

Accessories and Tools for MIL-DTL-38999 Series III, II, I and SJT

F



TABLE OF CONTENTS FOR SECTION F

| | |
|--|----------|
| Accessories for MIL-DTL-38999 Connectors | |
| MIL-DTL-38999 Backshells | 165 |
| (Refers to Backshell Section from Amphenol PCD) | |
| Protection Caps for Series III | 166, 167 |
| Dummy Receptacles for Series III | 168 |
| Cable Clamps for Series III. | 169 |
| Accessories for Series III Breakaway Connectors | 170 |
| Protection Caps for Series II | 171, 172 |
| Strain Reliefs for Series II, I | 173 |
| Protection Caps for Series I | 174, 175 |
| Strain Reliefs for Series I | 176 |
| Protection Caps for SJT. | 177 |
| Dummy Receptacles & Cable Clamps for SJT. | 178 |
| Header Assemblies for Series III, II, I | 179, 180 |
| Application Tools (Crimp, Insertion, Removal) for Series III, II, I, SJT | 181 |
| Assembly Instructions for Series III, II, I, SJT | 182, 183 |

Amphenol offers a full range of accessories that are designed to enhance the performance of Amphenol 38999 connectors, both military and non-military.

Backshells are an integral part of any circular connector when it comes to reliable cable connections. Amphenol divisions team up globally to provide a very large assortment of backshells for use with 38999 Series of connectors, as well as other circular series.

This Accessories and Tools section covers what is offered from Amphenol Aerospace, Sidney, NY. For MIL-DTL-38999 Series III, II, I and SJT (reference table of contents on preceding page).

38999

III

Dualok

II

I

SJT

Access

Aquacon

The section of this catalog called "Backshells" covers the backshell and adapters that are provided through the Amphenol PCD/Amphenol India divisions. Please refer to this section for:

- Backshells for Connector Family "L", which includes MIL-DTL-38999 Series III and Series IV
- Backshells for Connector Family "K", which includes MIL-DTL-38999 Series I and Series II
- Backshells for Connector Family "J", which includes MIL-DTL-24682 (Matrix, Series 2), MIL-DTL-5015 (Matrix, MS3400 Series), MIL-DTL-83723 (Series I & III), MIL-DTL-81703 (Series III)



The variety of types of backshells and adapters covered in the Backshells section of this catalog include:

- Non-environmental backshells
- Environmental backshells
- Non-environmental EMI/RFI backshells
- Environmental EMI/RFI backshells
- Shrink boot adapters
- Crimp ring adapters
- Band lock adapters
- Pre-shield adapters

For more information contact:

Amphenol Aerospace: www.amphenol-aerospace.com (phone: 800-678-0141)
or visit www.backshellworld.com or email: sales@backshellworld.com

MIL-DTL-38999, Series III TV Receptacle Protection Cap

38999

III

Dualok

II

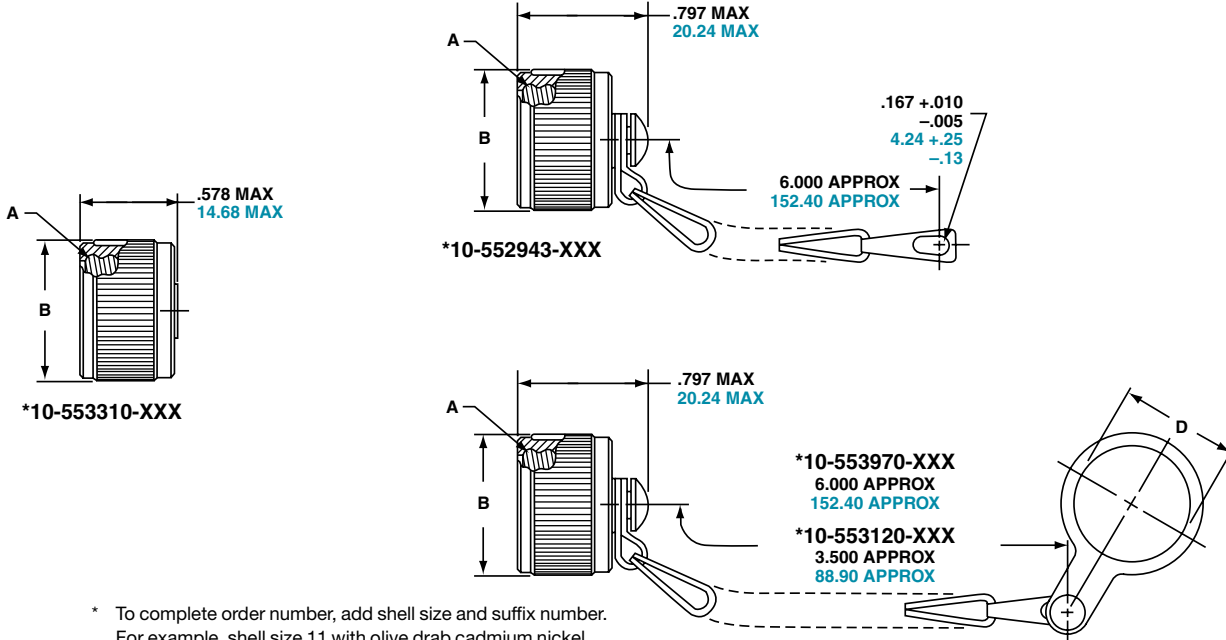
I

SJT

Access

Aquacon

Accessories



* To complete order number, add shell size and suffix number.
For example, shell size 11 with olive drab cadmium nickel base, 10-552943-119

| Inches | | | | Millimeters | | | |
|------------|-----------------------------------|----------------|------------------------|-------------|--------------------|-------------|---------------------|
| Shell Size | A Thread Class 2B 0.1P-0.3L-TS | B Dia. Max. | D Dia. +.010 - .000 | Shell Size | MS Shell Size Code | B Dia. Max. | D Dia. +.25 -.00 |
| 9 | .6250 | .875 | .703 | 9 | A | 22.23 | 17.86 |
| 11 | .7500 | 1.000 | .844 | 11 | B | 25.40 | 21.44 |
| 13 | .8750 | 1.125 | 1.016 | 13 | C | 28.58 | 25.81 |
| 15 | 1.0000 | 1.250 | 1.141 | 15 | D | 31.75 | 28.98 |
| 17 | 1.1875 | 1.438 | 1.266 | 17 | E | 36.53 | 32.16 |
| 19 | 1.2500 | 1.500 | 1.391 | 19 | F | 38.10 | 35.33 |
| 21 | 1.3750 | 1.625 | 1.516 | 21 | G | 41.28 | 38.51 |
| 23 | 1.5000 | 1.750 | 1.641 | 23 | H | 44.45 | 41.68 |
| 25 | 1.6250 | 1.875 | 1.766 | 25 | J | 47.63 | 44.86 |

All dimensions for reference only.

TV SERIES III MS METAL PROTECTION CAPS

| Shell Size | MS Shell Size Code | MS Receptacle Protection Cap |
|------------|--------------------|------------------------------|
| 9 | A | D38999/33W9X* |
| 11 | B | D38999/33W11X* |
| 13 | C | D38999/33W13X* |
| 15 | D | D38999/33W15X* |
| 17 | E | D38999/33W17X* |
| 19 | F | D38999/33W19X* |
| 21 | G | D38999/33W21X* |
| 23 | H | D38999/33W23X* |
| 25 | J | D38999/33W25X* |

* To complete order number, replace X with applicable letter as follows:
R - designates eyelet type
N - designates washer type

MS metal protection caps are supplied with service class W which designates corrosion resistant olive drab cadmium plate aluminum.
Consult Amphenol Aerospace for more detailed information on ordering MS Metal protection caps.

| Finish | 10-No Suffix |
|----------------------------------|--------------|
| Olive Drab, Cadmium, Nickel base | -XX9 |
| Electroless Nickel | -XXG |

Consult Amphenol Aerospace for availability of stainless steel protection caps.

TV SERIES III PLASTIC PROTECTION CAPS

| Shell Size | Receptacle |
|------------|-------------|
| 9 | 10-70500-10 |
| 11 | 10-70500-12 |
| 13 | 10-70500-14 |
| 15 | 10-70500-16 |
| 17 | 10-70500-19 |
| 19 | 10-70500-20 |
| 21 | 10-70500-22 |
| 23 | 10-70500-24 |
| 25 | 10-70524-1 |

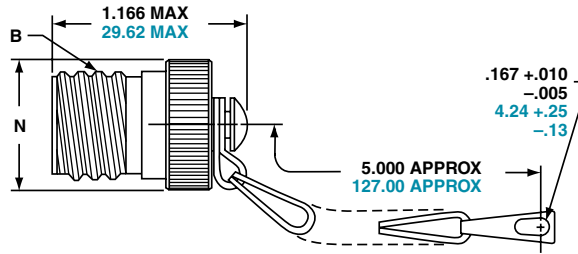
F

MIL-DTL-38999, Series III TV Plug Protection Cap

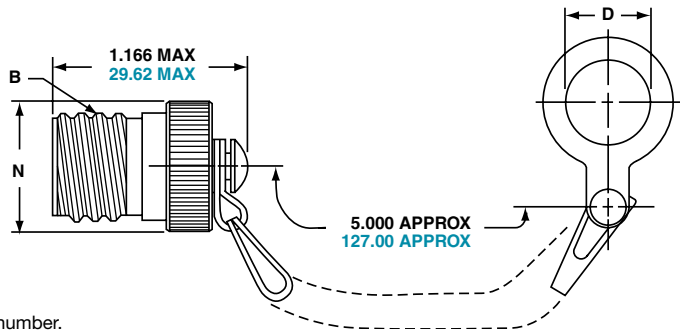
38999

III
Dualok
II
I
SJT
Access
Aquacon

*10-552944-XXX



*10-553998-XXX



* To complete order number, add shell size and suffix number.
For example, shell size 11 with olive drab cadmium nickel base, 10-552944-119

| Inches | | | | Millimeters | | | |
|------------|-----------------------------------|-----------------------|----------------|-------------|--------------------|----------------------|----------------|
| Shell Size | A Thread Class 2B 0.1P-0.3L-TS | D Dia. +.010 -.000 | N Dia. Max. | Shell Size | MS Shell Size Code | D Dia. +.25 - .00 | N Dia. Max. |
| 9 | .6250 | .516 | .895 | 9 | A | 13.11 | 22.73 |
| 11 | .7500 | .641 | 1.000 | 11 | B | 16.28 | 25.40 |
| 13 | .8750 | .766 | 1.171 | 13 | C | 19.46 | 29.74 |
| 15 | 1.0000 | .891 | 1.299 | 15 | D | 22.63 | 32.99 |
| 17 | 1.1875 | 1.016 | 1.436 | 17 | E | 25.81 | 36.47 |
| 19 | 1.2500 | 1.141 | 1.543 | 19 | F | 28.98 | 39.19 |
| 21 | 1.3750 | 1.266 | 1.670 | 21 | G | 32.16 | 42.42 |
| 23 | 1.5000 | 1.343 | 1.787 | 23 | H | 34.11 | 45.39 |
| 25 | 1.6250 | 1.516 | 1.914 | 25 | J | 38.51 | 48.62 |

All dimensions for reference only.

TV SERIES III MS METAL PROTECTION CAPS

| Shell Size | MS Shell Size Code | MS Plug Protection Cap |
|------------|--------------------|------------------------|
| 9 | A | D38999/32W9X* |
| 11 | B | D38999/32W11X* |
| 13 | C | D38999/32W13X* |
| 15 | D | D38999/32W15X* |
| 17 | E | D38999/32W17X* |
| 19 | F | D38999/32W19X* |
| 21 | G | D38999/32W21X* |
| 23 | H | D38999/32W23X* |
| 25 | J | D38999/32W25X* |

* To complete order number, replace X with applicable letter as follows:

R - designates eyelet type

N - designates washer type

MS metal protection caps are supplied with service class W which designates corrosion resistant olive drab cadmium plate aluminum.

Consult Amphenol Aerospace for more detailed information on ordering MS Metal protection caps.

| Finish | 10-No Suffix |
|----------------------------------|--------------|
| Olive Drab, Cadmium, Nickel base | -XX9 |
| Electroless Nickel | -XXG |

Consult Amphenol Aerospace for availability of stainless steel protection caps.

TV SERIES III PLASTIC PROTECTION CAPS

| Shell Size | Plug |
|------------|-------------|
| 9 | 10-70506-14 |
| 11 | 10-70506-16 |
| 13 | 10-70500-18 |
| 15 | 10-70500-20 |
| 17 | 10-70500-22 |
| 19 | 10-70500-24 |
| 21 | 10-70524-1 |
| 23 | 10-70506-28 |
| 25 | 10-70500-28 |

Accessories

F

MIL-DTL-38999, Series III TV Dummy Receptacle

38999

III

Dualok

II

I

SJT

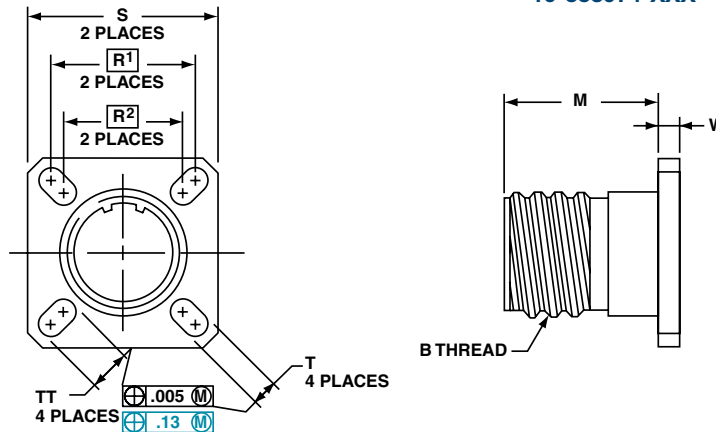
Access

Aquacon

Accessories

**PART NUMBER REFERENCE.
SEE NOTE BELOW TO COMPLETE.**

***10-553974-XXX**



* To complete order number, add shell size and suffix number.
For example, shell size 11 with olive drab cadmium nickel base, 10-553974-119

Inches

| Shell Size | MS Shell Size Coded | B Thread 0.1P-0.3L-TS (Plated) | M $+0.020$ -0.000 | R ¹ | R ² | S ± 0.010 | T ± 0.008 -0.006 | W ± 0.010 | TT ± 0.008 -0.006 |
|------------|---------------------|--------------------------------|---------------------|----------------|----------------|---------------|------------------------|---------------|-------------------------|
| 9 | A | .6250 | .822 | .719 | .594 | .938 | .128 | .098 | .216 |
| 11 | B | .7500 | .822 | .812 | .719 | 1.031 | .128 | .098 | .194 |
| 13 | C | .8750 | .822 | .906 | .812 | 1.125 | .128 | .098 | .194 |
| 15 | D | 1.0000 | .822 | .969 | .906 | 1.219 | .128 | .098 | .173 |
| 17 | E | 1.1875 | .822 | 1.062 | .969 | 1.312 | .128 | .098 | .194 |
| 19 | F | 1.2500 | .822 | 1.156 | 1.062 | 1.438 | .128 | .098 | .194 |
| 21 | G | 1.3750 | .791 | 1.250 | 1.156 | 1.562 | .128 | .125 | .194 |
| 23 | H | 1.5000 | .791 | 1.375 | 1.250 | 1.688 | .154 | .125 | .242 |
| 25 | J | 1.6250 | .791 | 1.500 | 1.375 | 1.812 | .154 | .125 | .242 |

Millimeters

| Finish | 10-No Suffix |
|----------------------------------|--------------|
| Olive Drab, Cadmium, Nickel Base | -XX9 |
| Electroless Nickel | -XXG |

| Shell Size | MS Shell Size Coded | M $+0.51$ -0.00 | R ¹ | R ² | S ± 0.25 | T $+0.20$ -0.15 | W ± 0.25 | TT $+0.20$ -0.15 |
|------------|---------------------|-------------------|----------------|----------------|--------------|-------------------|--------------|--------------------|
| 9 | A | 20.88 | 18.26 | 15.09 | 23.83 | 3.25 | 2.49 | 5.49 |
| 11 | B | 20.88 | 20.62 | 18.26 | 26.19 | 3.25 | 2.49 | 4.93 |
| 13 | C | 20.88 | 23.01 | 20.62 | 28.58 | 3.25 | 2.49 | 4.93 |
| 15 | D | 20.88 | 24.61 | 23.01 | 30.96 | 3.25 | 2.49 | 4.93 |
| 17 | E | 20.88 | 26.97 | 24.61 | 33.32 | 3.25 | 2.49 | 4.93 |
| 19 | F | 20.88 | 29.36 | 26.97 | 36.53 | 3.25 | 2.49 | 4.93 |
| 21 | G | 20.09 | 31.75 | 29.36 | 39.67 | 3.25 | 3.18 | 4.93 |
| 23 | H | 20.09 | 34.93 | 31.75 | 42.88 | 3.91 | 3.18 | 6.15 |
| 25 | J | 20.09 | 38.10 | 34.93 | 46.02 | 3.91 | 3.18 | 6.15 |

All dimensions for reference only.

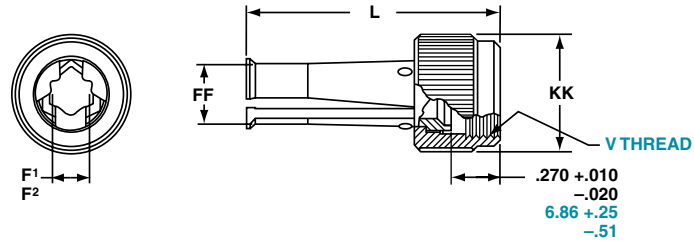
Designates true position dimensioning.

MIL-DTL-38999, Series III TV Cable Clamps

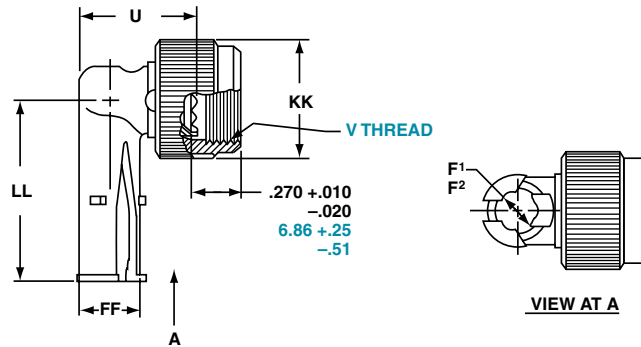
38999

III
Duallok
II
I
SJT
Access
Aquacon

Straight Style
*10-552681-XXX metal coupling



90 Degree Elbow Style
*10-552682-XXX metal coupling



* To complete order number, see suffix chart below. Examples:
Clamp with metal coupling nut for shell size 11 with olive drab
cadmium nickel base, 10-552681-119.

Inches

| Shell Size | MS Shell Size Code | F ¹ Min. Dia. Cable | F ² Max. Dia. Cable | L Max. | U Max. | FF Dia. Max. | KK Dia. Max. | LL Max. |
|------------|--------------------|--------------------------------|--------------------------------|--------|--------|--------------|--------------|---------|
| 9 | A | .094 | .203 | 1.431 | .656 | .347 | .629 | 1.015 |
| 11 | B | .141 | .250 | 1.431 | .688 | .394 | .756 | 1.062 |
| 13 | C | .172 | .323 | 1.431 | .750 | .467 | .883 | 1.125 |
| 15 | D | .203 | .422 | 1.431 | .859 | .566 | 1.011 | 1.328 |
| 17 | E | .234 | .500 | 1.431 | .937 | .644 | 1.138 | 1.392 |
| 19 | F | .265 | .562 | 1.431 | 1.000 | .706 | 1.265 | 1.453 |
| 21 | G | .297 | .625 | 1.492 | 1.062 | .769 | 1.393 | 1.609 |
| 23 | H | .328 | .703 | 1.492 | 1.141 | .847 | 1.488 | 1.656 |
| 25 | J | .359 | .765 | 1.492 | 1.203 | .909 | 1.616 | 1.719 |

Millimeters

| Finish | 10-No Suffix | Shell Size | MS Shell Size Code | F ¹ Min. Dia. Cable | F ² Max. Dia. Cable | L Max. | U Max. | V Thread Metric | FF Dia. Max. | KK Dia. Max. | LL Max. |
|---------------------------------|--------------|------------|--------------------|--------------------------------|--------------------------------|--------|--------|-----------------|--------------|--------------|---------|
| Olive Drab, Cadmium Nickel Base | -XX9 | 9 | A | 2.39 | 5.16 | 36.35 | 16.66 | M12X1-6H | 8.81 | 15.98 | 25.78 |
| | | 11 | B | 3.58 | 6.35 | 36.35 | 17.48 | M15X1-6H | 10.01 | 19.20 | 26.97 |
| | | 13 | C | 4.37 | 8.20 | 36.35 | 19.05 | M18X1-6H | 11.86 | 22.43 | 28.58 |
| | | 15 | D | 5.16 | 10.72 | 36.35 | 21.82 | M22X1-6H | 14.38 | 25.68 | 33.73 |
| | | 17 | E | 5.94 | 12.70 | 36.35 | 23.80 | M25X1-6H | 16.36 | 28.91 | 35.36 |
| | | 19 | F | 6.73 | 14.27 | 36.35 | 25.40 | M28X1-6H | 17.93 | 32.13 | 36.91 |
| | | 21 | G | 7.54 | 15.88 | 37.90 | 26.97 | M31X1-6H | 19.53 | 35.38 | 40.87 |
| | | 23 | H | 8.83 | 17.86 | 37.90 | 28.98 | M34X1-6H | 21.51 | 37.80 | 42.06 |
| | | 25 | J | 9.12 | 19.43 | 37.90 | 30.56 | M37X1-6H | 23.09 | 41.05 | 43.66 |

38999, Series III TV Breakaway Fail Safe Backshells, Dummy Contacts, Wire Combs

38999

III

Dualok

II

I

SJT

Access

Aquacon

Accessories

Amphenol offers a full range of accessories that are designed to enhance the performance of Amphenol Breakaway connectors.

Low Profile Backshells in shell size 25 with the following features:

- Olive drab cadmium finish
- 90 degree termination
- Low profile design with three heights ranging from 1.010 to 1.660
- Rear access covers to help ease harness assembly and repairability
- Amphenol part numbers: 10-640000-XXX



BACKSHELLS ARE OFFERED FOR USE WITH BREAKAWAY FAIL SAFE CONNECTORS IN THREE HEIGHTS

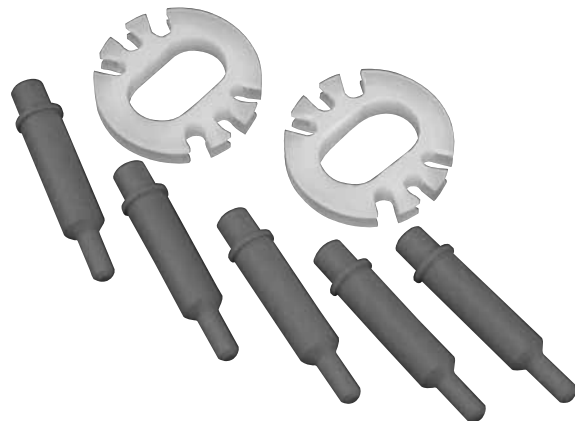
DUMMY CONTACTS

- Available in size 12 and size 8
- Provide a cost effective alternative for sealing unused contact cavities
- Size 8 part number: T3-4008-59P
- Size 12 part number: T3-4012-59P

WIRE COMBS

- Available for the 25-20 insert pattern to help to stabilize and prevent contact side loading
- Amphenol part number: 21-33626-XXX

For information on how to order these accessory products for Breakaway Fail Safe connectors, consult Amphenol Aerospace.



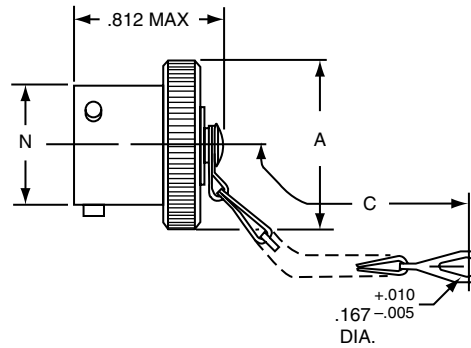
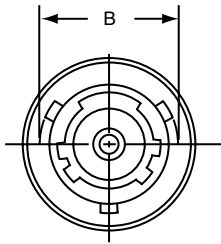
ACCESSORY PRODUCTS FOR BREAKAWAY CONNECTORS: DUMMY CONTACTS AND WIRE COMBS

F

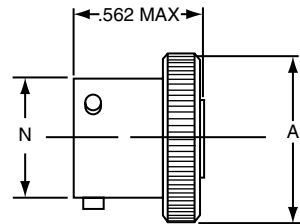
MIL-DTL-38999, Series II JT Plug Protection Cap

38999

III
Dualok
II
I
SJT
Access
Aquacon



***10-547138-XXX (MS27510XXXC)**



***10-241853-XXX (MS27510XXXA)**

For MS stamping identification, accessories must be ordered by MS part number. If ordered by 10- part number, they will be stamped with said number.

* To complete order number, add shell size and suffix number. For example, shell size 10 with cadmium plate, nickel base would be 10-241853-107, MS27510A10C or MS27510A10A.

| Shell Size | A Dia. Max. | A' Dia. Max. | B +.000 -0.016 | C Approx. | N Dia. +.001 -0.005 |
|------------|-------------|--------------|----------------|-----------|---------------------|
| 8 | .719 | .703 | .563 | 3.000 | .473 |
| 10 | .844 | .828 | .680 | 3.000 | .590 |
| 12 | 1.000 | .984 | .859 | 3.500 | .750 |
| 14 | 1.125 | 1.109 | .984 | 3.500 | .875 |
| 16 | 1.250 | 1.234 | 1.108 | 3.500 | 1.000 |
| 18 | 1.375 | 1.359 | 1.233 | 3.500 | 1.125 |
| 20 | 1.500 | 1.484 | 1.358 | 4.000 | 1.250 |
| 22 | 1.625 | 1.609 | 1.483 | 4.000 | 1.375 |
| 24 | 1.750 | 1.734 | 1.610 | 4.000 | 1.500 |

All dimensions for reference only.

| Finish | 10-Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|----------------------------------|------------------|-----------------------------|--------------------------------|
| Chromate Treat | -XX0 | | |
| Anodic Coating | -XX5 | CXXC | CXXA |
| Cadmium Plate Nickel Base | -XX7 | AXXC | AXXA |
| Olive Drab, Cadmium, Nickel Base | -XX9 | BXXC | BXXA |
| Electroless Nickel | -XXG | FXXC | FXXA |

SERIES II JT PLASTIC PROTECTION CAPS

| Shell Size | Plug |
|------------|--------------|
| 8 | 10-70500-10 |
| 9 | 10-70506-14 |
| 10 | 10-70506-14 |
| 11 | 10-70506-16 |
| 12 | 10-70506-16 |
| 13 | 10-70506-18 |
| 14 | 10-70506-18 |
| 15 | 10-70506-20 |
| 16 | 10-70506-20 |
| 17 | 10-70506-22 |
| 18 | 10-70506-22 |
| 19 | 10-70506-24 |
| 20 | 10-70506-24 |
| 21 | 10-70576-24 |
| 22 | 10-70576-24 |
| 23 | 10-70506-28 |
| 24 | 10-70506-28 |
| 25 | 10-558651-25 |

Accessories

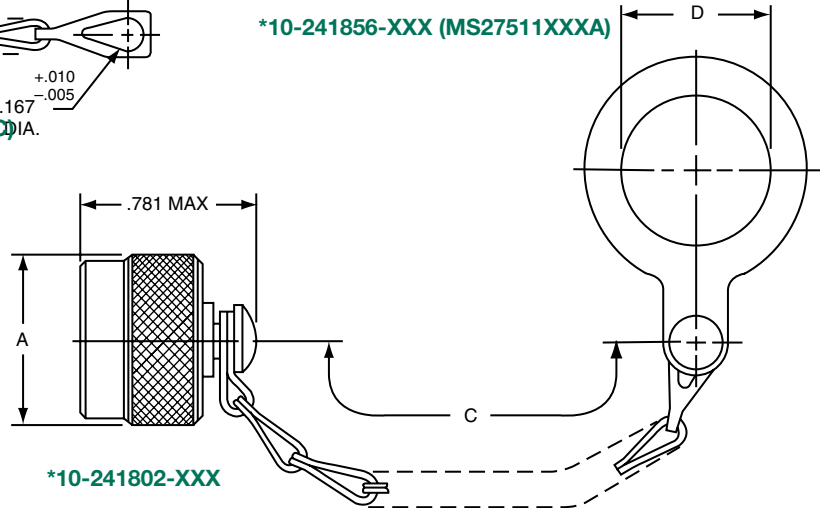
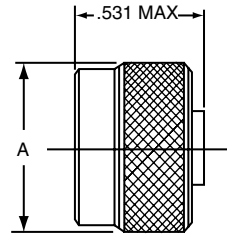
F

MIL-DTL-38999, Series II JT Receptacle Protection Cap

38999

III
Dualok
II
I
SJT
Access
Aquacon

Accessories



For MS stamping identification, accessories must be ordered by MS part number. If ordered by 10- part number, they will be stamped with said number.

* To complete order number, add shell size and suffix number.

For example, shell size 10 with cadmium plate, nickel base would be 10-241802-107, MS27511A10C, MS27511A10A

| Shell Size | A Dia. Max. | C Approx. | D +.010 -0.000 |
|------------|-------------|-----------|----------------|
| 8 | .719 | 3.000 | .891 |
| 10 | .844 | 3.000 | 1.016 |
| 12 | 1.000 | 3.500† | 1.141 |
| 14 | 1.125 | 3.500 | 1.266 |
| 16 | 1.250 | 3.500 | 1.391 |
| 18 | 1.375 | 3.500 | 1.516 |
| 20 | 1.500 | 4.000 | 1.641 |
| 22 | 1.625 | 4.000 | 1.766 |
| 24 | 1.750 | 4.000 | 1.891 |

† 3.000 for MS27511
All dimensions for reference only.

SERIES II JT PLASTIC PROTECTION CAPS

| Shell Size | Receptacle |
|------------|--------------|
| 8 | 10-70506-10S |
| 9 | 10-70500-10 |
| 10 | 10-70506-12 |
| 11 | 10-70500-12 |
| 12 | 10-70506-14 |
| 13 | 10-70500-14 |
| 14 | 10-70506-16 |
| 15 | 10-70500-16 |
| 16 | 10-70506-18 |
| 17 | 10-70500-18 |
| 18 | 10-70506-20 |
| 19 | 10-70500-20 |
| 20 | 10-70506-22 |
| 21 | 10-70500-22 |
| 22 | 10-70506-24 |
| 23 | 10-70500-24 |
| 24 | 10-70576-24 |
| 25 | 10-70506-28 |

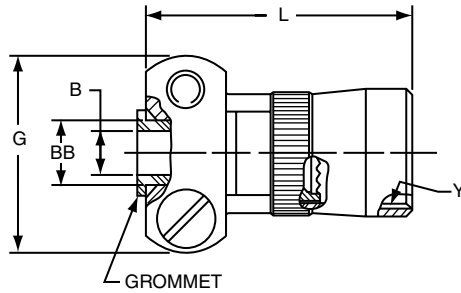
| Finish | 10-Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|----------------------------------|------------------|-----------------------------|--------------------------------|
| Chromate Treat | -XX0 | | |
| Anodic Coating | -XX5 | CXXC | CXXA |
| Cadmium Plate Nickel Base | -XX7 | AXXC | AXXA |
| Olive Drab, Cadmium, Nickel Base | -XX9 | BXXC | BXXA |
| Electroless Nickel | -XXG | FXXC | FXXA |

F

MIL-DTL-38999, Series II JT
MIL-DTL-38999, Series I LJT
Strain Relief (Crimp Type)

38999

III
Dualok
II
I
SJT
Access
Aquacon



***10-405982-XXX (MS27506XXX-2 REFERENCE M85049/49)**

For MS stamping identification, accessories must be ordered by MS part number.
If ordered by 10-part number, they will be stamped with said number.
*To complete order number, add shell size and suffix number.

| Finish | 10-Number Suffix | MS27506 Suffix | M85049/49 Suffix |
|----------------------------------|------------------|----------------|------------------|
| Chromate Treat | -XX0 | | NA |
| Anodic Coating | -XX5 | CXX-2 | (-2-XXA) |
| Cadmium Plate Nickel Base | -XX7 | AXX-2 | NA |
| Olive drab, Cadmium, Nickel base | -XX9 | BXX-2 | (-2-XXW) |
| Electroless Nickel | -XXG | FXX-2 | (-2-XXN) |

For example: Shell size 10 with cadmium plate, nickel base would be 10-405982-107 or M85049/49-2-10W

| Shell Size | B Dia. +.010 -.025 | G Max. | L Max. | Y Thread (Modified) | | BB Dia. +.000 -.011 | Screw Size |
|------------|--------------------------|--------|--------|---------------------|---------------------|---------------------------|------------|
| | | | | Size Class 2B | Modified Minor Dia. | | |
| 8 | .125 | .775 | .984 | .4375-28UNEF | .399 – .405 | .250 | 6-32UNC |
| 10 | .188 | .837 | .984 | .5625-24UNEF | .524 – .529 | .312 | 6-32UNC |
| 12 | .312 | .963 | .984 | .6875-24UNEF | .649 – .654 | .438 | 6-32UNC |
| 14 | .375 | 1.087 | 1.234 | .8125-20UNEF | .766 – .771 | .562 | 6-32UNC |
| 16 | .500 | 1.150 | 1.234 | .9375-20UNEF | .891 – .896 | .625 | 6-32UNC |
| 18 | .625 | 1.400 | 1.234 | 1.0625-18UNEF | 1.002 – 1.007 | .750 | 8-32UNC |
| 20 | .625 | 1.400 | 1.234 | 1.1875-18UNEF | 1.135 – 1.140 | .750 | 8-32UNC |
| 22 | .750 | 1.587 | 1.359 | 1.3125-18UNEF | 1.252 – 1.257 | .938 | 8-32UNC |
| 24 | .800 | 1.681 | 1.281 | 1.4375-18UNEF | 1.377 – 1.382 | 1.000 | 8-32UNC |

All dimensions for reference only.
Note: For solder type cable clamp 10-241055-XXX (M85049/49) consult Amphenol Aerospace.

Accessories

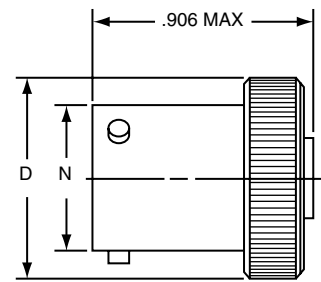
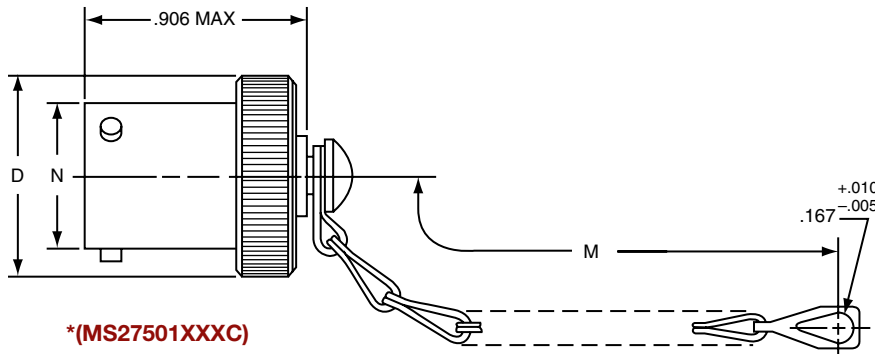
F

MIL-DTL-38999, Series I LJT Plug Protection Cap

38999

- III
- Dualok
- II
- I
- SJT
- Access
- Aquacon

Accessories



* To complete order number, add shell size and suffix number.
For example, shell size 11 with cadmium plate, nickel base would be 10-421399-117, MS27501A11C, MS27501A11A.

| Shell Size | B Dia. Ref | D Dia. Max. | M ±.250 | N Dia. +.001 - .005 |
|------------|------------|-------------|---------|---------------------|
| 9 | .180 | .812 | 3.000 | .572 |
| 11 | .180 | .938 | 3.000 | .700 |
| 13 | .180 | 1.062 | 3.500 | .850 |
| 15 | .180 | 1.188 | 3.500 | .975 |
| 17 | .180 | 1.312 | 3.500 | 1.100 |
| 19 | .209 | 1.438 | 3.500 | 1.207 |
| 21 | .209 | 1.562 | 4.000 | 1.332 |
| 23 | .209 | 1.688 | 4.000 | 1.457 |
| 25 | .209 | 1.812 | 4.000 | 1.582 |

SERIES I LJT PLASTIC PROTECTION CAPS

| Shell Size | Plug |
|------------|--------------|
| 8 | 10-70500-10 |
| 9 | 10-70506-14 |
| 10 | 10-70506-14 |
| 11 | 10-70506-16 |
| 12 | 10-70506-16 |
| 13 | 10-70506-18 |
| 14 | 10-70506-18 |
| 15 | 10-70506-20 |
| 16 | 10-70506-20 |
| 17 | 10-70506-22 |
| 18 | 10-70506-22 |
| 19 | 10-70506-24 |
| 20 | 10-70506-24 |
| 21 | 10-70576-24 |
| 22 | 10-70576-24 |
| 23 | 10-70506-28 |
| 24 | 10-70506-28 |
| 25 | 10-558651-25 |

| Finish | 10- Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|-------------------------------------|-------------------|-----------------------------|--------------------------------|
| Chromate Treat | -XX0 | | |
| Anodic Coating | -XX5 | | |
| Cadmium Plate Nickel Base | -XX7 | AXXC | AXXA |
| Olive Drab, Cadmium, Nickel Base | -XX9 | BXXC | BXXA |
| Electroless Nickel | -XXG | FXXC | FXXA |

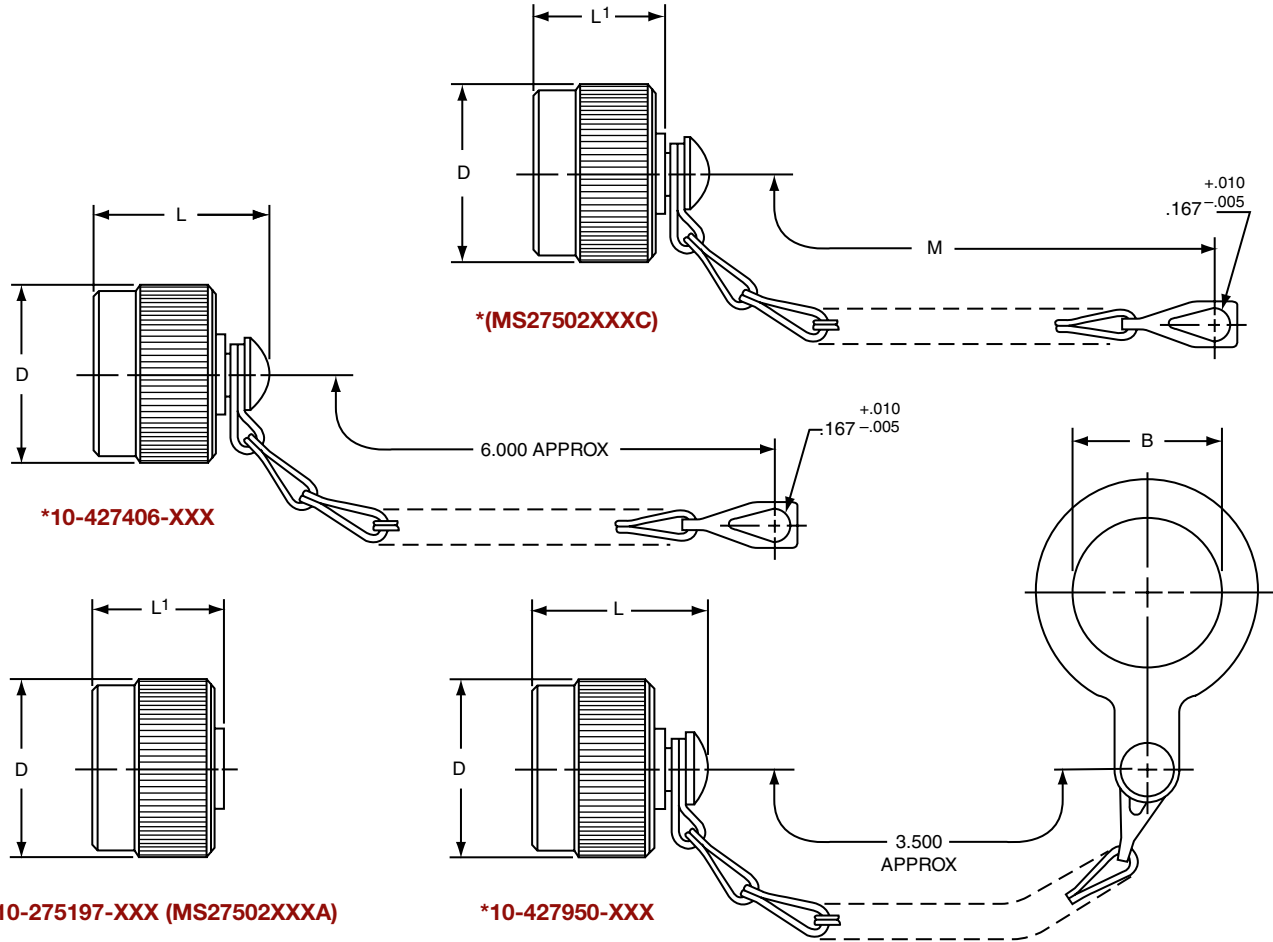
All dimensions for reference only.

F

MIL-DTL-38999, Series I LJT Receptacle Protection Cap

38999

III
Dualok
II
I
SJT
Access
Aquacon



Accessories

* **10-275197-XXX (MS27502XXXA)** * **10-427950-XXX**

For MS stamping identification, accessories must be ordered by MS part number.
 If ordered by 10- part number, they will be stamped with said number.
 *To complete order number, add shell size and suffix number.
 For example, shell size 11 with cadmium plate, nickel base would be 10-427406-117, MS27502A11C, MS27502A11A.

SERIES I LJT PLASTIC PROTECTION CAPS

| Shell Size | B Dia. +.010 -0.000 | D Dia. Max. | L Max. | L' Max | M ±.250 |
|------------|---------------------|-------------|--------|--------|---------|
| 9 | .703 | .844 | 1.070 | .844 | 3.000 |
| 11 | .844 | .969 | 1.070 | .844 | 3.000 |
| 13 | 1.016 | 1.125 | 1.070 | .844 | 3.500 |
| 15 | 1.141 | 1.250 | 1.070 | .844 | 3.500 |
| 17 | 1.266 | 1.406 | 1.070 | .844 | 3.500 |
| 19 | 1.391 | 1.500 | 1.070 | .844 | 3.500 |
| 21 | 1.516 | 1.625 | 1.070 | .844 | 4.000 |
| 23 | 1.641 | 1.750 | 1.070 | .844 | 4.000 |
| 25 | 1.766 | 1.875 | 1.089 | .875 | 4.000 |

| Shell Size | Receptacle |
|------------|--------------|
| 8 | 10-70506-10S |
| 9 | 10-70500-10 |
| 10 | 10-70506-12 |
| 11 | 10-70500-12 |
| 12 | 10-70506-14 |
| 13 | 10-70500-14 |
| 14 | 10-70506-16 |
| 15 | 10-70500-16 |
| 16 | 10-70506-18 |
| 17 | 10-70500-18 |
| 18 | 10-70506-20 |
| 19 | 10-70500-20 |
| 20 | 10-70506-22 |
| 21 | 10-70500-22 |
| 22 | 10-70506-24 |
| 23 | 10-70500-24 |
| 24 | 10-70576-24 |
| 25 | 10-70506-28 |

| Finish | 10-Number Suffix | MS Number Suffix with chain | MS Number Suffix without chain |
|----------------------------------|------------------|-----------------------------|--------------------------------|
| Chromate Treat | -XX0 | | |
| Anodic Coating | -XX5 | CXXC | CXXA |
| Cadmium Plate Nickel Base | -XX7 | AXXC | AXXA |
| Olive Drab, Cadmium, Nickel Base | -XX9 | BXXC | BXXA |
| Electroless Nickel | -XXG | FXXC | FXXA |

All dimensions for reference only.

MIL-DTL-38999, Series I LJT Strain Relief (Solder Type)

38999

III

Dualok

II

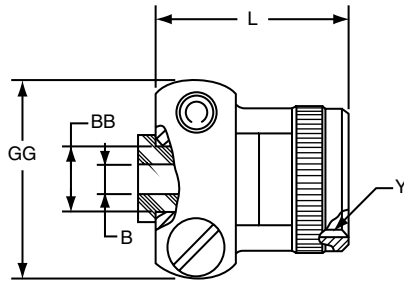
I

SJT

Access

Aquacon

Accessories



***10-436792-XXX**

For military type cable clamp see MS27506 or M85049/49 on page 173.
*To complete order number, add shell size and suffix number.

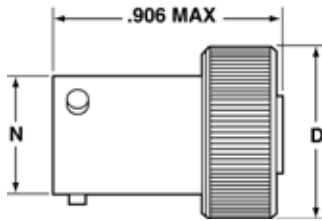
| Finish | 10-Number Suffix |
|----------------------------------|------------------|
| Chromate treat | -XX0 |
| Anodic coating | -XX5 |
| Cadmium Plate Nickel Base | -XX7 |
| Olive Drab, Cadmium, Nickel Base | -XX9 |
| Electroless Nickel | -XXG |

For example: Shell size 11 with cadmium plate, nickel base would be 10-436792-117.

| Shell Size | B Dia. +.010 -.025 | L Max. | Y Thread Class 2B (Plated) | GG Max. | BB Dia. +.000 -.011 |
|------------|--------------------------|-----------|-------------------------------|------------|---------------------------|
| 9 | .125 | .859 | .4375-28 UNEF | .775 | .250 |
| 11 | .188 | .859 | .5625-24 UNEF | .837 | .312 |
| 13 | .312 | .859 | .6875-24 UNEF | .963 | .438 |
| 15 | .375 | 1.109 | .8125-20 UNEF | 1.087 | .562 |
| 17 | .500 | 1.109 | .9375-20 UNEF | 1.150 | .625 |
| 19 | .625 | 1.109 | 1.0625-18 UNEF | 1.400 | .750 |
| 21 | .625 | 1.109 | 1.1875-18 UNEF | 1.400 | .750 |
| 23 | .750 | 1.234 | 1.3125-18 UNEF | 1.587 | .938 |
| 25 | .800 | 1.234 | 1.4375-18 UNEF | 1.681 | 1.000 |

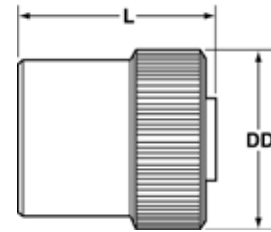
All dimensions for reference only.

PLUG PROTECTION CAP

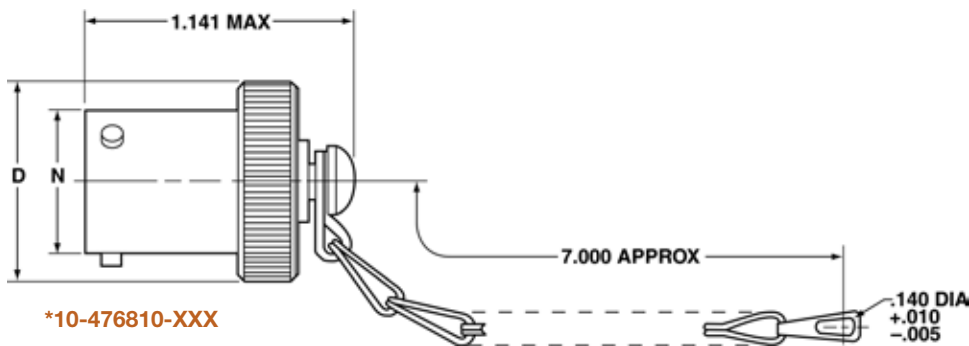


*10-476801-XXX

RECEPTACLE PROTECTION CAP



*10-325943-XXX



*10-476810-XXX

* To complete order number, add shell size and suffix number. For example, shell size 10 with bright cadmium plated nickel base, 10-476810-107.

* To complete order number, add shell size and suffix number. For example, shell size 10 with bright cadmium plated nickel base, 10-325943-107.

| Plug Shell Size | D Dia. Max. | N Dia. +.001 - .005 |
|-----------------|-------------|---------------------|
| 8 | .688 | .473 |
| 10 | .812 | .590 |
| 12 | .969 | .750 |
| 14 | 1.094 | .875 |
| 16 | 1.219 | 1.000 |
| 18 | 1.344 | 1.125 |
| 20 | 1.469 | 1.250 |
| 22 | 1.594 | 1.375 |
| 24 | 1.719 | 1.500 |

All dimensions for reference only

| Receptacle Shell Size | DD Dia. Max. | L Max. |
|-----------------------|--------------|--------|
| 8 | .734 | .828 |
| 10 | .844 | .828 |
| 12 | 1.016 | .828 |
| 14 | 1.141 | .828 |
| 16 | 1.265 | .828 |
| 18 | 1.391 | .828 |
| 20 | 1.500 | .828 |
| 22 | 1.625 | .828 |
| 24 | 1.750 | .859 |

SJT

PLASTIC PROTECTION CAPS

| Protection Cap Finish | Suffix |
|--------------------------------------|--------|
| Bright Cadmium Plated Nickel Base | XX7 |
| Anodic Coating (Alumilite) | XX5 |
| Chromate Treated (Iridite 14-2) | XX0 |
| Olive Drab Cadmium Plate Nickel Base | XX9 |
| Electroless Nickel Coating | XXG |

| Shell Size | Plug | Receptacle |
|------------|-------------|--------------|
| 8 | 10-70500-10 | 10-70506-10S |
| 10 | 10-70500-14 | 10-70506-12 |
| 12 | 10-70500-16 | 10-70506-14 |
| 14 | 10-70500-18 | 10-70506-16 |
| 16 | 10-70500-20 | 10-70506-18 |
| 18 | 10-70500-22 | 10-70506-20 |
| 20 | 10-70500-24 | 10-70506-22 |
| 22 | 10-70524-1 | 10-70506-24 |
| 24 | 10-70506-28 | 10-70524-1 |

SJT – Accessories

Dummy Receptacle, Cable Clamp

38999

III

Dualok

II

I

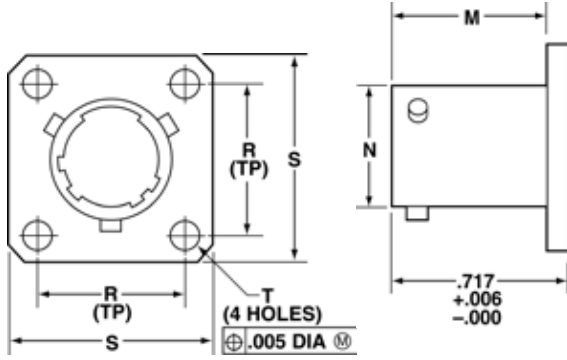
SJT

Access

Aquacon

Accessories

DUMMY RECEPTACLE



*10-476807-XXX

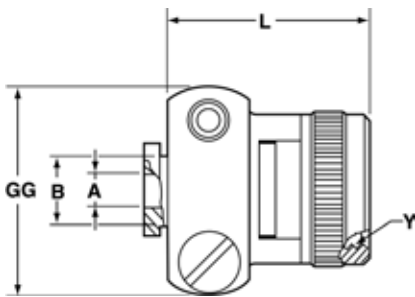
| Dummy Receptacle Finish | Suffix |
|--------------------------------------|--------|
| Bright Cadmium Plated Nickel Base | XX7 |
| Anodic Coating (Alumilite) | XX5 |
| Chromate Treated (Iridite 14-2) | XX0 |
| Olive Drab Cadmium Plate Nickel Base | XX9 |
| Electroless Nickel Coating | XXG |

* To complete order number, add shell size and suffix number. For example, shell size 10 with bright cadmium plated nickel base, 10-476807-107.

| Dummy Receptacle Shell Size | D Dia. Max. | L Max. |
|-----------------------------|-------------|--------|
| 8 | .734 | .828 |
| 10 | .844 | .828 |
| 12 | 1.016 | .828 |
| 14 | 1.141 | .828 |
| 16 | 1.265 | .828 |
| 18 | 1.391 | .828 |
| 20 | 1.500 | .828 |
| 22 | 1.625 | .828 |
| 24 | 1.750 | .859 |

All dimensions for reference only

CABLE CLAMP



*10-476808-XXX

| Cable Clamp Finish | Suffix |
|--------------------------------------|--------|
| Bright Cadmium Plated Nickel Base | XX7 |
| Anodic Coating (Alumilite) | XX5 |
| Chromate Treated (Iridite 14-2) | XX0 |
| Olive Drab Cadmium Plate Nickel Base | XX9 |
| Electroless Nickel Coating | XXG |

* To complete order number, add shell size and suffix number. For example, shell size 10 with bright cadmium plated nickel base, 10-476808-107.

| Cable Clamp Shell Size | A Dia. +.010 - .025 | B Dia. +.000 - .011 | L Max. | Y Thread Class 2B UNEF (Plated) | GG Max. |
|------------------------|---------------------|---------------------|--------|---------------------------------|---------|
| 8 | .125 | .250 | .922 | .4375-28 | .775 |
| 10 | .188 | .312 | .922 | .5625-24 | .837 |
| 12 | .312 | .438 | .922 | .6875-24 | .963 |
| 14 | .375 | .562 | 1.172 | .8125-20 | 1.087 |
| 16 | .500 | .625 | 1.172 | .9375-20 | 1.150 |
| 18 | .625 | .750 | 1.172 | 1.0625-18 | 1.400 |
| 20 | .625 | .750 | 1.172 | 1.1875-18 | 1.400 |
| 22 | .750 | .938 | 1.297 | 1.3125-18 | 1.587 |
| 24 | .800 | 1.000 | 1.297 | 1.4375-18 | 1.681 |

All dimensions for reference only

F

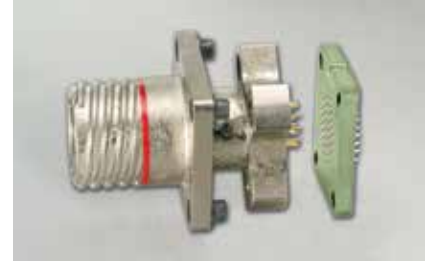
MIL-DTL-38999, Series III TV, II JT, I LJT

Universal “Header Assembly” for Flex Print or PC Board

MOUNTS TO ALL MIL-DTL-38999

The universal header assembly from Amphenol provides for easy separation of the connector from the board.

The header assembly is comprised of a short pin/socket contact. The tail end of the contact is soldered to the through hole of the flex or printed circuit board. The socket is embedded in the insulator, making electrical contact with the printed circuit tail of the connector.



HEADERS PROVIDE EASY SEPARATION OF THE CONNECTOR FROM THE PC BOARD.

FEATURES AND BENEFITS:

- Circular and square header assemblies available
- Cost and time savings in the manufacturing process
- Assemblies can be vapor phase or wave soldered to flex/printed circuit board
- Allows electrical testing when installed properly.
- Connector assemblies can be easily removed from and reattached to the header assembly.

MOUNTING APPLICATIONS

- Amphenol **square** universal headers are slotted to allow mounting to all series of MIL-DTL-38999 or MIL-DTL-26482 connectors without special alterations.
- Amphenol **circular** universal headers are designed to accommodate the rear flange of PCB Board Mount shells, series MIL-DTL-38999 connectors without special alterations.
- The header assembly can be attached to connectors with standard flange placement or directly to the circuit board.
- Connectors with dual flange mounting hardware can be provided to allow easy mounting to the panel or the header assembly.
 - Forward flange would mount the connector to the panel
 - Rear flange would be used to mount to the header assembly.
- Various types of captivated or loose attaching screws can be utilized for unique applications.

* For information on Header Assemblies for MIL-DTL-26482 connector, consult Amphenol Aerospace.

MOUNTING TO RECTANGULAR ARINC CONNECTORS

- Headers for ARINC connector arrangements accommodate up to 150 pins
- Consult Amphenol Canada, Ontario for ARINC configurations.

MATERIALS

- Body is molded or machined from FR-4.
- Electrical engagement areas of the header contact are plated with .00003 inches minimum of gold over .00005 inches minimum of nickel.

See drawing of standard header on next page.

MIL-DTL-38999, Series III TV, II JT, I LJT

Universal "Header Assembly" for Flex Print or PC Board

38999

III

Dualok

II

I

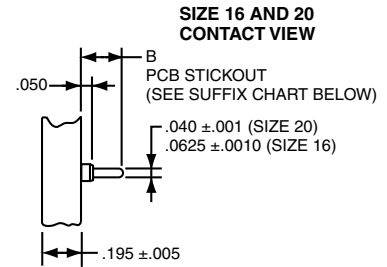
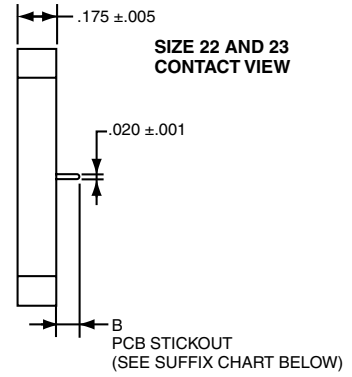
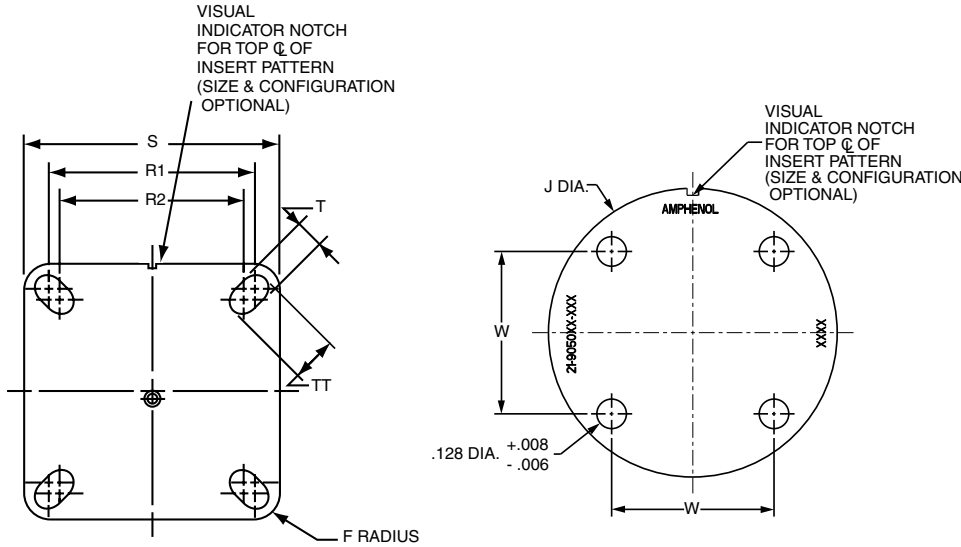
SJT

Access

Aquacon

Accessories

The drawing below shows the standard header assembly for use with MIL-DTL-38999 connectors.



NOTE:
 Size 16 accepts .048 to .064 dia. PCB tails.
 Size 20 accepts .037 to .043 dia. PCB tails.
 Size 22 & 23 accepts .018 to .022 dia. PCB tails.

| Square Assembly Part Number | Shell Size | F Radius | S ± .005 | T + .008 - .006 | R1 TP† | R2 TP† | TT + .008 - .006 |
|-----------------------------|------------|----------|----------|-----------------|--------|--------|------------------|
| 21-904008-XX() | 8/9 | .094 | .938 | .128 | .719 | .594 | .216 |
| 21-904010-XX() | 10/11 | .094 | 1.031 | .128 | .812 | .719 | .194 |
| 21-904012-XX() | 12/13 | .094 | 1.125 | .128 | .906 | .812 | .194 |
| 21-904014-XX() | 14/15 | .125 | 1.219 | .128 | .969 | .906 | .173 |
| 21-904016-XX() | 16/17 | .125 | 1.312 | .128 | 1.062 | .969 | .194 |
| 21-904018-XX() | 18/19 | .125 | 1.438 | .128 | 1.156 | 1.062 | .194 |
| 21-904020-XX() | 20/21 | .125 | 1.562 | .128 | 1.250 | 1.156 | .194 |
| 21-904022-XX() | 22/23 | .125 | 1.688 | .154 | 1.375 | 1.250 | .242 |
| 21-904024-XX() | 24/25 | .125 | 1.812 | .154 | 1.500 | 1.375 | .242 |

† TP designates true position dimensioning.

| Circular Assembly Part Number | Shell Size | J Dia. ± .005 | W |
|-------------------------------|------------|---------------|-------|
| 21-905008-XX() | 8/9 | 1.016 | .532 |
| 21-905010-XX() | 10/11 | 1.062 | .601 |
| 21-905012-XX() | 12/13 | 1.250 | .703 |
| 21-905014-XX() | 14/15 | 1.375 | .791 |
| 21-905016-XX() | 16/17 | 1.500 | .875 |
| 21-905018-XX() | 18/19 | 1.625 | .975 |
| 21-905020-XX() | 20/21 | 1.750 | 1.053 |
| 21-905022-XX() | 22/23 | 1.875 | 1.145 |
| 21-905024-XX() | 24/25 | 2.000 | 1.233 |

HOW TO ORDER INFORMATION FOR HEADER ASSEMBLY WITH MIL-DTL-38999 CONNECTORS

| 1. Series | 2. Type | 3. Shell Size & Insert Arrg. | 4. PCB Suffix |
|-----------|---------|------------------------------|---------------|
| 21- | 9040 | 08-03 | 1 |

| 1. SERIES | | 2. TYPE | |
|-----------|-----------------|---------|----------|
| 21- | Header Assembly | 9040 | Square |
| | | 9050 | Circular |

3. SELECT A SHELL SIZE & INSERT ARRANGEMENT SEE PAGES 2-5

Shell Size & Insert Arrangements are on pages 2-5. First number represents Shell Size, second number is the Insert Arrangement. The dash is required. See MIL-STD-1560 or 1669 document for coordinates of inserts.

* Shell size designation for MIL-DTL-38999 Series I, II, III and IV and MIL-DTL-26482 Series 1 and 2.

| 4. CONTACT PCB STICKOUT | | |
|-------------------------|-------------|-----------------------------|
| Suffix | Shell Size* | Contact PCB Stickout Length |
| | | B ± .015 Stickout |
| 1 | 08 | .120 |
| 1 | 09 | .120 |
| 2 | 10 | .185 |
| 3 | 12 | .270 |
| NA | 14 | |
| NA | 15 | |
| 2 | 16 | .185 |
| 3 | 16 | .270 |
| | 18 | |
| 2 | 20 | .185 |
| 3 | 20 | .270 |
| 1 | 22 | .120 |
| 2 | 22 | .185 |
| 3 | 22 | .270 |
| 1 | 23 | .120 |
| | 24 | |
| | 25 | |

Application Tools

The following data includes information pertaining to the application tools which have been established for crimping, inserting, and removing contacts incorporated in the TV, CTV and MIL-DTL-38999 Series III connectors. For additional information on coax, twinax and triax contact tools, see High Speed Contact section of this catalog.

All crimping tools included are the “full cycling” type and when used as specified in the installation instructions L-624 covering the TV, CTV and MS series connectors, will provide reliable crimped wire to contact terminations. There is a possibility of additional crimping tools other than those included being available at present or in the future for this specific application.

CRIMPING TOOLS

| Contact Size/Type | Crimping Tool | Turret Die or Positioner | Contact Size/Type | Crimping Tool | Turret Die or Positioner |
|--|---|---|---------------------------------|---------------|-------------------------------|
| 12 Pin and Socket | M22520/1-01 | M22520/1-04 | 8 Coaxial Inner Pin and Socket | M22520/2-01 | M22520/2-31 |
| 16 Pin and Socket | M22520/1-01 M22520/7-01 | M22520/1-04 M22520/7-04 | | M22520/5-01 | M22520/5-05 Die Closure B |
| 20 Pin and Socket | M22520/1-01 M22520/2-01 M22520/7-01 | M22520/1-04 M22520/2-10 M22520/7-08 | 8 Coaxial Outer Pin and Socket | M22520/5-01 | M22520/5-41 Die Closure B |
| 22, 22D, 22M Pin | M22520/2-01 M22520/7-01 | M22520/2-09 M22520/7-07 | | M22520/10-01 | M22520/10-07 Die Closure B |
| 22, 22D, 22M Socket Series I, III | M22520/2-01 M22520/7-01 | M22520/2-07 M22520/7-05 | 16 Coaxial Inner Pin and Socket | M22520/2-01 | M22520/2-35 |
| 22D Socket Series II | M22520/2-01 M22520/7-01 | M22520/2-06 M22520/7-06 | 16 Coaxial Outer Pin and Socket | M22520/4-01 | M22520/4-02 |
| 8 Twinax Center Pin and Socket | M22520/2-01 | M22520/2-37 | 12 Coaxial Inner Pin and Socket | M22520/2-01 | M22520/2-34 |
| 8 Twinax Intermediate Outer Pin & Socket | M22520/5-01 | M22520/5-200 | 12 Coaxial Outer Pin and Socket | M22520/31-01 | M22520/31-02 |
| | | | 10 (Power) | TP-201423 | |

Where 2 or 3 tools are listed for a contact size, only one tool and its die or positioner are required to crimp the contact. The above crimping tools and positioners are available from the approved tool manufacturer.

INSERTION TOOLS

| Use with Contact Size | Plastic Tools | | Metal Tools | | | |
|-----------------------|----------------|------------------|-------------|---------------------|-----------------------------------|--------|
| | MS Part Number | Color | Angle Type | | Straight Type Commercial Part No. | Color |
| | | | MS Part No. | Commercial Part No. | | |
| 10 (Power) | M81969/14-05* | Gray / (White) | M81969/8-11 | † | † | Green |
| 12 | M81969/14-04* | Yellow / (White) | M81969/8-09 | 11-8674-12†† | 11-8794-12†† | Yellow |
| 16 | M81969/14-03* | Blue / (White) | M81969/8-07 | 11-8674-16†† | 11-8794-16†† | Blue |
| 20 | M81969/14-10* | Red / (Orange) | M81969/8-05 | 11-8674-20†† | 11-8794-20†† | Red |
| 22 | M81969/14-09 | Brown/White | M81969/8-03 | 11-8674-22†† | 11-8794-22†† | Brown |
| 22D, 22M | M81969/14-01* | Green / (White) | M81969/8-01 | 11-8674-24†† | 11-8794-24†† | Black |
| 8 Coaxial | None Required | | | | | |
| 8 Twinax | None | None | None | None | None | Red |

REMOVAL TOOLS

| Use with Contact Size | Plastic Tools | | Metal Tools | | | | |
|-----------------------|----------------|------------------|--|-------------|---------------------|-----------------------------------|----------------|
| | MS Part Number | Color | For Unwired Contacts Commercial Part No. | Angle Type | | Straight Type Commercial Part No. | Color |
| | | | | MS Part No. | Commercial Part No. | | |
| 10 (Power) | M81969/14-05* | (Gray) / White | † | M81969/8-12 | † | † | Green / White |
| 12 | M81969/14-04* | (Yellow) / White | 11-10050-11†† | M81969/8-10 | 11-8675-12†† | 11-8795-12†† | Yellow / White |
| 16 | M81969/14-03* | (Blue) / White | 11-10050-10†† | M81969/8-08 | 11-8675-16†† | 11-8795-16†† | Blue / White |
| 20 | M81969/14-10* | (Orange) / Red | 11-10050-9†† | M81969/8-06 | 11-8675-20†† | 11-8795-20†† | Red / Orange |
| 22 | M81969/14-09* | (Brown)/White | 11-10050-8†† | M81969/8-04 | 11-8675-22†† | 11-8795-22†† | Brown/White |
| 22D, 22M | M81969/14-01* | (Green) / White | 11-10050-7†† | M81969/8-02 | 11-8675-24†† | 11-8795-24†† | Green / White |
| 8 Coaxial | M81969/14-12 | Green | None | None | 11-9170†† | DRK264-8††† | N/A |
| 8 Twinax | M81969/14-12 | Green | None | None | 11-9170†† | N/A | N/A |

For information about contacts see page 29. The M81969/8, 11-8674, 11-8675, and 11-8794 metal contact insertion and removal tools will accommodate wires having the maximum outside diameter as follows: Contact size 12: dia. is .155, size 16: dia. is .109, size 20: dia. is .077, size 22D: dia. is .050. When wire diameters exceed those specified, the plastic tools must be used.

* Double end insertion/removal tool.

** Twinax insertion tools are available only in a straight type, metal version.

† To be determined.

†† Contact Daniels Manufacturing Co. or Astro Tool Corp. for availability.

††† Daniels Manufacturing Co. part number

38999, Series I LJT, II JT, III TV, & SJT

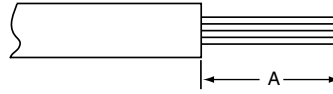
Assembly Instructions

38999

WIRE STRIPPING

1. Strip wire to required length. (See Figure at right). When using hot wire stripping, do not wipe melted insulation material on wire strands; with mechanical strippers do not cut or nick strands.
 2. See Table 1 for proper finished outside wire dimensions.
 3. Twist strands together to form a firm bundle.
 4. Insert stripped wire into contact applying slight pressure until wire insulation butts against wire well. Check inspection hole to see that wire strands are visible. If there are strayed wire strands, entire wire end should be re-twisted.
- When wire is stripped and properly installed into contact, the next step is to crimp the wire inside the contact by using the proper crimping tool.

STRIPPING DIMENSIONS



| Wire Size | A |
|--------------|-------------|
| 22, 22M, 22D | .125 (3.18) |
| 20 | .188 (4.77) |
| 16 | .188 (4.77) |
| 12 | .188 (4.77) |

Table 1

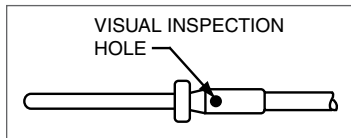
| Contact Size | Wire Dimension (inches)** | |
|--------------|---------------------------|------|
| | Min. | Max. |
| 10 | .135 | .162 |
| 12 | .097 | .142 |
| 16 | .065 | .109 |
| 20 | .040 | .077 |
| 22 | .034 | .060 |
| 22M, 22D | .030 | .050 |

** Min. diameters to insure moisture proof assembly; max. diameters to permit use of metal removal tools.

CRIMPING

See table on preceding page for recommended M22520 series crimping tools, turret head or positioner selection settings according to contact size, part number and wire gauge size.

1. Insert stripped wire into contact crimp pot. Wire must be visible through inspection hole.
2. Using correct crimp tool and locator, cycle the tool once to be sure the indentors are open, insert contact and wire into locator. Squeeze tool handles firmly and completely to insure a proper crimp. The tool will not release unless the crimp indentors in the tool head have been fully actuated.
3. Release crimped contact and wire from tool. Be certain the wire is visible through inspection hole in contact.

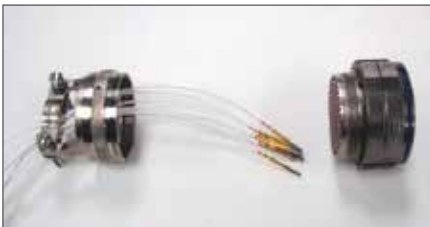


Examples of M22520 Series Crimping Tools:
Shown top: tool used for small size 22, 22D and 22M contacts.

Shown bottom: tool used for size 20, 16 or 12 contacts and has a positioner that can be dialed for each contact size.

CONTACT INSERTION

1. First remove hardware from the plug and receptacle and slide the hardware over wires in proper sequence.



2. Use proper plastic or metal insertion tool for corresponding contact. (Consult Insertion Tool table on preceding page). Slide correct tool (with plastic tool use colored end) over wire insulation and slide forward until tool bottoms against rear contact shoulder.



Plastic tool with contact in proper position.



Metal tool with contact.

3. Next align the tool and contact up to the properly identified cavity at rear of connector plug. Use firm, even pressure; do not use excessive pressure. It is recommended to start at the center cavity. Contact must be aligned with grommet hole and not inserted at an angle. Push forward until contact is felt to snap into position within insert.



Continued on next page.

Note: All plastic tools are double-ended. The colored side is the insertion tool and the white side is the removal tool.

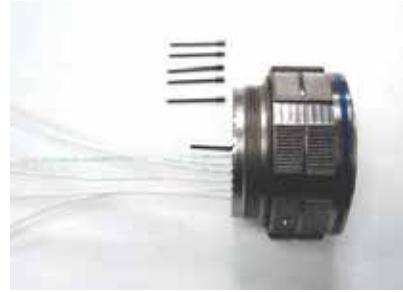
38999, Series I LJT, II JT, III TV, & SJT Installation Instructions, cont.

CONTACT INSERTION, CONT.

4. Remove tool and pull back lightly on wire, making sure contact stays properly seated and isn't dragged back with the tool. Repeat operation with remainder of contacts to be inserted, beginning with the center cavity and working outward in alternating rows.



5. After all contacts are inserted, fill any empty cavities with wire sealing plugs. (Refer to sealing plug charts for Series III on page 29, for Series I & II and SJT see page 30-31.)



6. Reassemble plug or receptacle hardware - slide forward and tighten using connector pliers. Connector holding tools are recommended while tightening back accessories. When using strain relief, center wires at bar clamp. Slide clamp grommet into position and tighten clamp bar screws. When tightening screws, pressure should be applied in the same direction that clamp is threaded to rear threads of connector. When not using clamp grommet, build up wire bundle with vinyl tape so clamp bar will maintain pressure on wires.



CAUTION, when inserting or removing contacts, do not spread or rotate tool tips.

CONTACT REMOVAL

1. Remove hardware from plug or receptacle and slide hardware back along wire bundle.



2. Use proper plastic or metal removal tool for corresponding contact. (Consult Removal Tool table on page 167). Slide correct size tool over wire insulation.



Use white end of plastic tool for removal of contacts.

3. Insert plastic or metal removal tool into contact cavity until tool tips enter rear grommet and come to a positive stop. Hold tool tip firmly against positive stop on contact shoulder. Grip wire and simultaneously remove tool and contact. (On occasion, it may be necessary to remove tool, rotate 90° and reinsert.)



Removal of contacts with metal tool.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Circular MIL Spec Tools, Hardware & Accessories](#) *category:*

Click to view products by [Amphenol](#) *manufacturer:*

Other Similar products are found below :

[0113-201-2025](#) [600-079-06](#) [600-146-06](#) [M10-101983-183](#) [M10-454396-008](#) [602GB18808](#) [CS3102A-22-14PW](#) [M2887615-CD](#) [627-009](#)
[M38999/9-19B](#) [630A007NF083A](#) [630B007M051A](#) [630BJ003NF032H](#) [637-149NF04B](#) [M39029/29-215](#) [6408-203V-09273](#) [6426-201-11343](#)
[650FS002NF16](#) [660-008NF14S7-01](#) [660-009M22H8-03](#) [660-013NF19U6-210](#) [660-015M10S6-17](#) [660-015NF10S5-01](#) [660-015NF14R3.5-01](#)
[660-023NF19H6-19](#) [660-024NF11S12-01](#) [660-024NF11S3-01](#) [660-024NF17S4-109](#) [660-050XM17F4-01](#) [660-068NF25R6-30G](#) [660-](#)
[070M23S8-04](#) [660-073MTCH9-20](#) [M83723/61-18W](#) [M83723/61-218R](#) [M83723/61-224W](#) [667-084-23C](#) [667-084-35C](#) [667-224NF16](#) [687-](#)
[697NF-1](#) [M85049/94-10-A](#) [M85049/96-7-A](#) [M855282-10A01A](#) [M85528/2-10B](#) [M855282-18A01A](#) [M85528/2-22A01A](#) [M85528/2-22AA](#)
[710HS460NF2508](#) [780-001-22G12-SK](#) [780-002-19G12-SK](#) [780-002-20G12SK](#)