Shell-to-Shell Conductivity
- IEC 60529 Water Tightness
- MIL-STD-202 Method 204, Cond. G Sinusoidal Vibration
- MIL-STD-202-301 Dielectric Withstanding Voltage, DWV
- MIL-STD-810, Method 512.4 Sand and Dust
- MIL-STD-810, Method 518.5 Fungus
- MIL-STD-810H Method 509.7 Salt Fog
- MIL-STD-810H Method 514.8 Procedure I Vibration
- MIL-STD-810H Method 516.8 Procedure I Mechanical Shock

# Cables to Outfit Your MKJ Connector

## Value-Added Cabling Solutions from ITT Cannon

Let ITT Cannon complete your solution with our custom cable products. A complement to the reduction in size of the connectors is the reduction in weight and thickness in cabling. Choose from several available options to help customize your application. Improving on our high reliability connectors, we offer over molds that are suitable for military requirements in harsh environments.



Note: Polyurethane jacketed round cables and silicon jacket high-flex flat cables with overmolds.

### Braiding

- EMI shielded metal to light weight, textile braiding for abrasion protection

### Overmolding

- Injection molding with polyurethane, Santoprene, and polyimide
- Transfer molding with Cannon's Super Jacketing System (SJS Series), Viton, Neoprene, EPDM, and alternative molding compounds
- Low pressure and prototype molding including M24041, poly urethane, Polyimide, and custom compounds

### Shrink Boots

- Customized solution for all connector-to-cable transition type including straight, 90 and 45 degree.

### Backshells

- Integration of commercial and MIL-Spec backshell and molding adapters

### Cable Jacket

- Blown-on jacketing for multi leg cables using SJS jacket, Viton Neoprene, EPDM, and various other tubing jackets
- RONDENT proof extruded jackets using SJS jacket, poly urethane, Santoprene and Neoprene.
- Textile braids and heat shrink jackets

### Integrated Assembly

- Integrated connector and cabling into box system
- Ribbon cable assembly
- Cable/wire harnesses in boxes or as an LRU
- Machined & integrated high volume Die Cast housing



# MKJ Series Overview

Up to 71% weight and 52% size reduction in an industry-leading quick disconnect\*

ITT Cannon continues its tradition of innovation with the MKJ line of miniature circular connectors. Bringing together a unique combination of design, functionality and flexibility, Cannon's MKJ Series offers proven, reliable and cost-effective interconnect solutions that enable critical communication, navigation and high speed data transmission—at half the size and weight of traditional D38999. Choose from UNC thread, double-start, triple-start, bayonet, breakaway and clip-lock latching coupling methods in a cost-efficient, lightweight and highly engineered design.



**MKJ0 UNC Thread**



**MKJ1 Double Start**



**MKJ3 Bayonet**



**MKJ4 Breakaway**



**MKJ Warrior**



**MKJ5 Triple Start**



**MKJ Clip Lock**

## Key Features

- Versatile and proven for use in military, industrial and medical applications where safety and reliability are critical
- A number of connectors in the MKJ Series offer up to 2,000 mating cycles, making them the perfect solution for ruggedized computers and hand-held communications equipment
- Multiple coupling mechanisms enable connectivity for navigation and telemetry applications
- Plugs and receptacles are environmentally sealed for use in the harshest environments
- Teflon nickel, black zinc nickel and olive drab cadmium plating maintain robust reliability for 500 hours of salt spray
- RoHS Compliant plating and part numbers available
- Qualified to GOSSRA and design per Nett Warrior

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## Connect with the experts.

Whether communicating with our soldiers in the field or  
powering critical equipment, ITT Cannon connects when it matters most.



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